BENICIA CITY COUNCIL
CITY COUNCIL SPECIAL MEETING AGENDA

February 18, 2025
5:00 PM

Benicia City Hall, Council Chambers
250 East L Street, Benicia, CA 94510

COURTESY ZOOM PARTICIPATION

https://us02web.zoom.us/j/88508047557?pwd=cHRsZlBrYlphU3pkODcycytmcFR2UT09
Phone: 1 669 900 9128
Meeting ID: 885 0804 7557
Password: 449303

1. CALL SPECIAL MEETING TO ORDER (5:00 P.M.)

2. CONVENE OPEN SESSION

3. ROLL CALL

4. PLEDGE OF ALLEGIANCE

5. REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

The fundamental rights of each member of the public can be found in the municipal code posted on the City's website and on a plaque that is posted at the entrance to this meeting per section 4.04.030 of the City of Benicia's Open Government Ordinance.

6. ANNOUNCEMENTS

6.A MAYOR'S OFFICE HOURS

RECOMMENDED ACTION: Mayor Young is maintaining an open office on the first and third Mondays of the month (except holidays) in the Mayor's office of City Hall from 4:30 to 6:00 p.m. No appointment is necessary. Other meeting times may be scheduled through City Hall by calling 707-746-4200.

7. PRESENTATIONS

7.A BENICIA-TULA SISTER CITIES ASSOCIATION UPDATE

7.B CAPITAL IMPROVEMENT PLAN (CIP) PROJECT LIST FOR 2025 AND 2026

8. ADOPTION OF THE AGENDA

9. OPPORTUNITY FOR PUBLIC COMMENTS

How to Submit Public Comments for this City Council meeting:
Besides appearing in person and offering public comments, members of the public may provide public comment via Zoom, or to the City Clerk by email at lwolfe@ci.benicia.ca.us. Any comment submitted to the City Clerk should indicate to which item of the agenda the comment relates. Specific information follows:

- Comments received by 2:00 pm on the day of the meeting will be electronically forwarded to the City Council and posted on the City's website.

- Comments received after 2:00 pm, but before the start time of the meeting will be electronically forwarded to the City Council but will not be posted on the City's website.

10. WRITTEN COMMENT

11. PUBLIC COMMENT

12. CONSENT CALENDAR

12.A MINUTES FROM THE FEBRUARY 4, 2025 SPECIAL AND REGULAR MEETINGS AND THE FEBRUARY 11, 2025 SPECIAL AND STATE OF THE CITY MEETINGS

February 4, 2025 Special City Council Meeting Minutes
February 4, 2025 Regular City Council Meeting Minutes
February 11, 2025 Special City Council Meeting Minutes
February 11, 2025 State of the City Minutes

12.B AWARD OF CONSTRUCTION CONTRACT, APPROVAL OF NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND APPROVAL OF TASK ORDER NO. 13 FOR THE WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENT PROJECT

RECOMMENDED ACTION: Adopt a resolution (Attachment 1) accepting the bids for the Project, awarding the construction contract to Corcus Construction, Inc. of San Francisco (Attachment 2), in the amount of $1,088,000, authorizing the City Manager to sign the construction contract on behalf of the City, authorizing the Project Manager to sign Contract Change Orders up to the 20% Contingency, approving a Notice of Exemption (Attachment 3) under the California Environmental Quality Act (CEQA) Guidelines, and approving Task Order No. 13 (Attachment 4) to the Master Professional Engineering Services Agreement (Attachment 5) with Stantec Consulting Services, Inc. for construction management and inspection services.

Staff Report - Award of Construction Contract WTP Misc Mechanical Improvements
1. Resolution - WTP Miscellaneous Mechanical Improvement Project
2. Construction Contract with Corcus Construction, Inc.
3. Notice of Exemption - WTP Miscellaneous Mechanical Improvement Project
4. Task Order No. 13 - Stantec Consulting - Construction ManagementInspection
5. Master Professional Engineering Services Agreement - Stantec Consulting

12.C APPROVAL OF AMENDMENT NO. 3 TO THE 1962 VALLEJO/BENICIA WATER AGREEMENT

RECOMMENDED ACTION: Adopt a resolution (Attachment 1) approving Amendment No. 3 (Attachment 2) to the 1962 Vallejo/Benicia Water Agreement (Attachment 3) for up to 1,100 acre-feet at a cost of $25.58 per acre foot plus any

retroactive new negotiated market rate price as determined by any future negotiations ending February 28, 2026.
Staff Report - Vallejo Water Agreement - Amendment 3
1. Resolution - Amendment No. 3 to the 1962 Vallejo-Benicia Water Agreement
2. Amendment No. 3 to the 1962 Vallejo-Benicia Water Agreement
3. 1962 Vallejo-Benicia Water Agreement

12.D APPROVAL OF A FIRST AMENDMENT TO AGREEMENT WITH DC ELECTRIC GROUP, INC. TO INCREASE PAYMENT LIMITS AND APPROVAL OF A BUDGET AMENDMENT

RECOMMENDED ACTION: Move to adopt a resolution (Attachment 1) approving an Amendment to Agreement with DC Electric Group, Inc. for Streetlight and Facility Light Maintenance and Repair Services (Attachment 2) and increasing the not-to-exceed amount from $200,000 to $400,000, authorizing the Finance Director to make the necessary budget amendment and authorizing the City Manager to execute the amendment on behalf of the City.
Staff Report - Amendment to Agreeement with DC Electric
1. Resolution - Amendment to Agreement with DC Electric
2. Amendment to Agreement - DC Electric

12.E FIRST AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF FAIRFIELD AND CITY OF BENICIA FOR COST SHARING OF THE LOPES ROAD PIPELINE RECONSTRUCTION PROJECT

RECOMMENDED ACTION: Move to adopt a resolution (Attachment 1) approving a First Amendment to the Memorandum of Understanding between the City of Benicia and the City of Fairfield for cost sharing of the Lopes Road Pipeline Reconstruction Project (Attachment 2), authorizing the City Manager to sign the First Amendment on behalf of the City, and authorizing the necessary budget amendment.
Staff Report - Approve Amendment to MOU with City of Fairfield
1. Resolution - Amendment to MOU - Cost Sharing of Lopes Rd. Pipeline Reconstruction Project
2. Amendment to MOU - Cost Sharing of Lopes Rd. Pipeline Reconstruction Project

12.F APPROVAL OF AGREEMENT TO VACATE WATERLINE EASEMENT AT ROBERT SEMPLE ELEMENTARY SCHOOL

RECOMMENDED ACTION: Adopt a resolution (Attachment 1) approving an Agreement to Vacate Easement (Attachment 2) for the waterline easement at Robert Semple Elementary School and authorizing the City Manager to execute the Agreement on behalf of the City.
Staff Report - Vacate Waterline Easement at Robert Semple School
1. Resolution - Vacate Waterline Easement at Robert Semple
2. Agreement to Vacate Waterline

12.G APPROVAL TO WAIVE THE READING OF ALL ORDINANCES INTRODUCED OR ADOPTED PURSUANT TO THIS AGENDA

13. BUSINESS ITEM

13.A INTRODUCTION AND FIRST READING OF AN ORDINANCE AMENDING SECTIONS 17.12.030 (DEFINITIONS) AND SECTION 17.70.060 (ACCESSORY DWELLING UNITS); AND ADDING A NEW SECTION 17.70.470 (HOUSING FOR RELIGIOUS & COMMUNITY INSTITUTIONAL USES) TO TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE

RECOMMENDED ACTION: Conduct a public hearing, move to waive the first reading, read by title only, and introduce an Ordinance of the City Council of the City of Benicia (Attachment 1) amending existing Section of Title 17 (Zoning) of the Benicia Municipal Code (BMC).

Staff Report - Amending Ch. 17.70 - Benicia Zoning Ordinance (Title 17)
1. Draft Ordinance - Amending Ch. 17.70 - Benicia Zoning Ordinance (Title 17)
2. Planning Commission Resolution with Exhibit A - Zoning Text Amendments
3. Draft Planning Commission Meeting Minutes, January 16, 2025

13.B TEMPORARY SUSPENSION OF BUSINESS LICENSE TAX COLLECTION, PAYMENT OF HOME OCCUPATION PERMIT FEES, AND THE CITYâ€™S BUSINESS LICENSE PROCESSING FEE FOR BUSINESSES WITH $3,000 OR LESS IN ANNUAL GROSS RECEIPTS

RECOMMENDED ACTION: Adopt a Resolution (Attachment 1) to temporarily pause collection of business license taxes, home occupation permit fees, and the City's business license processing fee for businesses in Benicia with annual gross receipts of $3,000 or less, while continuing to collect the SB-1186 Certified Access Specialist (CASp) fee.

Staff Report - Temporary Suspension of the Collection of Business License Taxes, Business License Processing Fees, and Home Occupation Permit Fee
1. Resolution - Temporary Suspension - Collection of Business License Taxes, Business License Processing Fees; and Home Occupation Permit Fees
2. Draft Economic Development Board Meeting Minutes, January 22, 2025
3. City Council Meeting Minutes from February 20, 2024

13.C FY25-26 CITY COUNCIL ANNUAL GOAL SETTING WORKSHOP

RECOMMENDED ACTION: Hold an annual goal-setting workshop opportunity for Council and the Executive Management Team (composed of the City Manager, department directors, selected division managers, and the City Attorney) to discuss and set its priorities for the next fiscal year July 1, 2025 - June 30, 2026. Attached is the City of Benicia Work Plan for FY 24-25 with all status updates in red (Attachment 1).

Staff Report - Annual Goal Setting Workshop - FY 2025-26
1. Work Plan - FY 2024-2025 with Status Updates
2. Strategic Plan 2024-2028

14. COUNCIL MEMBER COMMITTEE REPORTS

14.A COUNCIL MEMBER COMMITTEE REPORTS
Council Member Committee Reports

15. **PUBLIC COMMENT FOR CLOSED SESSION**

16. **ADJOURN TO CLOSED SESSION**

16.A CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9: (One potential case)
Valero Comments on Third Revised Draft Benicia ISO

17. **RECONVENE OPEN SESSION**

18. **ANNOUNCEMENTS FROM CLOSED SESSION, IF ANY**

19. **ADJOURNMENT (9:30 P.M.)**

Public Participation

The City of Benicia welcomes your interest and involvement in the City's legislative process. Persons wishing to address the Council, Board, Commission or Committee (CBCC) are asked to voluntarily complete a speaker request form, available at the entrance of Council Chambers, and submit it to the meeting Secretary/City Clerk. Speakers, addressing the CBCC at the time the item is considered, are requested to restrict their comments to the item as it appears on the agenda and stay within the three-minute time limit. The Brown Act does not permit the CBCC to take action on items brought up during the Public Comment period.

As a courtesy, and technology permitting, members of the public may participate remotely. Please be advised that those participating in the meeting remotely via Zoom do so at their own risk. Meetings will not be cancelled due to technical difficulties. The meeting can also be observed on Cable T.V. Broadcast - Check with your cable provider for your local government broadcast channel, or livestream online at www.ci.benicia.ca.us/agendas.

Americans with Disabilities Acts

The City of Benicia is committed to providing meeting facilities that are accessible to persons with disabilities. Meeting materials in alternative formats, a sign language interpreter, real-time captioning, assistive listening devices or other accommodations can be requested by calling (707) 746-4200 or by emailing ADACoordinator@ci.benicia.ca.us, at least four working days prior to a meeting. Assistive listening devices may be obtained at the meeting.

Meeting Procedures

Pursuant to Government Code Section 65009, if you challenge a decision of the CBCC in court, you may be limited to the issues raised during the meeting or in written correspondence delivered to the CBCC by the meeting. You may also be limited to a ninety (90) day statute of limitations when challenging certain administrative decisions, including any final decisions regarding planning or zoning.

The decision of the CBCC is final as of the date of its decision unless judicial review is initiated pursuant to Code of Civil Procedure Section 1094.5. Any such petition for judicial review is subject to the provisions of Code of Civil Procedure Section 1094.6

Public Records and Writings Received After Agenda Posting

A printed version of the agenda packet for this meeting is available at the Benicia Public Library during regular working hours. To the extent feasible, the agenda packet and any writing or documents related to an agenda item for this meeting provided to the CBCC, will be made available for public inspection on the City's web page at www.ci.benicia.ca.us under the heading "Agendas and Minutes." A complete recording of each meeting is available online at www.ci.benicia.ca.us/agendas.

Contact Your Council Members

Voicemail for Mayor and Council Members: (707) 746-4213
Mayor Steve Young: SYoung@ci.benicia.ca.us
Vice Mayor Trevor Macenski: TMacenski@ci.benicia.ca.us
Council Member Kari Birdseye: KBirdseye@ci.benicia.ca.us
Council Member Lionel Largaespada: LLargaespada@ci.benicia.ca.us
Council Member Terry Scott: TScott@ci.benicia.ca.us

DRAFT

MINUTES OF THE
REGULAR MEETING – CITY COUNCIL
FEBRUARY 4, 2025
5:30 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

1) CALL SPECIAL MEETING TO ORDER (5:30 P.M.)

Mayor Young called the Special Meeting to order at 5:30 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

5) PUBLIC COMMENT FOR CLOSED SESSION

None

6) ADJOURN TO CLOSED SESSION

6.A CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9: (One potential case)

Valero_Benicia_Refinery_Comments_on_ISO_12.06.24

Mayor Young adjourned the meeting to Closed Session at 5:31 p.m.

7) RECONVENE OPEN SESSION

Mayor Young reconvened the Open Session at 6:00 p.m.

8) ANNOUNCEMENTS FROM CLOSED SESSION, IF ANY

Ben Stock, City Attorney, reported that Council met in Closed Session on one item and took no reportable action.

9) ADJOURNMENT

Mayor Young adjourned the Special Meeting at 6:00 p.m.

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City Clerk

DRAFT

MINUTES OF THE
REGULAR MEETING – CITY COUNCIL
FEBRUARY 4, 2025
6:00 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

1) CALL TO ORDER (6:00 P.M.)

Mayor Young called the meeting to order at 6:00 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) PLEDGE OF ALLEGIANCE

5) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

6) ANNOUNCEMENTS

6.A MAYOR'S OFFICE HOURS

7) PROCLAMATIONS

7.A PROCLAMATION - BLACK HISTORY MONTH FEBRUARY 2025

Proclamation - Black History Month February 2025

8) APPOINTMENTS

9) PRESENTATIONS

10) ADOPTION OF AGENDA

On motion of Vice Mayor Macenski, seconded by Council Member Birdseye, Council approved the Adoption of the Agenda, as presented, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Largaespada, Vice Mayor Macenski, Council Member Scott, Mayor Young
Noes: (None)

11) OPPORTUNITY FOR PUBLIC COMMENTS

12) WRITTEN COMMENT

13) PUBLIC COMMENT

1. Allyson Fleck - Ms. Fleck discussed the Benicia Tree Foundation's tree planting activities and the need for future board members.
2. Cynthia Pappas, Solano County Civil Grand Jury - Ms. Pappas invited citizens to apply to be on the Solano County Civil Grand Jury.

14) CONSENT CALENDAR

14.A MINUTES FROM THE JANUARY 21, 2025 SPECIAL AND REGULAR MEETINGS

January 21, 2025 Special City Council Meeting Minutes.pdf
January 21, 2025 Regular City Council Meeting Minutes.pdf

14.B SECOND READING AND ADOPTION OF PROPOSED AMENDMENTS TO THE BENICIA MUNICIPAL CODE TITLE 17 AND ZONING MAP TO REZONE THE PROPERTY LOCATED AT 2170 COLUMBUS PARKWAY.

Staff Report - Draft Ordinance - Amending Benicia Zoning Ordinance (Title 17)
1. Draft Ordinance with Exhibit - Amending Benicia Zoning Ordinance (Title 17)

ORDINANCENO.25- 2 - AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING CHAPTER 17.24 (RESIDENTIAL DISTRICTS) OF TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE AND THE BENICIA ZONING MAP TO IMPLEMENT HOUSING ELEMENT PROGRAM 2.04, AFFIRMATIVELY FURTHERING FAIR HOUSING AND REZONING THE PROPERTY LOCATED AT 2170 COLUMBUS PARKWAY FROM MIXED-USE INFILL (MU-I) TO HOUSING OPPORTUNITY ZONE (HZ)

14.C ACCEPTANCE OF A GRANT DEED OF EASEMENT FOR THE PEDESTRIAN BRIDGE PROJECT

Staff Report - Acceptance of Pedestrian Bridge Easement from BUSD
1. Resolution - Acceptance of Pedestrian Bridge Easement from BUSD

RESOLUTION NO. 25- 25 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA ACCEPTING A GRANT DEED OF EASEMENT FOR THE PEDESTRIAN BRIDGE PROJECT

14.D APPROVE AN AMENDMENT WITH SOLANO RESOURCE CONSERVATION DISTRICT FOR THE WATER EDUCATION PROGRAM

Staff Report - Acceptance of Solano RCD Agreement
1. Resolution - Approval of Amendment Solano RCD
2. Fifth Amendment to Agreement - Solano RCD

RESOLUTION NO. 25- 26 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING A FOURTH AMENDMENT TO AGREEMENT WITH SOLANO RESOURCE CONSERVATION DISTRICT FOR THE WATER EDUCATION PROGRAM AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AMENDMENT

14.E APPROVAL TO WAIVE THE READING OF ALL ORDINANCES INTRODUCED OR ADOPTED PURSUANT TO THIS AGENDA

On motion of Vice Mayor Macenski, seconded by Council Member Birdseye, Council approved the adoption of the Consent Calendar, as presented, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Largaespada, Vice Mayor Macenski, Council Member Scott, Mayor Young
Noes: (None)

15) BUSINESS ITEMS

15.A DISCUSSION AND REVIEW OF THE DRAFT INDUSTRIAL HEALTH AND SAFETY ORDINANCE (Fire Chief)

Josh Chadwick, Fire Chief, reviewed the staff report and a PowerPoint presentation.

Council and Staff discussed the Community Sustainability Commission being involved in the oversight commission, having BAAQMD be involved in the air quality monitoring, the fines imposed on Valerio by BAAQMD, what Valero is objecting to, fees and fines, the inclusion of the City's water treatment plant as a high-hazard facility, who would assume the command post in an incident, annual performance review, legal defense if a 'shall' is not adhered to in the ordinance, and training.

Public Comment:

1. Terry Mollica - Mr. Mollica spoke in support of the proposed ISO.
2. Kathy Bennett - Ms. Bennett spoke in support of the proposed ISO.
3. Larnie Fox - Mr. Fox spoke in support of the proposed ISO.
4. Vicky Dennis - Ms. Dennis spoke in support of the proposed ISO.
5. Pat Toth Smith - Ms. Tot Smith spoke in support of the proposed ISO.
6. Lisa Reinertson - Ms. Reinertson spoke in support of the proposed ISO.

7. Greg Gartrell - Mr. Gartrell discussed the written comments he submitted and spoke in support of the proposed ISO.
8. Marilyn Bardet - Ms. Bardet spoke in support of the proposed ISO.
9. Jan Radesky - Ms. Radesky asked some clarifying questions.
10. Citizen- the citizen spoke in support of the proposed ISO.
11. Dan Smith - Mr. Smith spoke in support of the proposed ISO.
12. Stephen Golub - Mr. Golub spoke in support of the proposed ISO.
13. Citizen - the citizen spoke in support of the proposed ISO.
14. Jack Kolk - Mr. Kolk spoke in support of the proposed ISO.
15. Christina Gilpin-Hayes - Ms. Gilpin-Hayes spoke in support of the proposed ISO.
16. Susan Street - Ms. Street spoke in support of the proposed ISO.
17. Anthony Bernasconi - Mr. Bernasconi spoke in support of the proposed ISO.
18. Kathy Kerridge - Ms. Kerridge spoke in support of the proposed ISO.
19. David Lindsay - Mr. Lindsay spoke in support of the proposed ISO.
20. Citizen - the citizen spoke in support of the proposed ISO.
21. Bodhil Fox - Mrs. Fox spoke in support of the proposed ISO.
22. Jim Pettit - Mr. Pettit spoke in support of the proposed ISO, with amendments.
23. Diana Smith - Mrs. Smith spoke in support of the proposed ISO.
24. Terry Rehac - Ms. Rehac spoke in support of the proposed ISO.
25. Citizen - the citizen spoke in support of the proposed ISO.
26. Citizen - the citizen spoke in support of the proposed ISO.
27. Mary Frances Kelly Poh - Ms. Kelly Poh spoke in support of the proposed ISO.
28. Janet Leventhal - Ms. Leventhal spoke in support of the proposed ISO.
29. Bart Sullivan - Mr. Sullivan spoke in support of the proposed ISO.
30. Citizen - the citizen spoke in support of the proposed ISO.
31. Bob Nickeson - Mr. Nickeson discussed the need to have a discussion with Valero to try and get them on board.
32. Citizen - the citizen discussed the Valero Community Advisory Panel (CAP), and support for the proposed ISO.

Council and Staff discussed the proposed ISO and suggested changes.

Council gave direction to Staff to proceed with the following changes:

- Adding BAAQMD and 'all applicable agencies to the ordinance
- Adding to the City's Annual ISO Report the amount that the City has paid on what items using the fines that are collected from the business community
- Bringing the Annual ISO report to council instead of it just being on paper

Staff Report - Discussion and Review of the draft Industrial Health and Safety Ordinance

1. Third Draft of Benicia Municipal Code Chapter 8.55 - Industrial Health and Safety Ordinance
2. Third Draft of Benicia Municipal Code Chapter 2.112 - Industrial Safety Citizen Oversight Commission
3. Proposed Amendments to Benicia Municipal Code Chapter 1.44 Appeals, Section 100

4. Third Amendments to Benicia Municipal Code Chapter 2.60 Advisory Bodies, Section 150
5. Third Draft of Hazardous Materials Incident Notification Policy

16) ADJOURNMENT (9:00 P.M.)

Mayor Young adjourned the meeting at 10:43 p.m.

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City Clerk

DRAFT

MINUTES OF THE
SPECIAL MEETING – CITY COUNCIL
FEBRUARY 11, 2025
5:00 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

1) CALL SPECIAL MEETING TO ORDER (5:00 P.M.)

Mayor Young called the Special Meeting to order at 5:00 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

5) PUBLIC COMMENT FOR CLOSED SESSION

None

6) ADJOURN TO CLOSED SESSION

6.A CONFERENCE WITH LEGAL COUNSEL - ANTICIPATED LITIGATION Significant exposure to litigation pursuant to paragraph (2) of subdivision (d) of Section 54956.9: (One potential case)

Valero Comments on Third Revised Draft Benicia ISO

Mayor Young adjourned the meeting to Closed Session at 5:00 p.m.

7) RECONVENE OPEN SESSION

Mayor Young reconvened the Open Session at 6:03 p.m.

8) ANNOUNCEMENTS FROM CLOSED SESSION, IF ANY

Council met in Closed Session on one item and no reportable action was taken.

9) ADJOURNMENT

Mayor Young adjourned the Special Meeting at 6:03 p.m.

_____
City Clerk

DRAFT

MINUTES OF THE
STATE OF THE CITY
FEBRUARY 11, 2025

Benicia Public Library, Dona Benicia Room - 150 East L Street, complete proceedings of which are recorded. These are action minutes.

CALL TO ORDER

Mayor Young called the State of the City meeting to order at 6:03 p.m.

ROLL CALL

All Council Members were present.

REFERENCE TO THE FUNDAMENTAL RIGHTS

OPPORTUNITY FOR PUBLIC COMMENT

None

STATE OF THE CITY PRESENTATION

Mario Giuliani, City Manager, presented the State of the City, and a PowerPoint presentation.

Council and Staff broke into groups and met with members of the public to discuss various topics.

ADJOURNMENT

Mayor Young adjourned the State of the City meeting at 7:58 p.m.

_____
City Clerk

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Public Works Director

SUBJECT : **AWARD OF CONSTRUCTION CONTRACT, APPROVAL OF NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND APPROVAL OF TASK ORDER NO. 13 FOR THE WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENT PROJECT**

EXECUTIVE SUMMARY:

The Water Treatment Plant (WTP) Miscellaneous Mechanical Improvement Project (Project) will consist of addressing a wide range of facility issues which include replacement of failed piping underneath the operations building, backwash valve and meter replacement, sedimentation basin isolation from direct filtration process, sedimentation basin slide gate repair, filter slide gate replacement, minor structural repairs to the Raw Diversion Structure, slide gate modifications and replacement at the Raw Water Diversion Structure.

RECOMMENDATION:

Adopt a resolution (Attachment 1) accepting the bids for the Project, awarding the construction contract to Corcus Construction, Inc. of San Francisco (Attachment 2), in the amount of $1,088,000, authorizing the City Manager to sign the construction contract on behalf of the City, authorizing the Project Manager to sign Contract Change Orders up to the 20% Contingency, approving a Notice of Exemption (Attachment 3) under the California Environmental Quality Act (CEQA) Guidelines, and approving Task Order No. 13 (Attachment 4) to the Master Professional Engineering Services Agreement (Attachment 5) with Stantec Consulting Services, Inc. for construction management and inspection services.

BUDGET INFORMATION:

This Project is funded from water rates. Sufficient funds are available in the Water CIP Account No. 7608021-7435 to cover the bid amount of $1,088,000 and a 20% contingency of $217,600 for a total construction cost of $1,305,600, along with $222,164 for Task Order No. 13 for construction management and inspection services. This Project is included in the Fiscal Year 24/25 Budget.

BACKGROUND:
The Project will consist of addressing a wide range of facility issues which include replacement of failed piping underneath the operations building, backwash valve and meter replacement, sedimentation basin isolation from direct filtration process, sedimentation basin slide gate repair, filter slide gate replacement, minor structural repairs to the Raw Diversion Structure, slide gate modifications and replacement at the Raw Water Diversion Structure.

On January 29, 2025, a total of four (4) responsive bids were received for the Project with the results summarized in the table below:

Bid Results:

RANK	BIDDER'S NAME AND CITY	Total BID
*1	Corcus Construction, Inc., San Francisco	$1,088,000
2	Valentine Corporation, San Rafael	$1,143,369
3	GSW Construction Inc., San Francisco	$1,674,310
4	The Design Build Inc., Sacramento	$1,961,786

The bids are based on the quantities estimated by the Engineer of record. The final contract amount may be adjusted once final material quantities are determined upon completion of work.

In accordance with the contract specifications, the construction contract must be awarded to the bidder submitting the lowest responsive responsible total base bid, which is Corcus Construction, Inc.

Staff recommends that the construction contract be awarded to Corcus Construction, Inc. in the amount of $1,088,000.

The City has a Master Professional Engineering Agreement (Agreement) with Stantec Consulting Services Inc. for on-call engineering services for water and wastewater projects. The Agreement states that Task Orders providing for more than $200,000 compensation for one project shall be presented to Council for consideration. A task order for construction management and inspection of the Project is recommended and exceeds the $200,000 limit and requires the Council's approval.

CEQA Exemption:
Article 19 of the State CEQA Guidelines includes, as required by Public Resources Code Section 21084, a list of classes of projects that have been determined not to have a significant effect on the environment and, as a result, are exempt from review under CEQA. This Project demonstrates that the proposed Project qualifies for a Categorical Exemption as an Existing Facility (Class 2), consistent with the provisions of State CEQA Guidelines Sections 15302 and provides information for the City as the Lead Agency regarding a finding that the proposed Project is exempt under CEQA.

NEXT STEPS:
Staff recommends awarding this contract to Corcus Construction, Inc. The Project is anticipated to begin in July, 2025 and is scheduled to be completed in approximately 120 working days.

ALTERNATIVE ACTIONS:
Council could choose to not award these contracts, which would prevent the completion of the Project.

CEQA Analysis	This Project is categorically exempt from the California Environmental Quality Act (CEQA) per Section 15302, which exempts the replacement or reconstruction of existing utility systems and/or facilities involving negligible or no capacity expansion

ATTACHMENTS:
1. Resolution – WTP Miscellaneous Mechanical Improvement Project
2. Construction Contract with Corcus Construction, Inc.
3. Notice of Exemption - WTP Miscellaneous Mechanical Improvement Project
4. Task Order No. 13 - Stantec Consulting - Construction Management/Inspection
5. Master Professional Engineering Services Agreement - Stantec Consulting

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: DBonham@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA ACCEPTING THE BIDS FOR THE WATER TREATMENT PLANT MISCELLANOUS MECHANICAL IMPROVEMENT PROJECT, AWARDING THE CONSTRUCTION CONTRACT TO CORCUS CONSTRUCTION, INC., AUTHORIZING THE CITY MANAGER TO SIGN THE CONSTRUCTION CONTRACT AND PROJECT MANAGER TO SIGN CHANGE ORDERS ON BEHALF OF THE CITY, APPROVING A NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT, AND APPROVING TASK ORDER NO. 13 WITH STANTEC CONSULTING SERVICES INC. FOR CONSTRUCTION MANGEMENT AND INSPECTION SERVICES

WHEREAS, on December 16, 2024, the Public Works Department made the construction plans and specifications for the Water Treatment Plant Miscellaneous Mechanical Improvement Project (Project) available for public bidding and advertised for construction bids and four (4) sealed bids were properly received and opened on January 29, 2025; and

WHEREAS, Corcus Construction, Inc. of San Francisco was the lowest, responsive, responsible bidder with a bid amount of $1,088,000; and

WHEREAS, the construction cost of the Project is $1,305,600, which includes the bid amount of $1,088,000 and 20% construction contingency of $217,600; and

WHEREAS, this project is categorically exempt under the California Environmental Quality Act (CEQA) pursuant to Section 15302 of the CEQA guidelines.

WHEREAS, on February 16, 2022, Council approved a Master Professional Engineering Agreement (Agreement) with Stantec Consulting Services, Inc. for on-call engineering design, construction management/inspection and project management services for water and wastewater projects; and

WHEREAS, there is a clause in the Agreement that requires Council approval for Task Orders with compensation more than $200,000 for one project; and

WHEREAS, Task Order No. 13 is for $222,164 for construction management and inspection services for the Project, which requires City Council’s approval due to the cost exceeding the $200,000 limit; and

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia hereby approves the construction plans and specifications and accepts the bids and awards the construction contract in the amount of $1,088,000 to Corcus Construction, Inc. of San Francisco and approves Task Order No. 13 with Stantec Consulting Services in the amount of $222,164 for construction management and inspection for the Water Treatment Plant Miscellaneous Mechanical Improvement Project.

BE IT FURTHER RESOLVED THAT the City Manager to sign the construction contract and Task Order No. 13 on behalf of the City, subject to approval by the City Attorney, and the Project Manager to sign contract change orders up to the construction contingency amount.

BE IT FURTHER RESOLVED THAT the City Council of the City of Benicia does hereby approve a Categorical Exemption for the Project.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

DOCUMENT 00 5200

AGREEMENT

THIS AGREEMENT, dated this **18th** day of **February, 2025**, by and between **Corcus Construction, Inc.** whose place of business is located at **1592 Union St. Suite 476, San Francisco, CA 94123** (**Contractor**), and **CITY OF BENICIA**, a political subdivision of the State of California (**Owner**), acting under and by virtue of the authority vested in Owner by the laws of the State of California.

WHEREAS, Owner, awarded to Contractor the following Contract:

Water Treatment Plant Miscellaneous Mechanical Improvements
Benicia, CA 94510
PROJECT NUMBER 22-09

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and Owner agree as follows:

ARTICLE 1 SCOPE OF WORK OF THE CONTRACT

1.01 Work of the Contract

A. Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents (**Work**).

1.02 Price for Completion of the Work

A. Owner shall pay Contractor the following Contract Sum **$1,088,000** for completion of Work in accordance with Contract Documents as set forth in Contractor's Bid, attached hereto.

B. The Contract Sum includes all allowances.

C. The Contract Sum is all inclusive and includes all Work; all federal, state, and local taxes on materials and equipment, and labor furnished by Contractor, its subcontractors, subconsultants, architects, engineers, and" vendors or otherwise arising out of Contractor's performance of the Work, including any increases in any such taxes during the term of this Agreement; and any duties, fees, and royalties imposed with respect to any materials and equipment, labor or services. The taxes covered hereby include (but are not limited' to) occupational, sales, use, excise, unemployment, FICA, and income taxes, customs, duties, and any and all other taxes on any item or service that is part of the Work, whether such taxes are normally included in the price of such item or service or are normally stated separately. Notwithstanding the foregoing, each party shall bear such state or local inventory, real property, personal property or fixtures taxes as may be properly assessed against it by applicable taxing authorities.

1.03 Contract Payment – Retention

A. All payments made pursuant to the terms of this Agreement and Contract Documents shall be subject to a withhold of 5% retention per Public Contract Code Section 7201. Payment of the retention will be paid after the work is completed, City Council has accepted the Project as complete, and the Notice of Completion has been filed with the Solano County Recorder's Office.

COMMENCEMENT AND COMPLETION OF WORK

1.04 Commencement of Work

A. Contractor shall commence Work on the date established in the Notice to Proceed (**Commencement Date**).

B. Owner reserves the right to modify or alter the Commencement Date.

1.05 Completion of Work

A. Contractor shall achieve Final Completion of the entire Work as stated in Document 001113 Notice Inviting Bids.

ARTICLE 2 PROJECT REPRESENTATIVES

2.01 Owner's Project Manager

A. Owner has designated Tony Fisher as its Project Manager to act as Owner's Representative in all matters relating to the Contract Documents. If Project Manager is an employee of Owner, Project Manager is the beneficiary of all Contractor obligations to Owner including, without limitation, all releases and indemnities.

B. Project Manager shall have final authority over all matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner.

C. Owner may assign all or part of the Project Manager's rights, responsibilities and duties to a Construction Manager, or other Owner Representative.

2.02 Contractor's Project Manager and Other Key Personnel

A. Contractor has designated Thomas Bree, President, as its Project Manager to act as Contractor's Representative in all matters relating to the Contract Documents.

B. Contractor has designated the following other Key Personnel for the Project:

Name	Position
Noel Gallagher	Vice President
Robert O'Donovan	Vice President

ARTICLE 3 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORK

3.01 Liquidated Damage Amounts

A. As liquidated damages for delay Contractor shall pay Owner five thousand two hundred dollars ($5,200.00) for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

3.02 Scope of Liquidated Damages

A. Measures of liquidated damages shall apply cumulatively.

B. Limitations and stipulations regarding liquidated damages are set forth in Document 00 7200 (General Conditions).

ARTICLE 4 CONTRACT DOCUMENTS

4.01 Contract Documents consist of the following documents, including all changes, Addenda, and Modifications thereto:

Document 00 5100	Notice of Award
Document 00 5200	Agreement
Document 00 5500	Notice to Proceed
Document 00 6113.13	Construction Performance Bond
Document 00 6113.16	Construction Labor and Material Payment Bond
Document 00 6290	Escrow Agreement for Security Deposits
Document 00 6325	Substitution Request Form

Document 00 6530	Release of Claims
Document 00 6536	Guaranty
Document 00 7200	General Conditions
Document 00 7301	Supplemental General Conditions
Document 00 7316	Supplementary Conditions – Insurance and Indemnification
Document 00 7380	Apprenticeship Program
Document 00 9113	Addenda

General Requirements:

Document 01 1100	Summary of Work
Document 01 2000	Measurement and Payment
Document 01 1100	Summary of Work
Document 01 2000	Measurement and Payment
Document 01 2100	Allowances
Document 01 2600	Modification Procedures
Document 01 3119	Project Meetings
Document 01 3200	Progress Schedules and Reports
Document 01 3300	Submittals
Document 01 4100	Regulatory Requirements
Document 01 4200	References and Definitions
Document 01 4523	Testing and Inspection
Document 01 5000	Temporary Facilities and Controls
Document 01 5600	Site Security and Safety
Document 01 6000	Product Requirements
Document 01 7400	Cleaning and Waste Management
Document 01 7700	Contract Closeout
Document 01 7839	Project Record Documents

Drawings, Table, Schedules, and Technical Specifications listed in Document 00 0115.

4.02 There are no Contract Documents other than those listed above. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 7200 (General Conditions).

ARTICLE 5 MISCELLANEOUS

5.01 Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions) and will have the meaning indicated therein.

5.02 Contractor and Owner understand and agree that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise. Contractor and Owner further understand and agree that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.

5.03 Pursuant to Labor Code Section 1771(a), Contractor represents that it and all of its Subcontractors are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Contractor covenants that any additional or substitute Subcontractors will be similarly registered and qualified.

5.04 In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of

goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time Owner tenders final payment to Contractor, without further acknowledgment by the parties.

5.05 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the Owner's Facilities Development and Management Division, may be obtained from the California Department of Industrial Relations website [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm] and are deemed included in the Contract Documents, and shall be made available to any interested party on request. Pursuant to Labor Code Sections 1860 and 1861, in accordance with Labor Code Section 3700, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is aware of the provisions of Labor Code Section 3700 that require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.

5.06 This Agreement and the Contract Documents shall be deemed to have been entered into in the City of Benicia, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of Solano, California.

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

CITY OF BENICIA:

By: _____
City Manager

APPROVED AS TO FORM:

By: _____
City Attorney

APPROVED BY DEPARTMENT:

By: _____
Public Works Director

CONTRACTOR:

Name: _____

By: _____
(Signature)

Its: _____
Title (If Corporation: Chairman, President or Vice President)

By: _____
(Signature)

Its: _____
Title (If Corporation: Chairman, President or Vice President)

1099 INFORMATION:

Contractor Taxpayer I.D. No.: _____

Incorporated: ☐ Yes ☐ No

END OF DOCUMENT

DOCUMENT 00 4113

BID FORM

TO THE CITY OF BENICIA

THIS BID IS SUBMITTED BY:

Corcus Construction, Inc.
(Firm/Company Name)

Re: **Water Treatment Plant Miscellaneous Mechanical Improvements, PROJECT NUMBER 22-09**

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the **CITY OF BENICIA** in the form substantially similar to the that included in the Contract Documents, Document 00 5200 (Agreement) or has attached proposed modifications to the form of Contract as an Addendum to this confirmation of Acceptance, and to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, Document 00 1113 (Notice Inviting Bids), and Document 00 2113 (Instructions to Bidders) including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 120 Days after the day of Bid opening.

3. In submitting this Bid, Bidder represents that Bidder has examined all of the Contract Documents, performed all necessary Pre-Bid investigations, attended the mandatory Pre-Bid Meeting, if any, received the Pre-Bid Meeting minutes (if any), and received the following Addenda:

Addendum Number	ADDENDUM DATE	Signature of Bidder

4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Bid Prices:

SCHEDULE OF BID PRICES

All Bid items, including lump sums, unit prices and alternates (if any), must be filled in completely. Bid items are described in Section 01 1100 (Summary of Work). Quote in figures only unless words are specifically requested.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization and Demobilization	1	LS	105,000	$105,000.00
2	Environmental Controls	1	LS	5,500	$ 5,500.00
3	Sheeting, Shoring, and Bracing	1	LS	45,000	$ 45,000.00
4	Remove (E) 24" BW Line and Install 20" HDPE DR11 (Open Cut)	162	LF	1,900	$ 307,800.00
5	Furnish and Install 20" HDPE DR11 (Slip Lined)	40	LF	570	$ 22,800.00
6	Utility Water & Backwash Piping Demolition	1	LS	18,500	$ 18,500.00
7	Furnish and Install 4" & 10" Utility/Backwash Water Piping Phase I	1	LS	42,000	$ 42,000.00
8	Furnish and Install 10" Backwash Water Piping Phase II	1	LS	35,000	$ 35,000.00
9	Furnish and Install 20" Flow Meter, MOV and Misc Appurtenances	1	LS	135,000	$ 135,000.00
10	Furnish and Install 24" Filter Sluice Gate	2	EA	35,000	$ 70,000.00
11	Furnish and Install 30" Filter Sluice Gate	2	EA	36,500	$ 73,000.00
12	Furnish and Install 36" Diversion Structure Sluice Gate	1	EA	40,000	$ 40,000.00
13	Furnish and Install 42" Diversion Structure Sluice Gate	1	EA	42,000	$ 42,000.00
14	Sedimentation Basin Sluice Gate Repairs	1	LS	15,000	$ 15,000.00
15	Hot Mix Asphalt at Trench Repair	7	TON	1,500	$ 10,500.00
16	Site Surface Restoration	1	LS	67,000	$ 67,000.00
17	Allowance Item for Electrical & Instrumentation	1	LS	$50,000	$50,000
18	All Other Work Items Shown or Specified, but not included in bid items 1 through 17	1	LS	3,900	$ 3,900.00
TOTAL				TOTAL BID PRICE	$ 1,088,000.00

Total Bid Price:

One Million, Eighty Eight Thousand Dollars and Zero Cents
(Indicate Bid Price in Words)

5. The undersigned acknowledges that the Apparent Low Bidder will be determined as provided in Documents 00 1113 (Notice to Bidders) and Document 00 2113 (Instruction to Bidders).

6. Subcontractors for work are listed on Document 00 4314 (Subcontractors List), submitted herewith.

7. The undersigned Bidder understands that Owner reserves the right to reject this Bid.

8. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in Paragraph 2 of this Document 00 4113 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute

and deliver the documents required by Document 00 2113 (Instructions to Bidders) within the times specified therein.

9. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

10. The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in Document 00 2113 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price and made payable to the **CITY OF BENICIA.**

11. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in Document 00 7200 (General Conditions) and to complete all Work within the time specified in Document 00 5200 (Agreement).

12. The undersigned Bidder agrees that, in accordance with Document 00 7200 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in Document 00 5200 (Agreement) shall be as set forth in Document 00 5200.

13. The names of all persons interested in the foregoing Bid as principals are: Thomas Breen - President

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.

NAME OF BIDDER: Corcus Construction, Inc

licensed in accordance with an act for the registration of Contractors, and with license number: 1107281 Expiration: 7/31/2025.

California
(Place of Incorporation, if Applicable)

Thomas Breen
(Principal)

(Principal)

(Principal)

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

(Signature of Bidder)

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: 1592 Union St, #476, San Francisco

California, 94123

Contractor's Representative(s): Thomas Breen – President (Name/Title)

Noel Gallagher – Vice President (Name/Title)

Robert O'Donovan – Vice President (Name/Title)

Officers Authorized to Sign Contracts: Thomas Breen – President (Name/Title)

Noel Gallagher – Vice President (Name/Title)

(Name/Title)

Telephone Number(s): 415 – 423-4603 (Area Code) (Number)

415 – 298-4537 (Area Code) (Number)

Fax Number(s): / (Area Code) / (Number)

/ (Area Code) / (Number)

Email Address(es): Tom@CorcusConstruction.Com

noel@CorcusConstruction.Com

Date of Bid: 1/29/25

END OF DOCUMENT

DOCUMENT 00 0101

PROJECT MANUAL

for

WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS

CITY OF BENICIA

City of Benicia
Public Works Department]
City Hall
250 East L Street
Benicia, CA 94510

Bid Date: January 29th, 2025

Project No. 22-09

SECTION 00 0103

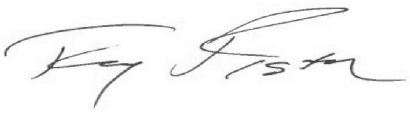
CERTIFICATIONS PAGE

The following Project Manual has been prepared under the supervision of the undersigned, who certifies that they are registered in the State of California.

Prepared by:

Erik Weber, RCE 62547
Consultant Project Manager

Reviewed by:



Tony Fisher
Project Manager

Approved by:

Neil Leary
Deputy Public Works Director/City Engineer

END OF DOCUMENT

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DOCUMENT 00 0110

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END OF DOCUMENT

DOCUMENT 00 0115

LIST OF DRAWINGS & TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS

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16070	Hangers and Supports for Electrical Systems
16080	Boxes and Cabinets
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LIST OF DRAWING SHEETS

Sheet	Drawing Date	Revision No.	Title
1 of 17	March 12, 2024	NA	Title Sheet
2 of 17	March 12, 2024	NA	General Notes, Abbreviations & Legend
3 of 17	March 12, 2024	NA	Backwash & Utility Water Existing
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5 of 17	March 12, 2024	NA	Backwash & Utility Water Phase II
6 of 17	March 12, 2024	NA	Backwash & Flow Meter Vault
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10 of 17	March 12, 2024	NA	Filters 3 & 4 Replacement DTL
11 of 17	March 12, 2024	NA	Diversion Structure Original DWGs
12 of 17	March 12, 2024	NA	Diversion Structure Gate Replacement
13 of 17	March 12, 2024	NA	Diversion Structure Gate Electrical

14 of 17	March 12, 2024	NA	Sedimentation Basin Slide Gate Repair
15 of 17	March 12, 2024	NA	Sedimentation Basin Original DWGs
16 of 17	March 12, 2024	NA	Details – Operations Building
17 of 17	March 12, 2024	NA	Details – Steel Pipe & Excavations

END OF DOCUMENT

DOCUMENT 00 1113

NOTICE INVITING BIDS
FOR
CITY OF BENICIA

Water Treatment Plant Miscellaneous Mechanical Improvements

ARTICLE 1 INVITATION TO BID

1.01 **Notice Inviting Bids:** Bids shall be uploaded electronically to City of Benicia's OpenGov website at: https://procurement.opengov.com/portal/beniciaca/projects/134373 on the Water Treatment Plant Miscellaneous Mechanical Improvements Project web page before until **2:00 PM** on Wednesday **January 29, 2025** at which time they will be opened and read online via Microsoft Teams:https://teams.microsoft.com/l/meetup-join/19%3ameeting_YTk2ZGMzNjYtYTZjMi00MzQ2LTkyNjEtZDFkNGY1YTUxODdl%40thread.v2/0?context=%7b%22Tid%22%3a%220724e143-aa78-4c64-a0f8-3d652959aabd%22%2c%22Oid%22%3a%228238d207-f424-4ca4-bae9-0b2b55004c3f%22%7d

Meeting ID: 248 546 439 640

Passcode: Az3U7Qx6

1.02 **Project Description:** The Project proposes to address a wide range of facility issues which include replacement of failed piping underneath the operations building, backwash valve and meter replacement, sedimentation basin isolation from direct filtration process, sedimentation basin slide gate repair, filter slide gate replacement, minor structural repairs to the Raw Diversion Structure, slide gate modifications and replacement at the Raw Water Diversion Structure.

1.03 **Location of Work**: **100 Water Way, Benicia, CA 94510.**

1.04 The Engineer's Opinion of Probable Costs is approximately **$1,025,000.**

1.05 **Completion of Work:** All work shall be finally completed within **120 Working Days** for the date when the Contract Time commences to run.

1.06 **Procurement of Bidding Documents:** Bidding Documents contain the full description of the Work. Electronic copies of the contract document, specifications and drawings must be obtained at: https://procurement.opengov.com/portal/beniciaca/projects/134373 All bidders must purchase a complete bid set and be on the plan holders list in order to be considered responsive and to receive addenda notifications.

1.07 **Instructions:** Bidders shall refer to Document 00 2113 (Instructions to Bidders) for required documents and items to be submitted as set forth in Paragraph 1.01 above.

1.08 **Mandatory Pre-Bid Meeting and Site Visit:** Owner will conduct a Mandatory Pre-Bid Meeting at the project site **at 2:00 pm** on **Thursday, January 9th, 2025,** 100 Water Way, Benicia, CA 94510. The Mandatory Pre-Bid Meeting will last approximately **one** hour. All prospective prime contractors are required to attend the meeting to be eligible to bid this project. A non-mandatory site walk will follow the pre-bid meeting.

1.09 **Bid Preparation Cost:** Bidders are solely responsible for the cost of preparing their Bids.

1.10 **Reservation of Rights:** Owner specifically reserves the right, in its sole discretion, to reject any or all Bids, to re-bid, or to waive inconsequential defects in bidding not involving time, price or quality of the work. Owner may reject any and all Bids and waive any minor irregularities in the Bids.

ARTICLE 2 LEGAL REQUIREMENTS

2.01 Required Contractor's License(s): A California class **"A"** contractor's license is required to bid this contract. Joint ventures must secure a joint venture license prior to award of this Contract.

2.02 Required Contractor and Subcontractor Registration

A. Owner shall accept Bids only from Bidders that (along with all Subcontractors listed in Document 00 4314, Subcontractor List) are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5.

B. Subject to Labor Code Sections 1771.1(c) and (d), any Bid not complying with paragraph 2.02A above, shall be returned and not considered; provided that if Bidder is a joint venture (Business & Professions Code Section 7029.1) or if federal funds are involved in the Contract (Labor Code Section 1771.1(a)), Owner may accept a non-complying Bid provided that Bidder and all listed Subcontractors are registered at the time of Contract award.

2.03 Substitution of Securities: Owner will permit the successful bidder to substitute securities for any retention monies withheld to ensure performance of the contract, as set forth in Document 00 6290 Escrow Agreement For Security Deposits in Lieu of Retention and incorporated herein in full by this reference, in accordance with Public Contract Code Section 22300.

2.04 Prevailing Wage Laws: The successful Bidder must comply with all prevailing wage laws applicable to the Project, and related requirements contained in the Contract Documents. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the Owner's Facilities Development and Management Division, may be obtained from the California Department of Industrial Relations website (http://www.dir.ca.gov/OPRL/dprewagedetermination.htm) and are deemed included in the Bidding Documents. Upon request, Owner will make available copies to any interested party. Also, the successful Bidder shall post the applicable prevailing wage rates at the Site.

2.05 Prevailing Wage Monitoring: This Project is subject to prevailing wage compliance monitoring and enforcement by the Department of Industrial Relations.

Dated: December 16, 2024

Tony Fisher
Project Manager
CITY OF BENICIA

END OF DOCUMENT

DOCUMENT 00 2113

INSTRUCTIONS TO BIDDERS

Bids are requested by Owner, for a general construction contract, or work described in general, as set forth in Document 00 1113 (Notice Inviting Bids) in accordance with the following additional terms.

ARTICLE 1 - PROCEDURES FOR SUBMISSION OF BIDS

1.01 Required Pre-Bid Conference and Site Visit

A. Owner will conduct a Mandatory Pre-Bid Meeting at the date, time and location indicated in Document 00 1113 (Notice Inviting Bids), to consider such matters as Bidders may request. Bidders must attend Pre-Bid Meeting and sign an attendance roster as a condition to bidding. All prospective prime contractors are required to attend the meeting to be eligible to bid this project. A non-mandatory site walk will follow the pre-bid meeting.

B. The Site Visit may be the Bidders' only opportunity to investigate conditions at the Site. Other Pre-Bid Site Visits may be scheduled at Owner's sole discretion, depending on staff availability.

C. Owner will issue Minutes of the Pre-Bid Conference, which shall constitute the sole and exclusive record and statement of the results of the Pre-Bid Conference. The Minutes issued by Owner are not Contract Documents.

1.02 Required Pre-Bid Investigations

A. Prior to submission of Bid, Bidder must conduct a careful examination of Bidding Documents and understand the nature, extent, and location of Work to be performed. Refer to Document 00 7200 (General Conditions) on required pre-bid investigations.

B. Any Bidder wishing to investigate subsurface conditions or otherwise conduct invasive investigations, explorations, test, or studies at this Site before bidding, shall schedule such examinations with Owner by providing Owner at least seven (7) days advanced written notice. Additionally, any such Bidder must deliver an executed Document 00 2100 (Access, Indemnity and Release Agreement) and provide an insurance certificate as described therein by noon of the Day prior to the site examination. Bidders who intend only to observe Site conditions and not conduct such examinations are not required to provide an executed Document 00 2100 or an insurance certificate.

C. Bidders may examine any available existing conditions information (e.g., record documents, specifications, studies, drawings of previous work), as well as applicable environmental assessment information (if any) regarding the Project, by giving Owner reasonable advanced notice. Owner will make copies available for a fee. A Bidder must give five (5) days advanced notice if copies are desired.

1.03 Bidder Questions and Answers

A. Bidders must direct all questions about the meaning or intent of Bidding Documents to Owner via Project website: https://procurement.opengov.com/portal/beniciaca/projects/134373. Interpretations or clarifications considered necessary by Owner in response to such questions will be issued via Project website to all parties recorded by Owner as having received Bidding Documents. Owner may not answer questions received less than 7 Days prior to the date for opening Bids.

B. Only questions answered by formal written Addenda will be binding. Any other interpretations or clarifications will be without legal effect, and Bidders shall not rely on oral statements.

1.04 Addenda

A. Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner. Addenda shall be acknowledged by number in Document 00 4113 (Bid Form) and shall be part of the Contract Documents. A complete listing of Addenda may be secured from Owner.

ARTICLE 2 - RECEIPT OF BIDS

2.01 Date and Time

A. Electronic Bids will be received at the Project website at: https://procurement.opengov.com/portal/beniciaca/projects/134373 until the date and time indicated in Document 00 1113 (Notice Inviting Bids). Bids shall not be received after the specified time. Bidders must submit Bids in accordance with this Document 00 2113.

2.02 Bid Submission: Refer to Document 00 1113 (Notice Inviting Bids)

2.03 Required Contents of Bid Submittals

A. Document 00 4113 (Bid Form). Bidders must submit Bids on Document 00 4113 (Bid Form) in accordance with the provisions of Document 00 4113. Bidders must complete all Bid items and supply all information required by Bid documents and specifications.

B. Document 00 4313 (Bond Accompanying Bid). Bidders must submit Document 00 4313 (Bond Accompanying Bid) accompanied by a cashier's check, certified check (certified without qualification and drawn on a solvent bank of the State of California or a National Bank doing business in the State of California) or completed form of Document 00 4313 of not less than 10%of the base Bid, payable to Owner and completed in accordance with the provisions of Document 00 4313.

C. Document 00 4314 (Bidder Registration Form). Bidders must submit Document 00 4314 (Bidder Registration Form), completed in accordance with the provisions of Document 00 4314.

D. Document 00 4336 (Subcontractors List). Bidders must submit Document 00 4314 (Subcontractors List) completed in accordance with the provisions of Document 00 4314. The Subcontractors List must include the names, location, place of business, and other information required by Document 00 4314, of all subcontractors who will perform any portion of work, including labor, rendering of service, or specially fabricating and installing a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent (0.5%) of the total Bid amount. Any violation of this requirement may result in a Bid being deemed non-responsive and not being considered. Bidders may, in their discretion, submit all information required in Subcontractors List other than names and places of business, within 24 hours after the deadline established for receipt of Bids.

E. Document 00 4519 (Non-Collusion Affidavit). Bidders must submit Document 00 4519 (Non-Collusion Affidavit) completed in accordance with the provisions of Document 00 4519.

F. Document 00 4546 (Bidder Certifications). Bidders must submit Document 00 4546 (Bidder Certification) completed in accordance with the provisions of Document 00 4546.

G. CARB IUOR Fleet Certification. Bidders must submit Document 00 4548 (California Air Resources Board In-Use Off-Road Diesel-Fueled Fleets Certification) completed, with Bidder's Certificate of Reported Compliance included if applicable, in accordance with the provisions of Document 00 4548. Owner will reject a bid from a Bidder that does not indicate conformance to the California Air Resources Board ("CARB") In-Use Off-Road Diesel-Fueled Fleets requirements (Title 13 CCR sections 2449, 2449.1 and 2449.2).

ARTICLE 3 - BID OPENING AND EVALUATION

3.01 Determination of Apparent Low Bidder

A. Owner will open each Bidders' bid at the time and place indicated in Document 00 1113 (Notice Inviting Bids), initially evaluate them for responsiveness, and determine an Apparent Low Bidder as specified herein and in Document 00 1113 (Notice Inviting Bids) and Document 00 4113 (Bid Form).

B. Apparent Low Bid will be determined solely on the Total Bid Price based on terms contained in Document 00 1113 (Notice Inviting Bids) and Document 00 4113 (Bid Form). All Bidders are required to submit Bids on all Bid items (including any alternates).

C. For the Apparent Low Bidder only, Owner will evaluate the Apparent Low Bidder for responsiveness to the requirements of Document 00 4513 and for Responsibility.

D. If Apparent Low Bidder is determined to be non-responsive or non-responsible, then Owner may proceed to the next Apparent Low Bidder's Bid pursuant to any procedures determined in its reasonable discretion, and proceed for all purposes as if this Apparent Low Bidder were the original Apparent Low Bidder.

3.02 Evaluation of Bids

A. Bids must be full, complete, clearly written and using the required forms. Bidders shall make any change in the Bid by crossing out the original entry, entering and initialing the new entry. Bidder's failure to submit all required documents strictly as required entitles Owner to reject the Bid as non-responsive. All Bidders must submit Bids containing each of the fully executed documents supplied in this Project Manual.

B. In evaluating Bids, Owner will consider Bidders' qualifications, whether or not the Bids comply with the prescribed requirements, unit prices, and other data, as may be requested in Document 00 4113 (Bid Form) or prior to the Notice of Award.

C. Owner may conduct reasonable investigations and reference checks of Bidder and other persons and organizations as Owner deems necessary to assist in the evaluation of any Bid and to establish Bidder's responsibility, qualifications, financial ability, and capability to perform the Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time. Submission of a Bid constitutes Bidder's consent to the foregoing.

D. Owner shall have the right to consider information provided by sources other than Bidder. Owner shall also have the right to communicate directly with Bidder's surety regarding Bidder's bonds.

E. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures will be resolved in favor of the words.

F. Bids shall be deemed to include the written responses of the Bidder to any questions or requests for information of Owner made as part of Bid evaluation process after submission of Bid.

3.03 Reservation of Rights

A. Owner reserves the right to:

1. Reject any or all nonconforming, non-responsive, unbalanced, or conditional Bids, and
2. Reject the Bid of any Bidder as non-responsive as a result of any error or omission in the Bid, and
3. Reject the Bid of any Bidder if Owner believes that it would not be in the best interest of Project to make an award to that Bidder, whether because the Bid is not responsive, the Bidder is unqualified or of doubtful financial ability, or fails to meet any other pertinent standard or criteria established by Owner.

B. For purposes of this paragraph, an "unbalanced Bid" is one having nominal process for some Bid items and enhanced prices for other Bid items.

C. Owner may retain Bid securities and Bid bonds of other than the Apparent Low Bidder for a period of [**120 Days**] after award or full execution of the Contract, whichever first occurs.

D. Owner may waive any informalities or minor irregularities in the Bids.

E. Owner also reserves the right, in its discretion, to reject any or all Bids and to re-Bid the Project.

3.04 Required Contractor and Subcontractor Registration

A. Owner shall accept Bids only from Bidders that (along with all Subcontractors listed in Document 00 4314, Subcontractors List) are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5.

B. Subject to Labor Code Sections 1771.1(c) and (d), any Bid not complying with paragraph 3.04.A, above, shall be returned and not considered; provided that if Bidder is a joint venture (Business & Professions Code Section 7029.1) or if federal funds are involved in the Contract (Labor Code Section 1771.1(a)), Owner may accept a non-complying Bid provided that Bidder and all listed Subcontractors are registered at the time of Contract award.

ARTICLE 4 - MANDATORY BID PROTEST PROCEDURES

4.01 Submission of Written Bid Protest

A. Any Bid protest in connection with the construction contract or work described in general in Document 00 1113 (Notice Inviting Bids) must be submitted in writing to the City Manager by email or by personal delivery or overnight mail (to Danielle Bonham, Public Works Director, Public Works Department, City Hall, 250 East L Street, Benicia, California 94510) before **3:30 p.m.** of the fifth Business Day following the posting of Document 00 5050 (Notice of Intent to Award for Construction) at https://procurement.opengov.com/portal/beniciaca/projects/134373. Owner will use reasonable efforts to deliver by facsimile or email a copy of Document 00 5050 to all Bidders who submitted Bids no later than the Business Day after issuance, although any delay or failure to do so will not extend the Bid protest deadline described herein.

B. The initial protest document must contain a detailed description of the legal and/or factual grounds for the protest and all supporting documentation. For protests containing elements not based on publicly released information, the protest must contain documentation clearly showing the date on which the protestor received the information.

C. The protest must refer to the specific portion of the document that forms the basis for the protest.

D. The protest must include the name, address, and telephone number of the person representing the protesting party.

E. The protest must include the signature of the protester or authorized representative of the protester.

F. The protest must contain the solicitation number and title under which the protest is submitted.

G. The protest must state the form of relief requested.

H. Only Bidders who the Owner otherwise determines are responsive and responsible are eligible to protest a Bid; protests from any other Bidder will not be considered. In order to determine whether a protesting Bidder is responsive and responsible, Owner may evaluate all information contained in any protesting Bidder's Bid, and conduct the same investigation and evaluation as Owner is entitled to take regarding an Apparent Low Bidder.

I. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest that may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.

J. A bidder whose bid has been protested by another bidder may submit to the City Manager a written response to the protest by email or by personal delivery or overnight mail (to Danielle Bonham, Public Works Director, Public Works Department, City Hall, 250 East L Street, Benicia, California 94510) so that it is received by the City no later than seven calendar days after the protest has been served by the protesting bidder.

K. The City Manager or designee shall have up to ten calendar days to decide whether to approve or reject the protest. The written decision of the City Manager or designee on the protest shall be served upon the protesting bidder and any bidder subject to the protest within 14 calendar days of receipt of the bid protest. The City Manager or designee may extend the 10 calendar days if necessary to review additional information requested from any bidder.

L. If the subject matter of the solicitation or project is receiving any State or federal funds which require a protest procedure different than the procedures stated above, then that protest procedure shall control.

M. This administrative procedure and the time limits set forth herein are mandatory. Failure to comply with these mandatory procedures shall constitute a waiver of any right to pursue the bid protest, including filing a Government Code claim or any legal proceedings or actions.

4.02 Exclusive Remedy

A. The procedure and time limits set forth in this Article 4 are mandatory and are Bidder's sole and exclusive remedy in the event of Bid protest. Bidder's failure to comply with these procedures shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or other legal proceedings. A Bidder may not rely on a protest submitted by another Bidder, but must timely pursue its own protest.

ARTICLE 5 - AWARD AND EXECUTION OF CONTRACT

5.01 Notice of Award and Submittal of Executed Contract Documents

A. If Contract is to be awarded, it will be awarded to the lowest responsible responsive Bidder. Owner will issue two Document 00 5100 Notices of Award: One Award for Project pre-construction services and the other for Project construction work Such Awards, if made, will be made within ninety (90) days after the opening of the Bid Proposals.

B. Successful Bidder must execute and submit to Owner the "Required Contract Documents and Proof of Insurance" set forth below, by 5:00 p.m. of the [5th Day] following the Notice of Award.

5.02 Required Contract Documents and Proof of Insurance for Phase I Work

A. Work Authorization for Pre-Construction Services, fully executed by successful Bidder. Submit four originals, each bearing an original signature on the signature page and initials on each page.

B. Insurance certificates and endorsements required by Document 00 7316 (Supplementary Conditions—Insurance): Submit one original set.

C. Any other items identified by Owner in Document 00 5100 (Notice of Award).

5.03 Required Contract Documents and Proof of Insurance for Phase II Work

A. Document 00 5200 (Agreement), fully executed by successful Bidder. Submit four originals, each bearing an original signature on the signature page and initials on each page.

B. Document 00 6113.13 (Construction Performance Bond), fully executed by successful Bidder and surety, in the amount set forth in Document 00 6113.13. Submit one original.

C. Document 00 6113.16 (Construction Labor and Material Payment Bond), fully executed by successful Bidder and surety, in the amount set forth in Document 00 6113.16. Submit one original.

D. Document 00 6536 (Guaranty), fully executed by successful Bidder. Submit one original, bearing an original signature on the signature page and initials on each page.

E. Insurance certificates and endorsements required by Document 00 7316 (Supplementary Conditions—Insurance): Submit one original set.

F. Any other items identified by Owner in Document 00 5100 (Notice of Award).

5.04 Failure to Execute and Deliver Documents:

A. If Bidder to whom the Contract is awarded, within the period described in this Document 00 2113, fails or neglects to execute and deliver all required Contract Documents and file all required bonds, insurance certificates, and other documents, Owner may, in its sole discretion, rescind the award, recover on Bidder's surety bond, or deposit Bidder's cashier's check or certified check for collection, and retain the proceeds thereof as liquidated damages for Bidder's failure to enter into the Contract Documents. Bidder agrees that calculating the damages Owner may suffer as a result of Bidder's

failure to execute and deliver all required Contract Documents would be extremely difficult and impractical and that the amount of Bidder's required Bid security shall be the agreed and presumed amount of Owner's damages.

B. Upon Bidder's failure to timely deliver all required Contract Documents as set forth herein, Owner may determine the next Apparent Low Bidder and proceed accordingly. GENERAL CONDITIONS AND REQUIREMENTS

5.05 Modification of Commencement of Work:

A. Owner expressly reserves the right to modify the date for the Commencement of Work under the Contract and to independently perform and complete work related to Project. Owner accepts no responsibility to Contractor for any delays attributed to its need to complete independent work at the Site.

B. Owner shall have the right to communicate directly with Apparent Low Bidder's proposed performance bond surety, to confirm the performance bond. Owner may elect to extend the time to receive faithful performance and labor and material payment bonds.

5.06 Conformed Project Manual:

A. Following Award of Contract, Owner may prepare a conformed Project Manual reflecting Addenda issued during bidding, which will, failing objection, constitute the approved Project Manual.

5.07 Payment Bond:

A. Because Phase II of the Project described in Document 00 1113 (Notice Inviting Bids) involves an expenditure in excess of twenty-five thousand dollars ($25,000), the successful Bidder must file a payment bond with and approved by Owner prior to entering upon the performance of Phase II of the Work, in accordance with Civil Code Section 9550, *et seq*.

5.08 Performance Bond:

A. The successful Bidder must file a performance bond with and approved by Owner prior to entering upon the performance of the Work.

5.09 Wage Rates:

A. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the Owner's [**Facilities Development and Management Division**] and may be obtained from the California Department of Industrial Relations website [http://www.dir.ca.gov/OPRL/dprewagedetermination.htm] and are deemed included in the Bidding Documents. Upon request, Owner will make available copies to any interested party. Also, Contractor shall post the applicable prevailing wage rates at the Site.

5.010 Withdrawal of Bids:

A. Bidders may withdraw their Bids at any time prior to the Bid opening time fixed in this Document 00 2113, only by written request for the withdrawal of Bid filed with Owner care of William Tarbox, Public Works Director, Public Works Department, City Hall, 250 East L Street, Benicia, California 94510. Bidder or its duly authorized representative shall execute request to withdraw Bid.

5.011 Ineligible Contractors and Subcontractors:

A. Owner will reject a Bid from a Bidder who is ineligible to bid or work on, or be awarded, a public works project pursuant to Labor Code Section 1777.1 or 1777.7. Bidders and the Contractor who is awarded the project contract shall not utilize, or allow work by, any subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Labor Code Section 1777.1 or 1777.7. (See Public Contract Code Section 6109.) The California Division of Labor Standards Enforcement publishes a list of debarred contractors and subcontractors on the Internet at www.dir.ca.gov/DLSE/debar.html.

5.012 Public Records Act Requests:

A. In accordance with the California Public Records Act, Owner will make available to the public Bidder's SOQ, all correspondence and written questions submitted during the Bid period, all Bid submissions opened in accordance with the procedures set forth herein, and all subsequent Bid evaluation information. All submissions not opened will remain sealed and shall be returned to the submitter. Except as otherwise require by law, Owner will not disclose trade secrets or proprietary financial information submitted by Bidders that has been designated as confidential by Bidder (including, without limitation, the SOQ). Any such trade secrets or proprietary financial information that Bidder believes should be exempted from disclosure shall be specifically identified and marked as such. Blanket-type identification by designating whole pages or sections shall not be permitted and shall be invalid. The specific confidential information must be clearly identified as such.

B. Upon a request for records regarding this Bid, Owner will notify the Bidder involved, within ten Days from receipt of the request, when the records will be made available for inspection. If the Bidder timely identifies any "proprietary, trade secret, or confidential commercial or financial" information that Bidder determines is not subject to public disclosure, and requests that Owner refuse to comply with the records request, Bidder will, at its sole expense, take all appropriate legal action and defend Owner's refusal to produce the information in all forums; otherwise Owner will make such information available to the extent require by applicable law, without restriction.

C. Information disclosed in the Statement of Qualifications and the attendant opened submissions are the property of Owner unless Bidder makes specific reference to data that is considered proprietary. Subject to the requirements in the Public Records Act, reasonable efforts will be made to prevent the disclosure of information except on a need-to-know basis during the evaluation process.

5.013 Substitutions:

A. Bidders must base their Bids on products and systems specified in Contract Documents or listed by name in Addenda. Owner will consider substitution requests only for "or equal items."

Bidders wanting to use "or equal" item(s) may submit Document 00 6325 (Substitution Request Form) no later than [**35**] Days after Notice of Award. To assess "or equal" acceptability of product or system, request(s) for substitution must contain the information required in Document 00 6325. Insufficient information will be grounds for City to reject the substitution. City will, within a reasonable time, after having received a request for substitution, issue in writing its decision as to whether the proposed substitution is an "or equal" item compatible to City systems, durability, and quality. City's decision shall be conclusive as to all Bidders. Substitutions approved before Bid day will be listed in Addenda and become part of the Contract Documents.

As a limitation on Bidder's privilege to request substitution of "or equal" items, Owner has found that certain items are designated as Owner standards and certain items are designated to match existing items in use on a particular public improvement either completed or in the course of completion or are available from one source. As to such items, Owner will not permit substitution. Such items (if any) are described in Document 00 1113 (Notice Inviting Bids).

5.014 Definitions:

A. All abbreviations and definitions of terms used in this Document 00 2113 (Instructions to Bidders) are set forth in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions).

END OF DOCUMENT

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DOCUMENT 00 3132

GEOTECHNICAL DATA AND EXISTING CONDITIONS

ARTICLE 1 USE OF EXISTING CONDITIONS DATA

1.01 Above-Ground Existing Conditions:

A. Owner makes no warranty or representation of existing aboveground conditions, as-built conditions, or other aboveground actual conditions verifiable by reasonable independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform prior to bidding and Bidder must not rely on the information supplied by Owner regarding such existing conditions.

B. Bidder represents and agrees that in submitting its Bid, it is not relying on any information regarding above-ground existing conditions supplied by Owner.

1.02 Underground Facilities:

A. Information supplied regarding existing Underground Facilities at or contiguous to the Site is based on information furnished to Owner by others (e.g., the builders of such Underground Facilities or others).

B. Owner assumes responsibility for only the general accuracy, completeness or thoroughness of information regarding Underground Facilities that are owned by Owner. This express assumption of responsibility applies only if Bidder has conducted the independent investigation required of it under Document 00 7200 (General Conditions) and discrepancies were not apparent. Bidder is solely responsible for any interpretation or conclusion drawn from this information. Owner is not responsible for information regarding Underground Facilities that are owned by others.

1.03 Hazardous Materials Surveys:

A. Bidders may rely on this data and information for general accuracy regarding the locations of potentially hazardous materials subject of the Work. Owner does not warrant and makes no representation regarding the completeness or thoroughness of any data or information regarding existing conditions or hazardous materials including, without limitation, quantities, characteristics, volumes, or associated structural features. Bidder represents and agrees that in submitting a Bid it is not relying on any such data, information or deductions.

B. Data and information regarding the locations of hazardous materials are not part of Contract Documents.

1.04 Geotechnical Data:

A. Bidder may rely upon the general accuracy of the “technical data” contained in the geotechnical reports and drawings identified above, but only insofar as it relates to subsurface conditions, provided Bidder has conducted the independent investigation required of it and discrepancies were not apparent.

B. The term **“technical data”** shall include actual reported depths, reported quantities, reported soil types, reported soil conditions, and reported material, equipment, or structures that were encountered during subsurface exploration. The term “technical data” does not include, and Bidder may not rely upon, any other data, interpretations, opinions or information shown or indicated in such drawings or reports that otherwise relate to subsurface conditions or described structures. The term “technical data” shall not include the location of Underground Facilities.

C. Bidder may not rely on the completeness of reports and drawings for the purposes of bidding or construction. Bidder is solely responsible for any interpretation or conclusion drawn from any “technical data” or any other data, interpretations, opinions, or information contained in supplied geotechnical data.

1.05 Except as expressly set forth in this Document 00 3132,

A. Owner does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical and existing conditions data.

B. Bidder represents and agrees that in submitting its Bid, it is not relying on any geotechnical and existing conditions data supplied by Owner, except as specifically set forth herein.

ARTICLE 2 INVESTIGATIONS

2.01 Required Investigations:

A. Before submitting a Bid, each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents.

B. Bidders shall advise Owner in writing during the Bid period of any questions, suppositions, inferences or deductions Bidders may have for Owner's review and response.

C. Owner has provided time in the period prior to bidding for Bidder to perform these investigations.

2.02 Access to Site for Investigations:

A. During the Pre-Bid Site Visit(s), Owner will provide each Bidder access to the Site to conduct such examinations, investigations, explorations, and studies, as each Bidder deems necessary for submission of a Bid

END OF DOCUMENT

DOCUMENT 00 4113

BID FORM

TO THE CITY OF BENICIA

THIS BID IS SUBMITTED BY:

_____
(Firm/Company Name)

Re: **Water Treatment Plant Miscellaneous Mechanical Improvements, PROJECT NUMBER 22-09**

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an agreement with the **CITY OF BENICIA** in the form substantially similar to the that included in the Contract Documents, Document 00 5200 (Agreement) or has attached proposed modifications to the form of Contract as an Addendum to this confirmation of Acceptance, and to perform and furnish all Work as specified or indicated in the Contract Documents for the Contract Sum and within the Contract Time indicated in this Bid and in accordance with all other terms and conditions of the Contract Documents.

2. Bidder accepts all of the terms and conditions of the Contract Documents, Document 00 1113 (Notice Inviting Bids), and Document 00 2113 (Instructions to Bidders) including, without limitation, those dealing with the disposition of Bid Security. This Bid will remain subject to acceptance for 120 Days after the day of Bid opening.

3. In submitting this Bid, Bidder represents that Bidder has examined all of the Contract Documents, performed all necessary Pre-Bid investigations, attended the mandatory Pre-Bid Meeting, if any, received the Pre-Bid Meeting minutes (if any), and received the following Addenda:

Addendum Number	**ADDENDUM DATE**	**Signature of Bidder**

4. Based on the foregoing, Bidder proposes and agrees to fully perform the Work within the time stated and in strict accordance with the Contract Documents for the following sums of money listed in the following Schedule of Bid Prices:

SCHEDULE OF BID PRICES

All Bid items, including lump sums, unit prices and alternates (if any), must be filled in completely. Bid items are described in Section 01 1100 (Summary of Work). Quote in figures only unless words are specifically requested.

ITEM	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization and Demobilization	1	LS		
2	Environmental Controls	1	LS		
3	Sheeting, Shoring, and Bracing	1	LS		
4	Remove (E) 24" BW Line and Install 20” HDPE DR11 (Open Cut)	162	LF		
5	Furnish and Install 20” HDPE DR11 (Slip Lined)	40	LF		
6	Utility Water & Backwash Piping Demolition	1	LS		
7	Furnish and Install 4” & 10" Utility/Backwash Water Piping Phase I	1	LS		
8	Furnish and Install 10" Backwash Water Piping Phase II	1	LS		
9	Furnish and Install 20” Flow Meter, MOV and Misc Appurtenances	1	LS		
10	Furnish and Install 24” Filter Sluice Gate	2	EA		
11	Furnish and Install 30” Filter Sluice Gate	2	EA		
12	Furnish and Install 36” Diversion Structure Sluice Gate	1	EA		
13	Furnish and Install 42” Diversion Structure Sluice Gate	1	EA		
14	Sedimentation Basin Sluice Gate Repairs	1	LS		
15	Hot Mix Asphalt at Trench Repair	7	TON		
16	Site Surface Restoration	1	LS		
17	Allowance Item for Electrical & Instrumentation	1	LS	$50,000	$50,000
18	All Other Work Items Shown or Specified, but not included in bid items 1 through 17	1	LS		
TOTAL				**TOTAL BID PRICE**	**$**

Total Bid Price:

_____
(Indicate Bid Price in Words)

5. The undersigned acknowledges that the Apparent Low Bidder will be determined as provided in Documents 00 1113 (Notice to Bidders) and Document 00 2113 (Instruction to Bidders).

6. Subcontractors for work are listed on Document 00 4314 (Subcontractors List), submitted herewith.

7. The undersigned Bidder understands that Owner reserves the right to reject this Bid.

8. If written notice of the acceptance of this Bid, hereinafter referred to as Notice of Award, is mailed or delivered to the undersigned Bidder within the time described in Paragraph 2 of this Document 00 4113 or at any other time thereafter before it is withdrawn, the undersigned Bidder will execute

and deliver the documents required by Document 00 2113 (Instructions to Bidders) within the times specified therein.

9. Notice of Award or request for additional information may be addressed to the undersigned Bidder at the address set forth below.

10. The undersigned Bidder herewith encloses cash, a cashier's check, or certified check of or on a responsible bank in the United States, or a corporate surety bond furnished by a surety authorized to do a surety business in the State of California, in form specified in Document 00 2113 (Instructions to Bidders), in the amount of ten percent (10%) of the Total Bid Price and made payable to the **CITY OF BENICIA**.

11. The undersigned Bidder agrees to commence Work under the Contract Documents on the date established in Document 00 7200 (General Conditions) and to complete all Work within the time specified in Document 00 5200 (Agreement).

12. The undersigned Bidder agrees that, in accordance with Document 00 7200 (General Conditions), liquidated damages for failure to complete all Work in the Contract within the time specified in Document 00 5200 (Agreement) shall be as set forth in Document 00 5200.

13. The names of all persons interested in the foregoing Bid as principals are: _____

IMPORTANT NOTICE: If Bidder or other interested person is a corporation, give the legal name of corporation, state where incorporated, and names of president and secretary thereof; if a partnership, give name of the firm and names of all individual co-partners composing the firm; if Bidder or other interested person is an individual, give first and last names in full.

NAME OF BIDDER: _____

licensed in accordance with an act for the registration of Contractors, and with license number:_____ Expiration: _____.

_____

(Place of Incorporation, if Applicable) (Principal)

_____

(Principal)

_____

(Principal)

I certify (or declare) under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

_____

(Signature of Bidder)

NOTE: If Bidder is a corporation, set forth the legal name of the corporation together with the signature of the officer or officers authorized to sign contracts on behalf of the corporation. If Bidder is a partnership, set forth the name of the firm together with the signature of the partner or partners authorized to sign contracts on behalf of the partnership.

Business Address: _____

_____

_____

Contractor's Representative(s): _____
(Name/Title)

_____
(Name/Title)

_____
(Name/Title)

Officers Authorized to Sign Contracts _____
(Name/Title)

_____
(Name/Title)

_____
(Name/Title)

Telephone Number(s): _____
(Area Code) (Number)

_____
(Area Code) (Number)

Fax Number(s): _____
(Area Code) (Number)

_____
(Area Code) (Number)

Email Address(es): _____

_____

Date of Bid: _____

END OF DOCUMENT

DOCUMENT 00 4313

BOND ACCOMPANYING BID

KNOW ALL BY THESE PRESENTS:

That the undersigned

_____

,

(Name of Contractor)

as Principal and the undersigned as Surety are held and firmly bound unto Owner, **CITY OF BENICIA, a political subdivision of the State of California**, as obligee, in the penal sum of **(Dollar Amount In Words)** _____ Dollars **($**_____ _____**)** lawful money of the United States of America being at least ten percent (10%) of the aggregate amount of said Principal's base Bid, for the payment of which, well and truly to be made, we bind ourselves, our successors, executors, administrators, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal is submitting a Bid for Misc. WTP Improvements Projects

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Bid submitted by the said Principal be accepted and the Contract be awarded to said Principal and said Principal shall within the required periods enter into the Contract so awarded and provide the required Construction Performance Bond, Construction Labor and Material Payment Bond, insurance certificates, Guaranty, and all other endorsements, forms, and documents required under Document 00 2113 (Instructions to Bidders), then this obligation shall be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bounden parties have executed this instrument this _____ day of _____, 2024**.**
(Month)

(Corporate Seal) By _____
Principal

By _____
Surety

(Corporate Seal) By _____
Attorney in Fact

END OF DOCUMENT

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DOCUMENT 00 4314

BIDDER REGISTRATION FORM

INDEPENDENT CONTRACTOR REGISTRATION

Contractor's License # _____

Date: _____ Fed Tax I.D. # _____

Full Corporate Name of Company: _____

Street Address: _____

_____

Mailing Address: _____

_____

Phone: _____ Fax: _____

Name of Principal Contact: _____

Type of Business: _____ Sole Proprietor _____ Partnership
_____ Non-Profit 501(c)(3) _____ Corporation
_____ other (please explain:_____)

INSURANCE (Complete all items listed below that are applicable and/or are required by Document 00 7316, Supplementary Conditions – Insurance and Indemnification)

Workers' Compensation:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

General Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

Automobile Liability:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

All-Risk Course of Construction:

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

Professional Liability (if applicable):

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

Pollution Legal Liability Insurance (if applicable):

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

Excess Liability Insurance (if applicable):

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

Other Liability Insurance (if applicable):

Carrier: _____

Address: _____

Phone and Fax: _____

Policy Number: _____

Policy Limits: $ _____

A.M. Best Rating: _____

BIDDER CERTIFIES, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND AUTHORIZES OWNER, AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

BIDDER: _____
(COMPANY NAME)

By: _____ _____
NAME TITLE

By: _____ _____
SIGNATURE DATE

SAFETY AND EXPERIENCE RECORD

The following statements as to the Bidder's safety experience are submitted with the Bid, as part thereof, and the Bidder guarantees the truthfulness and accuracy of all information.

1. List Bidder's interstate Experience Modification Rate for the last three years.

   2022 _____ 2023 _____ 2024 _____

   If Bidder was not eligible to obtain a formal rating from the Workers Compensation Insurance Rating Bureau for any of the years listed above, Bidder must submit written information from its workers compensation insurance company that establishes what Bidder's equivalent EMR would be.

2. Total Recordable Incident Rates (RIR)

   What were Bidder's Total RIR for each of the last three years?

   2022 _____ 2023 _____ 2024 _____

   Average of last three years: _____ (no rounding)

3. Total Lost Time Incident Rates (LTIR)

   What were Bidder's Total LTIR for each of the last three years?

   2022 _____ 2023 _____ 2024 _____

   Average of last three years: _____ (no rounding)

4. Use Bidder's last year's Cal/OSHA 300 log to fill in the following number of injuries and illnesses:

   a. Number of lost workday cases _____

   b. Number of medical treatment cases _____

   c. Number of fatalities _____

5. Employee hours worked last year _____

6. State the name of Bidder's safety engineer/manager:

Attach a resume or outline of this individual's safety and health qualifications and experience.

I CERTIFY, UNDER PENALTY OF PERJURY, THAT THE FOREGOING INFORMATION IS CURRENT AND ACCURATE AND I AUTHORIZE OWNER, AND ITS AGENTS AND REPRESENTATIVES TO OBTAIN A CREDIT REPORT AND/OR VERIFY ANY OF THE ABOVE INFORMATION.

BIDDER:

By: _____
Signature

Its: _____
Title

Date_____

END OF DOCUMENT

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DOCUMENT 00 4336

SUBCONTRACTORS LIST

Name of Subcontractor and Location of Place of Business	Description of Work	Subcontractor's License No.	DIR Registration Number

(Bidder to attach additional sheets if necessary)

(PUBLIC CONTRACT CODE §4100 ET SEQ.)

END OF DOCUMENT

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DOCUMENT 00 4519

NON-COLLUSION DECLARATION

PUBLIC CONTRACT CODE SECTION 7106

NON-COLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____[**date**], at _____[**city**], _____[**state**].

BIDDER'S SIGNATURE: _____

NAME/TITLE OF SIGNATORY: _____

LEGAL NAME OF BIDDER: _____

END OF DOCUMENT

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DOCUMENT 00 4546

BIDDER CERTIFICATIONS

TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID

The undersigned Bidder certifies to Owner as set forth in sections 1 through 10**,** below.

1. STATEMENT OF CONVICTIONS

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, unappealable finding of contempt of court by a Federal Court has been issued against Bidder within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

2. CERTIFICATION OF WORKER'S COMPENSATION INSURANCE

By my signature hereunder, as the Contractor, I certify that I am aware of the Labor Code Section 3700, which requires every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of the work of this Contract.

3. CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS

By my signature hereunder, as the Contractor, I certify that I am aware of Labor Code Section 1773, which requires the payment of prevailing wage on public projects. Contractor and any subcontractors under the Contractor shall comply with Labor Code Section 1776 regarding wage records, and with Labor Code Section 1777.5 regarding the employment and training of apprentices. Contractor is responsible to ensure compliance by any and all subcontractors performing work under this Contract.

4. CERTIFICATION OF COMPLIANCE WITH PUBLIC WORKS CHAPTER OF LABOR CODE

By my signature hereunder, as the Contractor, I certify that I am aware of Labor Code Sections 1777.1 and 1777.7 Code, and Contractor and Subcontractors are eligible to bid and work on public works projects.

5. CERTIFICATION OF NON-DISCRIMINATION

By my signature hereunder, as the Contractor, I certify that there will be no discrimination in employment with regard to race, color, religion, gender, sexual orientation, age or national origin; that all federal, state, and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principal of equal opportunity in employment will be demonstrated positively and aggressively.

6. CERTIFICATION OF NON-DISQUALIFICATION

By my signature hereunder, as the Contractor, I swear, under penalty of perjury, that the below indicated Bidder, any officer of Bidder, or any employee of Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed, or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or safety regulation, except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If a statement of "Previous Disqualifications" is attached, please explain the circumstances.

7. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned's Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the

labor or services to be provided. I understand that Owner will be relying on this certification if it awards the Contract to the undersigned.

8. CERTIFICATION REGARDING DIR CONTRACTOR / SUBCONTRACTOR REGISTRATION

By my signature hereunder, as the Contractor, I certify that Contractor, and all Subcontractors listed on Document 00 4336 (Subcontractors List) are the subject of current and active contractor registrations pursuant to Division 2, Part 7, Chapter 1 (commencing with section 1720) of the California Labor Code. Contractor's registration number is ***[please complete]*** _____. Subcontractors' registration numbers are as indicated in Document 00 4314.

BIDDER: _____
(Name of Bidder)

Date: _____, By: _____
(Signature)

Name: _____
(Print Name)

Its: _____
(Title)

END OF DOCUMENT

DOCUMENT 00 4548

IN-USE OFF-ROAD DIESEL-FUELED FLEETS CERTIFICATION

TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID

The undersigned Bidder certifies to Owner as set forth in sections 1 through 2, below.

1. **Certification of Compliance.** I hereby certify that I and all of my Subcontractors will conform to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets requirements for all work involving the use of vehicles subject to the regulations, including, without limitation, as applicable, the Contracting Requirements in Title 13 CCR section 2449, subdivision (i), subparts (1) – (4), and the Prime Contractor Requirements in Title 13 CCR section 2449, subdivision (j), subparts (1) – (5).

2. **Instructions**. Check one (1) box below.

   ☐ Bidder's current CARB issued Certificate of Reported Compliance accompanies this Certification. (If this box is checked, the Certificate ***must be*** provided.)

   ☐ Bidder certifies that its work on the Project (including work of its Subcontractors) does not involve the use of vehicles subject to the CARB In-Use Off-Road Diesel-Fueled Fleets requirements.

BIDDER: _____
(Name of Bidder)

Date: _____, 2025 By: _____
(Signature)

Name: _____
(Print Name)

Its: _____
(Title)

END OF DOCUMENT

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DOCUMENT 00 5050

NOTICE OF INTENT TO AWARD FOR CONSTRUCTION

DATE POSTED:

PROJECT TITLE: **City of Benecia**

Water Treatment Plant Miscellaneous Mechanical Improvements

_____, the _____ of

Owner intends to recommend to its City Council the Award of the above-referenced Project to

_____.
(Name of Contractor)

OWNER: CITY OF BENICIA

By: _____

_____
(Print name)

Title: _____

Date: _____

END OF DOCUMENT

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DOCUMENT 00 5100

NOTICE OF AWARD

Dated _____

TO: _____

ADDRESS: _____

CONTRACT NO.: _____

CONTRACT FOR: **City of Benicia**
Water Treatment Plant Miscellaneous Mechanical Improvements

The Contract Sum of your contract is _____
(Amount in Words)

Dollars ($_____)

1. Five copies of the proposed Contract Documents listed below accompany this Notice of Award.

2. You must comply with the following conditions precedent by [5:00 p.m.] of the [20th Day] following the date of this Notice of Award, that is, by [Day of the Week, Month Day, 20__].

   a. Deliver to Owner two fully executed counterparts of Document 00 5200 (Agreement). Each copy of Document 00 5200 (Agreement) must bear your original signature on the signature page and your initials on each page.

   b. Deliver to Owner one (1) originals of Document 00 6113.13 (Construction Performance Bond), executed by you and your surety.

   c. Deliver to Owner one (1) originals of Document 00 6113.16 (Construction Labor and Material Payment Bond), executed by you and your surety.

   d. Deliver to Owner original set of the insurance certificates with endorsements required under Document 00 7316 (Supplementary Conditions – Insurance).

   e. Deliver to Owner one fully executed Document 00 6536 (Guaranty), bearing your original signature on the signature page and your initials on each page.

3. Failure to comply with these conditions within the time specified will entitle Owner to consider your Bid abandoned, to annul this Notice of Award, and to declare your Bid security forfeited.

4. Within **21 Days** after you comply with the conditions in Paragraph 2 of this Document 00 5100, Owner will return to you one fully signed counterpart of Document 00 5200 (Agreement) with two copies of the Project Manual (including Specifications and Drawings) and two sets of full-size Drawings.

5. Before you may start any Work at the Site, you must attend a pre-construction conference. The pre-construction conference may be arranged through **Tony Fisher, Project Manager.**

6. Upon commencement of the Work, you and each of your Subcontractors shall certify and provide Owner copies of payroll records in accordance with Labor Code Section 1776.

OWNER: CITY OF BENICIA

BY: _____
[TITLE]

_____
(Print Name)

AUTHORIZED BY CITY OF BENICIA

RESOLUTION NO.: _____

APPROVED DATE: _____

END OF DOCUMENT

DOCUMENT 00 5200

AGREEMENT

THIS AGREEMENT, dated this **[date]** day of **[Month],** 20_, by and between **[Enter Name of Contractor]** whose place of business is located at **[Address of Contractor**] (**Contractor**), and **CITY OF BENICIA**, a political subdivision of the State of California (**Owner**), acting under and by virtue of the authority vested in Owner by the laws of the State of California.

WHEREAS, Owner, awarded to Contractor the following Contract:

Water Treatment Plant Miscellaneous Mechanical Improvements
Benicia, CA 94510
PROJECT NUMBER 22-09

NOW, THEREFORE, in consideration of the mutual covenants hereinafter set forth, Contractor and Owner agree as follows:

ARTICLE 1 SCOPE OF WORK OF THE CONTRACT

1.01 Work of the Contract

A. Contractor shall complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other terms and conditions of the Contract Documents (**Work**).

1.02 Price for Completion of the Work

A. Owner shall pay Contractor the following Contract Sum (**Contract Sum**) for completion of Work in accordance with Contract Documents as set forth in Contractor's Bid, attached hereto.

B. The Contract Sum includes all allowances.

C. The Contract Sum is all inclusive and includes all Work; all federal, state, and local taxes on materials and equipment, and labor furnished by Contractor, its subcontractors, subconsultants, architects, engineers, and" vendors or otherwise arising out of Contractor's performance of the Work, including any increases in any such taxes during the term of this Agreement; and any duties, fees, and royalties imposed with respect to any materials and equipment, labor or services. The taxes covered hereby include (but are not limited' to) occupational, sales, use, excise, unemployment, FICA, and income taxes, customs, duties, and any and all other taxes on any item or service that is part of the Work, whether such taxes are normally included in the price of such item or service or are normally stated separately. Notwithstanding the foregoing, each party shall bear such state or local inventory, real property, personal property or fixtures taxes as may be properly assessed against it by applicable taxing authorities.

1.03 Contract Payment – Retention

A. All payments made pursuant to the terms of this Agreement and Contract Documents shall be subject to a withhold of 5% retention per Public Contract Code Section 7201. Payment of the retention will be paid after the work is completed, City Council has accepted the Project as complete, and the Notice of Completion has been filed with the Solano County Recorder's Office.

COMMENCEMENT AND COMPLETION OF WORK

1.04 Commencement of Work

A. Contractor shall commence Work on the date established in the Notice to Proceed (**Commencement Date**).

B. Owner reserves the right to modify or alter the Commencement Date.

1.05 Completion of Work

A. Contractor shall achieve Final Completion of the entire Work as stated in Document 001113 Notice Inviting Bids.

ARTICLE 2 PROJECT REPRESENTATIVES

2.01 Owner's Project Manager

A. Owner has designated Tony Fisher as its Project Manager to act as Owner's Representative in all matters relating to the Contract Documents. If Project Manager is an employee of Owner, Project Manager is the beneficiary of all Contractor obligations to Owner including, without limitation, all releases and indemnities.

B. Project Manager shall have final authority over all matters pertaining to the Contract Documents and shall have sole authority to modify the Contract Documents on behalf of Owner, to accept work, and to make decisions or actions binding on Owner, and shall have sole signature authority on behalf of Owner.

C. Owner may assign all or part of the Project Manager's rights, responsibilities and duties to a Construction Manager, or other Owner Representative.

2.02 Contractor's Project Manager and Other Key Personnel

A. Contractor has designated **[**_____**]** as its Project Manager to act as Contractor's Representative in all matters relating to the Contract Documents.

B. Contractor has designated the following other Key Personnel for the Project:

Name	Position
_____	_____
_____	_____
_____	_____

ARTICLE 3 LIQUIDATED DAMAGES FOR DELAY IN COMPLETION OF WORK

3.01 Liquidated Damage Amounts

A. As liquidated damages for delay Contractor shall pay Owner five thousand two hundred dollars ($5,200.00) for each Day that expires after the time specified herein for Contractor to achieve Final Completion of the entire Work, until achieved.

3.02 Scope of Liquidated Damages

A. Measures of liquidated damages shall apply cumulatively.

B. Limitations and stipulations regarding liquidated damages are set forth in Document 00 7200 (General Conditions).

ARTICLE 4 CONTRACT DOCUMENTS

4.01 Contract Documents consist of the following documents, including all changes, Addenda, and Modifications thereto:

Document 00 5100	Notice of Award
Document 00 5200	Agreement
Document 00 5500	Notice to Proceed
Document 00 6113.13	Construction Performance Bond
Document 00 6113.16	Construction Labor and Material Payment Bond
Document 00 6290	Escrow Agreement for Security Deposits
Document 00 6325	Substitution Request Form

Document 00 6530	Release of Claims
Document 00 6536	Guaranty
Document 00 7200	General Conditions
Document 00 7301	Supplemental General Conditions
Document 00 7316	Supplementary Conditions – Insurance and Indemnification
Document 00 7380	Apprenticeship Program
Document 00 9113	Addenda

General Requirements:

Document 01 1100	Summary of Work
Document 01 2000	Measurement and Payment
Document 01 1100	Summary of Work
Document 01 2000	Measurement and Payment
Document 01 2100	Allowances
Document 01 2600	Modification Procedures
Document 01 3119	Project Meetings
Document 01 3200	Progress Schedules and Reports
Document 01 3300	Submittals
Document 01 4100	Regulatory Requirements
Document 01 4200	References and Definitions
Document 01 4523	Testing and Inspection
Document 01 5000	Temporary Facilities and Controls
Document 01 5600	Site Security and Safety
Document 01 6000	Product Requirements
Document 01 7400	Cleaning and Waste Management
Document 01 7700	Contract Closeout
Document 01 7839	Project Record Documents

Drawings, Table, Schedules, and Technical Specifications listed in Document 00 0115.

4.02 There are no Contract Documents other than those listed above. The Contract Documents may only be amended, modified or supplemented as provided in Document 00 7200 (General Conditions).

ARTICLE 5 MISCELLANEOUS

5.01 Terms and abbreviations used in this Agreement are defined in Document 00 7200 (General Conditions) and Section 01 4200 (References and Definitions) and will have the meaning indicated therein.

5.02 Contractor and Owner understand and agree that in no instance are the persons signing this Agreement for or on behalf of Owner or acting as an employee, agent, or representative of Owner, liable on this Agreement or any of the Contract Documents, or upon any warranty of authority, or otherwise. Contractor and Owner further understand and agree that liability of Owner is limited and confined to such liability as authorized or imposed by the Contract Documents or applicable law.

5.03 Pursuant to Labor Code Section 1771(a), Contractor represents that it and all of its Subcontractors are currently registered and qualified to perform public work pursuant to Labor Code Section 1725.5. Contractor covenants that any additional or substitute Subcontractors will be similarly registered and qualified.

5.04 In entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, Contractor or Subcontractor offers and agrees to assign to the awarding body all rights, title and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. § 15) or under the Cartwright Act (Chapter 2 (commencing with § 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of

goods, services or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time Owner tenders final payment to Contractor, without further acknowledgment by the parties.

5.05 Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Contract, as determined by Director of the State of California Department of Industrial Relations, are on file at the Owner's Facilities Development and Management Division, may be obtained from the California Department of Industrial Relations website [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm] and are deemed included in the Contract Documents, and shall be made available to any interested party on request. Pursuant to Labor Code Sections 1860 and 1861, in accordance with Labor Code Section 3700, every contractor will be required to secure the payment of compensation to his employees. Contractor represents that it is aware of the provisions of Labor Code Section 3700 that require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and Contractor shall comply with such provisions before commencing the performance of the Work of the Contract Documents.

5.06 This Agreement and the Contract Documents shall be deemed to have been entered into in the City of Benicia, State of California, and governed in all respects by California law (excluding choice of law rules). The exclusive venue for all disputes or litigation hereunder shall be in the Superior Court for the County of Solano, California.

IN WITNESS WHEREOF the parties have executed this Agreement in quadruplicate the day and year first above written.

CITY OF BENICIA:

By: _____
City Manager

APPROVED AS TO FORM:

By: _____
City Attorney

APPROVED BY DEPARTMENT:

By: _____
Public Works Director

CONTRACTOR:

Name: _____

By: _____
(Signature)

Its: _____
Title (If Corporation: Chairman, President or Vice President)

By: _____
(Signature)

Its: _____
Title (If Corporation: Chairman, President or Vice President)

1099 INFORMATION:

Contractor Taxpayer I.D. No.: _____

Incorporated: ☐ Yes ☐ No

END OF DOCUMENT

DOCUMENT 00 5500

NOTICE TO PROCEED

Dated: _____, 2024

To: _____
(Contractor)

Address: _____

_____

CONTRACT FOR: Water Treatment Plant Miscellaneous Mechanical Improvements

You are notified that the Contract Time under the above Contract will commence to run on _____ **2024**. On that date, you are to start performing your obligations with respect to Work at the Site under the Contract Documents. In accordance with Article 2 of Document 00 5200 (Agreement), the dates of Substantial Completion and Final Completion for the entire Work are _____,**2024** and _____, **2024,** respectively.

Before you may start any Work at the Site, you must:

1. Submit certified Safety Program and related information
2. Submit copies of applicable permits

OWNER: CITY OF BENICIA

By: _____

Its: _____

END OF DOCUMENT

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DOCUMENT 00 6113.13

CONSTRUCTION PERFORMANCE BOND

THIS CONSTRUCTION PERFORMANCE BOND (**Bond**) is dated **,** 2024 is in the amount of _____which is 100% of the Contract Sum and is entered into by and between the parties listed below to ensure the faithful performance of the Contract identified below. This Bond consists of this page and the Bond Terms and Conditions, Paragraphs 1 through 14 attached to this page. Any singular reference to_____(**Contractor**), _____ (**Surety**), **CITY OF BENICIA** (**Owner**), or other party shall be considered plural where applicable.

CONTRACTOR:	**SURETY:**
_____	_____
_____	_____
Address	Principal Place of Business
_____	_____
City/State/Zip	City/State/Zip

CONSTRUCTION CONTRACT: Water Treatment Plant Miscellaneous Mechanical Improvements, dated **,** 2024, in the amount of _____.

CONTRACTOR AS PRINCIPAL	**SURETY**
Company: (Corp. Seal)	Company: (Corp. Seal)
Signature:_____	Signature: _____
Name: _____	Name: _____
Title: _____	Title: _____

BOND TERMS AND CONDITIONS

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to Owner for the complete and proper performance of the Construction Contract, which is incorporated herein by reference.

2. If Contractor completely and properly performs all of its obligations under the Construction Contract, Surety and Contractor shall have no obligation under this Bond.

3. If there is no Owner Default, Surety's obligation under this Bond shall arise after:

3.1 Owner provides Surety with written notice that Owner has declared a Contractor Default under the Construction Contract pursuant to the terms of the Construction Contract; and

3.2 Owner has agreed to pay the Balance of Contract Sum:

3.2.1 To Surety in accordance with the terms of this Bond and the Construction Contract; or

3.2.2 To a Contractor selected to perform the Construction Contract in accordance with the terms of this Bond and the Construction Contract.

4. When Owner has satisfied the conditions of Paragraph 3 above, Surety shall promptly (within 40 Days) and at Surety's expense elect to take one of the following actions:

4.1 Arrange for Contractor, with consent of Owner, to perform and complete the Construction Contract (but Owner may withhold consent, in which case the Surety must elect an option described in Paragraphs 4.2, 4.3 or 4.4 below); or

4.2 Undertake to perform and complete the Construction Contract itself, through its agents or through independent contractors or Construction entities; provided, that Surety may not select Contractor as its agent or independent contractor or Contractor without Owner's consent; or

4.3 Undertake to perform and complete the Construction Contract by obtaining bids from qualified contractors or Construction entities acceptable to Owner for a contract for performance and completion of the Construction Contract and, upon determination by Owner of the lowest responsive and responsible Bidder, arrange for a contract to be prepared for execution by Owner and the contractor or Contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract; and, if Surety's obligations defined in Paragraph 6 below, exceed the Balance of Contract Sum, then Surety shall pay to Owner the amount of such excess; or

4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor or Contractor, and with reasonable promptness under the circumstances and, after investigation and consultation with Owner, determine in good faith its monetary obligation to Owner under Paragraph 6 below, for the performance and completion of the Construction Contract and, as soon as practicable after the amount is determined, tender payment therefor to Owner with full explanation of the payment's calculation. If Owner accepts Surety's tender under this Paragraph 4.4, Owner may still hold Surety liable for future damages then unknown or unliquidated resulting from the Contractor Default, as agreed by Owner and Surety at the time of tender. If Owner disputes the amount of Surety's tender under this Paragraph 4.4, Owner may exercise all remedies available to it at law to enforce Surety's liability under Paragraphs 6 and 7 below.

5. At all times Owner shall be entitled to enforce any remedy available to Owner at law or under the Construction Contract including, without limitation, and by way of example only, rights to perform work, protect Work, mitigate damages, advance critical Work to mitigate schedule delay, and coordinate Work with other consultants or contractors.

6. If Surety elects to act under Paragraphs 4.1, 4.2 or 4.3 above, within the time period provided in Paragraph 4, above, and complies with its obligations under this Bond, Surety's obligations under this Bond are commensurate with Contractor's Construction Contract obligations. Surety's obligations include, but are not limited to:

6.1 Contractor's obligations to complete the Construction Contract and correct Defective Work;

6.2 Contractor's obligations to pay liquidated damages; and

6.3 To the extent otherwise required of Contractor under the Construction Contract, Contractor's obligations to pay additional legal, design professional, and other costs not included within liquidated damages resulting from Contractor Default (but excluding attorney's fees incurred to enforce this Bond).

7. If Surety does not elect to act under Paragraphs 4.1, 4.2, 4.3, or 4.4, above, within the time period provided in Paragraph 4, above, or comply with its obligations under this Bond, then Surety shall be deemed to be in default on this Bond ten Days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond. Such Surety default shall be independent of the Contractor Default. To the extent Surety's independent default causes Owner to suffer damages including, but not limited to, delay damages, which are different from, or in addition to (but not duplicative of) damages which Owner is entitled to receive under the Construction Contract, Surety shall also be liable for such damages. In the event any Surety obligation following its independent default is inconsistent or conflicts with California Civil Code Section 2809, or any other law which either prohibits, restricts, limits or modifies in any way any obligation of a surety which is larger in amount or in any other respect more burdensome than that of the principal, Surety hereby waives the provisions of such laws to that extent.

8. If Surety elects to act under Paragraphs 4.1, 4.3 or 4.4 above, within the time period provided in Paragraph 4, above, and complies with all obligations under this Bond, Surety's monetary obligation under this Bond is limited to the Penal Sum.

9. No right of action shall accrue on this Bond to any person or entity other than Owner or its successors or assigns.

10. Surety hereby waives notice of any change, alteration or addition to the Construction Contract or to related subcontracts, design agreements, purchase orders and other obligations, including changes of time, and of any Owner action in accordance with Paragraph 5 above. Surety consents to all terms of the Construction Contract, including provisions on changes to the Contract. No extension of time, change, alteration, Modification, deletion, or addition to the Contract Documents, or of the Work (including services) required thereunder, or any Owner action in accordance with Paragraph 5 above shall release or exonerate Surety on this Bond or in any way affect the obligations of Surety on this Bond, unless such action is an Owner Default.

11. Any proceeding, legal or equitable, under this Bond shall be instituted in any court of competent jurisdiction where a proceeding is pending between Owner and Contractor regarding the Construction Contract, or in the Superior Court of the County of Los Angeles, California, or in a court of competent jurisdiction in the location in which the Work is located. Communications from Owner to Surety under Paragraph 3.1 above shall be deemed to include the necessary agreements under Paragraph 3.2 above unless expressly stated otherwise.

12. All notices to Surety or Contractor shall be mailed or delivered (at the address set forth on the signature page of this Bond), and all notices to Owner shall be mailed or delivered as provided in Document 00 5200 (Agreement). Actual receipt of notice by Surety, Owner or Contractor, however accomplished, shall be sufficient compliance as of the date received at the foregoing addresses.

13. Any provision in this Bond conflicting with any statutory or regulatory requirement shall be deemed deleted here from and provisions conforming to such statutory requirement shall be deemed incorporated herein.

14. Definitions

14.1 Balance of Contract Sum: The total amount payable by Owner to Contractor pursuant to the terms of the Construction Contract after all proper adjustments have been made under the Construction Contract, for example, deductions for progress payments made, and increases/decreases for approved Modifications to the Construction Contract**.**

14.2 Construction Contract: The agreement between Owner and Contractor identified on the signature page of this Bond, including all Contract Documents and changes thereto.

14.3 Contractor Default: Material failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Construction Contract, limited to “default” or any other condition allowing a termination for cause as provided in Document 00 7200 (General Conditions).

14.4 Owner Default: Material failure of Owner, which has neither been remedied nor waived, to pay Contractor progress payments due under the Construction Contract or to perform other material terms of the Construction Contract, if such failure is the cause of the asserted Contractor Default and is sufficient to justify Contractor termination of the Construction Contract.

END OF DOCUMENT

DOCUMENT 006113.16

CONSTRUCTION LABOR AND MATERIAL PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS:

1.01 THAT WHEREAS, **CITY OF BENICIA** (**Owner**) has awarded to _____ _____ as Principal, Contract Number _____ dated the _____ day of _____**,** 2024 (the **Contract**), titled the City of Benicia Water Treatment Plant Miscellaneous Mechanical Improvements Project in the amount of $_____, which Contract is by this reference made a part hereof, for the work of the following Contract:

Misc. WTP Improvements, Project Number 22-09

1.02 AND WHEREAS, Principal is required to furnish a bond in connection with the Contract to secure the payment of claims of laborers, mechanics, material suppliers, and other persons as provided by law;

1.03 NOW, THEREFORE, we, the undersigned Principal and _____ _____ , as Surety, are held and firmly bound unto Owner in the sum of 100% OF THE CONTRACT PRICE **($_____)**, for which payment well and truly to be made we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

1.04 THE CONDITION OF THIS OBLIGATION IS SUCH, that if Principal, or its executors, administrators, successors, or assigns approved by Owner, or its subcontractors shall fail to pay any of the persons named in California Civil Code Section 9100, or amounts due under the State of California Unemployment Insurance Code with respect to work or labor performed under the Contract, or for any amounts required to be deducted, withheld, and paid over to the State of California Employment Development Department from the wages of employees of Principal and subcontractors pursuant to Section 13020 of the State of California Unemployment Insurance Code with respect to such work and labor, that Surety will pay for the same in an amount not exceeding the sum specified in this bond, plus reasonable attorneys' fees, otherwise the above obligation shall become and be null and void.

1.05 This bond shall inure to the benefit of any of the persons named in California Civil Code Section 9100, as to give a right of action to such persons or their assigns in any suit brought upon this bond. The intent of this bond is to comply with the California Mechanic's Lien Law.

1.06 Surety, for value received, hereby expressly agrees that no extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder, shall in any way affect the obligation of this bond; and it does hereby waive notice of any such extension of time, change, modification, alteration, or addition to the undertakings, covenants, terms, conditions, and agreements of the Contract, or to the work to be performed thereunder.

1.07 Surety's obligations hereunder are independent of the obligations of any other surety for the payment of claims of laborers, mechanics, material suppliers, and other persons in connection with Contract; and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing Owner's rights against the other.

1.08 Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

IN WITNESS WHEREOF, we have hereunto set our hands this ____ day of _____, 2024.

CONTRACTOR AS PRINCIPAL		**SURETY**	
Company:	(Corp. Seal)	Company:	(Corp. Seal)
Signature		Signature	
Name		Name	
Title		Title	
Street Address		Street Address	
City, State, Zip Code		City, State, Zip Code	

END OF DOCUMENT

DOCUMENT 00 6290

ESCROW AGREEMENT FOR SECURITY DEPOSIT IN LIEU OF RETENTION

Public Contract Code Section 22300

THIS ESCROW AGREEMENT ("**Escrow Agreement**") is made and entered into this ____ day of _____**,** 2024**,** by and between **City OF Benicia** (**"Owner"**), whose address is **250 East L Street, Benicia, CA 94510**, _____("**Contractor**"), whose principal place of business is located at _____and Owner, as escrow agent _____a state or federally chartered bank in the State of California, whose place of business is located at _____.

For the consideration hereinafter set forth, Owner, Contractor and Escrow Agent agree as follows:

1. Pursuant to Public Contract Code Section 22300, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by Owner pursuant to Contract Number _____ entered into between Owner and Contractor for the City of Benicia Viewmont Misc. Water Treatment Plant Improvements Project in the amount of $_____ _____ dated _____, 2024 (the **"Contract"**). Alternatively, on written request of Contractor, Owner shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify Owner within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between Owner and Contractor. Securities shall be held in name of_____ , and shall designate Contractor as the beneficial owner.

2. Owner shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in Paragraph 1 of this Document 006290.

3. When Owner makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when Owner pays Escrow Agent directly.

4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of Owner. Such expenses and payment terms shall be determined by Owner, Contractor, and Escrow Agent.

5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to Owner.

6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from Owner to Escrow Agent that Owner consents to withdrawal of amount sought to be withdrawn by Contractor.

7. Owner shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from Owner of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by Owner.

8. Upon receipt of written notification from Owner certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. Escrow Agent shall rely on written notifications from Owner and Contractor pursuant to Paragraphs 5 through 8, inclusive, of this Document 00 6290 and Owner and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.

10. Names of persons who are authorized to give written notice or to receive written notice on behalf of Owner and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

ON BEHALF OF OWNER:

_____
Title

_____
Name

_____
Signature

_____
Address

_____
City/State/Zip Code

ON BEHALF OF CONTRACTOR:

_____
Title

_____
Name

_____
Signature

_____
Address

_____
City/State/Zip Code

ON BEHALF OF ESCROW AGENT:

_____
Title

_____
Name

_____
Signature

_____
Address

_____
City/State/Zip Code

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

OWNER:

CITY OF BENICIA

_____
Title

_____
Name

_____
Signature

CONTRACTOR

_____

_____
Title

_____
Name

_____
Signature

ATTEST

_____
Signature

_____
Print Name

Secretary

ESCROW AGENT

_____

_____
Title

_____
Print Name

_____
Signature

[IF REQUIRED] REVIEWED AS TO FORM:

_____
Counsel for Owner

_____
Print Name

_____
Date

At the time the Escrow Account is opened, Owner and Contractor shall deliver to Escrow Agent a fully executed counterpart of this Document 00 6290.

END OF DOCUMENT

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DOCUMENT 00 6325

SUBSTITUTION REQUEST FORM

To: **CITY OF BENICIA, Owner**

PROJECT: _____ **Owner Project No:**	**Contractor:**

Substitution Request By:	Firm:

Transmittal Record	**Attn:**	**Firm:**	**Date Sent:**	**Date Rec'd:**	**Date Due:**
Contractor to Owner					
Contractor to Architect					
Owner / Architect to Consultant					
Architect to Owner Representative					
Owner Representative to Contractor					

We hereby submit for your consideration the following product instead of the specified item for the Project:

Section / Drawing	**Article**	**Specified Item**
Proposed Substitution:		

We have (a) attached manufacturer's literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Contract Documents that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

Contractor to complete questions that follow and certify to the accuracy of all answers:

A.	Does the substitution affect dimensions shown on Drawings? Yes __ / No __. If No, please explain proposed mitigation and why substitution is equivalent to originally specified item:
B.	Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes __ / No __. If No, please state reasons explain why substitution is equivalent to originally specified item:
C.	What effect does the substitution have on other trades? No effect: __ / Some effect__. If substitution will affect other trades, please explain the effect and why substitution is equivalent to originally specified item:
D.	Will substitution cause change to Project Schedule, or to critical delivery dates? Add? Shorten? If the substitution will add to schedule dates or affect critical activities, please explain why substitution is equivalent to originally specified item:
E.	Please describe differences between proposed substitution and specified item? Please explain and identify any and all differences, and please explain why substitution is equivalent to originally specified item:
F.	What is the Cost Differential to Contractor in original specified item and proposed substitution including all mark-ups? [If substitution requested during bid period, skip this question.]
G.	Are Manufacturer's guarantees for the proposed item the same as for item specified? Yes ____; No____. If No, please explain why substitution is equivalent to originally specified item:

H.	Contractor accepts full responsibility for delays caused by redesign of other items of the Work necessitated by substitution? Yes __ / No __. If No, please state reasons and explain why substitution is equivalent to originally specified item:
I.	Contractor states that the function, appearance and quality are equivalent or superior to the specified item? Yes __ / No __. If No, please explain why substitution is equivalent to originally specified item:

We certify that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item, except as we may specifically state otherwise in this request.

Submitted by: _____ Signature: _____

Firm: _____ Date: _____

Address: _____ Phone / Fax: _____

Remarks:_____

Consultant Response	Owner Representative Response
__Accepted	__Accepted
__ Not Accepted	__ Not Accepted
__ Accepted As Noted	__ Accepted As Noted
__ Received Too Late	__ Received Too Late
Remarks: _____	Remarks: _____
_____	_____
_____	_____
By: _____	By: _____

END OF DOCUMENT

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DOCUMENT 00 6530

AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS
[Public Contract Code Section 7100]

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (**Agreement and Release**), made and entered into this _____ day of _____,2024 by and between **CITY OF BENICIA** (**Owner**), and _____ (**Contractor**), whose place of business is at _____.

RECITALS

A. Owner and Contractor entered into Contract (the **"Contract"**) for construction of Owner's Viewmont Water Main Replacement.

B. The Work under the Contract has been completed.

AGREEMENT

NOW THEREFORE, it is mutually agreed between Owner and Contractor as follows:

1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	$ _____
Modified Contract Sum	$ _____
Payment to Date	$ _____
Liquidated Damages	$ _____
Payment Due Contractor	$ _____

2. Subject to the provisions of this Agreement and Release, Owner will forthwith pay to Contractor the sum of _____ Dollars and _____ Cents ($_____) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with Owner as of the date of such payment.

3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against Owner arising from the Contract, except for the claims described in Paragraph 4 of this Document 00 6530. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against Owner, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees, except for the Disputed Claims set forth in Paragraph 4 of this Document 00 6530. Nothing in this Agreement and Release shall limit or modify Contractor's continuing obligations described in Paragraph 6 of this Document 00 6530.

4. The following claims submitted under Document 00 7200 (General Conditions), Article 12, are disputed (**Disputed Claims**) and are specifically excluded from the operation of this Agreement and Release.

CLAIM NO.	DATE SUBMITTED	DESCRIPTION OF CLAIM	AMOUNT OF CLAIM

5. Consistent with California Public Contract Code Section 7100, Contractor hereby agrees that, in consideration of the payment set forth in Paragraph 2 of this Document 00 6530, Contractor hereby releases and forever discharges Owner, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract.

6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.

7. Contractor shall immediately defend, indemnify and hold harmless Owner, any of the Owner's Representatives, Project Manager, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor's suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in Paragraph 4 of this Document 00 6530.

8. Contractor hereby waives the provisions of California Civil Code Section 1542, which provide as follows:

> **A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER, MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR.**

9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.

11. All rights of Owner shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

*** * * CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING * * ***

OWNER: CITY OF BENICIA

By: _____
Signature

Name: _____
Print

Its: _____
Title

[CONTRACTOR]

By: _____
Signature

Name: _____
Print

Its: _____
Title

[CONTRACTOR]

By: _____
Signature

Name: _____
Print

Its: _____
Title

[REVIEWED AS TO FORM:

Dated: _____, 2024

By: _____
Counsel for Owner

Name: _____
Print

END OF DOCUMENT

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DOCUMENT 00 6536

GUARANTY

TO: The **CITY OF BENICIA** (**Owner**), for construction of the Water Treatment Plant Miscellaneous Mechanical Improvements

The undersigned guarantees all construction performed on this Project and also guarantees all material and equipment incorporated therein.

1.01 Contractor hereby grants to Owner for a period of [**one year**] following the date of Final Acceptance of the Work completed, or such longer period specified in the Contract Documents, its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers in connection with the Work.

1.02 Neither final payment nor use nor occupancy of the Work performed by the Contractor shall constitute an acceptance of Work not done in accordance with this Guaranty or relieve Contractor of liability in respect to any express warranties or responsibilities for faulty materials or workmanship. Contractor shall remedy any defects in the Work and pay for any damage resulting therefrom, which shall appear within [**one year**], or longer if specified, from the date of Final Acceptance of the Work completed.

1.03 If within [**one year**] after the date of Final Acceptance, or such other period of time as may be prescribed by laws or regulations, or by the terms of Contract Documents or any extended warranty or guaranty, any Work is found to be Defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to comply promptly with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

1.04 Contractor shall respond within 72 hours to any claim made by Owner pursuant to this guaranty.

1.05 Observation and inspection of the Work shall not relieve Contractor of any of its obligations under the Contract Documents. Even though equipment, materials, or Work required to be provided under the Contract Documents have been inspected, accepted, and estimated for payment, Contractor shall, at its own expense, replace or repair any such equipment, material, or Work found to be Defective or otherwise not to comply with the requirements of the Contract Documents up to the end of the guaranty period.

1.06 This Guaranty is in addition to any other Contractor warranties contained in the Contract Documents, and not in lieu of, any and all other Contractor liability imposed under the Contract Documents or at law. In the event of any conflict or inconsistency between the terms of this Guaranty and any Contractor warranty or obligation Contractor under the Contract Documents or at law, such inconsistency or conflict shall be resolved in favor of the greater protection to Owner.

(Signature line on next page)

Date: _____, 20___

_____
Contractor's Name

By: _____
Signature

_____
Print Name

_____
Title

_____
Street Address

_____
City, State, Zip code

END OF DOCUMENT

DOCUMENT 00 7200

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GENERAL CONDITIONS

ARTICLE 1 - INTERPRETATION OF CONTRACT DOCUMENTS

1.01 Interpretation of Documents

A. Contract Documents are complementary; what is called for by one is as binding as if called for by all.
B. Individual Contract Documents subdivide at first level into Articles, and then into paragraphs.

1.02 Order of Precedence of Documents

A. In the case of discrepancy or ambiguity in the Contract Documents, the following order of precedence shall prevail:

1. Modifications in inverse chronological order (i.e., most recent first), and in the same order as specific portions they are modifying;
2. Agreement Forms (Document 00 5200 and other 5000 and 6000 series Documents), and terms and conditions referenced therein;
3. Supplementary General Conditions (Document 00 7301 and other 7300 series Documents), if included;
4. General Conditions (Document 00 7200);
5. Division 01 General Requirements, if included;
6. Drawings and Technical Specifications (Division 02 and above);
7. Written words over figures, unless obviously incorrect;
8. Figured dimensions over scaled dimensions;
9. Large-scale Drawings over small-scale Drawings.

B. Any conflict between Drawings and Technical Specifications (Division 2 and above) will be resolved in favor of the document of the latest date (i.e., the most recent document), and if the dates are the same or not determinable, then in favor of Specifications.
C. Any conflict between a bill or list of materials shown in the Contract Documents and the actual quantities required to complete Work required by Contract Documents, will be resolved in favor of the actual quantities.
D. All Technical Specifications included in the Project manual shall be included within the Contract Documents unless identified otherwise.

ARTICLE 2 - PRE-BID INVESTIGATIONS

2.01 Pre-Bid Investigations Required

A. Prior to and as a condition of submitting a Bid and executing Document 00 5200 (Agreement), Contractor shall make reasonable efforts to investigate fully the Work of the Contract. Contractor shall visit the Site, examine thoroughly and understand fully the nature and extent of the Contract Documents, Work, Site, locality, actual conditions and as-built conditions.
B. Contractor's investigation shall include, without limitation, requesting and thoroughly examining of all reports of exploration and tests of subsurface conditions, as-built drawings, drawings, product specification(s) or reports, made available by Owner for pre-bidding or contracting purposes or during Contractor's pre-bid investigations, of existing above ground and (to the extent applicable) below ground conditions (together, Existing Conditions Data), including, as applicable, Underground Facilities, geotechnical data, as-built data, utility surveys, record documents of all types, hazardous materials surveys, or similar materials which may appear or be referenced in the Project Manual or the in the Contract Documents, and all local conditions, and federal, state and local laws and regulations that in any manner may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Contractor and safety precautions and programs incident thereto.
C. Contractor's investigations shall consider fully the fact that Existing Conditions Data is in many cases based on information furnished to Owner by others (e.g., the prior owner or builders), and that due to their age or their chain of custody since preparation, may not meet current industry standards for accuracy. Contractor shall also: (i.) provide Owner with prompt written notice of all conflicts, errors,

ambiguities, or discrepancies of any type, that it discovered in or among the Contract Documents and the Existing Conditions Data, and (ii.) subject to Owner's approval, conduct any such additional or supplementary examinations, investigations, explorations, tests, studies and data compilations, concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which Contractor may deem necessary in order to perform and furnish the Work in accordance with the terms and conditions of Contract Documents.

D. During performance of the Contract, Contractor will be charged with knowledge of all information that it should have learned in performing these pre-bid investigations and other obligations, and shall not be entitled to Change Orders (time or compensation) due to any information, error, inconsistency, omission, or conditions that Contractor should have known as a part of this Work. Contractor shall be responsible for the resultant losses, including, without limitation, the cost of correcting Defective Work.

2.02 Limited Reliance Permitted On Owner's Existing Conditions Data

A. Regarding aboveground and as-built conditions shown on the Contract Documents or supplied by Owner, such information has been compiled in good faith, however, Owner does not expressly or impliedly warrant or represent that such information is correctly shown or indicated, or otherwise complete for construction purposes. Contractor must independently verify such information as part of its pre-bid investigations, and where conditions are not reasonably verifiable or discrepancies are identified, bring such matters to Owner's attention through written question issued during the bid period. In executing Document 00 5200 (Agreement), Contractor shall rely on the results of its own independent investigation and shall not rely on Owner-supplied information regarding aboveground conditions and as-built conditions, and Contractor shall accept full responsibility for its verification work sufficient to complete the Work as intended.

B. Regarding subsurface conditions other than Underground Facilities shown on the Contract Documents or otherwise supplied by Owner, Contractor may rely only upon the general accuracy of actual reported depths, actual reported character of materials, actual reported soil types, actual reported water conditions, or actual obstructions shown or indicated in the Contract Documents. Owner is not responsible for the completeness of any subsurface condition information, Contractor's conclusions or opinions drawn from any subsurface condition information, or subsurface conditions that are not specifically shown. (For example, Owner is not responsible for soil conditions in areas contiguous to areas where a subsurface condition is shown.)

2.03 Pre-Bid Investigation Requirements For Excavation and Utilities Relocation Projects

A. As part of its pre-bid investigations for Projects involving excavation and/or relocation of existing utilities, Contractor shall make reasonable efforts to verify information regarding Underground Facilities including, without limitation, requesting additional information or verification of information as necessary.

B. Because of the nature and location of Owner and the Project, the existence of Underground Facilities is deemed inherent in the Work of the Contract, as is the fact that Underground Facilities are not always accurately shown or completely shown on as-built records, both as to their depth and location. Contractor shall, therefore, take care to note the existence and potential existence of Underground Facilities, in particular, above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, chemical, hot water, and other similar items and utilities. Contractor shall carefully consider all supplied information, request additional information Contractor may deem necessary, and visually inspect the Site for above ground indications of Underground Facilities (such as, for example not by way of limitation, the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, manholes, new asphalt, meters and junction boxes, on or adjacent to the Site). Contractor shall also consider local underground conditions and typical practices for Underground Facilities, either through its own direct knowledge or through its subcontractors, and fully consider this knowledge in assessing the existing information and the reasonableness of its reliance.

ARTICLE 3 - SUBCONTRACTORS

3.01 Subcontractor Listing Law

A. Contractor shall comply with the Subcontractor Listing law, Public Contract Code Sections 4101, et seq. Contractor shall not substitute any other person or firm in place of any Subcontractor listed in the Bid except as may be allowed by law.

B. Subcontractors shall not assign or transfer their subcontracts or permit them to be performed by any other contractor without Owner's written approval. At Owner's request, Contractor shall provide Owner with a complete copy of all executed subcontracts or final commercial agreements with Subcontractors and/or suppliers.

3.02 Subcontracts

A. Subcontract agreements shall preserve and protect the rights of Owner under the Contract Documents so that subcontracting will not prejudice such rights. To the extent of the Work to be performed by a Subcontractor, Contractor shall require the Subcontractor's written agreement (i) to be bound to the terms of Contract Documents and (ii) to assume vis-à-vis Contractor all the obligations and responsibilities that Contractor assumes toward Owner under the Contract Documents. (These agreements include, without limitation, all warranties, claims procedures and rules governing submittals of all types to which Contractor is subject under the Contract Documents.)

B. Contractor shall provide for the assignment to Owner of all rights any Subcontractor (of any tier) may have against any manufacturer, supplier, or distributor for breach of warranties and guarantees relating to the Work performed by the Subcontractor under the Contract Documents. Subcontracts shall provide and acknowledge Owner as an intended third-party beneficiary of each subcontract and supply contract (of any tier).

ARTICLE 4 - DRAWINGS AND SPECIFICATIONS

4.01 Intent of Drawings and Specifications

A. Contractor shall interpret words or phrases used to describe Work (including services), materials, or equipment that have well-known technical or construction industry or trade meaning in accordance with that meaning. Drawings' intent specifically includes the intent to depict construction that complies with all applicable laws, codes and standards.

B. As part of the **"Work,"** Contractor shall provide all labor, materials, equipment, machinery, tools, facilities, services, employee training and testing, hoisting facilities, Shop Drawings, storage, testing, security, transportation, disposal, the securing of all necessary or required field dimensions, the cutting or patching of existing materials, notices, permits, documents, reports, agreements and any other items required or necessary to timely and fully complete Work described and the results intended by Contract Documents and, in particular, Drawings and Specifications. Divisions and Specification Sections and the identification on any Drawings shall not control Contractor in dividing Work among Subcontractors or suppliers or delineating the Work to be performed by any specific trade.

C. Contractor shall perform reasonably implied parts of Work as **"incidental work"** although absent from Drawings and Specifications. Incidental work includes any work not shown on Drawings or described in Specifications that is necessary or normally or customarily required as a part of the Work shown on Drawings or described in Specifications. Incidental work includes any work necessary or required to make each installation satisfactory, legally operable, functional, and consistent with the intent of Drawings and Specifications or the requirements of Contract Documents. Contractor shall perform incidental work without extra cost to Owner. Incidental work shall be treated as if fully described in Specifications and shown on Drawings, and the expense of incidental work shall be included in price Bid and Contract Sum.

4.02 Checking of Drawings and Specifications

A. Before undertaking each part of Work, Contractor shall carefully study and compare Contract Documents and check and verify pertinent figures shown in the Contract Documents and all applicable field measurements. Contractor shall be responsible for any errors that might have been avoided by such comparison. Figures shown on Drawings shall be followed; Contractor shall not scale measurements. Contractor shall promptly report to Owner, in writing, any conflict, error, ambiguity or discrepancy that Contractor may discover. Contractor shall obtain a written interpretation or clarification from Owner before proceeding with any Work affected thereby. Contractor shall provide Owner with a follow-up correspondence every ten Days until it receives a satisfactory interpretation or clarification.

4.03 Interpretation of Drawings and Specifications

A. A typical or representative detail on Drawings shall constitute the standard for workmanship and material throughout corresponding parts of Work. Where necessary, and where reasonably inferable from

Drawings, Contractor shall adapt such representative detail for application to such corresponding parts of Work. The details of such adaptation shall be subject to prior approval by Owner. Repetitive features shown in outline on Drawings shall be in exact accordance with corresponding features completely shown.

B. Should any discrepancy appear or any misunderstanding arise as to the import of anything contained in Drawings and Specifications, or should Contractor have any questions or requests relating to Drawings or Specifications, Contractor shall refer the matter to Owner, in writing, with a copy to the Architect/Engineer. Owner will issue (or cause to be issued) with reasonable promptness written responses, clarifications or interpretations as Owner may determine necessary. All written responses, clarifications and interpretations under this Paragraph shall be consistent with the intent of and be reasonably inferable from Contract Documents, and binding upon Contractor. If Contractor believes that a written response, clarification or interpretation justifies an adjustment in the Contract Sum or Contract Time, Contractor shall give Owner prompt written notice. If the parties are unable to agree to the amount or extent of the adjustment, if any, then Contractor shall perform the Work in conformance with Owner's response, clarification, or interpretation and may make a written claim for the adjustment as provided in Article 12.

C. The following general specifications shall apply wherever in the Specifications, or in any directions given by Owner in accordance with or supplementing Specifications, it is provided that Contractor shall furnish materials or manufactured articles or shall do Work for which no detailed specifications are shown. Materials or manufactured articles shall be of the best grade, in quality and workmanship, obtainable in the market from firms of established good reputation. If not ordinarily carried in stock, the materials or manufactured articles shall conform to industry standards for first class materials or articles of the kind required, with due consideration of the use to which they are to be put. Work shall conform to the usual standards or codes, such as those cited herein, for first class work of the kind required. Contractor shall specify in writing to Owner, at least 10 Business Days prior to furnishing such materials or performing such Work, the materials to be used or Work to be performed under this Paragraph.

4.04 Use of Drawings and Specifications

A. Drawings, Specifications and other Contract Documents were prepared for use for Work of Contract Documents only. No part of Contract Documents shall be used for any other construction or for any other purpose except with the written consent of Owner. Any unauthorized use of Contract Documents is prohibited and at the sole liability of the user.

ARTICLE 5 - COMMENCEMENT OF THE WORK

5.01 Submission of Required Schedules

A. Contractor shall submit to Owner in draft for review and discussion at the Preconstruction Conference, and in final prior to the first payment application, the following schedules:

1. Schedule of Values
2. Progress Schedule, and
3. Schedule of Submittals.

B. No progress payment shall be due or owing to Contractor until such schedules are submitted to and acceptable to Owner and/or Architect/Engineer as meeting the requirements of the Contract Documents. In Owner's sole discretion, Owner may elect to instead withhold a portion of any progress payment for unacceptable compliance with contract requirements for such schedules.

C. Owner's acceptance of Contractor's schedules will not create any duty of care or impose on Owner any responsibility for the sequencing, scheduling or progress of Work, nor will it interfere with or relieve Contractor from Contractor's full responsibility therefore.

5.02 Commencement Date of Contract Time

A. The Contract Time will commence to run on the 60th Day after the issuance of the Notice of Award or, if a Notice to Proceed is given, on the date indicated in the Notice to Proceed.

B. Owner may give a Notice to Proceed at any time within 60 Days after the Notice of Award. Contractor shall not do any Work at the Site prior to the date on which the Contract Time commences to run. **[QUESTION - WHETHER THE CITY WOULD LIKE MORE FLEXIBILITY WITH THIS PROVISION]**

ARTICLE 6 - CONTRACTOR'S ORGANIZATION AND EQUIPMENT

6.01 Contractor's Legal Address

A. Address and facsimile number given in Contractor's Bid are hereby designated as Contractor's legal address and facsimile number. Contractor may change its legal address and facsimile number by notice in writing, delivered to Owner, which in conspicuous language advises Owner of a change in legal address or facsimile number, and which Owner accepts in writing. Delivery to Contractor's legal address or depositing in any post office or post office box regularly maintained by the United States Postal Service, in a wrapper with postage affixed, directed to Contractor at Contractor's legal address, or of any drawings, notice, letter or other communication, shall be deemed legal and sufficient service thereof upon Contractor. Facsimile to Contractor's designated facsimile number of any letter, memorandum, or other communication on standard or legal sized paper, with proof of facsimile transmission, shall be deemed legal and sufficient service thereof upon Contractor.

6.02 Contractor's Superintendents or Forepersons

A. Contractor shall at all times be represented on Site by one or more superintendents or forepersons authorized and competent to receive and carry out any instructions that Owner may give, and shall be liable for faithful observance of instructions delivered to Contractor or to authorized representative or representatives on Site.

6.03 Proficiency In English

A. Supervisors, security guards, safety personnel and employees who have unescorted access to the Site shall possess proficiency in the English language in order to understand, receive and carry out oral and written communications or instructions relating to their job functions, including safety and security requirements.

6.04 Contractor's and Subcontractors' Employees

A. Contractor shall employ, and shall permit its Subcontractors to employ, only competent and skillful personnel to do Work. If Owner notifies Contractor that any of its employees, or any of its Subcontractors' employees on Work is incompetent, unfaithful, disorderly or profane, or fails to observe customary standards of conduct or refuses to carry out any provision of the Contract Documents, or uses threatening or abusive language to any person on Work representing Owner, or violates sanitary rules, or is otherwise unsatisfactory, and if Owner requests that such person be discharged from Work, then Contractor or its Subcontractor shall immediately discharge such person from Work and the discharged person shall not be re-employed on the Work except with consent of Owner.

6.05 Contractor's Use of The Site

A. Contractor shall not make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Work, for any purpose whatsoever, either with or without compensation, in conflict with any agreement between Owner and any Owner, former Owner or tenant of such land, structure or buildings. Contractor may not occupy Owner-owned property outside the limit of the Work as indicated on the Drawings unless it obtains prior approval from Owner.

6.06 Contractor's Site Office

A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide a site office staffed by a resident project manager or job superintendent.

ARTICLE 7 - OWNER'S ADMINISTRATION OF WORK

7.01 Owner's Representative(s)

A. Owner's Representative(s) will have limited authority to act on behalf of Owner as set forth in the Contract Documents.

B. Except as otherwise provided in these Contract Documents or subsequently identified in writing by Owner, Owner will issue all communications to Contractor through Owner's Representative, and Contractor shall issue all communications to Owner through Owner's Representative in a written document delivered to Owner.

C. Should any direct communications between Contractor and Owner's consultants, architects or engineers not identified in Article 2 of Document 00 5200 (Agreement) occur during field visits or by telephone, Contractor shall immediately confirm them in a written document copied to Owner.

7.02 Owner's Observation of The Work

A. Work shall be performed under Owner's general observation and administration. Contractor shall comply with Owner's directions and instructions in accordance with the terms of Contract Documents, but nothing contained in these General Conditions shall be taken to relieve Contractor of any obligations or liabilities under the Contract Documents. Owner's failure to review or, upon review, failure to object to any aspect of Work reviewed, shall not be deemed a waiver or approval of any non-conforming aspect of Work.
B. Subject to those rights specifically reserved in the Contract Documents, Owner will not supervise, or direct, or have control over, or be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or Contractor's failure to comply with laws and regulations applicable to the furnishing or performance of Work. Owner will not be responsible for Contractor's failure to perform or furnish the Work in accordance with Contract Documents.

7.03 Consultant's Observation of Work

A. Owner may engage one or more of the following to assist in administering the Work: an Architect/Engineer, Project Manager, Construction Manager, or any other independent consultant (collectively for purposes of this Article 7, **Consultant**). If so engaged, Consultant will advise and consult with Owner, but will have authority to act on behalf of Owner only to extent provided in the Contract Documents or as set forth in writing by Owner. Consultant will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with Work. Consultant will not be responsible for or have control over the acts or omissions of Contractor, Subcontractors or their agents or employees, or any other persons performing Work.
B. Consultant may review Contractor's Submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with design concept of Work and with information given in the Contract Documents.
C. Consultant may visit the Site at intervals appropriate to stage of construction to become familiar generally with the progress and quality of Work and to determine in general if Work is proceeding in accordance with Contract Documents. Based on its observations, Consultant may recommend to Owner that it disapproves or rejects Work that Consultant believes to be Defective or will not produce a complete Project that conforms to Contract Documents, or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by Contract Documents. Consultant may also recommend to Owner special inspection or testing of Work, whether or not the Work is fabricated, installed, or completed.
D. Consultant may conduct observations or inspections to recommend to Owner the dates that Contractor has achieved Substantial Completion and Final Completion, and will receive and forward to Owner for review written warranties and related documents required by Contract Documents.

7.04 Owner's and Consultant's Exercise of Contract Responsibilities

A. Owner, Consultant, and all Owner's representatives, in performing their duties and responsibilities under the Contract Documents, accept no duties, responsibilities or duty of care, nor may the same be implied or inferred, towards Contractor, any Subcontractor, sub-Subcontractor or supplier, except those set forth expressly in the Contract Documents.

7.05 Owner's Right of Access to The Work

A. During performance of Work, Owner, Consultant, and all Owner's representatives may at any time enter upon Work, shops or studios where any part of the Work may be in preparation, or factories where any materials for use in Work are being or are to be manufactured, and Contractor shall provide proper and safe facilities for this purpose, and shall make arrangements with manufacturers to facilitate inspection of their processes and products to such extent as Owner's interests may require. Other contractors performing work for Owner may also enter upon Work for all purposes required by their respective contracts. Subject

to the rights reserved in the Contract Documents, Contractor shall have sole care, custody, and control of the Site and its Work areas.

7.06 Owner's Right of Separate Construction

A. Owner may perform with its own forces, construction or operations related to the Project, or the Site during Contractor's operations. Owner may also award separate contracts in connection with other portions of the Project or other construction or operations, on the Site or areas contiguous to the Site, under conditions similar to these Contract Documents, or may have utility Owners perform other work.

B. Contractor shall adjust its schedule and fully coordinate with and shall afford all other contractors, utility districts and Owner (if Owner is performing work with its own forces), proper and safe access to the Site, and reasonable opportunity for the installation and storage of their materials. Contractor shall ensure that the execution of its Work properly connects and coordinates with others' work, do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work, and shall cooperate with them to facilitate the progress of the Work.

C. To the extent that any part of Contractor's Work is to interface with work performed or installed by other contractors or utility owners, Contractor shall inspect and measure the in-place work. Contractor shall promptly report to Owner in writing any defect in in-place work that will impede or increase the cost of Contractor's interface unless corrected.

ARTICLE 8 - CONTRACTOR'S PROSECUTION AND PROGRESS OF THE WORK

8.01 Contractor to Supervise The Work

A. Subject to those rights specifically reserved in the Contract Documents, Contractor shall supervise, direct, have control over, and be responsible for, Contractor's means, methods, techniques, sequences or procedures of construction, safety precautions and programs incident thereto, and compliance with laws and regulations applicable to the furnishing or performance of Work.

B. Contractor shall keep on the Site at all times during Work progress a competent resident Superintendent, who shall not be replaced without Owner's express written consent and, if applicable, payment of liquidated damages as required by Document 00 5200 (Agreement). The Superintendent shall be Contractor's representative at the Site and shall have complete authority to act on behalf of Contractor. All communications to and from the Superintendent shall be as binding as if given to or by Contractor.

C. Contractor shall supervise, inspect, and direct Work competently and efficiently, devoting the attention and applying such personal skills and expertise as may be required and necessary to perform Work in accordance with Contract Documents. Contractor shall be solely responsible for and have control and charge of construction means, methods, techniques, sequences and procedures, safety precautions and programs in connection with the Work. Contractor shall be responsible to see that the completed Work complies accurately with Contract Documents.

D. Contractor is fully responsible for Contractor's own acts and omissions. Contractor is responsible for all acts and omissions of its Subcontractors, suppliers, and other persons and organizations performing or furnishing any of the Work, labor, materials, or equipment under a direct or indirect contract with Contractor.

E. Contractor shall conduct monthly Contractor Safety Committee meetings, and weekly toolbox safety talks.

8.02 Contractor to Maintain Cost Data

A. Contractor shall maintain full and correct information as to the number of workers employed in connection with each subdivision of Work, the classification and rate of pay of each worker in form of certified payrolls, the cost to Contractor of each class of materials, tools and appliances used by Contractor in Work, and the amount of each class of materials used in each subdivision of Work. Contractor shall provide Owner with monthly summaries of this information. If Contractor maintains or is capable of generating summaries or reports comparing actual Project costs with Bid estimates or budgets, Contractor shall provide Owner with a copy of such report upon Owner's request.

B. Contractor shall maintain daily job reports recording all significant activity on the job, including the number of workers on Site, Work activities, problems encountered and delays. Contractor shall provide Owner with copies for each Day Contractor works on the Project, to be delivered to Owner either the same Day or the following morning before starting work at the Site. Contractor shall take pre-construction and

monthly progress photographs of all areas of the Work. Contractor shall maintain copies of all correspondence with Subcontractors and records of meetings with Subcontractors.

C. Owner shall have the right to audit and copy Contractor's books and records of any type, nature or description relating to the Project (including, without limitation, financial records reflecting in any way costs claimed on the Project), and to inspect the Site, including Contractor's trailer, or other job Site office, and this requirement shall be contained in the subcontracts of Subcontractors working on Site. By way of example, Owner shall have the right to inspect and obtain copies of all Contract Documents, planning and design documents, Bid proposal and negotiation documents, cost records and job cost variance reports, design modification proposals, value engineering or other cost reduction proposals, revisions made to the original design, job progress reports, photographs, and as-built drawings maintained by Contractor. Owner and any other applicable governmental entity shall have the right to inspect all information and documents maintained hereunder at any time during the Project and for a period of five years following Final Completion, in accordance with the provisions of Government Code Section 8546.7. This right of inspection shall not relieve Contractor of its duties and obligations under the Contract Documents. This right of inspection shall be specifically enforceable in a court of law, either independently or in conjunction with enforcement of any other rights in the Contract Documents.

8.03 Contractor to Supply Sufficient Workers and Materials

A. Unless otherwise required by Owner under the terms of Contract Documents, Contractor shall at all times keep on the Site materials and employ qualified workers sufficient to prosecute Work at a rate and in a sequence and manner necessary to complete Work within the Contract Time. This obligation shall remain in full force and effect notwithstanding disputes or claims of any type.

B. At any time during progress of Work should Contractor directly or indirectly (through Subcontractors) refuse, neglect, or be unable to supply sufficient materials or employ qualified workers to prosecute the Work as required, then Owner may require Contractor to accelerate the Work and/or furnish additional qualified workers or materials as Owner may consider necessary, at no cost to Owner. If Contractor does not comply with the notice within three Business Days of date of service thereof, Owner shall have the right (but not a duty) to provide materials and qualified workers to finish the Work or any affected portion of Work, as Owner may elect. Owner may, at its discretion, exclude Contractor from the Site, or portions of the Site or separate work elements during the time period that Owner exercises this right. Owner will deduct from moneys due or which may thereafter become due under the Contract Documents, the sums necessary to meet expenses thereby incurred and paid to persons supplying materials and doing Work. Owner will deduct from funds or appropriations set aside for purposes of Contract Documents the amount of such payments and charge them to Contractor as if paid to Contractor. Contractor shall remain liable for resulting delay, including liquidated damages and indemnification of Owner from claims of others.

C. Exercise by Owner of the rights conferred upon Owner in this subparagraph is entirely discretionary on the part of Owner. Owner shall have no duty or obligation to exercise the rights referred to in this subparagraph and its failure to exercise such rights shall not be deemed an approval of existing Work progress or a waiver or limitation of Owner's right to exercise such rights in other concurrent or future similar circumstances. (The rights conferred upon Owner under this subparagraph are, like all other such rights, cumulative to Owner's other rights under any provision of the Contract Documents.)

8.04 Contractor to Maintain Project Record Documents

A. As more specifically described in Section 01 7839, Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Contract Modifications, Change Orders, Work Directives, Force Account orders, and written interpretations and clarifications in good order and annotated to show all as-built changes made during construction. These Project Record Documents, together with all approved Samples and a counterpart of all approved Shop Drawings, shall be maintained and available to Owner for reference. Upon completion of the Work, Contractor shall deliver to Owner, the Project Record Documents, Samples and Shop Drawings and as-built drawings.

B. Throughout Contractor's performance of the Work of the Project, Contractor shall maintain construction records to include: shop drawings; product data/material data sheets; samples; submittal; purchases; materials; equipment; inspections; applicable handbooks; applicable codes and standards; maintenance and operating manuals and instructions; RFI Log; Submittal Log; other related documents and revisions which arise out of the Construction Contracts. Contractor shall maintain records of principal

building layout lines, elevations for the bottom of footings, floor levels, and key site elevations (certified by a qualified surveyor or professional engineer). Contractor shall make all records available to Owner. At the completion of the Project, Contractor shall deliver all such records to the Owner to have a complete set of record as-built drawings.

8.05 Contractor to Not Disrupt Owner Operation

A. Contractor shall schedule and execute all Work in a manner that does not interfere with or disrupt Owner operations including, without limitation, parking, utilities (electricity, gas, water), noise, access by employees and administration, access by vendors, physicians, patients and any other person or entity using Owner facilities or doing business with Owner. Contractor shall produce and supply coordination plans and requests to Owner, following Owner procedures, for all necessary interference of construction with Owner, which Owner will reasonably cooperate with.

8.06 Contractor to Provide Temporary Facilities and Controls

A. Unless expressly provided otherwise in the Contract Documents, Contractor shall provide all temporary utilities (including without limitation electricity, water, natural gas), lighting, heating, cooling and ventilating devices, telephone, sanitary facilities, barriers, fences and enclosures, tree and plant protection, fire protection, pollution, erosion, Storm Water Pollution Prevention controls, noise and traffic control, and any other necessary services required for construction, testing or completion of the Work.

ARTICLE 9 - WARRANTY, GUARANTY, AND INSPECTION OF WORK

9.01 Warranty and Guaranty

A. General Representations and Warranties: Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every Phase of the Work and to complete Work in accordance with the terms of Contract Documents. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of Contract Documents. Contractor warrants that Work including, without limitation, each item of materials and equipment incorporated therein, shall be new, of suitable grade of its respective kind for its intended use, and free from defects in design, engineering, materials, construction and workmanship. Contractor warrants that Work shall conform in all respects with all applicable requirements of federal, state and local laws, applicable construction codes and standards, licenses, and permits, Drawings and Specifications and all descriptions set forth therein, and all other requirements of Contract Documents. Contractor shall not be responsible, however, for the negligence of others in the specification of specific equipment, materials, design parameters and means or methods of construction where that is specifically shown and expressly required by Contract Documents.

B. Extended Warranties: Any warranty exceeding one year provided by the supplier or manufacturer of any equipment or materials used in the Project shall be extended for such term. Contractor expressly agrees to act as co-guarantor of such equipment and materials and shall supply Owner with all warranty and guarantee documents relative to equipment and materials incorporated in the Project and guaranteed by their suppliers or manufacturers.

C. Environmental and Toxics Warranty: The covenants, warranties and representations contained in this Paragraph are effective continuously during Contractor's Work on the Project and following cessation of labor for any reason including, without limitation, Project completion. Contractor covenants, warrants and represents to Owner that:

1. To Contractor's knowledge after due inquiry, no lead or Asbestos-containing materials were installed or discovered in the Project at any time during Contractor's construction thereof. If any lead or Asbestos-containing materials were discovered, Contractor made immediate written disclosure to Owner.
2. To Contractor's knowledge after due inquiry, no electrical transformers, light fixtures with ballasts or other equipment containing PCBs are or were located on the Project at any time during Contractor's construction thereof.
3. To Contractor's knowledge after due inquiry, no storage tanks for gasoline or any other toxic substance are or were located on the Project at any time during Contractor's construction thereof. If any such materials were discovered, Contractor made immediate written disclosure to Owner.

4. Contractor's operations concerning the Project are and were not in violation of any applicable environmental federal, state, or local statute, law or regulation dealing with hazardous materials substances or toxic substances and no notice from any governmental body has been served upon Contractor claiming any violation of any such law, ordinance, code or regulation, or requiring or calling attention to the need for any Work, repairs, construction, alteration, or installation on or in connection with the Project in order to comply with any such laws, ordinances, codes, or regulations, with which Contractor has not complied. If there are any such notices with which Contractor has complied, Contractor shall provide Owner with copies thereof.

9.02 Inspection of Work

A. Work and materials, and manufacture and preparation of materials, from beginning of construction until Final Completion and acceptance of Work, shall be subject to inspection and rejection by Owner, its agents, representatives or independent contractors retained by Owner to perform inspection services, or governmental agencies with jurisdictional interests. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's Site safety procedures and program so that they may comply therewith as applicable. Upon request or where specified, Owner shall be afforded access for inspection at the source of supply, manufacture or assembly of any item of material or equipment, with reasonable accommodations supplied for making such inspections.

B. Contractor shall furnish, in such quantities and sizes as may be required for proper examination and tests, Samples or test specimens of all materials to be used or offered for use in connection with Work. Contractor shall prepare Samples or test specimens at its expense and furnish them to Owner. Contractor shall submit all Samples in ample time to enable Owner to make any necessary tests, examinations, or analyses before the time it is desired to incorporate the material into the Work.

C. Contractor shall give Owner timely notice of readiness of Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

D. Upon advance notice as set forth above, Owner will endeavor to schedule required inspections, but if resources are not available, Contractor may need to reschedule the Work at no additional cost to the Owner.

E. If applicable laws or regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, and furnish Owner with the required certificates of inspection, or approval. Owner will pay the cost of initial testing and Contractor shall pay all costs in connection with any follow-up or additional testing. Contractor shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for the acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

If Contractor covers any Work, or the work of others, prior to any required inspection, test or approval without written approval of Owner, Contractor shall uncover the Work at Owner's request. Contractor shall bear the expense of uncovering Work and replacing Work. In any case where Contractor covers Work contrary to Owner's request, Contractor shall uncover Work for Owner's observation or inspection at Owner's request. Contractor shall bear the cost of uncovering Work.

G. Whenever required by Owner, Contractor shall furnish tools, labor and materials necessary to make examination of Work that may be completed or in progress, even to extent of uncovering or taking down portions of finished Work. Should Work be found unsatisfactory, cost of making examination and of reconstruction shall be borne by Contractor. If Work is found to be satisfactory, Owner, in manner herein prescribed for paying for alterations, Modifications, and extra Work, except as otherwise herein specified, will pay for examination.

Inspection of the Work by or on behalf of Owner, or Owner's failure to do so, shall not under any circumstances be deemed a waiver or approval of any non-conforming aspect of the Work. Contractor shall have an absolute duty, in the absence of a written Change Order signed by Owner, to perform Work in conformance with the Contract Documents and to immediately correct Defective Work immediately upon Contractor's knowledge.

Any inspection, evaluation, or test performed by or on behalf of Owner relating to the Work is solely for the benefit of Owner, and shall not be relied upon by Contractor. Contractor shall not be relieved of the

obligation to perform Work in accordance with the Contract Documents, nor relieved of any guaranty, warranty, or other obligation, as a result of any inspections, evaluations, or tests performed by Owner, whether or not such inspections, evaluations, or tests are permitted or required under the Contract Documents. Contractor shall be solely responsible for testing and inspecting Work already performed to determine whether such Work is in proper condition to receive later Work.

9.03 Correction of Defective Work

A. Owner may direct Contractor to correct any Defective Work or remove it from the Site and replace it with Work that is not Defective and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting from the correction or removal. Also, if Contractor fails to supply sufficient skilled workers, suitable materials or equipment, or to furnish or perform the Work in such a way that the completed Work will conform to Contract Documents, Owner may direct Contractor to perform the Work in accordance with the Contract Documents, correct or replace any such Defective Work, or stop any portion of Work.

B. Owner may correct and remedy the Defective Work or perform any other work, corrective or otherwise, if, after five Days' written notice to Contractor, Contractor fails to correct Defective Work or to remove and replace rejected Work; or provide a plan for correction of Defective Work acceptable to Owner; or perform Work in accordance with Contract Documents. In connection with such corrective and remedial action, Owner may exclude Contractor from all or part of the Site; take possession of all or part of Work and suspend Contractor's Work related thereto; take possession of all or part of Contractor's tools, appliances, construction equipment and machinery at the Site; and incorporate in Work any materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, its representatives, agents, employees, and other contractors and consultants' access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

C. Contractor shall be responsible for all claims, costs, losses, damages, expenses and liabilities incurred or sustained by Owner in exercising rights and remedies under this Paragraph. Contractor shall be responsible for any and all claims, costs, losses and damages caused by or resulting from such correction or removal. A Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may decide the proper amount or, in its discretion may elect to leave the Contract Sum unchanged and deduct from monies due Contractor, all such claims, costs, losses and damages caused by or resulting from exercising its rights and remedies. If Contractor disagrees with Owner's calculations, it may make a claim as provided in Article 12 of this Document 00 7200.

D. These Owner rights and remedies are entirely discretionary on the part of Owner, and shall not give rise to any duty on the part of Owner to exercise the rights for the benefit of Contractor or any other party. Owner's rights under this Paragraph shall be in addition to any other rights it may have under the Contract Documents or by law. Owner's failure to demand correction of defective work does not relieve the Contractor from delivering a Project that comports with the Project's plans and specifications.

9.04 Acceptance of Defective Work

A. Owner may in its sole discretion elect to accept Defective Work. Contractor shall pay all claims, costs, losses and damages attributable to Owner's evaluation of and determination to accept such Defective Work. If Owner accepts any Defective Work prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work and the Contract Sum. If the parties are unable to agree to the amount of an appropriate decrease in the Contract Sum, Owner may deduct from monies due Contractor, all claims, costs, losses, damages, expenses and liabilities attributable to the Defective Work. If Contractor disagrees with Owner's calculations, Contractor may make a claim as provided in Article 12 of this Document 00 7200. If Owner accepts any Defective Work after final payment, Contractor shall pay to Owner, an appropriate amount as determined by Owner.

9.05 Rights upon Inspection, Correction or Acceptance

A. Contractor shall not be allowed an extension of Contract Time because of any delay in the performance of Work attributable to the exercise by Owner of its rights and remedies under this Article. Where Owner exercises its rights under this Article, it retains and may still exercise all other rights it has by law or under the Contract Documents including, without limitation, the right to terminate Contractor's right

to proceed with the Work under the Contract Documents for cause and/or make a claim or back charge where a Change Order cannot be agreed upon.

B. Observation or inspection by Owner or its authorized agents or representatives shall not relieve Contractor of its obligation to have furnished material and workmanship in accordance with Contract Documents. Payment for Work completed through periodic progress payments, final payment or otherwise shall not operate to waive Owner's right to require full compliance with Contract Documents and shall in no way be deemed as acceptance of any defective Work paid therefor. Contractor's obligation to complete the Work in accordance with Contract Documents shall be absolute, unless Owner agrees otherwise in writing.

9.06 Proof of Compliance of Contract Provisions

A. In order that Owner may determine whether Contractor has complied or is complying with requirements of Contract Documents not readily enforceable through inspection and tests of Work and materials, Contractor shall at any time, when requested, submit to Owner properly authenticated documents or other satisfactory proofs of compliance with all applicable requirements.

B. Before commencing any portion of Work, Contractor shall inform Owner in writing as to time and place at which Contractor wishes to commence Work, and nature of Work to be done, in order that proper provision for inspection of Work may occur, and to assure measurements necessary for record and payment. Information shall be given to Owner a reasonable time in advance of time at which Contractor proposes to begin Work, so that Owner may complete necessary preliminary work without inconvenience or delay to Contractor.

9.07 Correction Period and Project Warranty Period

A. If within one year after the date of Final Acceptance, or such longer period of time as may be prescribed by laws, regulations or by the terms of Contract Documents or any extended warranty or guaranty, any Work (completed or incomplete) is found to be Defective, Contractor shall promptly without cost to Owner and in accordance with Owner's written instructions, correct such Defective Work. Contractor shall remove any Defective Work rejected by Owner and replace it with Work that is not Defective, and satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If Contractor fails to promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the Defective Work corrected or the rejected Work removed and replaced. Contractor shall pay for all claims, costs, losses and damages caused by or resulting from such removal and replacement. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, Owner shall have all rights and remedies granted by law.

B. In special circumstances where a part of the Work is occupied or a particular item of equipment is placed in continuous service before Final Acceptance of all the Work, the correction period for that part of Work or that item may start to run from an earlier date if so provided by Change Order.

C. Where Defective Work or rejected Work (and damage to other Work resulting therefrom) has been corrected, removed, or replaced under this Paragraph after the commencement of the correction period, the correction period hereunder with respect to such Work shall be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

9.08 No Waiver

A. Neither recordation of Final Acceptance, nor final certificate for payment, nor provision of the Contract, nor partial or entire use or occupancy of premises by Owner shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.

B. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to Owner, Owner shall have the right to operate and use materials or equipment until said materials and equipment can, without damage to Owner, be taken out of service for correction or replacement. Period of use of Defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

C. Nothing in the Contract Documents shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to Owner for damages sustained as result of latent

defects in materials or equipment caused by negligence of Contractor, its agents, suppliers, employees, or Subcontractors.

ARTICLE 10 - MODIFICATIONS OF CONTRACT DOCUMENTS

10.01 Owner's Right to Direct Changed Work

A. Owner may, without notice to the sureties and without invalidating the Contract, make changes in the Work (**Changed Work**), including without limitation: alterations, deviations, additions to, or deletions from Contract Documents; increase or decrease the quantity of any item or portion of the Work; expand, reduce or otherwise change the Contract Time; delete any item or portion of the Work; and require extra Work. Contractor shall perform such Work under applicable provisions of the Contract Documents, unless specifically provided otherwise at the time the change is ordered. In the case of any ordered extra Work, Owner reserves the right to furnish all or portions of associated labor, material, and equipment, which Contractor shall accept and use without payment for costs, markup, profit, or otherwise for such Owner-furnished labor, materials, and equipment.

B. If Changed Work is of such a nature as to increase or decrease the time or cost of any part of Work, price fixed in Contract shall be increased or decreased by amount as the Contractor and Owner may agree upon as reasonable and proper allowance for increase or decrease in cost of Work using the cost guidelines set forth in this Article, and absent such agreement, then as Owner may direct (with Contractor retaining its rights under Article 12 herein).

10.02 Required Documentation for Changed Work

A. Changes affecting the Contract Time or Contract Sum of the Work shall be set forth in a written Change Order or Change Directive that shall specify:

1. The Work performed in connection with the change to be made;
2. The amount of the adjustment of the Contract Sum, if any, and the basis for compensation for the Work ordered; and
3. The extent of the adjustment in the Contract Time, if any.

B. A Change Order or Change Directive will become effective when signed by Owner, notwithstanding that Contractor has not signed it. A Change Order will become effective without Contractor's signature, provided Owner indicates same thereon (by indicating it as a "unilateral change order").

C. All changes in any plans and specifications approved by any authority with jurisdiction may also require addenda or change orders approved by that authority.

D. Where Owner requests, a performance bond rider covering the changed Work must be executed and delivered to Owner before proceeding with the changed Work or shortly in time thereafter.

10.03 Procedures and Pricing of Changed Work

A. Procedures for changed work and pricing of changed work, claims and all forms of extra compensation, are set forth in Section 01 2600 (Modification Procedures).

ARTICLE 11 - TIME ALLOWANCES

11.01 Time Allowances

A. Time is of the essence. Contract Time may only be changed by Change Order, and all time limits stated in the Contract Documents are to mean that time is of the essence.

B. Float. Float shall be treated as a Project resource. Contractor shall not be entitled to a time extension for impacts that consume float, but do not impact the critical path.

C. Time extensions will not be granted unless substantiated by the Critical Path Method **(CPM**) Schedule, and then not until the CPM project float becomes zero. If Contractor fails to submit a Time Impact Evaluation (TIE), as required by Section 01 2600 (Modification Procedures) and Section 01 3200 (Progress Schedules and Reports), within the required time period, then Contractor shall be deemed to have agreed that there is no time impact and that Contractor has irrevocably waived its rights to any additional Contract Time.

11.02 Excusable Delay and Inexcusable Delay Defined

A. Excusable Delay. Subject to the provisions on Notice of Delay below, Contract Time may be adjusted in an amount equal to the time lost due to:

1. Changes in the Work ordered by Owner (**Changes**);
2. Acts or neglect by Owner, Architect, any Owner Representative, utility owners or other contractors performing other work, not permitted or provided for in the Contract Documents, provided that Contractor has performed its responsibilities under the Contract Documents (including, without limitation, pre-bid investigations) (**Acts or Neglect**); or
3. Fires, floods, epidemics, abnormal weather conditions beyond the parameters otherwise set forth in this Article, earthquakes, civil or labor disturbances, or acts of God (together, "force majeure events"), provided damages resulting therefrom are not the result of Contractor's failure to protect the Work as required by Contract Documents (**Force Majeure**).

B. Inexcusable Delay. Contract Time shall not be extended for any period of time where Contractor (and/or any Subcontractor) is delayed or prevented from completing any part of the Work due to a cause that is within Contractor's risk or responsibility under the Contract Documents. Delays attributable to or within the control of a Subcontractor, or its subcontractors, or supplier, are deemed delays within the control of Contractor.

11.03 Notice of Delay

A. Within seven Days of the beginning of any delay (excepting adverse weather delays), Contractor shall notify Owner in writing, by submitting a notice of delay that shall describe the anticipated delays resulting from the delay event in question. If Contractor requests an extension of time, Contractor shall submit a TIE, in accordance with by Section 01 2600 (Modification Procedures) and Section 01 3200 (Progress Schedules and Reports), within ten days of the notice of delay. Owner will determine all claims and adjustments in the Contract Time. No claim for an adjustment in the Contract Time will be valid and such claim will be waived if not submitted in accordance with the requirements of this subparagraph. In cases of substantial compliance with the seven-day notice requirement here (but not to exceed twenty-one days from the beginning of the delay event), Owner may in its sole discretion recognize a claim for delay accompanied with the proper TIE, provided Contractor also shows good faith and a manifest lack of prejudice to Owner from the late notice.

11.04 Compensable Time Extensions

A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Sum in addition to Contract Time for:

1. Excusable delay caused solely by Changes in the Work ordered by Owner, as provided above, and/or
2. Excusable delay caused solely by Acts or Neglect by Owner or other person, as provided above.

11.05 Non-Compensable Time Extensions

A. Subject to other applicable provisions of the Contract Documents, Contractor may be entitled to adjustment in Contract Time only, without adjustment in Contract Sum, for

1. Periods of excusable delay caused solely by weather or Force Majeure events as provided above in this Article, or
2. Periods of concurrent delay, where delay results from two or more causes, one of which is compensable (resulting from Changes or Acts or Neglect as set forth above in this Article), and the other of which is non-compensable or unexcusable, such as: acts or neglect of Contractor, Subcontractors or others for whom Contractor is responsible; other acts, omissions and conditions which would not entitle Contractor to adjustment in Contract Time; adverse weather; and/or actions of Force Majeure as provided above in this Article.

11.06 Adverse Weather

A. Adverse weather delays may be allowed only if the number of workdays of adverse weather exceeds the parameters listed or referenced immediately below in this subparagraph and Contractor proves that adverse weather actually caused delays to work on the critical path. Contractor shall give written notice of intent to claim an adverse weather day within one Day of the adverse weather day occurring.

B. Claims for extension of time for rain delay will not be granted unless the number of days work is prevented by rain exceeds 100% of the historical average number of rain days for the period of the Contract Time, based on the records of the National Oceanic & Atmospheric Administration (**NOAA**) weather station closest to the Project Site, as measured and reported by NOAA. (For example, for California, Oregon and Washington, these figures are contained in the ">=0.10 inch" column at the applicable weather station's "General Climate Summary Table" for "Precipitation" at http://www.wrcc.dri.edu/climate-summaries/), pro-rated in the individual month Contractor starts and finishes Work. Delays due to adverse weather conditions will not be allowed for weather conditions that fall within these parameters.

C. In order to qualify as an adverse weather delay with respect to the foregoing parameters, daily rainfall must exceed 0.1 inch at the NOAA station located closest to the Project site, as measured and reported by NOAA. Notwithstanding these allowances, Contractor shall at all times employ all available mitigation measures to enable Work to continue, Contractor shall take reasonable steps to mitigate potential weather delays, such as dewatering the Site, lime treatment, and covering Work and material that could be affected adversely by weather. Failure to do so shall be cause for Owner to not grant a time extension due to adverse weather, where Contractor could have avoided or mitigated the potential delay by exercising reasonable care.

D. Contractor shall include the foregoing precipitation parameters as a monthly activity in its progress schedule. As Work on the critical path is affected by precipitation, Contractor shall notify Owner and request that the days be moved to the affected activities. Any adverse weather days remaining shall be considered Project float available to either Owner or Contractor.

E. Adverse weather delay for precipitation shall be recognized for the actual period of time Contractor proves it was delayed by precipitation exceeding the specified parameters. For example, and not by way of limitation, if precipitation exceeding the specified parameters does not in fact delay Contractor's progress on the critical path, then no time extension shall be recognized; and conversely, if Contractor proves to Owner's satisfaction that precipitation exceeding the specified parameters causes delay to Contractor for a period longer than the number of precipitation days incurred (e.g., if it rains or snows during grading work), then Contractor shall be entitled to a time extension equal to the actual period of such delay.

During unfavorable weather, wet ground, or other unsuitable construction conditions, Contractor shall employ best practices to protect the Work, manage the construction site and rainwater during inclement weather. Persons performing the Work shall examine surfaces to receive their Work and shall report in writing to Contractor, with copy to Owner representative and the Engineer, conditions detrimental to the Work. Failure to examine and report discrepancies makes the Contractor responsible, at no increase in Contract Sum, for corrections Owner may require. Commencement of Work constitutes acceptance of surface.

11.07 Liquidated Damages

A. Time is of the essence. Execution of Contract Documents by Contractor shall constitute its acknowledgement that Owner will actually sustain damages in the form of Contract administration expenses (such as Project management and consultant expenses) in the amount fixed in the Contract Documents for each and every Day during which completion of Work required is delayed beyond expiration of time fixed for completion plus extensions of time allowed pursuant to provisions hereof.

B. Contractor and Owner agree that because of the nature of the Project, it would be impractical or extremely difficult to fix the amount of such actual damages incurred by Owner because of a delay in completion of all or any part of the Work. Contractor and Owner agree that specified measures of liquidated damages shall be presumed to be the amount of such damages actually sustained by Owner, and that because of the nature of the Project, it would be impracticable or extremely difficult to fix the actual damages.

C. Liquidated damages for delay shall cover administrative, overhead, interest on bonds, and general loss of public use damages suffered by Owner as a result of delay. Liquidated damages shall not cover the cost of completion of the Work, damages resulting from Defective Work, lost revenues or costs of substitute facilities, or damages suffered by others who then seek to recover their damages from Owner (for example, delay claims of other contractors, subcontractors, tenants, or other third-parties), and defense costs thereof. Owner may deduct from any money due or to become due to Contractor subsequent to time for completion of entire Work and extensions of time allowed pursuant to provisions hereof, a sum representing then-accrued liquidated damages.

D. Contractor and Owner agree that the Key Personnel listed in Contractor's Statement of Qualifications (Document 00 4513) were a material factor in Owner's assessment of Contractor's experience and the adequacy of Contactor's supervisory personnel. Accordingly, Contractor and Owner agree that Contractor shall not remove, reassign or make changes to any of the Key Personnel without Owner's prior written approval. In the event that any Key Personnel leaves the Project, is reassigned and/or is removed and replaced by Contractor before Project Final Completion, for any reason whatsoever, Contractor agrees to pay Owner liquidated damages as set forth in the Agreement (Document 00 5200), unless Contractor can demonstrate to Owner's satisfaction that the Key Personnel were reassigned and/or removed and replaced for reasons beyond Contractor's control.

ARTICLE 12 - CLAIMS BY CONTRACTOR

12.01 Obligation to File Claims for Disputed Work

A. Should it appear to Contractor that the Work to be performed or any of the matters relative to the Contract Documents are not satisfactorily detailed or explained therein, or should any questions arise as to the meaning or intent of the Contract Documents, or should any dispute arise regarding the true value of any work performed, work omitted, extra work that the Contractor may be required to perform, time extensions, payment to the Contractor during performance of this Contract, performance of the Contract, and/or compliance with Contract procedures, or should Contractor otherwise seek extra time or compensation FOR ANY REASON WHATSOEVER (collectively, **"Disputed Work"**), then Contractor shall first follow procedures set forth in the Contract Documents (including, without limitation, Paragraphs 11.03, 11.04, 13.03 and 13.04 of this Document 00 7200 and Section 01 2600.) If a dispute remains, then Contractor shall give written notice to Owner that expressly invokes this Article 12. Owner shall decide the issue in writing within 15 days; and Owner's written decision shall be final and conclusive. If Contractor disagrees with Owner's decision, or if Contractor contends that Owner failed to provide a decision timely, then Contractor's SOLE AND EXCLUSIVE REMEDY is to file a written claim within the time limits set forth in Paragraph 12.02 of this Article setting forth Contractor's position as required herein.

B. Duty to Work During Disputes. Notwithstanding any dispute or Disputed Work, Contractor shall continue to prosecute the Work and the Disputed Work in accordance with the Owner's determinations. Contractor's SOLE AND EXCLUSIVE REMEDY for Disputed Work is to file a written claim within the time limits set forth in Paragraph 12.02 of this Article setting forth Contractor's position as required herein.

12.02 Form and Contents of Claim

A. Contractor's written claim must identify itself as a **"Claim"** under this Article 12 and must include the following: (i) a narrative of pertinent events; (ii) citation to contract provisions; (iii) theory of entitlement; (iv) complete pricing of all cost impacts; (v) a Time Impact Evaluation of all time delays that shows actual time impact on the critical path; (vi) documentation supporting items (i) through (v); and (vii) a verification under penalty of perjury of the claim's accuracy. The Claim shall be submitted to Owner within thirty (30) calendar days of receiving Owner's written decision, or the date Contractor contends such decision was due, and shall be priced like a change order according to Section 01 2600, and must be updated monthly as to cost and entitlement if a continuing claim. Routine contract materials, for example, correspondence, RFI, Change Order requests, or payment requests shall not constitute a claim. Contractor shall bear all costs incurred in the preparation and submission of a claim.

B. Regarding delay and impact costs of any nature, Contractor may not seek delay compensation for on-Site or off-Site costs based on formulas, e.g., "Eichleay" or other formula. Rather, Contractor shall prove actual costs resulting from such delays. If Contractor requests compensation for delay to the construction, then Contractor shall prove and document actual costs plus markup per the cost categories and procedures in Section 01 2600 (Modification Procedures) in order to request, claim or prove compensation for delay.

12.03 Administration During/After Claim Submission

A. Owner may render a final determination based on the Claim or may in its discretion conduct an administrative hearing on Contractor's claim, in which case Contractor shall appear, participate, answer questions and inquiries, and present any further evidence or analysis requested by Owner prior to rendering

a final determination. Should Owner take no action on the Claim within 45 days of submission, it shall be deemed denied.

B. Notwithstanding and pending the resolution of any claim or dispute, Contractor shall diligently prosecute the disputed work to final completion in accordance with Owner's determination.

C. Public Contract Code Section 9204 specifies provisions on resolving contract claims of any size, and Public Contract Code Section 20104, et seq., specifies required provisions on resolving contract claims less than $375,000. Those statutes constitute a part of this Contract. In the event any other Contract provision violates such statutes, the applicable statute controls. See Section 01 4100.

12.04 Compliance

A. The provisions of this Article 12 constitute a non-judicial claim settlement procedure that, pursuant to Government Code Section 930.2, shall constitute a condition precedent to submission of a valid Government Code Claim under the Government Code. Contractor shall bear all costs incurred in the preparation, submission and administration of a claim. Any claims presented in accordance with the Government Code must affirmatively indicate Contractor's prior compliance with the claims procedure herein and the previous dispositions under Paragraph 12.03 above of the claims asserted. No suit may be brought against Owner arising out of or in connection with the Project unless and until Contractor presents to Owner a statutory Government Code Claim, in accordance with Government Code Sections 910, et seq. Pursuant to Government Code Section 930.2, the one-year period in Government Code section 911.2 shall be reduced to 150 days from either accrual of the cause of action, substantial completion or termination of the contract, whichever occurs first; in all other respects, the Government Code shall apply unchanged.

B. Failure to submit and administer claims as required in Article 12 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) or issue(s) not raised in a timely protest and timely claim submitted under this Article 12 may not be asserted in any subsequent litigation, Government Code Claim, or legal action.

C. Contractor shall present as its claims all Subcontractor, sub-Subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. Owner shall not be directly liable to any Subcontractor, any supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

D. Owner shall not be deemed to waive any provision under this Article 12, if at Owner's sole discretion, a claim is administered in a manner not in accord with this Article 12. Waivers or modifications of this Article 12 may only be made a signed change order approved as to form by legal counsel for both Owner and Contractor; oral or implied modifications shall be ineffective.

12.05 Mediation

A. All Contractor claims not otherwise subject to Public Contract Code Sections 20104, et seq., shall, as a condition precedent to litigation thereon, first be mediated. Mediation shall be confidential, non-binding, pursuant to the construction mediation procedures of JAMS in Benicia, California, and utilize the services of a mediator mutually acceptable to the parties. If the parties are unable to agree, the mediator will be selected by JAMS from its panel of approved construction industry mediators, having a minimum of 20 years' experience in the construction industry.

B. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two weeks following the mediation's conclusion. All unresolved Contractor claims shall be submitted to the same mediator. The cost of mediation shall be equally shared by all parties to the mediation. The parties shall, prior to the commencement of a mediation pursuant to this Paragraph, upon notice of the other party, exchange relevant, non-privileged project documents in compliance with Code of Civil Procedure Sections 2031.010, et seq. Additionally, the parties may agree mutually to engage in additional discovery prior to mediation. Should the parties proceed with additional discovery, they shall, unless mutually agreed otherwise, comply with Code of Civil Procedure Sections 2019, et. seq. The Mediator will have jurisdiction to resolve any discovery disputes relating to the Mediation.

ARTICLE 13 - UNDERGROUND CONDITIONS

13.01 Contractor to Locate Underground Facilities

A. During construction, Contractor shall comply with Government Code Sections 4216 to 4216.9, and in particular Section 4216.2 which provides, in part: "Except in an emergency, every person planning to conduct any excavation shall contact the appropriate regional notification center at least two working days, but no more than 14 calendar days, prior to commencing that excavation, if the excavation will be conducted in an area which is known, or reasonably should be known, to contain subsurface installations other than the underground facilities owned or operated by the excavator, and, if practical, the excavator shall delineate with white paint or other suitable markings the area to be excavated. The regional notification center shall provide an inquiry identification number to the person who contacts the center and shall notify any member, if known, who has a subsurface installation in the area of the proposed excavation."

B. Contractor shall contact USA, and schedule the Work to allow ample time for the center to notify its members and, if necessary, for any member to field locate and mark its facilities. Contractor is charged with knowledge of all subsurface conditions reflected in USA records. Prior to commencing excavation or trenching work, Contractor shall provide Owner with copies of all USA records secured by Contractor. Contractor shall advise Owner of any conflict between information provided in Document 00 3132 (Geotechnical Data and Existing Conditions), the Drawings and that provided by USA records. Contractor's excavation shall be subject to and comply with the Contract Documents.

C. Contractor shall also investigate the existence of existing service laterals, appurtenances or other types of utilities, indicated by the presence of an underground transmission main or other visible facilities, such as buildings, manholes, new asphalt, meters and junction boxes, on or adjacent to the Site, even if not shown or indicated in Existing Conditions Data, Contract Documents, or USA records, or discovered during Contractor's pre- or post-bid investigation. Contractor shall immediately secure all such available information and notify Owner and the utility owner, in writing, of its discovery.

13.02 Contractor to Protect Underground Facilities

A. At all times during construction, all operating Underground Facilities shall remain in operation, unless the Contract Documents expressly indicate otherwise. Contractor shall maintain such Underground Facilities in service where appropriate; shall repair any damage to them caused by the Work; and shall incorporate them into the Work, including reasonable adjustments to the design location (including minor relocations) of the existing or new installations. Contractor shall take immediate action to restore any in service installations damaged by Contractor's operations.

B. Prior to performing Work at the Site, Contractor shall lay out the locations of Underground Facilities that are to remain in service and other significant known underground installations indicated by the Existing Conditions Data, Contract Documents, USA records, or any material otherwise reasonably available to Contractor or discovered during Contractor's pre- or post-bid investigations. Contractor shall further locate, by carefully excavating with small equipment, potholing and principally by hand, all such utilities or installations that are to remain and that are subject to damage. If additional utilities whose locations are unknown are discovered, Contractor shall immediately report to Owner for disposition of the same. Additional compensation or extension of time on account of utilities not shown or otherwise brought to Contractor's attention, including reasonable action taken to protect or repair damage, shall be determined as provided in this Document 00 7200.

C. If during construction, an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown, indicated, or discovered in the materials and investigations described in Paragraph 13.02B, above, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby (and in no event later than seven Days), and prior to performing any Work in connection therewith (except in an emergency), identify the owner of such Underground Facility and give written notice to that owner and to Owner. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

D. The cost of all of the following will be included in the Contract Sum and Contractor shall have full responsibility for (a) reviewing and checking all available information and data including, without limitation, Existing Conditions Data, and information on file at USA; (b) locating all Underground Facilities shown or indicated in the Contract Documents or reasonably available information, or indicated by visual observation including, without limitation, and by way of example only, through performance of all pre-Bid investigations required by this Document 00 7200 and Bidding Documents and post-Bid investigations required by this

Document 00 7200, and by engaging qualified locating services and all necessary backhoeing and potholing; (c) coordination of the Work with the owners of such Underground Facilities during construction; and (d) the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.

E. Consistent with Government Code Section 4215, as between Owner and Contractor, Owner will be responsible for the timely removal, relocation, or protection of existing main or trunk line utility facilities located on the Site only if such utilities are not identified in the Contract Documents or information made available for bidding. Owner will compensate for the cost of locating and repairing damage not due to Contractor's failure to exercise reasonable care, removing and relocating such main or trunk line utility facilities not indicated in the Contract Documents or information made available for bidding with reasonable accuracy, and equipment on the Project necessarily idled during such Work. Contractor shall not be assessed liquidated damages for delay in completion of the Project, when such delay was caused by the failure of Owner or the utility to provide for removal or relocation of such utility facilities.

13.03 Concealed or Unknown Conditions

A. If either of the following conditions is encountered at Site when digging trenches or other excavations that extend deeper than four feet below the surface, Contractor shall give a written Notice of Differing Site Conditions to Owner promptly before conditions are disturbed, except in an emergency as set forth in this Document 00 7200, and in no event later than seven Days after first observance of:

1. Subsurface or Latent physical conditions which differ materially from those indicated in the Contract Documents; or
2. Unknown physical conditions of an unusual nature or which differ materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

B. In response to Contractor's Notice of Differing Site Conditions under this Paragraph, Owner will investigate the identified conditions, and if they differ materially and cause increase or decrease in Contractor's cost of, or time required for, performance of any part of the Work, Owner will negotiate the appropriate change order following the procedures set forth in the Contract Documents. If Owner determines that physical conditions at the Site are not Latent or are not materially different from those indicated in Contract Documents or that no change in terms of the Contract Documents is justified, Owner will so notify Contractor in writing, stating reasons (with Contractor retaining its rights under Article 12 of this Document 00 7200.)

C. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed Latent or materially different Site conditions (whether above or below grade) if Contractor knew or should have known of the existence of such conditions at the time Contractor submitted its Bid, failed to give proper notice, or relied upon information, conclusions, opinions or deductions of the kind that the Contract Documents preclude reliance upon.

D. Regarding Underground Facilities, Contractor shall be allowed an increase in the Contract Sum or an extension of the Contract Time, or both, to the extent that they are attributable to the existence of any Underground Facility that is owned and was built by Owner only where the Underground Facility:

1. Was not shown or indicated in the Contract Documents or in the information supplied for bidding purposes or in information on file at USA; and
2. Contractor did not know of it; and
3. Contractor could not reasonably have been expected to be aware of it or to have anticipated it from the information available. (For example, if surface conditions such as pavement repairs, valve covers, or other markings, indicate the presence of an Underground Facility, then an increase in the Contract Sum or an extension of the Contract Time will not be due, even if the Underground Facility was not indicated in the Contract Documents, in the information supplied to Contractor for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor.)

E. Contractor shall bear the risk that Underground Facilities not owned or built by Owner may differ in nature or locations shown in information made available by Owner for bidding purposes, in information on file at USA, or otherwise reasonably available to Contractor. Underground Facilities are inherent in construction involving digging of trenches or other excavations on Owner's Project, and Contractor is to apply its skill and industry to verify the information available.

Contractor's compensation for claimed Latent or materially different Site conditions shall be limited to the actual, reasonable, incremental increase in cost of that portion of the Work, resulting from the claimed Latent or materially different Site conditions. Such calculation shall take into account the estimated value of that portion of the Work and the actual value of that portion of the Work, using for guidance Contractor's or its subcontractor's bid amount and actual amounts incurred for that portion of the Work and the reasonable expectation (if any) of differing or difficult site conditions in the Work area based on the available records and locale of the Work. For example, if Contractor excavates in an area unexpected, then such costs would be recoverable entirely; while if Contractor extends an existing excavation, then such costs would be recoverable if the resulting excavation costs in that work area exceeded the reasonable expectations therefore.

13.04 Notice of Hazardous Waste or Materials Conditions

A. Contractor shall give a written Notice of Hazardous Materials Condition to Owner promptly, before any of the following conditions are disturbed (except in an emergency as set forth in this Document 00 7200), and in no event later than 24 hours after first observance of any:

1. Material that Contractor believes may be hazardous waste or hazardous material, as defined in Section 25117 of the California Health and Safety Code (including, without limitation, Asbestos, lead, PCBs, petroleum and related hydrocarbons, and radioactive material) that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law (**hazardous material**); or
2. Other material that may present an imminent substantial danger to persons or property exposed thereto in connection with Work at the Site (**other materials**).

B. Except as otherwise provided in the Contract Documents or as provided by applicable law, Contractor shall not be required to give any notice for the disturbance or observation of any such hazardous materials or other materials where such matter is disturbed or observed as part of the scope of Work under the Contract Documents (such as hazardous waste or hazardous material investigation, remediation or disposal activities which are identified as the subject of Work under the Contract Documents), where Contractor complies with all requirements in the Contract Documents and applicable law respecting such materials.

C. Contractor's Notice of Hazardous Materials Condition shall indicate whether the hazardous materials or other materials were shown or indicated in the Contract Documents to be within the scope of Work, and whether the hazardous materials or other materials were brought to the Site by Contractor, its Subcontractors, suppliers, or anyone else for whom Contractor is responsible.

D. Contractor shall not be entitled to any adjustment in the Contract Sum or Contract Time regarding claimed hazardous waste or materials if:

1. Contractor knew of the existence of such hazardous materials or other materials at the time Contractor submitted its Bid; or
2. Contractor should have known of the existence of such hazardous material or other materials as a result of its having the responsibility to obtain additional or supplementary examinations, investigation, explorations, tests, studies, and data concerning the conditions at or contiguous to the Site prior to submitting its Bid; or
3. Contractor failed to give the written notice within the required timeframe set forth below.

E. If Owner determines that conditions involve hazardous materials or other materials and that a change in Contract Document terms is justified, Owner will issue either a Request for Proposal or Construction Change Directive under the procedures described in the Contract Documents. If Owner determines that conditions do not involve hazardous materials or other materials or that no change in Contract Document terms is justified, Owner will notify Contractor in writing, stating the reasons for its determination.

In addition to the parties' other rights under this Document 00 7200, if Contractor does not agree to resume Work based on a reasonable belief that it is unsafe, or does not agree to resume Work under special conditions, Owner may order the disputed portion of Work deleted from the Work, or performed by others, or Owner may invoke its right to terminate Contractor's right to proceed under the Contract Documents in whole or in part, for convenience or for cause as the facts may warrant.

G. If Contractor does not agree with any Owner determination of any adjustment in the Contract Sum or Contract Time under this Article, Contractor may make a claim as provided in Article 12 of this Document 00 7200.

ARTICLE 14 - LEGAL AND MISCELLANEOUS

14.01 Laws and Regulations

A. Contractor shall keep fully informed of and shall comply with all laws, ordinances, regulations and orders of any properly constituted authority affecting the Contract Documents, Work and persons connected with Work, and shall protect and indemnify Owner and its officers, employees, consultants and agents against any claim or liability, including attorney's fees, arising from or based on violation of law, ordinance, regulation or order, whether by Contractor or by Subcontractors, employees or agents. Authorized persons may at any time enter upon any part of Work to ascertain compliance of all applicable laws, ordinances, regulations and orders.

14.02 Permits and Taxes

A. Contractor shall procure all permits and licenses applicable to the Work (including environmental matters to the extent applicable); pay all charges and fees, including fees for street opening permits; comply with, implement and acknowledge effectiveness of all permits; initiate and cooperate in securing all required notifications or approvals therefore; and give all notices necessary and incident to due and lawful prosecution of Work, unless otherwise provided herein. Owner will pay applicable building permits, sanitation and water fees for the completed construction, except as otherwise provided in the Contract Documents. Contractor shall pay all sales and/or use taxes levied on materials, supplies, or equipment purchased and used on or incorporated into Work, and all other taxes properly assessed against equipment or other property used in connection with Work, without any increase in the Contract Sum. Contractor shall make necessary arrangements with proper authorities having jurisdiction over roads, streets, pipelines, navigable waterways, railroads, and other works in advance of operations, even where Owner may have already obtained permits for the Work.

14.03 Communications and Information Distribution

A. All communications recognized under the Contract Documents shall be in writing, in the form of a serialized document, by type of communication. For example, RFI's shall be serialized beginning with RFI No. 1; payment applications shall be serialized beginning with Payment Application No. 1, submittals shall be serialized per specification section and transmitted with transmittal sheets beginning with Transmittal No. 1; and correspondence shall be serialized beginning with letter No. 1. Contractor may propose other record management and identification systems or protocols, intended to facilitate orderly transmittal of project information, storage and retrieval of such information, which Owner will review consistent with these stated objectives, and accept or reject in its sole discretion.

B. Documents Requiring Signatures. All documents requiring signatures for approval prior to implementing action, as stipulated in other portions of Contract Documents, shall require a manually signed, serialized letter delivered to the other party at its address for notice otherwise specified in the Contract Documents, either personally or by mail.

C. Electronic data transfer of such correspondence will serve to expedite preliminary concurrence of information, only. Receipt of "hard copy" signature on forms is required prior to implementing action or work as the conditions may require. For example, change orders and authorizations for extra cost, require signatures. A party may acknowledge receipt of PDF copies of required correspondence by e-mail, but in the absence of such acknowledgment, mail or personal delivery is required.

D. All emails shall be copied to Owner's and Contractor's Project Representative. Owner reserves the right to preclude e-mail communication, in whole or in part, as Project needs may require. Communication between Owner and Contractor shall not be via Twitter, Facebook, or other types of instant text message systems. Any such communications shall be inadmissible for any purpose related to this Contract.

14.04 Suspension of Work

A. Owner may, without cause, order Contractor in writing to suspend, delay or interrupt Work in whole or in part for such period of time as Owner may determine. An adjustment shall be made for increases in

cost of performance of Work of the Contract Documents caused by any such suspension, delay or interruption, calculated using the measures set forth in Section 01 2600 (Modification Procedures). No adjustment shall be made to extent that performance is, was or would have been so suspended, delayed or interrupted by another cause for which Contractor is responsible.

14.05 Termination of Contract for Cause

A. Owner may declare Contractor in default and terminate Contractor's right to proceed under the Contract Documents, for cause, should Contractor be the subject of a voluntary or involuntary petition in bankruptcy or admit in writing its inability to pay debts as they may become due. The Contractor shall be in default of the Contract Documents and Owner may terminate the Contractor's right to proceed under the Contract Documents, for cause, in whole or in part, should the Contractor commit a material breach of the Contract Documents and not cure such breach within ten (10) calendar days of the date of notice from Owner to the Contractor demanding such cure; or, if such breach is curable but not curable within such ten (10) day period, within such period of time as is reasonably necessary to accomplish such cure. (In order for the Contractor to avail itself of a time period in excess of 10 calendar days, the Contractor must provide Owner within the ten (10) day period with a written cure plan acceptable to Owner that demonstrates actual resources, personnel and a schedule to promptly to cure said breach, and then diligently commence and continue such cure according to the written plan)

B. If Owner at any time reasonably believes that Contractor is or may be in default under the Contract Documents as provided above, then Owner may in its sole discretion notify Contractor of this fact and request written assurances from Contractor of performance of Contract Documents and a written plan from Contractor to remedy any default under the terms of Contract Documents that Owner may advise Contractor of in writing. Contractor shall, within ten (10) Days of Owner's request, deliver a written cure plan that meets the requirements of the written cure plan as defined above. Failure of Contractor to provide such written assurances of performance and the required written cure plan within ten (10) Days of request will constitute a material breach of Contract Documents sufficient to justify termination for cause.

C. In the event of termination by Owner for cause as provided herein, the Contractor shall deliver to Owner possession of the Work in its then condition including, without limitation, all designs, engineering, Project records, cost data of all types, plans and specifications and contracts with vendors and subcontractors, all other documentation associated with the Project, and all construction supplies and aids dedicated solely to performing the Work which, in the normal course of construction, would be consumed or only have salvage value at the end of the construction period. The Contractor shall remain fully liable for the failure of any Work completed and materials and equipment provided through the date of such termination to comply with the provisions of the Contract Documents. The provisions of this Section shall not be interpreted to diminish any right that Owner may have to claim and recover damages for any breach of the Contract Documents or otherwise, but rather, the Contractor shall compensate Owner for all loss, cost, damage, expense, and/or liability suffered by Owner as a result of such termination and/or failure to comply with the Contract Documents.

D. In the event a termination for cause is later determined to have been made wrongfully or without cause, then the termination shall be treated as a termination for convenience, and the Contractor shall have no greater rights than it would have had following a termination for convenience. Any Contractor claim arising out of a termination for cause shall be made in accord with Article 12 herein. No other loss, cost, damage, expense or liability may be claimed, requested or recovered by the Contractor.

14.06 Termination of Contract for Convenience

A. Owner may terminate performance of the Work under the Contract Documents in accordance with this clause in whole, or from time to time in part, whenever Owner shall determine that termination is in Owner's best interest. Termination shall be effected by Owner delivering to the Contractor notice of termination specifying the extent to which performance of the Work under the Contract Documents is terminated, and the effective date of the termination.

B. Contractor shall comply strictly with Owner's direction regarding the effective date of the termination, the extent of the termination, and shall stop work on the date and to the extent specified.

C. Contractor shall be entitled to a total payment on account of the Contract work so terminated measured by (i.) the actual cost to Contractor of Work actually performed, up to the date of the termination, with profit and overhead limited to twelve percent (12%) of actual cost of work performed, up to but not exceeding the actual contract value of the work completed as measured by the Schedule of Values and

Progress Schedule, (ii.) offset by payments made and other contract credits. In connection with any such calculation, however, Owner shall retain all rights under the Contract Documents including, without limitation, claims, indemnities, or setoffs.

D. Under no circumstances may Contractor recover legal costs of any nature, nor may Contractor recover costs incurred after the date of the termination.

14.07 Contingent Assignment of Subcontracts

A. Contractor hereby assigns to Owner each Subcontract for a portion of the Work, provided that:

1. The assignment is effective only after Owner's termination of Contractor's right to proceed under the Contract Documents (or portion thereof relating to that Subcontract) as set forth herein.
2. The assignment is effective only for the Subcontracts which Owner expressly accepts by notifying the Subcontractor in writing;
3. The assignment is subject to the prior rights, if any, of the Surety, obligated by Document 00 6113.13 (Construction Performance Bond) provided under the Contract Documents, where the Surety exercises its rights to complete the Contract;
4. After the effectiveness of an assignment, Contractor shall, at its sole cost and expense (except as otherwise provided in this Document 00 7200), sign all instruments and take all actions reasonably requested by Owner to evidence and confirm the effectiveness of the assignment in Owner; and
5. Nothing in this Paragraph shall modify or limit any of Contractor's obligations to Owner arising from acts or omissions occurring before the effectiveness of any Subcontract assignment including, without limitation, all defense, indemnity and hold-harmless obligations arising from or related to the assigned Subcontract.

14.08 Remedies and Contract Integration

A. Subject to Contract Documents provisions regarding Contractor claims, claim review, and claim resolution, and subject to the limitations therein, the exclusive jurisdiction and venue for resolving all claims, counter claims, disputes and other matters in question between Owner and Contractor arising out of or relating to Contract Documents, any breach thereof or the Project shall be the applicable court of competent jurisdiction located in the State and County where the Project is located. All Owner remedies provided in the Contract Documents shall be taken and construed as cumulative and not exclusive; that is, in addition to each and every other remedy herein provided; and in all instances Owner shall have any and all other equitable and legal rights and remedies which it would have according to law.

B. The Contract Documents, any Contract Modifications, Change Orders and Change Directives, as further described in Section 01 2600, shall represent the entire and integrated agreement between Owner and Contractor regarding the subject matters hereof and thereof and shall constitute the exclusive statement of the terms of the parties' agreement. The Contract Documents, and any Contract Modifications and Change Orders, shall supersede any and all prior negotiations, representations or agreements, written or oral, express or implied, that relate in any way to the subject matter of the Contract Documents or written Modifications. Owner and Contractor represent and agree that, except as otherwise expressly provided in the Contract Documents, they are entering into the Contract Documents and any subsequent written Modification in sole reliance upon the information set forth or referenced in the Contract Documents or Contract Modifications; the parties are not and will not rely on any other information, which shall be inadmissible in any proceeding to enforce these documents.

C. Either party's waiver of any breach or failure to enforce any of the terms, covenants, conditions or other provisions of the Contract Documents at any time shall not in any way affect, limit, modify or waive that party's right thereafter to enforce or compel strict compliance with every term, covenant, condition or other provision hereof, any course of dealing or custom of the trade or oral representations notwithstanding.

D. Neither acceptance of the whole or any part of Work by Owner nor any verbal statements on behalf of Owner or its authorized agents or representatives shall operate as a waiver or modification of any provision of the Contract Documents, or of any power reserved to Owner herein nor any right to damages provided in the Contract Documents.

14.09 Interpretation

A. Should any part, term or provision of this Agreement or any of the Contract Documents, or any document required herein or therein to be executed or delivered, be declared invalid, void or unenforceable,

all remaining parts, terms and provisions shall remain in full force and effect and shall in no way be invalidated, impaired or affected thereby. If the provisions of any law causing such invalidity, illegality or unenforceability may be waived, they are hereby waived to the end that this Agreement and the Contract Documents may be deemed valid and binding agreements, enforceable in accordance with their terms to the greatest extent permitted by applicable law. In the event any provision not otherwise included in the Contract Documents is required to be included by any applicable law, that provision is deemed included herein by this reference (or, if such provision is required to be included in any particular portion of the Contract Documents, that provision is deemed included in that portion).

B. Contract Documents shall not be construed to create a contractual relationship of any kind between (i) Project Manager or any Owner's representative and Contractor; (ii) Owner and/or its Representatives and a Subcontractor, sub-Subcontractor, or supplier of any Project labor, materials, or equipment; or (iii) between any persons or entities other than Owner and Contractor.

14.10 Patents

A. Fees or claims for any patented invention, article or arrangement that may be used upon or in any manner connected with performance of the Work or any part thereof shall be included in the Bid price for doing the Work. Contractor shall defend, indemnify and hold harmless Owner and each of its officers, employees, consultants and agents including, without limitation, the Board and each Owner's Representative, from all damages, claims for damages, costs or expenses in law or equity, including attorney's fees, arising from or relating to any claim that any article supplied or to be supplied under the Contract Documents infringes on the patent rights, copyright, trade name, trademark, service mark, trade secret or other intellectual property right of any person or persons or that the person or entity supplying the article does not have a lawful right to sell the same. Such costs or expenses for which Contractor agrees to indemnify and hold harmless the above indemnities include but are not limited to any and all license fees, whether such fees are agreed by any indemnitee or ordered by a court or administrative body of any competent jurisdiction.

14.11 Substitution for Patented and Specified Articles

A. Except as noted specifically in the instructions to Bidders or in Contract Documents, whenever in Specifications, material or process is designated by patent or proprietary name or by name of manufacturer, such designation shall be deemed to be used for purpose of facilitating description of material and process desired, and shall be deemed to be followed by the words "or Approved Equal" and Contractor may offer any substitute material or process that Contractor considers "Equal" in every respect to that so designated and if material or process offered by Contractor is, in opinion of Owner, Equal in every respect to that so designated, its use will be approved. However, Contractor may utilize this right only by timely submitting Document 00 6325 (Substitution Request Form) as provided in Document 00 2113 (Instructions to Bidders). A substitution will be approved only if it is a true "or Equal" item in every aspect of its design and quality including, without limitation, its dimensions, weights, service requirements, durability, functioning, impact on contiguous construction elements, overall schedule and design.

14.12 Interest of Public Officers

A. No representative, officer, or employee of Owner no member of the governing body of the locality in which the Project is situated, no member of the locality in which Owner was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the Project, during the tenure of the official or for one year thereafter, shall, as principal, agent, attorney or otherwise, be directly or indirectly interested, in the Contract Documents or the proceeds thereof.

14.13 Limit of Liability

A. OWNER, AND EACH OF ITS OFFICERS, BOARD MEMBERS, EMPLOYEES, CONSULTANTS AND AGENTS INCLUDING, WITHOUT LIMITATION, PROJECT MANAGER AND EACH OTHER OWNER REPRESENTATIVE, SHALL HAVE NO LIABILITY TO CONTRACTOR FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, EXCEPT TO THE LIMITED EXTENT THAT THESE CONTRACT DOCUMENTS OR APPLICABLE PUBLIC CONTRACTING STATUTES MAY SPECIFY THEIR RECOVERY.

ARTICLE 15 - WORKING CONDITIONS AND PREVAILING WAGES

15.01 Use of Site/Sanitary Rules

A. All portions of the Work shall be maintained at all times in neat, clean and sanitary condition. Contractor shall furnish toilets for use of Contractor's and Subcontractors' employees on the Site where needed, and their use shall be strictly enforced. All toilets shall be properly secluded from public observation, and shall be located, constructed and maintained subject to Owner's approval.

B. Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Site and land areas identified in and permitted by Contract Documents and other land and areas permitted by applicable laws and regulations, rights of way, permits and easements or as designated by Owner, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, any improvement located thereon, or to Owner or occupant thereof resulting from the performance of Work.

C. During the progress of the Work, Contractor shall keep the Site and the Project free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, Contractor shall clean the site, remove all waste materials, rubbish and debris from and about the Site as well as all tools, appliances, construction equipment and machinery and surplus materials. Contractor shall leave the premises clean and ready for occupancy by Owner at Substantial Completion of Work. Contractor shall restore to original condition all property not designated for alteration by Contract Documents.

D. Contractor shall not load nor permit any part of any structure or pavement to be loaded in any manner that will endanger the structure or pavement, nor shall Contractor subject any part of Work or adjacent property to stresses or pressures that will endanger it. Contractor shall conduct all necessary existing conditions investigation regarding structural, mechanical, electrical or any other system existing, shall perform Work consistent with such existing conditions, and shall have full responsibility for insufficiencies or damage resulting from insufficiencies of existing systems, equipment or structures to accommodate performing the Work.

15.02 Protection of Work, Persons, and Property

A. Contractor shall be responsible for initiating, maintaining and supervising all safety and site security precautions and programs in connection with Work, and shall develop and implement a site security and safety plan throughout construction. Contractor shall comply with all safety requirements specified in any safety program established by Owner, or required by state, federal or local laws and ordinances. Contractor shall be responsible for all theft or damage to Work, property or structures, and all injuries to persons, either on the Site or constituting the Work (e.g., materials in transit), arising from the performance of Work of the Contract Documents from a cause.

B. Contractor shall comply with all applicable laws and regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify Owners of adjacent property and of Underground Facilities and utility Owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property.

C. Contractor shall remedy all damage, injury or loss to any property referred to above in this Article, caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, supplier, or any other person or organization directly or indirectly employed by any of them to perform or furnish any Work or anyone for whose acts any of them may be liable. Contractor's duties and responsibility for safety and for protection of Work shall continue until such time as all the Work is completed and Final Acceptance of the Work. Owner and its agents do not assume any responsibility for collecting any indemnity from any person or persons causing damage to Contractor's Work.

D. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

E. Owner may, at its option, retain such moneys due under the Contract Documents as Owner deems necessary until any and all suits or claims against Contractor for injury to persons or property shall be settled and Owner receives satisfactory evidence to that effect.

Work within the right-of-way lines of the City, County and/or State shall be done in accordance with the standards and specifications of the controlling agency. Permit for such work shall be obtained and paid for by the Contractor before executing the work within such right-of-ways.

15.03 Responsibility For Safety and Health

A. Contractor shall ensure that its and each tier of Subcontractors' employees, agents and invitees comply with applicable health and safety laws while at the Site. These laws include the Occupational Safety and Health Act of 1970 and rules and regulations issued pursuant thereto, and Owner's safety regulations as amended from time to time. Contractor shall comply with all Owner directions regarding protective clothing and gear.

B. Contractor shall be fully responsible for the safety of its and its Subcontractors' employees, agents and invitees on the Site. Contractor shall notify Owner, in writing, of the existence of hazardous conditions, property or equipment at the Site that are not under Contractor's control. Contractor shall be responsible for taking all the necessary precautions against injury to persons or damage to the property of Contractor, Subcontractors or persons from recognized hazards until the responsible party corrects the hazard.

C. Contractor shall confine all persons acting on its or its Subcontractors' behalf to that portion of the Site where Work under the Contract Documents is to be performed, Owner-designated routes for ingress and egress thereto, and any other Owner-designated area. Except those routes for ingress and egress over which Contractor has no right of control, within such areas, Contractor shall provide safe means of access to all places at which persons may at any time have occasion to be present.

15.04 Emergencies

A. In emergencies affecting the safety or protection of persons or Work or property at the Site or adjacent thereto, Contractor, without special instruction or authorization from Owner, is obligated to act to prevent threat and damage, injury or loss, until directed otherwise by Owner. Contractor shall give Owner prompt written notice if Contractor believes that any significant changes in Work or variations from Contract Documents have been caused thereby. If Owner determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Change Order or Construction Change Directive will be issued to document the consequences of such action.

15.05 Use of Roadways and Walkways

A. Contractor shall not unnecessarily interfere with use of any roadway, walkway or other facility for vehicular or pedestrian traffic. Before beginning any interference and only with Owner's prior concurrence, Contractor may provide detour or temporary bridge for traffic to pass around or over the interference, which Contractor shall maintain in satisfactory condition as long as interference continues. Unless otherwise provided in the Contract Documents, Contractor shall bear the cost of these temporary facilities.

15.06 Nondiscrimination

A. No person or entity shall discriminate in the employment of persons upon public works because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition, marital status, sexual preference, or gender of such persons, except as provided in Government Code Section 12940. Every contractor for public works violating the provisions of Labor Code Section 1735 is subject to all the penalties imposed for a violation of Chapter 1, Part 7, Division 2 of the California Labor Code.

15.07 Prevailing Wages and Working Hours

A. Contractor shall pay to persons performing labor in and about Work provided for in the Contract Documents an amount equal to or more than the general prevailing rate of per diem wages for (i) work of a similar character in the locality in which the Work is performed and (ii) legal holiday and overtime work in said locality. The per diem wages shall be an amount equal to or more than the stipulated rates contained in a schedule that has been ascertained and determined by the Director of the State Department of Industrial Relations and Owner to be the general prevailing rate of per diem wages for each craft or type of workman or mechanic needed to execute this Contract. Contractor shall also cause a copy of this determination of the prevailing rate of per diem wages to be posted at each Site.

B. Contractor shall forfeit, as a penalty to Owner, $200.00 for each laborer, worker, or mechanic employed in performing labor in and about the Work provided for in the Contract Documents for each Day,

or portion thereof, that such laborer, worker or mechanic is paid less than the said stipulated rates for any Work done under the Contract Documents by him or her or by any Subcontractor under him or her, in violation of Articles 1 and 2 of Chapter 1 of Part 7 of Division II of the Labor Code. The sums and amounts that are forfeited pursuant to this Paragraph and the terms of the Labor Code shall be withheld and retained from payments due to Contractor under the Contract Documents, pursuant to this Document 00 7200 and the Labor Code, but no sum shall be so withheld, retained or forfeited except from the final payment without a full investigation by either the State Department of Industrial Relations or by Owner. The Labor Commissioner pursuant to Labor Code Section 1775 shall determine the final amount of forfeiture.

C. Contractor shall insert in every subcontract or other arrangement which Contractor may make for performance of Work or labor on Work provided for in the Contract, provision that Subcontractor shall pay persons performing labor or rendering service under subcontract or other arrangement not less than the general prevailing rate of per diem wages for work of a similar character in the locality in which the Work is performed, and not less than the general prevailing rate of per diem wages for holiday and overtime work fixed in the Labor Code.

D. Contractor stipulates that it shall comply with all applicable wage and hour laws, including without limitation, Labor Code Sections 1776 and 1810-1815. Failure to so comply shall constitute a default under this Contract.

E. Contractor and its Subcontractors shall be responsible for compliance with Labor Code Sections 1810-1815.

1. Eight hours of labor performed in execution of the Contract constitutes a legal day's work. The time of service of any worker employed on the Project is limited and restricted to 8 hours during any one calendar day, and 40 hours during any one calendar week.

2. Contractor and its Subcontractors shall keep an accurate record showing the name of and actual hours worked each calendar day and each calendar week by each worker employed by him or her in connection with the Project. The record shall be kept open at all reasonable hours to the inspection Owner and to the Division of Labor Standards Enforcement.

3. Contractor or its Subcontractors shall, as a penalty to Owner, forfeit twenty-five dollars ($25) for each worker employed in the execution of the Contract Documents by the respective Contractor or Subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation of the provisions of Labor Code Sections 1810-1815.

4. Work performed on the Project by employees of Contractor or its Subcontractors in excess of 8 hours per day, and 40 hours during any one week, shall be permitted upon compensation for all hours worked in excess of 8 hours per day at not less than 1 1/2 times the basic rate of pay.

__ Contractor and its Subcontractors shall be responsible for compliance with Labor Code Section 1776. This Project is subject to prevailing wage compliance monitoring and enforcement by the Department of Industrial Relations.

1. Contractor and Subcontractors must keep accurate payroll records, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the Work of the Contract Documents. Each payroll record shall contain or be verified by a written declaration as required by Labor Code Section 1776.

2. The payroll records enumerated above must be certified and shall be available for inspection at all reasonable hours at the principal office of the Contractor as required by Labor Code Section 1776.

   a. Contractor shall inform Owner of the location of records enumerated above, including the street address, city and county, and shall, within five working days, provide a notice of a change of location and address.

   b. Contractor or Subcontractor has 10 days in which to comply subsequent to receipt of a written notice requesting the records enumerated above. In the event that the Contractor or Subcontractor fails to comply with the ten-day period, he or she shall, as a penalty to Owner on whose behalf the contract is made or awarded, forfeit $100.00 for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be

withheld from progress payments then due. Contractor is not subject to a penalty assessment pursuant to this Paragraph due to the failure of a Subcontractor to comply with this Paragraph.

3. With each application for payment, Contractor shall also deliver certified payrolls to Owner as set forth above in this Document 00 7200 (General Conditions), and concurrently therewith (but in no event less frequently than monthly) directly to the Labor Commissioner in the format prescribed by the Labor Commissioner.

4. Contractor shall post all jobsite notices if and when prescribed by regulation.

15.08 Environmental Controls

A. Contractor shall comply with all rules, regulations, ordinances, and statutes that apply to any Work performed under the Contract Documents including, without limitation, any toxic, water, stormwater management and soil pollution controls and air pollution controls specified in Government Code Section 11017. Contractor shall be responsible for insuring that Contractor's Employees, Subcontractors, and the public are protected from exposure to airborne hazards or contaminated water, soil, or other toxic materials used during or generated by activities on the Site or associated with the Project.

15.09 Shoring Safety Plan

A. Any conflict between this Paragraph and the Technical Specifications shall be resolved in favor of the most stringent requirement.

B. At least five Days in advance of any excavation five feet or more in depth, Contractor shall submit to Owner a detailed plan showing the shoring, bracing and sloping design (including calculations) and other provisions to be made for worker protection from the hazard of caving ground during the excavation, as required by Labor Code Section 6705. A civil or structural engineer registered in California shall prepare and sign any plan that varies from the shoring system standards established by the State Construction Safety Orders.

C. During the course of Work, Contractor shall be responsible for determining where sloping, shoring, and/or bracing is necessary and the adequacy of the design, installation, and maintenance of all shoring and bracing for all excavation, including any excavation less than five feet in depth. Contractor will be solely responsible for any damage or injuries that may result from excavating or trenching. Owner's acceptance of any drawings showing the shoring or bracing design or Work schedule shall not relieve Contractor of its responsibilities under this Paragraph.

D. Appoint a qualified supervisory employee who shall be responsible to determine the sloping or shoring system to be used depending on local soil type, water table, stratification, depth, etc.

END OF DOCUMENT

DOCUMENT 00 7316

SUPPLEMENTARY CONDITIONS – INSURANCE AND INDEMNIFICATION

ARTICLE 1 INSURANCE

1.01 At or before the date specified in Document 00 2113 (Instructions to Bidders), Contractor shall furnish to Owner satisfactory proof that Contractor has taken out for the entire period covered by the Contract the following classes of insurance in the form and with limits and deductibles specified below, unless otherwise specified in Contract Documents:

A. Commercial General Liability

1. Contractor shall maintain commercial general liability insurance with coverage at least as broad as Insurance Services Office form CG 00 01, in an amount not less than two million dollars ($2,000,000) per occurrence for bodily injury, personal injury, and property damage, including without limitation, blanket contractual liability. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit. Contractor's general liability policies shall be primary and shall not seek contribution from the City's coverage, and be endorsed using Insurance Services Office form CG 20 10 (or equivalent) to provide that City and its officers, officials, employees, and agents shall be additional insureds under such policies. For construction projects, an endorsement providing completed operations coverage for the additional insured, ISO form CG 20 37 (or equivalent), is also required.

2. Any failure to comply with reporting provisions of the policies by Contractor shall not affect coverage provided the City.

3. Coverage shall state that Contractor insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

4. Coverage shall contain a waiver of subrogation in favor of the City.

B. Business Automobile Liability

1. Contractor shall provide auto liability coverage for owned, non-owned, and hired autos using ISO Business Auto Coverage form CA 00 01 (or equivalent) with a limit of no less than two million dollars ($2,000,000) per accident.

C. Workers' Compensation and Employers' Liability

1. Contractor shall maintain Workers' Compensation Insurance and Employer's Liability Insurance with limits of at least one million dollars ($1,000,000). Contractor shall submit to City, along with the certificate of insurance, a waiver of subrogation endorsement in favor of City, its officers, agents, employees, and volunteers.

D. Pollution Liability Insurance

1. Pollution Coverage shall be provided for liability arising out of sudden, accidental and gradual pollution and remediation. The policy limit shall be no less than two million dollars ($2,000,000) per claim. All activities contemplated in this agreement shall be specifically scheduled on the policy as “covered operations.” The policy shall provide coverage for the hauling of waste from the project site to the final disposal location, including non-owned disposal sites.

2. The policy shall be endorsed to include the City, its officers, employees, and agents as insureds.

E. All Coverages

1. Each insurance policy required by the agreement shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or reduced in limits except after thirty (30) days' prior written notice has been given to the City, except that ten (10) days’ prior written notice shall apply in the event of cancellation for nonpayment of premium.

2. All self-insurance, self-insured retentions, and deductibles must be declared and approved by the City.

3. Evidence of Insurance - Prior to commencement of work, the Contractor shall furnish the City with certificates, additional insured endorsements, and waivers of subrogation evidencing compliance with the insurance requirements above. The Contractor must agree to provide complete, certified copies of all required insurance policies if requested by the City.

4. Acceptability of Insurers - Insurance shall be placed with insurers admitted in the State of California and with an AM Best rating of A- VII or higher.

5. Subcontractors and Consultants - A category of risk and the applicable insurance requirements will be determined on a “per subcontractor” or “per consultant” basis, considering the particular work to be done by the subcontractor or consultant and the interrelationship of that work to other work being conducted by the Contractor.

ARTICLE 2 RESPONSIBILITY OF CONTRACTOR AND INDEMNIFICATION

2.01 Owner and each of its officers, employees, consultants and agents including, without limitation, the Board, Project Manager and each Owner’s Representative, shall not be liable or accountable in any manner for loss or damage that may happen to any part of the Work; loss or damage to materials or other things used or employed in performing the Work; injury, sickness, disease, or death of any person; or damage to property resulting from any cause whatsoever except their sole negligence, willful misconduct or active negligence, attributable to performance or character of the Work, and Contractor releases all of the foregoing persons and entities from any and all such claims.

2.02 To the furthest extent permitted by law (including, without limitation, Civil Code Section 2782), Contractor shall defend, indemnify, and hold harmless, Owner and each of its officers, officials, employees, consultants and agents including, without limitation, the governing board, Project Manager and each Owner’s Representative, from claims, suits, actions, losses and liability of every kind, nature and description including, without limitation, claims and fines of regulatory agencies and attorney’s fees and consultant’s fees, directly or indirectly arising out of, connected with, or

resulting from performance of the Work, failure to perform the Work, or condition of the Work that is caused in whole or part by any act or omission of Contractor, Subcontractors, anyone directly or indirectly employed by any of them, or anyone for whose acts any of them may be liable, resulting from any cause whatsoever except for liability for loss, damage, or expense arising from Owner's sole negligence, willful misconduct, or active negligence.

2.03 With respect to third-party claims against Contractor, Contractor waives any and all rights to any type of express or implied indemnity including, without limitation, costs of defense, against Owner and each of its officers, officials, employees, consultants and agents including, without limitation, Owner, the governing board, Project Manager and each Owner's Representative. Owner shall provide timely notice to Contractor of any third-party claim relating to the Contract Documents, in accordance with Public Contract Code Section 9201.

2.04 Approval or purchase of any insurance contracts or policies shall in no way relieve from liability nor limit the liability of Contractor, its Subcontractors of any tier, or the officers or agents of any of them.

2.05 To the furthest extent permitted by law (including, without limitation, Civil Code §2782), the indemnities, releases of liability and limitations of liability, claims procedures, and limitations of remedy expressed throughout Contract Documents shall apply even in the event of breach of Contract, passive negligence, fault or strict liability of the party(ies) indemnified, released, or limited in liability, and shall survive the termination, rescission, breach, abandonment, or completion of the Work or the terms of the Contract Documents. If Contractor fails to perform any of these defense or indemnity obligations, Owner may in its discretion back charge Contractor for Owner's costs and damages resulting therefrom and withhold such sums from progress payments or other Contract moneys which may become due.

(CONTRACT AGREEMENT PACKAGE)

(Attach completed Contractor's Commercial General Liability “Certificate of Insurance” to this page)

(CONTRACT AGREEMENT PACKAGE)

(Attach completed Contractor's "Commercial General Liability Endorsement" to this page.)

(CONTRACT AGREEMENT PACKAGE)

(Attach completed Contractor's "Automobile Liability Special Endorsement" to this page.)
REV. 2/08

(CONTRACT AGREEMENT PACKAGE)

(Attach completed Contractor's "Workers' Compensation and Employer's Liability Special Endorsement" to this page.)

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DOCUMENT 00 7324

IN-USE OFF-ROAD DIESEL-FUELED FLEETS REGULATION

Attention is directed to provisions of the California Code of Regulations Sections 2449, 2449.1, and 2449.2, Title 13, relating to In-Use Off-Road Diesel-Fueled Fleets (Regulation), issued by the California Air Resources Board (CARB). Contractor warrants that it shall be knowledgeable of and comply with the Regulation, including without limitation the matters contained in this Document 00 7304, at all times prior to and during its work on the Project. The Regulation shall control in the event of any conflict between this Document 00 7304 and the Regulation.

A. Contracting Requirements.

1. If the Project involves the use of vehicles subject to the Regulation, Contractor must obtain copies of the valid Certificates of Reported Compliance, as described in Regulation section 2449(n), for the fleet selected for the Contract and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

2. Contractor shall not enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and Contractor's listed Subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

3. The Certificates of Reported Compliance received by the Contractor for the Project must be retained for three years after the Project's completion. Upon request by CARB, these records must be provided to CARB within five business days of the request.

4. If the Project is considered to be an emergency operation, as defined in Regulation section 2449(c)(18), it is exempt from the requirements in Regulation section 2449(i)(1)-(3). Nevertheless, Contractor must still retain records verifying vehicles subject to the Regulation that are operating on the emergency operations project are actually being operated on the project for emergency operations only. These records must include a description of the emergency, the address or a description of the specific location of the emergency, the dates on which the emergency operations were performed, and an attestation by the fleet that the vehicles are operated on the project for emergency operations only.

B. Other Contractor Requirements.

1. Between March 1 and June 1 of each year, Contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in Regulation section 2449(n), from all fleets that have an ongoing contract with the Contractor as of March 1 of that year. Contractor must not write contracts to evade this requirement.

2. Contractor shall only allow fleets with valid Certificates of Reported Compliance on Contractor's job sites.

3. If Contractor discovers that any fleet intending to operate vehicles subject to the Regulation for Contractor does not have a valid Certificate of Reported Compliance, as defined in Regulation section 2449(n), or if Contractor observes any noncompliant vehicles subject to the Regulation on Contractor's job site, then Contractor must report the required information to CARB when as provided and within the time period contained in in the Regulation

4. Upon request by CARB, Contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to the Regulation operating at the job site or for Contractor.

5. If applicable, Contractor shall prominently display signage for any project where vehicles subject to the Regulation as provided and within the time period contained in in the Regulation.

END OF DOCUMENT

DOCUMENT 00 7380

APPRENTICESHIP PROGRAM

ARTICLE 1 COMPLIANCE REQUIRED

1.01 Contractor and Subcontractors shall comply with the requirements of Labor Code Sections 1776, 1777.5, and 1777.6 concerning the employment of apprentices by Contractor or Subcontractors. Willful failure to comply may result in penalties, including loss of the right to Bid on or receive public works contracts.

ARTICLE 2 CERTIFICATION OF APPROVAL

2.01 Labor Code Section 1777.5, as amended, requires a Contractor or Subcontractor employing tradespersons in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of a public works project and which administers the apprenticeship program in that trade for a certification of approval. The certificate shall also fix the ratio of apprentices to journeypersons that will be used in performance of the Contract. The ratio of work performed by apprentices to journeypersons in such cases shall not be less than one *hour* of apprentices work for every five *hours* of labor performed by journeypersons (the minimum ratio for the land surveyor classification shall not be less than one apprentice for each five journeypersons), except:

A. When unemployment for the previous three-month period in the area exceeds an average of 15 percent.

B. When the number of apprentices in training in the area exceeds a ratio of one to five.

C. When a trade can show that it is replacing at least 1/30 of its membership through apprenticeship training on an annual basis state-wide or locally; or

D. Assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his or her life or the life, safety, or property of fellow employees or the public at large or if the specific task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyperson.

ARTICLE 3 FUND CONTRIBUTIONS

3.01 Contractor is required to make contributions to funds established for administration of apprenticeship programs if Contractor employs registered apprentices or journeypersons in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

ARTICLE 4 APPRENTICESHIP STANDARDS

4.01 Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of the California Department of Industrial Relations, or from the Division of Apprenticeship Standards and its branch offices.

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DOCUMENT 009113

ADDENDA

CITY OF BENICIA

MISC. WTP IMPROVEMENTS

PROJECT NUMBER _____

The following Addenda were issued, modifying the Project Manual:

Addendum No. 1, Not Issued
Addendum No. 2, Not Issued

(Issued Addenda have been incorporated into the conformed Project Manual.)

END OF DOCUMENT

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 1100

SUMMARY OF WORK

PART 1 GENERAL

1.01 Summary

A. Section includes Summary of Work and Work Restrictions including:

1. Work Covered By Contract Documents
2. Bid Item, Allowances and Alternates
3. Specialty Items
4. Work Under Other Contracts
5. Future Work
6. Work Sequence
7. Work Days and Hours
8. Shutdown for Discovery of Cultural Resources
9. Cooperation of Contractor and Coordination with Other Work
10. Partial Occupancy/Utilization Requirements
11. Contractor Use of Site
12. Air Quality Standards
13. Construction Staking and Monument Protection
14. Protection of Existing Structures and Underground Facilities
15. Permits

1.02 Work Covered by Contract Documents

A. Work comprises of the construction of Owner's Misc. Water Treatment Plant Improvement Project. Contract Documents fully describe the Work. Base and Alternate bid items are presented to indicate major categories of the work for purposes of comparative bid analyses and payment breakdown for monthly progress payments. Bid items are not intended to be exclusive descriptions of work categories and the Contractor shall determine and include in their pricing all materials, labor, and equipment necessary to complete each Bid Item (work phase) as shown and specified in the Contract Documents and as described below, and no additional compensation will be allowed.

B. The Work of this Contract comprises construction of all the Work indicated, described in the Specifications, or otherwise required by the Contract Documents. Unless provided otherwise in the Contract Documents, all risk of loss to Work covered by Contract Documents shall rest with Contractor until Final Acceptance of the Work. Cost of maintenance of systems and equipment prior to Final Acceptance will be considered as included in prices Bid and no direct or additional payment will be made therefore.

C. For all Bid items, furnish and install all Work, including connections to existing systems, indicated and described in Specifications and all other Contract Documents. Work and requirements applicable to each individual Bid item, or unit of Work, shall be deemed incorporated into the description of each Bid item (whether Lump Sum or Unit Price). Any Bid item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract. Price adjustments for any deletion will be governed by Agreement Section 01 2600, Modification Procedures..

D. Allowance Work shall be done as Change Orders and as specified in Section 01 2600 (Modification Procedures). Identify Allowance Items (See Section 00 4113 Bid Form) work on the Progress Schedules and on Applications for Payment. The Amount given on Document 00 4113 (Bid Form) under each Allowance Item is the sum of money set aside for each Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form. If the cost of Work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of Work actually done.

1.03 Bid Items, Allowances and Alternates

A. MOBILIZATION AND DEMOBILIZATION (BID ITEM NO. 1)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Obtaining all bonds and required insurance.
   b. Obtaining required permits, licenses, agreements, and certifications.
   c. Moving onto the site of all equipment, materials and staff including set up of Contractor's construction office, staging and storage area/yard.
   d. Furnishing and erecting all needed construction facilities, fencing, project signage, project security.
   e. Establishment and Removal of Temporary Facilities
   f. Demobilization, site cleaning and maintenance.
   g. Perform and submit pre-construction and post-construction videos.
   h. All work as required for the proper performance and completion of the project, including photographs and video recording of surface features, progress schedules and reports, contract meetings, and record drawings.
   i. The bid amount for Bid Item 1, Mobilization and Demobilization, shall not exceed 10 percent of the total bid price.

2. Payment

   a. No measurement will be made.
   b. Payment shall be lump sum and shall be made as follows:
   c. Up to 50% payment allowed for mobilization.
   d. The remaining amount (50% or more) will be paid after punch list items are completed.

B. ENVIRONMENTAL CONTROLS (BID ITEM NO. 2)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Complying with the most current version of the State Water Resources Construction General Permit
   b. Use of best management practices during construction to prevent construction related pollutants from entering the storm drain system.
   c. Installation and maintenance of all proposed temporary control structures, silt fencing, barriers, berms, sediment retention basins, and any other salient features
   d. Removal and disposal of all erosion and sediment control facilities after completion of work.
   e. Street sweeping as required by the City of Benicia.

2. Payment

   a. No measurement will be made.
   b. Payment shall be lump sum.
   c. Up to 75% payment allowed after WPCP is complete.
   d. The remaining 25% will be paid after substantial completion.

C. SHEETING, SHORING, AND BRACING (BID ITEM 3)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. All submittals including shoring design.
   b. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.

2. Payment

   a. No measurement will be made.
   b. Payment shall be lump sum based upon percentage of work acceptably constructed and completed.

D. REMOVE (E) 24" BW LINE AND INSTALL 20” HDPE DR11 -OPEN CUT (BID ITEM 4)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Potholing, probing, locating, and protecting other utilities.
   d. Furnishing and installing all necessary materials.
   e. Excavation, removal of existing pipe materials, spoil handling, and disposal of excess and/or deleterious materials.
   f. Pavement and concrete saw cutting, demolition, excavation, removal of materials, spoil handling, and disposal of excess and/or deleterious materials.
   g. Installing and butt-fusing new pipe including cutting pipe to length.
   h. Installing steel pipe manifolds, both HDPE and steel fittings.
   i. Connecting to existing steel pipe.
   j. Supplying, placing, and compacting bedding, backfill materials around pipe and structures, including slurry placement and curing.
   k. Off haul and disposal of trench spoils.
   l. Daily cleanup and management of the work site including any needed trench plates.
   m. Plugging of pipe when not actively being laid.
   n. Furnishing and installing taped polyethylene wrap, and metallic warning tape.
   o. Furnishing and installing bolts, nuts and gaskets as required at flanges or grooved pipe connections.
   p. Satisfactory completion of all required testing.

2. Payment

   a. Measurement and payment will be made based on the linear footage of 20” HDPE pipe installed.

E. FURNISH AND INSTALL 20” HDPE DR11 -SLIP LINED (BID ITEM 5)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all the work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Potholing, probing, locating, and protecting other utilities.
   d. Furnishing and installing all necessary materials.

e. Excavation, removal of existing pipe materials, spoil handling, and disposal of excess and/or deleterious materials.
f. Pavement and concrete saw cutting, demolition, excavation, removal of materials, spoil handling, and disposal of excess and/or deleterious materials.
g. Installing and butt-fusing new pipe including cutting pipe to length.
h. Connecting to new pipe and fittings
i. Grouting an annular space
j. Off haul and disposal of trench spoils.
k. Daily cleanup and management of the work site including any needed trench plates.
l. Plugging of pipe when not actively being laid.
m. Furnishing and installing bolts, nuts and gaskets as required at flanges or grooved pipe connections.
n. Satisfactory completion of all required testing.

2. Payment

a. Measurement and payment will be made based on the linear footage of 20” HDPE pipe installed.

F. UTILITY WATER & BACKWASH PIPING DEMOLITION (BID ITEM 6)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
b. All Submittals for essential materials.
c. Potholing, probing, locating, and protecting other utilities.
d. Excavation, removal of existing pipe materials, spoil handling, and disposal of excess and/or deleterious materials.
e. Pavement and concrete saw cutting, demolition, excavation, removal of materials, spoil handling, and disposal of excess and/or deleterious materials.
f. Connecting to new pipe and fittings
g. Daily cleanup and management of the work site including any needed trench plates.
h. Plugging of existing drainpipes which may conflict with demolition work.
i. Salvaging existing 4” Utility Water piping and accessories required to be relocated.

2. Payment

No measurement will be made.

a. Payment shall be lump sum based upon percentage of work acceptably completed.

G. FURNISH AND INSTALL 4” & 10" UTILITY/BACKWASH WATER PIPING PHASE I (BID ITEM 7)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
b. All Submittals for essential materials.
c. Potholing, probing, locating, and protecting other utilities.
d. Constructing concrete pipe chase including any required excavation and placement of aggregate base
e. Furnishing and installing FRP grating and supports
f. Designing, furnishing and installing required pipe support

g. Installing temporary fittings and couplings to connect to the existing 10” backwash line which is to remain in service during Phase I.
h. Furnishing and Installing steel manifold and other steel pipe special fittings
i. Daily cleanup and management of the work site including any needed trench plates.
j. Plugging of existing drainpipes which may conflict with demolition work.

2. Payment

b. No measurement will be made.
c. Payment shall be lump sum based upon percentage of work acceptably constructed and completed.

H. FURNISH AND INSTALL 10" BACKWASH WATER PIPING PHASE II (BID ITEM 8)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
b. All Submittals for essential materials.
c. Potholing, probing, locating, and protecting other utilities.
d. Designing, furnishing, and installing required pipe support
e. Installing temporary fittings and couplings to connect to the existing 10” backwash line which is to remain in service during Phase I.
f. Furnishing and Installing steel manifold and other steel pipe special fittings
g. Daily cleanup and management of the work site including any needed trench plates.
h. Plugging of existing drainpipes which may conflict with demolition work.

2. Payment

a. No measurement will be made.
b. Payment shall be lump sum based upon percentage of work acceptably constructed and completed.

I. FURNISH AND INSTALL 20” FLOW METER, MOV AND MISC APPURTENANCES (BID ITEM 9)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

c. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
d. All Submittals for essential materials.
e. Protecting other utilities including drains and chemical feed piping.
f. Designing, furnishing and installing required pipe support
g. Removing existing valves, actuators, couplings, pressure transducers & appurtenances
h. Furnishing and Installing fittings, valves, actuators, meters, etc.
i. Reconnecting power and instrumentation wiring to new actuator.
j. Daily cleanup and management of the work site including any needed trench plates.
k. Connecting to existing and new pipe

2. Payment

d. No measurement will be made.
e. Payment shall be lump sum based upon percentage of work acceptably constructed and completed.

J. FURNISH AND INSTALL 24” FILTER STAINLESS STEEL SLUICE GATE (BID ITEM 10)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Disinfection as required by AWWA
   d. Assessing condition and dimensions of existing wall thimble
   e. Removing existing gates, actuators, & appurtenances
   f. Furnishing and Installing slide gates, stems, pedestal, floor stands, gear operators, electric motor actuators and miscellaneous electrical as required for a complete functioning gate system
   g. Daily cleanup and management of the work site including any needed trench plates.
   h. Protecting existing facility and coordination with Owner regarding operational constraints.

2. Payment

   a. Measurement will be made based on each slide gate installed.
   b. Payment shall be lump sum based upon percentage of work acceptably constructed and completed.

K. FURNISH AND INSTALL 30” FILTER SLUICE GATE (BID ITEM 11)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Disinfection as required by AWWA
   d. Assessing condition and dimensions of existing wall thimble
   e. Removing existing gates, actuators, & appurtenances
   f. Furnishing and Installing slide gates, stems, pedestal, actuators and miscellaneous electrical as required for a complete functioning gate system
   g. Daily cleanup and management of the work site including any needed trench plates.
   h. Protecting existing facility and coordination with Owner regarding operational constraints.

2. Payment

   a. Measurement will be made based on each slide gate installed.
   b. Payment shall be based upon percentage of work acceptably constructed and completed.

L. FURNISH AND INSTALL 36” DIVERSION STRUCTURE SLUICE GATE (BID ITEM 12)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:
   a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Disinfection as required by AWWA
   d. Assessing condition and dimensions of existing wall thimble
   e. Removing existing gates, actuators, & appurtenances
   f. Furnishing and Installing slide gates, stems, pedestal, actuators and miscellaneous electrical as required for a complete functioning gate system
   g. Daily cleanup and management of the work site including any needed trench plates.

h. Protecting existing facility and coordination with Owner regarding operational constraints.

2. Payment
   a. Measurement will be made based on each slide gate installed.
   b. Payment shall be based upon percentage of work acceptably constructed and completed.

M. FURNISH AND INSTALL 42” DIVERSION STRUCTURE SLUICE GATE (BID ITEM 13)

Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
b. All Submittals for essential materials.
c. Disinfection as required by AWWA
d. Assessing condition and dimensions of existing wall thimble
e. Removing existing gates, actuators, & appurtenances
f. Furnishing and Installing slide gates, stems, pedestal, actuators and miscellaneous electrical as required for a complete functioning gate system
g. Daily cleanup and management of the work site including any needed trench plates.
h. Protecting existing facility and coordination with Owner regarding operational constraints.

Payment

a. Measurement will be made based on each slide gate installed.
b. Payment shall be based upon percentage of work acceptably constructed and completed.

N. SEDIMENTATION BASIN SLUICE GATE REPAIRS (BID ITEM 14)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all work necessary to complete the work as shown on the contract documents, including but not limited to furnishing and installing steel plates, and as required to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.
   c. Disinfection as required by AWWA
   d. Verification of existing conditions and relevant dimensions
   e. Daily cleanup and management of the work site including any needed trench plates.
   f. Protecting existing facility and coordination with Owner regarding operational constraints.

2. Payment

   a. No Measurement will be made.
   b. Payment shall be based upon percentage of work acceptably constructed and completed.

O. HOT MIX ASPHALT AT TRENCH REPAIR (BID ITEM 15)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

   a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
   b. All Submittals for essential materials.

c. Furnish and install hot mix asphalt concrete.
d. Replacing any striping or other markings damaged or otherwise impacted by trenching and backfill operations.

2. Payment

a. Measurement will be made based on tons of asphalt placed.
b. Payment shall be based upon unit price in Schedule of Bid Prices.

P. SITE SURFACE RESTORATION (BID ITEM 16)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals including, but not limited to, the following:

a. Doing all work necessary to complete the work as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.
b. All Submittals for essential materials.
c. Restoration of surface features disturbed or damaged during the course of work, which may include such repairs as water appurtenances, gravel roadways, ac pavement, entry concrete, sidewalk, curb and gutters, fencing, landscape, vegetation, grass, and plants.
d. Responsibility for maintaining site security equivalent to pre-construction conditions for the duration of the project.
e. Removal of all debris, waste materials, and rubbish.
f. Protection and or replacement of all trees, shrubs, plants, fences, turfed areas, structures, and all other objects within the right-of-entry area.
g. Any work or expenses associated with the provisions of an 18-month warranty.

2. Payment

a. Measurement and payment shall be based upon the CONTRACTOR'S Schedule of Values, to be submitted to and reviewed by ENGINEER in accordance with Section 01 2000

Q. ALLOWANCE FOR ELECTRICAL/INSTRUMENTATION (BID ITEM 17)

1. Includes furnishing all labor, materials, tools, equipment, and incidentals required to complete the following:

a. Work as shown on sheet 13 of 17 of the project plans included in the contract documents
b. All control system integration required
c. All Submittals for essential materials.
d. Furnishing and Installing new rigid conduit
e. Pulling wire as required for power and instrumentation between new Gate Actuators and level indicators between the Diversion Structure and the termination points in the basement of the Operations Building

2. Payment

a. No measurement will be made.
b. Payment shall be based upon percentage of work acceptably constructed and completed.

R. ALL OTHER WORK SHOWN OR SPECIFIED, EXCLUDING BID ITEMS NO. 1 THROUGH 17 (BID ITEM NO. 18)

1. Bid -Item No. 18, complete-in-place, includes furnishing all labor, other essential materials, tools, equipment, and incidentals including, but not limited to, the following:

a. All Submittals.
b. All permit costs
c. Minor Concrete Repair
d. Standby time as necessary to coordinate with Facility Operations
e. Doing all work necessary required for the completion of the work not included in Bid Schedule-Items No. 1 through No. 17. as shown on the contract documents, to comply with all applicable codes, and no additional compensation will be allowed.

2. Measurement and payment shall be based upon the CONTRACTOR'S Schedule of Values, to be submitted to and reviewed by ENGINEER in accordance with Section 01 2000

1.04 Work Days and Hours

A. Work Days and hours: The Owner's Regular Business Days and hours for construction personnel, such as facilities managers, architects, inspectors, and maintenance personnel, are Monday-Friday inclusive, 7:00 a.m. - 5:00 p.m. local time.

B. Work at the Site on weekends or holidays is not permitted, unless Contractor requests otherwise from Owner in writing at least 48 hours in advance and Owner approves in its sole discretion.

1.05 Shutdown for Discovery of Cultural Resources

A. If discovery is made of items of historical archaeological or paleontological interest, immediately cease all Work in the area of discovery. Archaeological indicators may include, but are not limited to, dwelling sites, locally darkened soils, stone implements or other artifacts, fragments of glass or ceramics, animal bones, human bones, and fossils. After cessation of excavation, immediately contact Owner. Do not resume Work until authorization is received from Owner. When resumed, excavation or other activities shall be as directed by Owner.

1.06 Cooperation of Contractor and Coordination with Other Work

A. Coordinate with Owner and any Owner forces, or other contractors and forces, as required by Document 00 7200 (General Conditions).

1.07 Partial Occupancy/Utilization Requirements

A. Allow Owner to take possession of and use any completed or partially completed portion of the Work during the progress of the Work as soon as is possible without interference to the Work.

B. Possession, use of Work, and placement and installation of equipment by Owner shall not in any way evidence the completion of the Work or any part of it.

C. Contractor shall not be held responsible for damage to the occupied part of the Work resulting from Owner occupancy.

D. Make available, in areas occupied, on a 24 hour per day and seven day per week basis if required, any utility services, heating, and cooling in condition to be put in operation at the time of occupancy.

1. Responsibility for operation and maintenance of said equipment shall remain with Contractor.

2. Make, and Owner shall certify, an itemized list of each piece of equipment so operated with the date operation commences.

3. Itemized list noted above shall be basis for commencement of warranty period for equipment.

4. Owner shall pay for utility cost arising out of occupancy by Owner during construction.

E. Use and occupancy by Owner prior to acceptance of Work does not relieve Contractor of its responsibility to maintain insurance and bonds required under the Contract until entire Work is completed and accepted by Owner.

F. Prior to date of Final Acceptance of the Work by Owner, all necessary repairs or renewals in Work or part thereof so used, not due to ordinary wear and tear, but due to Defective materials or workmanship or to operations of Contractor, shall be made at expense of Contractor, as required in Document 00 7200 (General Conditions).

G. Use by Owner of Work or part thereof as contemplated by this Section 01 1100 shall in no case be construed as constituting acceptance of Work or any part thereof. Such use shall neither relieve Contractor of any responsibilities under Contract, nor act as waiver by Owner of any of the conditions thereof.

H. Owner may specify in the Contract Documents that portions of the Work, including electrical and mechanical systems or separate structures, shall be substantially completed on dates described in this Section 01 1100, if any, prior to Substantial Completion of all of the Work. Notify Owner in writing when Contractor considers any such part of the Work ready for its intended use and Substantially Complete and request Owner to issue a Certificate of Substantial Completion for that part of the Work.

1.08 Air Quality Standards

A. Ensure that idling time for all heavy equipment is minimized to reduce on-Site emissions.

B. Maintain equipment in good mechanical condition.

C. Cover trucks hauling dirt.

D. Limit dust emissions during periods of high winds (greater than 15 miles per hour).

E. Replace ground cover in disturbed areas as soon as possible.

F. Enclose, cover, water, or apply soil binders to exposed stockpiles.

G. Remove earth tracked onto neighboring paved roads at least once daily.

H. Limit equipment speed to 10 miles per hour in unpaved areas.

1.09 Construction Staking and Monument Protection

A. Notify Owner three Business Days prior to the need for initial staking. Owner will provide engineering surveys to establish construction stakes that in Owner's judgment are necessary to enable Contractor to proceed with the Work.

B. If Contractor finds any additional staking necessary, notify Owner in writing two Business Days in advance. Owner shall have no liability for any inadequacy unless Contractor notifies Owner and Owner fails to cure within three Business Days of such notice.

C. Contractor shall be responsible for laying out the Work, shall protect and preserve the established construction stakes and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Whenever Contractor knows or reasonably should know that any Work activity is likely to damage or destroy any construction stakes or property monuments, or require relocation because of necessary changes in grades or locations, provide at least two Business Days advance notice to Owner. In any event, notify Owner whenever any construction stakes or property monuments are lost or destroyed or require relocation because of necessary changes in grades or locations. Owner shall replace or repair construction stakes or property monuments at Contractor's expense.

D. Perform brush clearing and traffic control, as necessary, in Owner's sole judgment.

E. Illegible survey requests or requests for surveys without proper (at least three Business Days) notification, may result in delayed surveys. No extension of Contract Time will be allowed due to such delays.

F. If Owner's survey crews are not available to perform the survey staking following proper notification, Contractor shall provide its own survey staking. Provide Owner with Contractor's survey staking information in writing within three Business Days after it becomes available to Contractor.

1.10 Protection of Existing Structures and Underground Facilities

A. The Drawings may indicate existing above- and below-grade structures, drainage lines, storm drains, sewers, water lines, gas lines, electrical lines, hot water lines, and other similar items and Underground Facilities that are known to Owner. At least two Business Days, or as otherwise noted, prior to commencement of excavation, notify the owners of the following Underground Facilities:

B. Where overhead service to a structure, known to receive service, does not exist, then underground service shall be assumed to exist.

C. Attention is also directed to the existence of overhead power and telephone lines.

D. Perform pot-holing by hand within 24 inches (in any direction) of the Underground Facilities. This may be done on an area-by-area basis, but shall be accomplished at least 7 Days in advance of the date of construction within such area.

E. In addition to reporting, if a utility is damaged, Contractor must take appropriate action as provided in Document 00 7200 (General Conditions).

F. Additional compensation or extension of time on account of utilities not indicated or otherwise brought to Contractor's attention including reasonable action taken to protect or repair damage shall be determined as provided in Document 00 7200 (General Conditions).

1.11 Permits

B. Permits, agreements, or written authorizations that are known by Owner to apply to this Project are listed below:

1. Cal/OSHA Permit. Obtain, as applicable, permit(s) as required by Cal/OSHA for the following:
   a. Construction of trenches or excavations that are five feet or more in depth and into which a person is required to descend.
   b. Construction or demolition of any building, structure, or scaffolding for falsework more than three stories high, or the equivalent height (36 feet).
   c. Erection or dismantling of vertical shoring systems more than three stories high, or the equivalent height (36 feet).

C. All other permits that may be required, shall be obtained by Contractor. Applicable permit fees will be reimbursed to the extent specified in Document 00 7200 (General Conditions).

PART 2 PRODUCTS– NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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SECTION 01 1140

WORK SEQUENCE AND CONSTRAINTS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Schedule requirements, construction constraints, and a suggested Work sequence for specific elements of the Project.

1.02 GENERAL SEQUENCING REQUIREMENTS

A. The sequencing requirements and construction constraints described are critical elements of the Work and are presented to underscore the importance of proper management, planning, scheduling, coordination, and execution of the Work.

B. Sequencing requirements and construction constraints have been defined in this Section for only certain structures, facilities, and elements of the Work. All work, whether or not addressed in this Section, shall be governed by applicable specified requirements. If additional shutdown constraints are necessary to allow implementation of Contractor's construction procedures and schedule, the Engineer will establish such constraints.

C. Contractor's Construction Schedule:

1. Clearly illustrate the proposed sequence of construction.
2. Conform to the sequencing requirements and limitations specified in this Section.
3. Modify or adapt the suggested sequencing as necessary to complete the project provided all environmental and service continuity requirements are met.

1.03 OPERATIONAL CONTINUITY

A. The City of Benicia owns and operates water treatment facilities. The Work under this project will interface with these existing facilities.

B. Owner's personnel will be responsible for operating and maintaining the existing facilities throughout the execution of this Contract.

C. Take particular care to avoid clutter and debris at the site of the work. This includes work areas and staging areas at the water treatment plant.

D. Limit operations, storage of equipment, and materials and parking of employees to the areas designated on the Drawings.

E. The existing water treatment plant and distribution system continuously receives raw water and produces and distributes potable water throughout the City. Do not interrupt functions necessary to maintain operation of these facilities except as approved by the Engineer through review of the Contractor's Facility Outage Plan and as specified herein.

F. Coordinate the Work to minimize interference and interruption of the normal operation of the Owner's existing facilities through proper planning and by making temporary connections.

G. Except for allowable out-of-service periods as specified, maintain operation of water treatment plant processes and ancillary facilities at the Water Treatment Plant site.

1.04 ACCESS

A. The existing facility where Contractor's work is to be done will be occupied by the Owner

throughout the construction period. Access to the site by the Owner's personnel is required for daily operations, maintenance, and administration. Additionally, regular traffic into and out of the site is to be expected.

B. Contractor shall provide all necessary access to the Owner's personnel as required to safely and efficiently operate/maintain the facilities. At all times during the Contract duration, the Contractor is to provide the Owner's personnel and representatives safe and immediate access to all process control equipment.

C. Contractor shall provide for unimpeded access for all delivery vehicles transporting materials, chemicals and equipment to the facility for the Owner's operations. Contractor shall coordinate the work to avoid interference with vehicular access to the existing plant site and normal operation of plant equipment and processes.

1.05 FACILITY OUTAGE PLAN

A. Prepare and submit a detailed Facility Outage Plan (FOP) when removal of an existing facility from service is necessary to complete the Work.

B. The Contractor shall employ key personnel knowledgeable and experienced in water treatment plant construction, including knowledge of treatment processes and facility operations, for development of the FOP. Examples of required knowledge include but are not limited to: water treatment terminology; water treatment plant functions; and actions that would adversely impact water treatment and water quality.

C. The FOP shall describe, as applicable, a listing of existing facilities that will be taken out of service, methods for preventing bypassing of other treatment units, the length of time required to complete the operation, and the necessary personnel and equipment which will be provided in order to successfully complete the operation.

D. Develop the FOP to satisfy the Work restrictions and conditions specified in this Section. Coordinate the outage schedule with the overall construction schedule.

E. Submit the FOP to the Engineer for review and approval at least three (3) weeks prior to the scheduled outage. Develop the Facility Outage Plan to satisfy the Work Sequence restrictions and conditions specified in this Section. Do not proceed with any Work involving facility outages until the Outage Plan has been approved by the Engineer.

F. The Contractor shall attend a meeting with the Construction Manager and Owner two (2) weeks before the scheduled outage to review the FOP. Any changes to the FOP must be approved by the Construction Manager and the Owner prior to the outage. Significant changes shall, at the sole discretion of the Owner, cause the scheduled outage to be rescheduled for the nearest date acceptable to the Owner.

1.06 REMOVING EXISTING FACILITIES FROM SERVICE

A. Existing systems or individual equipment items shall be isolated, decommissioned, de-energized, or depressurized only by the Owner's operations personnel. This work will be done in accordance with the Facility Outage Plan and schedule prepared by the Contractor.

B. The Contractor shall design and provide all necessary bulkheads, cofferdams, and support structures to allow isolation of work areas from tanks, pipes, and/or channels that are in service. Bulkheads, cofferdams, and support structures shall conform to applicable OSHA requirements.

C. The Contractor shall provide all necessary temporary pumps, piping, power, electrical wiring, controls, and labor during and subsequent to all shutdown activities as required. Maintain adequate access to the plant facilities, utilities, and equipment during construction to allow continued operation and maintenance by Owner's personnel to take place.

D. Prior to any shutdown or flow diversion, all materials, bypass pumps, fittings, supports, equipment and tools shall be on the site and all necessary skilled labor scheduled prior to

starting any connection work.

E. If valves or gates need to be opened or closed, or mechanical equipment turned off or turned on, or similar operations performed to allow construction to proceed, this is to be performed by the Owner's operations staff working in coordination with Contractor personnel. Valves and gates that may be used to isolate lines and facilities may not completely seal. The contractor shall allow for leakage in planning the Work. The contractor shall clean the work areas as required to perform the work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 WORK COORDINATION

A. Schedule and coordinate the overall Work and construction operations, including the work of subcontractors and the timely provision of products and supplies.

B. Perform Work in an orderly and logical sequence. Individual specification Sections may identify specific requirements that are related to Work sequence. These types of constraints are not repeated in this Section but shall be followed by the Contractor.

3.02 WORK CONSTRAINTS

A. General Requirements

1. Connections to the existing treatment plant facilities, including piping, electrical, and/or control connections must be coordinated with the operation of the existing treatment plant. The following sub-sections are intended to describe the constraints and sequencing associated with these connections.
2. Contractor is required to identify all work constraints and sequencing of all connections to the existing treatment plant. The schedule of dates for all connections to the existing treatment plant should be included in the Contractor's Baseline Schedule and all subsequent Updated Baseline Schedules.
3. Submission of Facility Outage Plans are required as specified for plant-wide or partial suspension of processes or utility services.
4. Stoppage of Water Treatment Process
    a. Stoppage events (excluding draining or other plant staff preparatory tasks) shall occur for a period of no more than eight (8) hours.
    b. Stoppage events shall occur between the hours of 9:00 AM and 5:00 PM (excluding draining or other plant staff preparatory tasks).
    c. There shall be at least two (2) days between the end of one stoppage event and the beginning of the next stoppage event.
    d. Notify Owner of a stoppage event by submitting an FOP at least three (3) weeks prior to the time when a stoppage event is scheduled to begin.

B. Work Hours

1. Except as otherwise required for the safety or protection of persons and except as otherwise stated in the Contract Documents, Work may only be performed Monday through Friday during the hours of 7:00 am and 5:00 pm. Contractor will not perform Work on a Sunday or any legal holiday defined by the City of Benicia without written consent from the Owner.
2. Legal holidays are defined as:
    a. New Year's Day on January 1.
    b. Martin Luther King Jr. Day on the third Monday in January.

c. President's Day on the third Monday in February.

d. Memorial Day on the last Monday in May.

e. Independence Day on July 4.

f. Labor Day on the first Monday in September.

g. Veterans Day on November 11.

h. Thanksgiving Day on the fourth Thursday in November.

i. Christmas Day on December 25.

j. When a holiday falls on Sunday, the following Monday is recognized as the legal holiday. When a holiday falls on a Saturday, the preceding Friday is recognized as the legal holiday.

C. Contractor shall undertake the Work in compliance with the constraints defined in the following paragraphs:

1. Filter Draining and Entry

a. Draining of and entry into the existing filters is anticipated to be required for the installation of the new sluice gates at Filters 3 & 4.

b. Notify Owner of a draining event by submitting an FOP at least three (3) weeks prior to the time when entry into the filter is scheduled to begin.

c. Filter draining will take approximately 4-6 hours and will be completed by the Owner based on the schedule in the approved FOP.

d. No elements of the Filter shall not be out of service for more than one (8) hours (excluding draining or other plant staff preparatory tasks).

e. The Contractor shall disinfect all tools, equipment and clothing that will come in contact with the clear well surfaces or standing water prior to entry into the Filter Structure.

f. The work shall be completed with no more than four (4) shutdowns of the Filter Structure for each Sluice Gate installed. The Contractor shall schedule the work such that the shutdowns are scheduled to allow the plant staff a minimum of one full working day between shutdowns.

g. The Contractor shall not endeavor to replace multiple Sluice Gates simultaneously and shall complete each installation in full prior to starting a second Sluice Gate installation.

2. Diversion Structure Draining and Entry

a. Draining of and entry into the existing Diversion Structure is anticipated to be required for the installation of the new sluice gates at the Diversion Structure.

b. Notify Owner of a draining event by submitting an FOP at least three (3) weeks prior to the time when entry into the filter is scheduled to begin.

c. Diversion Structure draining will take approximately 1-2 hours and will be completed by the Owner based on the schedule in the approved FOP.

d. The Contractor shall disinfect all tools, equipment and clothing that will come in contact with the clear well surfaces or standing water prior to entry into the Filter Structure.

e. The Diversion Structure shall not be out of service for more than one (8) hours (excluding draining or other plant staff preparatory tasks).

f. The work shall be completed with no more than four shutdowns and draining of the Diversion Structure per each Sluice Gate installed.

g. The Contractor shall not endeavor to replace multiple Sluice Gates simultaneously and shall complete each installation in full prior to starting a second Sluice Gate installation.

3. Backwash Pipe, Flow Meter and Valve Connection

   a. Backwash Water (BW) supply is needed for 60 minutes once every 24 hours for filter backwashes. Coordinate with the Owner to schedule the connection to the existing backwash pipeline to minimize interference with the backwash water supply to the filters.

   b. The backwash pump and discharge piping shall be tested and disinfected before it can be used to supply backwash water to the filters.

4. Utility Water System

   a. Utility Water (UW) supply is needed for final chlorination of treated water. A shutdown of the UW system effectively shuts down the entire facility. Coordinate with the Owner to schedule the connection to the existing backwash pipeline to minimize interference with the backwash water supply to the filters.

   b. Phase 1 of the replacement of the UW pump manifold shall be completed prior to commencement of any works items related to the Backwash Water system.

   c. Phase 2 of the replacement of the UW pump manifold shall be completed simultaneously with the Backwash Water system replacement.

   d. The UW pumps and discharge piping shall be tested and disinfected before it can be returned to service.

5. Sedimentation Basin Structure Draining and Entry

   a. The dewatering of the Splitter Box at the Sedimentation Basin will be required to occur in conjunction with a Filter Draining. As such the Contractor shall assume concurrent work operations at the Filters and the Sedimentation Basin. Coordinate with the Owner to schedule the draining of the Sedimentation Basin to minimize interference with the applied water supply to the filters.

3.03 WORK SEQUENCING

A. General Requirements

1. The work sequences described below are provided for the sole purpose of clarifying operational constraints which may impact the work and are not intended to describe the work in full as required. The contractor shall provide a description of intended work sequencing in the FOP as submitted for each planned shutdown or outage.

B. Backwash and Utility Water

1. Phase I

   a. Sawcut, demolish and remove existing slab on grade as shown on the plans.

   b. Temporarily support and restrain existing backwash and utility water piping.

   c. Construct new concrete pipe chase.

   d. Assemble and fit up new pipe manifolds as necessary to confirm an acceptable installation.

   e. Work with Operations Staff to shut down the BW/UW process.

   f. Remove and replace existing manifold as shown on the plan.

   g. Replumb the 4” UW PVC piping at the UW manifold as shown on the

plans.

h. Cut the 10” BW lateral and temporarily reconnect to the new 10” BW manifold.

i. Work with Operations Staff to recommission the BW/UW process.

2. Phase II

a. Excavate and expose the exterior 24” BW line between the face of the operations buildings and the proposed upstream point of connection in the parking lot.

b. Examine the existing conditions at the face of the operations building and expand excavation as necessary to facilitate slip lining process.

c. Work with Operations Staff to shut down the BW/UW process.

d. Remove and replace the exterior 24” BW. Make upstream tie-in and temporarily tie to exposed 24” BW at face of Operations Building.

e. Work with Operations Staff to recommission the BW/UW process.

f. Install the new 10” BW line between the point of connection (at temporary blind flange installed on manifold in Phase I) at the interior of the operations building to the exterior face.

g. Assemble and fit up new 20” BFV and Flowmeter as necessary to confirm an acceptable installation.

h. Work with Operations Staff to shut down the BW/UW process.

i. Slip line the 24” BW with the new 20” line and connect to new 20” exterior BW and the new 10” BW at the face of the Operations Building.

j. Remove existing flow meter and BFV and install new. Connect to new 20” BW.

k. Work with Operations Staff to recommission the BW/UW process.

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 2000

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 Summary

A. Section includes description of requirements and procedures for determining amount of Work performed and for obtaining payment for Work performed.

1.02 References

A. California Public Contract Code

B. Code of Civil Procedure

C. Government Code

D. Civil Code

1.03 Composition and Scope Of Contract Sum

A. Scope of Contract Sum

1. Contract Sum for performance of the Work under Contract Documents, or under any Bid item, allowance, or Alternate, shall include full compensation for all Work required under the Contract Documents, including without limitation, all labor, materials, taxes, transport, handling, storage, supervision, administration, and all other items necessary for the satisfactory completion of the Work, whether or not expressly specified or indicated, incidental work and unexpected expenses, and all terms, conditions, requirements and limitations set forth in the Contract Documents.
2. Contract Sum may be expressed as lump sum, unit price, GMP, allowance, or combination thereof. Contract Sum, whether lump sum, unit price or otherwise, shall be deemed to include all costs necessary to complete required Work, including Contractor overhead and profit, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements.
3. Unless Contract Documents expressly provide otherwise, Contract Sum shall be deemed to include:
   (a) Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work or any Work item (whether lump sum, unit price or otherwise) until acceptance by Owner;
   (b) All expenses incurred due to suspension, or discontinuance of Work or any Work item (whether lump sum, unit price or otherwise) as provided in Contract Documents; and
   (c) Escalation to allow for cost increases between time of Contract Award and completion of Work or any Work item (whether lump sum, unit price or otherwise).

B. Unit Price Items

1. Quantity of Work to be paid for under any item for which a unit price is fixed in Contract Documents shall be determined by Owner based on, so far as practicable, actual number of units satisfactorily completed, as determined by Owner and certified by Contractor, within prescribed or ordered limits, and no payment will be made for Work unsatisfactorily performed or done outside of limits.
2. Unit Prices shall apply to Work covered by unit prices so long as actual quantities performed on the Project are not less than 75 percent or greater than 125 percent of the estimated quantities bid or otherwise stated in the Contract Documents. If actual quantities

exceed these parameters, then the unit price shall be adjusted by an amount to reflect the Contractor's incremental cost differential resulting from increased or decreased economies of scale.

C. Lump Sum Items

1. When estimated quantity for specific portion of Work is not indicated and/or Work is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
2. Payment for lump sum Work, or items of Work subject to a lump sum (e.g. without limitation, change order work), shall be made on the basis of satisfactory completion of such Work or work item, earned in progressive stages in accordance with the Contract Documents, up to but not exceeding Contractor's percentage completion of the Work or item.
3. Lump sum items shall be paid based upon the approved Schedule of Values, which shall be used to measure progressive payments based upon satisfactory progress towards completion of the item.

D. Allowance Items

1. Allowances. Allowance Work will be authorized by Owner in writing, following change order procedures to determine cost, supporting documentation and authorization to proceed. Unused allowance amounts at Contract completion shall reduce the Contract Sum accordingly.
2. Allowance items (if any) are specified in Section 01 1100 (Summary of Work) or Section 01 2100 (Allowances).

1.04 Payment Procedures

A. Work Breakdown Structure/Schedule of Values

1. Within **ten (10)** Days from issuance of Notice of Award and prior to Contractor's first Application for Payment, Contractor shall submit a detailed breakdown of its Bid by scheduled Work items and/or activities, including coordination responsibilities and Project Record Documents responsibilities. Where more than one Subcontractor comprises the work of a Work item or activity, the Schedule of Values shall show a separate line item for each subcontract. Contractor shall furnish such breakdown of the total Contract Sum by assigning dollar values (cost estimates) to each applicable Progress Schedule network activity, which cumulative sum equals the total Contract Sum. This breakdown may be referred to as the Schedule of Values, Work Breakdown Structure or both.
2. Contractor's overhead, profit, insurance, cost of bonds (except to the extent expressly identified in a Bid item) and/or other financing, as well as "general conditions costs," (e.g., Site cleanup and maintenance, temporary roads and access, off-Site access roads, temporary power and lighting, security, and the like), shall be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract Sum, less any allowances designated by Owner. Scheduling, record documents and quality assurance control shall be separate line items.
3. Owner will review the breakdown in conjunction with the Progress Schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, reasonable cost allocations for the Work items listed. Upon favorable review by Owner, Owner will accept this Schedule of Values for use. Owner shall be the sole judge of fair market cost allocations.
4. Owner will reject any attempt to increase the cost of early activities, i.e., "front loading," resulting in a complete reallocation of moneys until such "front loading" is corrected. Repeated attempts at "front loading" may result in suspension or termination of the Work for default, or refusal to process progress payments until such time as the Schedule of Values is acceptable to Owner.

B. Contractor's Requests for Progress Payments

1. If requested by Contractor, progress payments will be made monthly, under the following conditions:
2. On or before the 25th Day of each month, Contractor shall submit to Owner five copies of an Application for Payment for the cost of the Work put in place during the period from the last Day of the previous month to the end of the current month, along with one copy of an updated Progress Schedule. Such Applications for Payment shall be for the expected total value of activities completed or partially completed, based upon Schedule of Values prices (or Bid item prices if unit price) of all labor and materials incorporated in the Work up until midnight of the last Day of that one-month period, less the aggregate of previous payments. Accumulated retainage shall be shown as a separate item in payment summary. Owner and Contractor will reconcile any differences in the field, based on the reconciled monthly report sheets. If Contractor is late submitting its Application for Payment, that Application may be processed at any time during the succeeding one-month period, resulting in processing of Contractor's Application for Payment being delayed for more than a Day for Day basis.
3. Except as otherwise provided in a labor compliance program applicable to the Work (if any) or as otherwise required by Owner, concurrently with each Application for Payment, Contractor shall submit to Owner Contractor's and its Subcontractors' certified payroll records required to be maintained pursuant to Labor Code Section 1776 for all labor performed during pay periods ending during the period covered by the Application for Payment.
4. No progress payment will be processed prior to Owner receiving all requested, acceptable schedule update information and certified payrolls, and in Owner's sole and absolute discretion, Owner may deny the entire Application for Payment for noncompliance.
5. Each Application for Payment shall list each Change Order and Construction Change Directive (**CCD**) executed prior to date of submission, including the Change Order/CCD Number, and a description of the Work activities, consistent with the descriptions of original Work activities. Contractor shall submit a monthly Change Order/CCD status log to Owner.
6. If Owner requires substantiating data, Contractor shall submit information requested by Owner, with cover letter identifying Project, Application for Payment number and date, and detailed list of enclosures. Contractor shall submit one copy of substantiating data and cover letter for each copy of Application for Payment submitted.
7. If Contractor fails or refuses to participate in monthly Work reconciliations or other construction progress evaluation with Owner, Contractor shall not receive current payment until Contractor has participated fully in providing construction progress information and schedule update information to Owner.

C. Owner's Review of Progress Payment Applications

1. Owner will review Contractor's Application for Payment following receipt and during the Progress Schedule and Billing Meeting. If adjustments need to be made to percent of completion of each activity, Owner will make appropriate notations and return to Contractor. Contractor shall revise and resubmit. All parties shall update percentage of completion values in the same manner, i.e., express value of an accumulated percentage of completion to date.
2. If Owner determines that portions of the Application for Payment are not proper or not due under the Contract Documents, then Owner may approve the other portions of the Application for Payment, and in the case of disputed items or Defective Work not remedied, may withhold up to 150 percent of the disputed amount from the progress payment.
3. Pursuant to Public Contract Code Section 20104.50, if Owner fails to make any progress payment within 30 Days after receipt of an undisputed and properly submitted Application for Payment from Contractor, Owner shall pay interest to the Contractor equivalent to the legal rates set forth in Code of Civil Procedure Section 685.010 (a). The 30-Day period shall be reduced by the number of Days by which Owner exceeds the seven-Day return requirement set forth herein.
4. As soon as practicable after approval of each Application for Payment for progress payments, Owner will pay to Contractor in manner provided by law, an amount equal to 95

percent of the amounts otherwise due as provided in Contract Documents, or a lesser amount if so provided in Contract Documents and by law, provided that payments may at any time be withheld if, in judgment of Owner, Work is not proceeding in accordance with Contract, or Contractor is not complying with requirements of Contract, or to comply with stop notices or to offset liquidated damages accruing or expected. In Owner's sole discretion, if Contractor has failed to comply with either its Progress Schedule update or project record documents requirements, Owner may retain an additional five percent of any earned amounts until such requirements are satisfied.

5. Before any progress payment or final payment is due or made, Contractor shall submit satisfactory evidence that Contractor is not delinquent in payments to employees, Subcontractors, suppliers, or creditors for labor and materials incorporated into Work. This specifically includes, without limitation, conditional lien release forms for the current progress payment and unconditional release forms for past progress payments. This also includes copies of certified payroll from Contractor and subcontractors for the current payment period.

D. Payment for Material and Equipment Not Yet Incorporated Into the Work

1. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified elsewhere in the Contract Documents or as may be agreed to by Owner in its sole discretion. Where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, Contractor must satisfy the following conditions:
   a. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable bonded and insured warehouse.
   b. Full title to the materials and/or equipment shall vest in Owner at the time of delivery to the Site, warehouse or other storage location. Obtain a negotiable warehouse receipt, endorsed over to Owner for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to Owner.
   c. Stockpiled materials and/or equipment shall be available for Owner inspection, but Owner shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents.
   d. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense.
   e. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents.
   f. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that Owner has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect Owner interest therein, all of which must be satisfactory to Owner. This documentation shall include, without limitation, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.

1.05 Final Payment

A. Final Payment

1. As soon as practicable after all required Work is completed in accordance with Contract Documents, including punchlist, testing, record documents and Contractor maintenance after Final Acceptance, Contractor shall submit its Application for Final Payment.
2. Provided Contractor has met all conditions required for Final payment, Owner will pay to Contractor, in manner provided by law, unpaid balance of Contract Sum of Work (including, without limitation, retentions), or whole Contract Sum of Work if no progress payment has been made, determined in accordance with terms of Contract Documents, less sums as may be lawfully retained under any provisions of Contract Documents or by law.

B. Final Accounting

1. Prior progress payments and change orders shall be subject to audit and correction in the final payment.
2. Contractor and each assignee under an assignment in effect at time of final payment shall execute and deliver at time of final payment, and as a condition precedent to final payment, Document 00 6530 (Agreement and Release of Claims).

1.06 Substitution of Securities

A. Public Contract Code Section 22300. In accordance with the provisions of Public Contract Code Section 22300, substitution of securities for any moneys withheld under Contract Documents to ensure performance is permitted as provided under Document 00 6290.

1.07 Basis And Effect Of Payment

A. Payment will be made by Owner, based on Owner observations at the Site and the data comprising the Application for Payment. Payment will not be a representation that Owner has:

1. Made exhaustive or continuous on-Site inspections to check the quality or quantity of Work;
2. Reviewed construction means, methods, techniques, sequences, or procedures;
3. Reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by Owner to substantiate Contractor's right to payment; or
4. Made examination to ascertain how or for what purpose Contractor has used money previously paid on account of the Contract Sum.

B. Owner does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Work Item or Items, or to add work not originally included in Bid or Contract Documents, when in its judgment such change is in best interest of Owner. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents, because of any differences between the amount of Work actually done and estimated amount as set forth herein, or for elimination of Work Items.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 2100

ALLOWANCES

PART 1 GENERAL

1.01 Section Includes

A. Non-Specified Work

1.02 Related Sections

A. Section 01 1100—Summary of Work

B. Section 01 2000—Measurement and Payment

C. Section 01 3300—Submittals

1.03 Owner's Contingency Reserve Allowance

A. Owner's Contingency Reserve Allowance in the amount identified in the Agreement is included in Contract Sum and controlled by Owner.

B. Owner shall determine in its sole discretion which costs, if any, it will authorize in writing to be paid from this Allowance. Generally, Contingency Reserve Allowance will be used only for Owner-initiated changes in scope of Work of Contract Documents.

C. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, differing site conditions and equipment rental will be included in Change Orders authorizing expenditure of funds from this Allowance.

D. Funds will be drawn from this Allowance only with Owner's approval evidenced by deductive Change Order.

E. At Contract closeout, funds remaining in this Allowance will be credited to Owner by deductive Change Order.

1.04 Allowance (Bid Item 17)

A. An allowance in the amount of $50,000 (fifty thousand) is included in the Contract Sum.

B. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, bonding, differing site conditions and equipment rental will be included in Change Orders authorizing expenditure of funds from this Allowance.

C. Funds will be drawn from this Allowance only with Owner's approval evidenced by Change Order.

D. At Contract closeout, funds remaining in this Allowance will be credited to Owner by Change Order.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION- NOT USED

END OF SECTION

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 2600

MODIFICATION PROCEDURES

PART 1 GENERAL

1.01 Summary

A. Section includes requirements that supplement the paragraphs of Document 00 7200 (General Conditions).
B. Description of procedures for modifying the Contract Documents and determining costs for changes in Contract Sum or Contract Time.

1.02 Procedures For Contractor Initiated Change Order

A. Contractor-Initiated Change Proposal Request (CPR) and Procedures

1. Contractor may initiate changes by submitting a Change Proposal Request (**CPR**).
2. Whenever Contractor elects or is entitled to submit a CPR, Contractor shall prepare and submit to Owner for consideration a CPR using the Cost Proposal Form attached to this Section 01 2600 or otherwise included in this Project Manual. All CPR's must contain a complete breakdown of costs of credits, deducts and extras; itemizing labor, materials, equipment, markup, bonds, insurance and taxes; and any requested changes to Contract Time. All Subcontractor Work shall be so indicated. Individual entries on the CPR form shall include applicable Schedule of Values code, with all amounts determined as provided herein. After receipt of a CPR with a detailed breakdown, Owner will act promptly thereon.
3. If Owner accepts a CPR, Owner will prepare a Change Order for Owner and Contractor signatures.
4. If CPR is not acceptable to Owner because it does not agree with Contractor's proposed cost and/or time, Owner will provide comments thereto. Contractor will then, within seven Days (except as otherwise provided herein), submit a revised CPR.
5. When necessity to proceed with a change does not allow Owner sufficient time to conduct a proper check of a CPR (or revised CPR), Owner may issue a Change Directive (**CD**) as provided below.

B. Contractor-Initiated Request for Information (RFI) Procedures, Requirements and Limitations

1. Contractor may submit RFI's for clarifications in Owner-prepared Contract Documents, which may result in the Contractor submitting a CPR.
2. Whenever Contractor requires information regarding the Project or Owner-prepared Contract Documents, or receives a request for such information from a Subcontractor, Contractor may prepare and deliver an RFI to Owner. Contractor shall use RFI format provided on approval by Owner. Contractor shall not issue an RFI to Owner solely to clarify Contractor-prepared Construction Documents. Contractor must submit time critical RFIs at least 30 Days before scheduled start date of the affected Work activity. Contractor shall reference each RFI to an activity of Progress Schedule and shall note time criticality of the RFI, indicating time within which a response is required. Contractor's failure to reference RFI to an activity on the Progress Schedule and note time criticality on the RFI shall constitute Contractor's waiver of any claim for time delay or interruption to the Work resulting from any delay in responding to the RFI.
3. Contractor shall be responsible for its costs to implement and administer RFIs throughout the Contract duration. Regardless of the number of RFIs submitted, Contractor shall not be entitled to additional compensation for the effort required to submit the RFIs. Contractor shall be responsible for Owner's administrative costs for answering RFIs where the answer

could reasonably be found by reviewing the Contract Documents, as determined by Owner; at Owner discretion, such costs may be deducted from progress payments or final payment.

4. Owner will respond within ten Days from receipt of RFI with a written response to Contractor. Contractor shall distribute response to all appropriate Subcontractors.
5. If Contractor is satisfied with the response and does not request a change in Contract Sum or Contract Time, then the response shall be executed without a change.
6. If Contractor believes the response is incomplete, Contractor shall issue another RFI (with the same RFI number with the letter "A" indicating it is a follow-up RFI) to Owner clarifying original RFI. Additionally, Owner may return RFI requesting additional information should original RFI be inadequate in describing condition.

C. Time Requirements

1. If Contractor believes that an Owner response to an RFI, submittal or other Owner direction, results in change in Contract Sum or Contract Time, Contractor shall notify Owner with the issuance of a preliminary CPR within ten Days after receiving Owner's response or direction, and in no event after starting the disputed work or later than the time allowed under Article 12 of Document 00 7200 (General Conditions). If Contractor also requests a time extension, or has issued a notice of delay or otherwise requests a time extension with a CPR, then Contractor shall submit the TIE required in these Contract Documents, including Section 01 32 00 (Progress Schedules and Reports), concurrently with the CPR and in no event later than ten Days after providing the notice of delay.
2. If Contractor requires more time to accurately identify the required changes to the Contract Sum or Contract Time, Contractor may submit an updated and final CPR and TIE within 14 Days of submitting the preliminary CPR.
3. If Owner agrees with Contractor's CPR and/or TIE, then Owner will prepare a Change Order for Owner and Contractor signatures. If Owner disagrees with Contractor, then Contractor may give notice of potential claim as provided in Article 12 of Document 00 7200 (General Conditions), and proceed thereunder.
4. Contractor must submit all CPR's (preliminary and final), notices of potential claim, Claims, and TIE's within the required time periods. Any failure to do so waives Contractor's right to submit a CPR or file a Claim.

D. Cost Estimate Information

1. Contractor and subcontractors shall, upon Owner's request, permit inspection of the original unaltered cost estimates, subcontract agreements, purchase orders relating to the change, and documents substantiating all costs associated with its CPR or Claims arising from changes in the Work.

1.02 Procedures for Owner-Initiated Change Orders

A. Owner Initiated Change Directives (CD)

1. Owner may, by Change Directive (**CD**) or initially by Instruction Bulletin or by following the procedures for disputed work herein, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, with or without adjustment to Contract Sum or Contract Time.
2. If at any time Owner believes in good faith that a timely Change Order will not be agreed upon using the foregoing procedures, or at any other time, Owner may issue a CD with its recommended cost and/or time adjustment (if any). Upon receipt of CD, Contractor shall promptly proceed with the change of Work involved and respond to Owner within ten Days.
3. Contractor's response must be any one of following:
   (a) Return CD signed, thereby accepting Owner response, including adjustment to time and cost (if any).
   (b) Submit a (revised if applicable) Cost Proposal with supporting documentation (if applicable, reference original Cost Proposal number followed by letter A, B, etc. for each revision), if Owner so requests.

(c) Give notice of intent to submit a claim as described in Article 12 of Document 00 7200 (General Conditions), and submit its claim as provided therein.

4. If CPR or the CD provides for an adjustment to any Contract Sum, the adjustment shall be based on one of the following methods:
   (a) Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation.
   (b) Contractor to proceed on cost reimbursable (force account) basis while negotiating towards a firm price.
   (c) Cost to be determined in a manner agreed.
5. Change Directive signed by Contractor indicates the agreement of Contractor therewith, including adjustment in Contract Sum or the method for determining them. Such agreement shall be effective immediately and shall be finalized as a Change Order. Where Owner authorizes CD work on a time and materials basis up to a maximum amount, then Contractor shall promptly advise Owner upon reaching 75% of such maximum amount, otherwise Contractor shall accept fully the risk of completing the CD work without exceeding such maximum amount.
6. If Contractor does not respond promptly or disagrees with the method for adjustment (or non-adjustment) in the Contract Sum, the method and the adjustment shall be determined by Owner on the basis of the Contract Documents and the reasonable expenditures and savings of those performing the Work attributable to the change. If the parties still do not agree on the proper adjustment due to a Change Directive, Contractor may file a Claim per Article 12 of Document 00 7200 (General Conditions) and/or Owner may direct the changed work through a unilateral change order. Contractor shall keep and present an itemized accounting in a manner consistent with the SOV, together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this paragraph shall be limited to those provided herein.
7. Pending final determination of cost to Owner, Contractor may include amounts not in dispute in its Applications for Payment. The amount of credit to be allowed by Contractor to Owner for a deletion or change which results in a net decrease in the Contract Sum shall be actual net cost as confirmed by Owner. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for Markup shall be figured on the basis of net increase, if any, with respect to that change.

B. Owner Initiated Change Order (CO) Or Request For Proposal (RFP)

1. Owner may initiate changes in the Work or Contract Time by issuing a Request for Proposal (**RFP**) or Change Order (**CO**) to Contractor.
2. Owner may issue an RFP to Contractor. Any RFP will detail all proposed changes in the Work and request a quotation of changes in Contract Sum and Contract Time from Contractor.
3. In response to an RFP, Contractor shall furnish a Change Proposal Request (**CPR**) within 21 Business Days of Owner's RFP. Upon approval of CPR, Owner may issue a Change Directive directing Contractor to proceed with extra Work.
4. If the parties agree on price and time for the work, the Owner will issue a Contact Change Order. If the parties do not agree on the price or time for a CPR, Owner may either issue a CD or decide the issue per Article 12 of Document 00 7200 (General Conditions). Contractor shall perform the changed Work notwithstanding any claims or disagreements of any nature.

1.03 Procedures that Apply to Contractor- and Owner-Initiated Change Orders

A. Adjustment of Schedules to Reflect Change Orders or CDs

1. Contractor shall revise Schedule of Values and Application for Payment forms to record each authorized Change Order or CD as a separate line item and adjust the Contract Sum as shown thereon prior to the next monthly pay period.
2. Contractor shall revise the Progress Schedules prior to the next monthly pay period, to reflect CO or CD.

3. Contractor shall enter changes in Project Record Documents prior to the next monthly pay period.

B. Required Documentation for Adjustments to Contract Amounts

1. For all changes and cost adjustments requested, Contractor shall provide documentation of change in Contract Amounts asserted, with sufficient data to allow evaluation of the proposal.
2. In all requests for compensation, cost proposals, estimates, claims and any other calculation of costs made under the Contract Documents, Contractor shall breakout and quantify costs of labor, equipment and materials identified herein, for Contractor and subcontractors of any tier.
3. Contractor shall, on request, provide additional data to support computations for:
   (a) Quantities of products, materials, labor and equipment.
   (b) Taxes, insurance, and bonds.
   (c) Justification for any change in Contract Time and new Progress Schedule showing revision due, if any.
   (d) Credit for deletions from Contract, similarly documented.
4. Contractor shall support each claim or computation for additional cost, with additional information including:
   (a) Origin and date of claim or request for additional compensation.
   (b) Dates and times Work was performed and by whom.
   (c) Time records and wage rates paid.
   (d) Invoices and receipts for products, materials, equipment and subcontracts, similarly documented.
   (e) Credit for deletions from Contract, similarly documented.

C. Responses and Disputes

1. For all responses for which the Contract Documents do not provide a specific time period, recipients shall respond within a reasonable time.
2. For all disputes arising from the procedures herein, Contractor shall follow Article 12 of Document 00 7200 (General Conditions).

1.04 Cost Determination for Changes in Contract Amounts

A. Calculation of Total Cost of Extra Work

1. Total cost of changed Work, extra Work or of Work omitted shall be the sum of three components defined immediately below as: Component 1 (Direct Cost of Construction or Direct Costs); Component 2 (Markup); and, Component 3 (Bonds, Insurance, Taxes).
2. **Component 1**: Direct Costs of labor, equipment and materials, is calculated based upon actually incurred (or omitted) labor costs, equipment rental costs, and material costs, as defined herein;
3. **Component 2**: Markup on such actually incurred Direct Costs, is applied in the percentages identified below; and
4. **Component 3**: Actual additional costs for any additionally required bonds, insurance, and/or taxes by Contractor, Subcontractors, or other forces, defined herein, is calculated without markup.
5. All amounts payable to Subcontractors under Components 1, 2, and 3: must be earned under the terms of the applicable Subcontracts; must be properly requested, documented and permitted under the terms of the applicable subcontract(s) and Contract Documents; and shall be payable only if changed Work complies with terms of Contract Documents.

1.05 Measurement Of Direct Cost Of Construction (Cost Component 1)

A. Composition of Component 1 (Direct Cost of Construction)

1. Component 1 has three subcomponents, also referred to as labor, equipment, and materials (**LEM)**:
   (a) Labor (**Component 1A**)

(b) Equipment (**Component 1B**)
(c) Materials (**Component 1C**)

B. Measurement of Cost of Labor (Component 1A)

1. Cost of Labor shall be calculated as: Cost of labor for workers (including forepersons when authorized by Owner) used in actual and direct performance of the subject work, whether employer is Contractor, Subcontractor or other forces, in the sum of the following:
   (a) Actual Wages: Actual wages paid shall include any employer payments to or on behalf of workers for health and welfare, pension, vacation, and similar purposes.
   (b) Labor surcharge: Payments imposed by local, county, state, and federal laws and ordinances, and other payments made to, or on behalf of, workers, other than actual wages as defined, such as worker's compensation insurance. Such labor surcharge shall not exceed generally accepted standards in the State for labor rates in effect on date upon which extra Work is accomplished.
   (c) Cost of labor shall include no other costs, fees or charges.
2. Labor cost for operators of equipment owned and operated by Contractor or any Subcontractor, shall be no more than rates of such labor established by collective bargaining agreements for type of worker and location of Work, whether or not owner-operator (i.e., Contractor or Subcontractor) is actually covered by such an agreement.
3. Cost of labor shall be recorded and documented in certified payroll records, maintained in the form customary and/or required in the State, and delivered to Owner weekly.

C. Measurement of Cost of Equipment (Component 1B)

1. Measurement of Component 1B (Cost of Equipment). Cost of Equipment shall be calculated as: Cost of equipment used in actual and direct performance of the subject work, whether by Contractor, Subcontractor or other forces. Cost of Equipment shall be calculated as herein described.
2. For rented equipment, cost will be based on actual rental invoices, appropriate for the use and duration of the work. Equipment used on extra Work shall be of proper size and type. If, however, equipment of unwarranted size or type and cost is used, cost of use of equipment shall be calculated at rental rate for equipment of proper size and type, as determined by Owner.
3. Equipment rental cost for Contractor or Subcontractor-owned equipment, shall be determined by reference to, and not in excess of, the generally accepted standards in the State for equipment rental rates in effect on date upon which extra Work is accomplished. If there is no applicable rate for an item of equipment, then payment shall be made for Contractor or Subcontractor-owned equipment at rental rate listed in the most recent edition of the Caltrans Standard Schedules and Specifications, and absent a rental rate therein, then the Association of Equipment Distributors (**AED**) book.
4. In all cases, rental rates paid shall be deemed to cover cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals.
5. Unless otherwise specified, manufacturer's ratings, and manufacturer-approved modifications, shall be used to classify equipment for determination of applicable rental rates. Individual pieces of equipment or tools not listed in said publication and having a replacement value of $100 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefore as payment is included in payment for labor. Rental time will not be allowed while equipment is inoperative due to breakdowns.
6. For equipment on Site, rental time to be paid for equipment shall be time equipment is in operation on extra Work being performed or on standby as approved by Owner. The following shall be used in computing rental time of equipment:
   (a) When hourly rates are listed, less than 30 minutes of operation shall be considered to be ½ hour of operation.
   (b) When daily rates are listed, less than four hours of operation shall be considered to be ½ Day of operation.

(c) Rates shall correspond to actual rates paid by Contractor, i.e., if Contractor pays lower weekly or monthly rates, then same shall be charged to Owner.

7. For equipment that must be brought to Site to be used exclusively on extra Work, cost of transporting equipment to Site and its return to its original location shall be determined as follows:
   (a) Owner will pay for costs of loading and unloading equipment.
   (b) Cost of transporting equipment in low bed trailers shall not exceed hourly rates charged by established haulers.
   (c) Cost of transporting equipment shall not exceed applicable minimum established rates of California Public Utilities Commission or appropriate State Dept. of Transportation.
   (d) Owner will not make any payment for transporting and loading and unloading equipment if equipment is used on Work in any other way than upon extra Work.
   (e) Rental period may begin at time equipment is unloaded at Site of extra Work and terminate at end of the performance of the extra Work or Day on which Owner directs Contractor to discontinue use of equipment, whichever first occurs. Excluding Saturdays, Sundays, and Owner legal holidays, unless equipment is used to perform extra Work on such Days, rental time to be paid per Day shall be four hours for zero hours of operation, six hours for four hours of operation and eight hours for eight hours of operation, time being prorated between these parameters. Hours to be paid for equipment that is operated less than eight hours due to breakdowns, shall not exceed eight less number of hours equipment is inoperative due to breakdowns.
8. Employee vehicles are not part of Component 1A, rather, are included within Component 2 (Markup).
9. Cost of Equipment shall include no other costs, fees or charges.

D. Measurement of Cost of Material (Component 1C)

1. Cost of Material shall be calculated as herein described. Cost of such materials will be cost to purchaser (Contractor, Subcontractor or other forces) from supplier thereof, except as the following are applicable:
2. If cash or trade discount by actual supplier is offered or available to purchaser, it shall be credited to Owner notwithstanding fact that such discount may not have been taken.
3. For materials salvaged upon completion of Work, salvage value of materials shall be deducted from cost, less discounts, of materials.
4. If cost of a material is, in opinion of Owner, excessive, then cost of material shall be deemed to be lowest current wholesale price at which material is available in quantities concerned delivered to Site, less any discounts as provided in this Paragraph.
5. Cost of Material shall include no other costs, fees or charges.

1.06 Measurement and Payment of Markup (Cost Component 2)

A. Markup Percentages for Changed Work (Component 2)

1. Markup on Direct Cost of labor, materials and equipment for extra Work pursuant to the Contract Documents performed by Contractor shall be 15%.
2. When extra Work is performed by Subcontractors, regardless of the number of tiers, total Markup on Component 1 Direct Costs shall be 20%. Contractor and its Subcontractors shall divide the 20% as they may agree.
3. Under no circumstances shall the total Markup on any extra Work exceed 20%, stated as a percent of the Direct Cost of labor, equipment and materials. This limitation shall apply regardless of the actual number of subcontract tiers.
4. On proposals covering both increases and decreases in Contract Sum, Markup shall be allowed on the net increase only as determined above. When the net difference is a deletion, no percentage for Markup shall be allowed, but rather an appropriate percentage deduction shall be issued in the amount of the net difference.

B. Measurement and Payment of Markup (Component 2)

1. Markup (Component 2) provides complete compensation to Contractor and all Subcontractors for:
   (a) All Contractor and Subcontractor profit;
   (b) All Contractor and Subcontractor home-office overhead;
   (c) All Contractor and Subcontractor assumption of risk assigned to Contractor under the Contract Documents;
   (d) Subject to the qualifications below regarding self-performed work, all General Conditions and General Requirements of Contractor (and, if applicable, Subcontractors).
2. Profit. Compensation for profit included within Component 2 (Markup), includes without limitation: Fees of all types, nature and description; and Profit and margins of all types, nature and description.
3. Home Office Expenses. Compensation for home office expenses included within Component 2 (Markup), includes without limitation: Salaries and other compensation of any type of Contractor's and Subcontractor's personnel (management, administrative and clerical), and all direct and indirect operating, travel, payroll, safety, storage, quality control, maintenance and overhead costs of any nature whatsoever, incurred by Contractor and Subcontractors at any location other than the Project specific site office, including without limitation, Contractor's principal or branch offices; insurance premiums other than those for Project specific insurance directed by the Owner in a change order; all hardware, software, supplies and support personnel necessary or convenient for Contractor's capture, documentation and maintenance of its costs and cost accounting data and cost accounting and control systems and work progress reporting.
4. Assumption of Risk. Compensation for Contractor's and Subcontractor's assumption of risk under the Contract Documents, included within Component 2 (Markup), includes, without limitation, loss, cost, damage, expense or liability resulting directly or indirectly from any of the following causes (**unallowable costs**), for Contractor and Subcontractors of any tier: noncompliance with the Contract Documents, fault or negligence, defective or non-conforming Work, by Contractor or any Subcontractor or Vendor of any tier or anyone directly or indirectly employed by any of them, or for whose acts or omissions any of them are responsible or liable at law or under the Contract Documents; cost overruns of any type; costs in excess of any lump sum, not to exceed amount or GMP; costs resulting from bid or "buy out" errors, unallocated scope, or incomplete transfer of scope or contract terms to Subcontractors; any costs incurred by Contractor relating to a Change in the Work without a Change Order or Change Directive in accordance with the Contract Documents; costs for work or materials for which no price is fixed in the Contract Documents, unless it is expressly specified that such work or material is to be paid for as extra work.
5. General Conditions and Division 1 General Requirements. Compensation for Contractor's (and, if applicable Subcontractors') General Conditions and General Requirements Costs included within Component 2 (Markup) includes compensation for: Contractor's direct costs, without overhead or profit, for salaries and related forms of compensation and employer's costs for labor and personnel costs, of Contractor's employees and subconsultant's employees (if any), while and only to the extent they are performing Work at the Project Site, and all "General Requirements Costs" below. Personnel and Work compensated by this Component include, without limitation: All required Project management responsibilities; all on-site services; monthly reporting and scheduling; routine field inspection of Work; general superintendence; general administration and preparation of cost proposals, schedule analysis, change orders and other supporting documentation as necessary; salaries of project superintendent, project engineers, project managers, safety manager, other manager, timekeeper, and secretaries; all cost estimates and updates thereto; development, validation and updates to the project schedule; surveying; and estimating. General Requirements Costs included within Component 2 (Markup) include, without limitation: all scheduling hardware, software, licenses, equipment, materials and supplies; purchase, lease or rental, build out, procurement, supporting equipment and maintenance of temporary on-Site facilities, Project field and office trailers and other temporary facilities, office equipment and supporting utilities;

platforms, fencing, cleanup and jobsite security; temporary roads, parking areas, temporary security or safety fencing and barricades, etc.; all Contractor's motor vehicles used by any Contractor's personnel, and all costs thereof; all health and safety requirements, required by law or Owner procedures; all surveying; all protection of Work; handling and disposal fees; final cleanup; repair or maintenance; other incidental Work; all items, activities and function similar to any of those described above; all travel, entertainment, lodging, board and the like.

6. Personnel compensated by the Markup Component do not include workers of foreman level or below in the case of self-performed work; rather, such personnel shall be treated as a Direct Cost of Construction. Costs compensated by Component 2 (Markup) do not include temporary measures specifically required by the changed work, not otherwise required or ongoing in the prosecution of the Work, that commence specifically to support the changed work and conclude with the completion of the changed work. Such costs shall be treated as Direct Costs of Construction. Examples of General Requirements costs that this component may not cover are the following: temporary barricades or fencing of specific areas required specifically for the changed work; cranes required specifically for the changed work; and extra security required specifically for the changed work.

1.07 Measurement and Payment of **Bonds**, **Insurance**, **Taxes (Component 3)**

A. Measurement of Bonds, Insurance, Taxes (**Component 3**)

1. Component 3 (Bonds, Insurance, Taxes) consists of the cost of bonds, insurance and taxes, also referred to as **BIT**. All State sales and use taxes, applicable County and applicable City sales taxes, shall be included. Federal and Excise tax shall not be included.
2. There is no markup on BIT.

1.08 Effect Of Payment

A. Change Order Compensation is All Inclusive

1. Except as provided expressly below regarding changes that extend the Contract Time, payment of calculated cost of extra work constitutes full and complete compensation for costs or expense arising from the extra Work, and is intended to be all inclusive.
2. Payment for Direct Cost of Construction (Component 1 or LEM) is intended to be all-inclusive. Any costs or risks not delineated within cost of labor, equipment or materials herein, shall be deemed to be within the costs and risks encompassed by the applicable Markups and unallowable in any separate amount.
3. Payment of Markup (Component 2) is intended to be all-inclusive. Contractor waives claims for any further or different payment of cost and risk items delineated herein, other than the allowable percentage markup on costs set forth in the Contract Documents; such separate, further or different cost or risk items shall be unallowable, waived and liquidated within the allowable percentage markup.
4. Contractor shall recover no other costs or markups on extra work of any type, nature or description.

B. Exception for Changes Extending Contract Time

1. Where a change in the Work extends the Contract Time, Contractor may request and recover additional, actual direct LEM costs, provided Contractor can demonstrate such additional costs are (i) actually incurred performing the Work, (ii) not compensated by Component 2 (Markup), and (iii) directly result from the extended Contract Time. Contractor shall make such request and provide such documentation following all required procedures, documentation and time requirements in the Contract Documents, and subject to all contract limitations of liability. Contractor may not seek or recover such costs using formulas (e.g., Eichleay).

C. Limits of Liability/Accord and Satisfaction

1. The foregoing limits of compensation apply in all cases of claims for changed Work, whether calculating Change Proposal Requests, Change Orders or CDs, or calculating

claims and/or damages of all types, and applies even in the event of fault, negligence, strict liability, or tort claims of all kinds, including strict liability or negligence. Contractor may recover no other costs arising out of or connected with the performance of extra Work, of any nature.

2. Under no circumstances may Contractor claim or recover special, incidental or consequential damages against Owner, its representatives or agents, whether arising from breach of contract, negligence, strict liability or other tort or legal theory, unless specifically and expressly authorized in the Contract Documents.
3. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as expressly provided for in Contract Documents.
4. Accord and Satisfaction: Every Change Order and accepted CD shall constitute a full accord and satisfaction, and release, of all Contractor (and if applicable, Subcontractors) claims for additional time, money or other relief arising from or relating to the subject matter of the change including, without limitation, impacts of all types, cumulative impacts, inefficiency, overtime, delay and any other type of claim. Contractor may elect to reserve its rights to disputed claims arising from or relating to the changed Work at the time it signs a Change Order or approves a CD, but must do so expressly in a writing delivered concurrently with the executed Change Order or approved CD, and must also submit a Claim for the reserved disputed items pursuant to Article 12 of Document 00 72 00 (General Conditions) no later than 30 Days after Contractor's first written notice of its intent to reserve rights. Execution of any Change Order or CD shall constitute Contractor's representation of its agreement with this provision.

1.09 Miscellaneous Requirements

A. Owner-Furnished Materials

1. Owner reserves right to furnish materials as it deems advisable, and Contractor shall have no claims for costs and Markup on such materials.

B. Records and Certification

1. All charges shall be recorded daily and summarized in Change Proposal Request form attached hereto. Contractor or authorized representative shall complete and sign form each day. Contractor shall also provide with the form: the names and classifications of workers and hours worked by each; an itemization of all materials used; and a list by size type and identification number of equipment and hours operated.
2. Owner shall have the right to audit all records in possession of Contractor relating to activities covered by Contractor's claims for modification of Contract, including CD Work. This right shall be specifically enforceable, and any failure of Contractor to voluntarily comply shall be deemed an irrevocable waiver and release of all claims then pending that were or could have been subject to Article 12 of Document 00 7200 (General Conditions).

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

[COST PROPOSAL FORM FOLLOWS ON NEXT PAGE]

COST PROPOSAL FORM

[Insert Project Name]

Contract Number _____

CP Number: _____
Date: _____
In Response To _____
(RFP #, etc.)

To: CITY OF BENICIA
Attention: **_____**
_____
Phone: (___) ___- _____
Fax: (___) ___-_____

From:_____
_____

_____

This Cost Proposal is in response to the above-referenced _____ **[insert RFP, etc. as applicable]**.

Brief description of change(s): _____

_____

ITEM DESCRIPTION	PRIME CONTRACTOR	SUB 1	SUB 2	SUB 3	SUB 4	TOTAL
LABOR						
EQUIPMENT						
MATERIAL						
TOTAL DIRECT COST OF CONSTRUCTION (LEM)						
MARKUP FOR PRIME CONTRACTOR'S SELF-PERFORMED WORK (15%)						
MARKUP FOR SUBCONTRACTOR-PERFORMED WORK (20%)						
BONDS, INSURANCE AND TAXES						
GRAND TOTAL						

REQUESTED CHANGE IN CONTRACT TIME (DAYS)

(Time Impact Evaluation Enclosed)

_____

By Contractor: Signature: Date:

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3119

PROJECT MEETINGS

PART 1 GENERAL

1.01 Summary

A. Section includes description of required project meetings for construction phase of the Work.

1.02 Preconstruction Conference

A. Preconstruction Conference. Owner will call for and administer Preconstruction Conference at time and place to be announced (usually the week prior to start of Work at the Site).

B. Contractor, all major Subcontractors, and major suppliers shall attend Preconstruction Conference. Agenda may include, without limitation, the following items:

1. Schedules
2. Contractor's Initial Progress Schedule
3. Contractor's Schedule of Values
4. Contractor's Schedule of Submittals
5. Personnel and vehicle permit procedures
6. Use of premises
7. Location of the Contractor's on-Site facilities
8. Security
9. Housekeeping
10. Submittal and RFI procedures
11. Inspection and testing procedures, on-Site and off-Site
12. Utility shutdown procedures
13. Control and reference point survey procedures
14. Injury and Illness Prevention Program
15. Jurisdictional agency requirements

C. Owner will distribute copies of minutes to attendees. Attendees shall have seven Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of Preconstruction Conference.

1.03 Schedule Review Meeting

A. Review of Initial Draft Schedules. Contractor shall meet with Owner prior to Commencement Date of Work under Contract Documents and conduct initial review of Contractor's draft Shop Drawing and Sample Submittal Schedule, draft Schedule of Values, and Initial Progress Schedule. Authorized representative in Contractor's organization, designated in writing, who will be responsible for working and coordinating with Owner relative to preparation and maintenance of Progress Schedule shall attend the initial schedule review meeting.

B. Pre-Payment Review of Second Draft Schedules.

1. Unless otherwise provided in Contract Documents, at least 15 Days before submission of the first application for payment, a conference attended by Contractor, Owner, and others as appropriate, will be held to review acceptability of the required schedules, first reviewed at the Preconstruction Conference. Contractor shall have an additional seven Days to make corrections and adjustments and to complete and resubmit the schedules. Schedules shall be updated and completed as required by Sections 01 2000 (Measurement and Payment), 01 3200 (Progress Schedules) and 01 3300 (Submittals).

C. Contractor shall have its manager, superintendent, scheduler, and key Subcontractor representatives, as required by Owner, in attendance. The meeting will take place over a

continuous one Day period. Owner review will be limited to submittal conformance to Contract Documents' requirements including, but not limited to, coordination requirements. Owner review may also include:

1. Clarifications of Contract Requirements.
2. Directions to include activities and information missing from submittal.
3. Requests of Contractor to clarify its schedule.
4. Within five Days of the Schedule Review Meeting, Contractor shall respond in writing to all questions and comments expressed by Owner at the meeting.

D. Owner will administer Schedule Review Meetings and shall distribute minutes of Schedule Review Meetings to attendees. Attendees shall have five Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of Schedule Review Meetings.

1.04 Weekly Project Meetings

A. Owner will schedule and administer weekly progress meetings throughout duration of Work. Progress meetings will be held weekly unless otherwise directed by Owner. Meetings shall be held at Owner's Offices unless otherwise specified in Contract Documents.

1. Owner's Representative will prepare agenda and distribute it two (2) Days in advance of meeting to Contractor.
2. Participants with agenda items shall present them.
3. Owner shall record and distribute the meeting minutes. Minutes shall be distributed by the Owner to the Contractor within three business days after the meeting. Contractor shall distribute the minutes to those affected by decisions made at meeting. Attendees shall have five business days to submit comments or additions to the minutes. Minutes shall constitute final memorialization of results of meeting.
4. Progress meetings shall be attended by Contractor's job superintendent, major Subcontractors and suppliers, Owner, Owner consultants and Architect (at Owner's option), and others as appropriate to agenda topics for each meeting.
5. Agenda may contain the following items, as appropriate:
   (a) Review, revise as necessary, and approve previous meeting minutes
   (b) Review of Work progress since last meeting
   (c) Status of Construction Work Schedule, delivery schedules, adjustments
   (d) Submittal, RFI, and Change Order status
   (e) Review of the Contractor's safety program activities and results, including report on all serious injury and/or damage accidents
   (f) Other items affecting progress of Work

1.05 Progress Schedule and Billing Meetings

A. A meeting will be held on approximately the 20th of each month to review the schedule update submittal and progress payment application.

B. At this meeting, at a minimum, the following items will be reviewed:

1. Percent complete of each activity;
2. Time impact evaluations for Change Orders and Time Extension Request;
3. Actual and anticipated activity sequence changes;
4. Actual and anticipated duration changes; and
5. Actual and anticipated Contractor delays.

C. These meetings are considered a critical component of overall monthly schedule update submittal and Contractor shall have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.

1.06 Special Meetings

A. Any party may call special meetings by notifying all desired participants and Owner five Days in advance, giving reason for meeting. Special meetings may be held without advance notice in emergency situations.

B. At any time during the progress of Work, Owner shall have authority to require Contractor to schedule a meeting with Owner and of any or all of the Subcontractors engaged in Work or in other work, to address matters of concern to the Owner.

C. Contractor shall schedule and conduct coordination meetings as necessary to discharge coordination responsibilities in Document 00 7200 (General Conditions). Contractor shall give Owner five Days written notice of coordination meetings. Contractor shall maintain minutes of coordination meetings. Attendees shall have seven Days to submit comments or additions to minutes. Minutes will constitute final memorialization of results of coordination meetings.

D. Contractor to submit minutes of meetings to all attendees within three Days of the meeting.

1.07 Safety Meetings

A. Conduct monthly Contractor Safety Committee meetings.

B. Conduct weekly toolbox safety talks.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3200

PROGRESS SCHEDULES AND REPORTS

PART 1 GENERAL

1.01 Summary

A. Section includes description of requirements and procedures for submitting progress schedules and submittals.

B. Contractor shall employ competent scheduling personnel or a schedule consultant with experience performing scheduling required herein on a minimum of two prior, similar projects, and with first-hand knowledge of this Project.

1.02 General

A. The Schedule shall be cost-loaded based on Work Breakdown Structure/Schedule of Values as approved by Owner.

B. Progress Schedule shall be based on, and incorporate milestone and completion dates specified, in Contract Documents.

C. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in Document 00 5200 (Agreement), unless an earlier (advanced) time of completion is requested by Contractor and agreed to by Owner. A Contract Modification shall formalize any such agreement.

D. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.

E. Failure of Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. Owner acceptance of Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon Owner, or act to relieve Contractor of its responsibility for means and methods of construction.

F. Transmit to Owner, no less than monthly, current progress schedule in electronic form, to include the entire electronic file without abridgment, inclusive of all updates.

1.03 Contractor to Submit Baseline and Progress Schedules

A. Contractor shall submit an Initial Contract Schedule *no later than the Pre-Construction Kickoff Meeting*. Contractor's Initial Contract Schedule is subject to Owner's review and comments. The approved Initial Contract Schedule shall be referred to as the **Baseline Schedule**.

B. Contractor's Baseline Schedule and progress schedules shall show Contractor's construction and procurement activities including, without limitation, equipment procurement and delivery (Contractor and Owner supplied), activities with Subcontractors and suppliers, major submittal reviews, commissioning of systems, use of major equipment on site, and necessary interface with Owner and third parties required to complete the Work in a timely manner and in accordance with Contract Time.

1.04 Schedule Requirements

A. Unless Owner agrees in writing otherwise, progress schedule shall be on Primavera P6, most current version of Sure Track, or equivalent software acceptable to Owner, as Owner may specify,

which Contractor shall prepare and supply to Owner, with all datapoint entries completed for start dates, necessary work activities, durations (not longer than 21 calendar days), and logic ties.

B. Contractor shall develop a network plan and schedule for the Project demonstrating complete fulfillment of all Contract requirements, shall keep the network plans up to date in accordance with the requirements of this Section 01 32 00, and shall utilize the Critical Path Method (**CPM**) in planning, coordinating, performing and reporting the work under this contract, including all activities of Subcontractors, equipment vendors, and suppliers, and in assisting Owner in monitoring the progress of the Work.

C. CPM network is a graphic depiction of the Contractor's construction plan, showing the sequential steps needed to reach completion of the Work within the prescribed Contract Time. It shall depict events and tasks as activities, and their interrelationships, and shall recognize the progress that must be made on one activity before subsequent activities can begin. These activities shall be logically represented in a CPM network showing their interrelationships in a chronological fashion. As each activity has a time allocation, the completed network shall show the critical path of activities that must be completed on time if the entire Project is not to be delayed. It shall also be possible to identify the earliest and latest start and finish times for each activity if the overall Project is not to be delayed. Therefore, the CPM network shall be comprehensive and shall include all interdependencies and interactions required to perform the Work of the Project.

D. Contractor's Baseline Schedule and progress schedules shall be in the form of a CPM (arrow) diagram. Contractor shall provide Owner with native format electronic schedules and hard copies of the Baseline Schedule, schedule updates, and lookahead schedules. All electronic and hard copies of the schedule that Contractor provides to Owner shall indicate the critical path of the Work (in red) and shall show a logical progression of the Work through [Substantial and Final] completion within Contract Time.

E. Unless Owner agrees in writing otherwise, progress schedules shall also show early and late start and finish dates and total available float (float to the successor activity's late start date) for each activity.

F. Owner has no obligation to accept an early completion schedule.

1.05 Monthly Updates

A. Contractor's progress schedule shall be updated monthly to reflect actual progress. The schedule shall be subject to Owner's review and acceptance for use in monitoring Contractor's Work and evaluating Applications for Payment.

B. Contractor shall supply Owner with an electronic copy of the updated progress schedule with each monthly payment application. Contractor shall provide Owner with three-week lookahead schedules weekly, showing in detail and activities and resources scheduled for the immediate two week period.

C. The three-week look-ahead schedule shall list the trades scheduled for the following three weeks, the approximate resource assignment, and the progress in the past week on trades and work activities for the prior week's three-week look- ahead schedule for the prior week. The three-week look-ahead schedule shall be produced and presented at each weekly progress meeting and shall be coordinated with the schedule required under this Section 01 3200.

1.06 General

A. Progress Schedule shall be based on, and incorporate milestone and completion dates specified, in Contract Documents.

B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times in Document 00 5200 (Agreement), unless an earlier (advanced) time of completion is requested by Contractor and agreed to by Owner. A Contract Modification shall formalize any such agreement.

C. Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing Contract schedule and monitoring actual progress as compared to Progress Schedule rests with Contractor.

D. Failure of Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve Contractor from responsibility for accomplishing the Work in accordance with the Contract. Owner acceptance of Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon Owner, or act to relieve Contractor of its responsibility for means and methods of construction.

E. Transmit to Owner, no less than monthly, current progress schedule in electronic form, to include the entire electronic file without abridgment, inclusive of all updates.

1.07 Initial And Original Progress Schedule

A. Initial Schedule submitted for review at the Preconstruction Conference shall serve as Contractor's schedule for up to 30 Days after the Notice to Proceed – I (Design and Preconstruction).

B. Initial Schedule must indicate detailed plan for the Work to be completed in first 30 Days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Show Work beyond 30 Days in summary form.

C. Contractor shall submit its Original Schedule for review no later than first progress payment. Original Schedule and all updates shall comply with all standards herein.

D. All Schedules shall be time-scaled.

E. In lieu of providing a cost loaded schedule, Contractor shall provide owner with a monthly cash flow schedule, showing Contractor's forecasted expenditures on a monthly basis through completion of the Project. Contractor's cash flow schedule shall be updated monthly and shall have sufficient detail and accuracy to form a reasonable basis, based upon currently available information, for Owner to project and plan for Project cash flow requirements for the Project duration.

F. Except as otherwise expressly provided in this Section 01 3200, meet with Owner to review and discuss each Schedule (i.e., Initial, Original and monthly updates) within seven (7) Days after each Schedule has been submitted to Owner.

1. Owner review and comment on any Schedule shall be limited to Contract conformance (with sequencing, coordination, and milestone requirements).
2. Contractor shall make corrections to Schedule necessary to comply with Contract requirements and shall adjust Schedule to incorporate any missing information requested by Owner. Resubmit Initial Schedule if requested by Owner.

G. Initial Schedule shall identify the following milestone events:

1. Notice to Proceed date(s)
2. Substantial completion and project completion at each construction phase
3. Start and completion dates for Work in each occupied space
4. Utility connections
5. Inspections

H. Original Schedule and all updates shall identify all Work activities, in proper sequence for the completion of the Work. Work activities shall include the following:

1. Major Contractor-furnished equipment, materials, and building elements, and scheduled activities requiring submittals or Owner prior approval.
   (a) Show dates for the submission, review, and approval of each submittal. Dates shall be shown for the procurement, fabrications, delivery, and installation of major equipment, materials, and building elements, and for scheduled activities designated by Owner.
   (b) A minimum of fifteen (15) working days shall be allotted for Owner review for each submittal.

2. System test dates
3. Dates Contractor request designated working spaces, storage areas, access, and other facilities to be provided by Owner
4. Dates Contractor requests orders and decisions from Owner
5. Dates Contractor requests Owner-furnished equipment
6. Dates Contractor requests Owner-furnished utilities
7. Connection and relocation of existing utilities
8. Connecting to or penetrating existing structures
9. Dates Contractor requests access to areas requiring removal of Asbestos containing materials by Owner

I. If Contractor is of the opinion that any of the Work included on its Schedule has been impacted, submit to Owner a written Time Impact Evaluation (**TIE**) in accordance with this Section 01320. The TIE shall be based on the most current update of the Initial Schedule.

1.08 Schedule Format and Level of Detail

A. Utilize Primavera computer-scheduling software, for all scheduling including schedule updates, and employ scheduling personnel experienced and competent in it. For all activities or impacts shown in schedule, Contractor shall complete all data points in the software to specifically include the activities, their durations, their logic ties and their resources.

B. Each Schedule (Initial, Original and updates) shall indicate all separate design, approvals, design reviews and submissions to authorities with jurisdiction, fabrication, long lead item procurement activities, procurement and field construction activities required for completion of the Work, including but not limited to the following:

1. All Contractor, Subcontractor, and assigned Contractor work shall be shown in a logical work sequence that demonstrates a coordinated plan of work for all contractors. The intent is to provide a common basis of acceptance, understanding, and communication, as well as interface with other contractors.
2. Activities related to the delivery of Contractor and Owner-furnished equipment to be Contractor-installed per Contract shall be shown.
3. Critical design and construction milestones;
4. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, Site work) and Contractor/Subcontractor responsibility to which they pertain.
5. Break up the Work schedule into activities of durations of approximately twenty-one (21) Work Days or less each, except for non-field construction activities or as otherwise deemed acceptable by Owner.
6. Show the critical path in red. For each activity, show early start, late start, early finish, late finish, durations measured in Days, float, resources, predecessor and successor activities, planned workday/week for the activity, material quantities, and scheduled/actual progress payments.

C. Seasonal weather conditions (which do not constitute a delay as defined herein) shall be considered in the planning and scheduling of all work influenced by high or low ambient temperatures or presence of high moisture for the completion of the Work within the allotted Contract Time.

D. Failure by Contractor to include any element of Work required for performance of the Work on the detailed construction schedule shall not excuse Contractor from completing all Work required within the Contract Time.

E. A three-week “look ahead,” detailed daily bar chart schedule shall be updated and issued weekly in hard copy and electronically.

F. Monthly updates shall include schedule sorts in hard copy, by bid item (geographic work area) with critical items shown in red float and with early/late start and finish dates, to facilitate meaningful review and assessment of schedule.

1.09 Monthly Schedule Update Submittals

A. Following acceptance of Contractor's Initial Schedule, Contractor shall monitor progress of Work and adjust Schedule each month to reflect actual progress and any anticipated changes to planned activities.

1. Each Schedule update submitted shall be complete, including all information requested for the Initial Schedule and Original Schedule submittal.
2. Each update shall continue to show all Work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed, and Contractor warrants the accuracy of as-built information as shown.

B. A meeting will be held on approximately the 25th of each month to review the Schedule update submittal and progress payment application.

1. At this meeting, at a minimum, the following items will be reviewed: Percent complete of each activity; TIEs for Contract Modifications and Time Extension Request; actual and anticipated activity sequence changes; actual and anticipated duration changes; and actual and anticipated Contractor delays and critical issues.
2. These meetings are considered a critical component of overall monthly schedule update submittal; have appropriate personnel attend. At a minimum, Contractor's General Superintendent and Scheduler shall attend these meetings.
3. Plan on the meeting taking no less than four hours.

C. Within five Days after monthly Schedule update meeting, Contractor shall submit on CD the updated Schedule, and reports and charts, both in hard copy and on a CD.

D. Within 35 Days of receipt of above-noted revised submittals, Owner will either accept or reject monthly schedule update submittal.

1. If accepted, percent complete shown in monthly update will be basis for Application for Payment by Contractor. The schedule update shall be submitted as part of Contractor's Application for Payment and a basis of such payment.
2. If rejected, update shall be corrected and resubmitted by Contractor before the Application for Payment is submitted. Owner may withhold five percent of monthly progress payment amount until acceptable schedule update is received.

E. Neither updating, changing or revising of any report, curve, schedule or narrative submitted to Owner by Contractor under this Contract, Owner review or acceptance of any such report, curve, schedule or narrative, nor Owner failure to review same, shall have the effect of amending or modifying, in any way, the Contract Substantial Completion date or milestone dates or of modifying or limiting, in any way, Contractor's obligations under this Contract. Any Owner review is solely for Owner's internal consideration to reasonably ascertain likelihood of Contractor's achieving applicable Contract milestones, and Contractor may not rely thereon.

1.10 Schedule Revisions

A. Updating the Schedule (Initial and Original) to reflect actual progress shall not be considered revisions to the Schedule. Since scheduling is a dynamic process, however, revisions to activity durations and sequences are expected on a monthly basis.

B. To reflect revisions to the Schedule, provide Owner with a written narrative with a full description and reasons for each Work activity that is revised. For revisions affecting the sequence of Work, provide a schedule diagram that compares the original sequence to the revised sequence of Work. Contractor shall clearly show and discuss any changes in the critical path, and provide the written narrative and schedule diagram for revisions three (3) Days in advance of the monthly schedule update meeting.

C. Schedule revisions shall not be incorporated into any schedule update until Owner has reviewed the revisions. Owner may request further information and justification for schedule revisions and, within three Days, provide Owner with a complete written narrative response to Owner request.

D. If Owner does not accept Contractor's revision, and Contractor disagrees with Owner position, Contractor has seven Days from receipt of Owner letter rejecting the revision, to provide a written narrative providing full justification and explanation for the revision. Contractor's failure to respond in writing within seven Days of Owner written rejection of a schedule revision shall be contractually interpreted as acceptance of Owner position, and Contractor waives its rights to subsequently dispute or file a claim regarding Owner position. If Contractor files a timely response as provided in this paragraph, and the parties are still unable to agree, then Owner and Contractor's rights shall be as provided in Document 00 72 00 (General Conditions), Article 12.

E. At Owner discretion, Contractor can be required to provide Subcontractor certifications of performance regarding proposed schedule revisions affecting said Subcontractors.

1.11 Recovery Schedule

A. Owner may request If a recovery schedule should Contractor fall Schedule update shows a substantial completion date twenty-one (21 or more) Days behind any schedule Contract Substantial Completion date, or individual Milestone, which schedule shall show Contractor's plan and resources committed to retain Contract completion dates.

B. The recovery schedule shall show the intended critical path., Contractor shall submit to Owner within seven Days the proposed revisions to recover the lost time. As part of this submittal, Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of Work. If Owner requests, Contractor shall show the intended critical path; secure appropriate Subcontractor and supplier consent to the recovery Schedule; submit a narrative explaining trade flow and construction flow changes, duration changes, added/deleted activities, critical path changes and identify all near critical paths and man hour loading assumptions for major Subcontractors.

C. The revisions shall not be incorporated into any Schedule update until Owner has reviewed the revisions.

D. If Owner does not accept Contractor's revisions, Owner and Contractor shall follow the procedures set forth above regarding schedule revisions.

E. At Owner discretion, Contractor can be required to provide Subcontractor certifications for revisions affecting said Subcontractors.

1.12 Time Impact Evaluation For Contract Modifications And Other Delays

A. When Contractor is directed to proceed with changed work or Subcontractors, or otherwise requests a time extension, Contractor shall prepare and submit, within 14 Days from the direction to proceed, a Time Impact Evaluation (TIE).

B. When Contractor requests a time extension for any reason, Contractor shall submit a TIE, in accordance with Article 11 of Document 00 7200 and Section 01 2600, Article 1.02.C that provides information justifying the request and stating the extent of the adjustment requested for each specific change or alleged delay. Each TIE shall be in a form and content that is acceptable to Owner and that includes both a written narrative and a schedule diagram depicting how the changed Work or other impact work affects other schedule activities. The schedule diagram shall show how Contractor proposes to incorporate the changed Work or other impact work in the schedule, and how it impacts the current Schedule update critical path or otherwise. The Contractor is also responsible for establishing time extensions based on the TIE's impact on the critical path. The diagram shall be tied to the main sequence of scheduled activities to enable Owner to evaluate the impact of changed Work to the scheduled critical path.

C. Contractor shall comply with the requirements of this Section 01 32 00 regarding the submission of TIEs for all types of delays such as, but not limited to, Contractor/Subcontractor delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc.

D. Contractor is responsible for all costs associated with preparing, and the process of incorporating TIE's into the current schedule update. Contractor shall provide Owner with four copies of each TIE both in hard copy and CD.

E. Once agreement has been reached on a TIE, the Contract Time will be adjusted accordingly. If agreement is not reached on a TIE, the Contract Time may be extended in an amount Owner allows, and Contractor may submit a claim for additional time claimed by Contractor as provided in Document 00 7200 (General Conditions).

1.13 Time Extensions

A. Contractor is responsible for requesting time extensions for time impacts that, in the opinion of Contractor, impact the critical path of the current schedule update. Notice of time impacts shall be given in accordance with Document 00 7200 (General Conditions).

B. Where an event for which Owner is responsible impacts the projected Substantial Completion date, Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. Contractor shall also include a detailed cost breakdown of the labor, equipment, and material Contractor would expend to mitigate Owner-caused time impact. Contractor shall submit mitigation plan to Owner within fourteen (14) Days from the date of discovery of said impact. Contractor is responsible for the cost to prepare the mitigation plan.

C. Failure to request time, provide TIE, or provide the required mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.

D. No time will be granted under the Contract Documents for cumulative effect of changes.

E. Owner will not be obligated to consider any time extension request unless requirements of Contract Documents are complied with.

F. Failure of Contractor to perform in accordance with the current schedule update shall not be excused by submittal of time extension requests.

G. Notwithstanding any other provision of this Section 01320, if Contractor does not submit a TIE within the required 14 Days for any issue, Contractor hereby agrees that Contractor does not require a time extension for that issue.

1.14 Project Status Reporting

A. In addition to submittal requirements for scheduling identified in this Section 01320, Contractor shall provide a monthly project status report (i.e., written narrative report) to be submitted in conjunction with each Schedule as specified herein. Status reporting shall be in form specified in this paragraph.

B. A progress summary shall be the first page of the Monthly Project Report. The report shall indicate in column format (i.) the original and forecast cost and dates of completion; (ii.) the original and adjusted contract sums; (iii.) pending change order requests and claims; and (iv.) the original and projected completion dates.

C. The Monthly Project Report shall include construction progress and updates. Construction progress: generally since prior report, and percentage completion. Contractor shall include a narrative of the work performed and an updated task list and identify areas of concern, actions and approvals needed, including without limitation:

1. Contractor schedule: work progress against schedule. The report shall clearly identify actual performance with respect to the current approved version of the schedule, including without limitation:
   (a) Progress made on critical activities indicated on each Schedule, including inspections.
   (b) Explanations for any lack of work on critical path activities planned to be performed during last month.

(c) Explanations for any schedule changes, including changes to logic or to activity durations.
(d) List of critical activities scheduled to be performed during the next month.
(e) Status of major material and equipment procurement.

2. Problems. The narrative shall include any problems or delays encountered, causes of delays, proposed ways to work around any problems that arise and schedule assessment, and an explanation of how Project will be brought back on schedule if delays have occurred.
3. Design Status. The Monthly Project Report shall include a section on design status for the Project. The report shall also include a list of any Contract deliverables and identification of areas of concern, actions and approvals needed, and recommendations regarding ongoing design work with respect to value engineering, constructability coordination of design services with other Project items, and any and all design changes affecting appearance, size, function, usage or cost of the Project or any Subproject.
4. Subcontractor Procurement. The Monthly Project Report shall include a section on subcontractor procurement, if applicable.
5. Contractor's Safety Program. The Monthly Project Report shall include a section on the Contractor's Safety Program. The narrative shall include incident reports and statistics and other Contractor recommended information to demonstrate and promote the effectiveness of its Safety Program.
6. Disputes and Claims. The Monthly Project Report shall include a section on disputes and claims. For the Project and each Subproject, the narrative shall include a discussion on disputes, potential claims, and claims made.
7. Look Ahead Task List. The Monthly Report shall include a 120-day look ahead/task listing for Owner planning purposes, of Owner-specific activities, inspections, approvals, tie-ins, connections, consents, decisions, necessary from the Owner to facilitate Contractor's progress.
8. Daily Log (electronic copy only). Contractor shall keep a daily log containing a record of weather, contractor activities, and subcontractors working on the site, number of workers, work accomplished, problems encountered, impacts on the Work and specific activities, and other relevant data or such additional data as Owner may require. Contractor shall maintain the log electronically in a format acceptable to Owner, with each data-point maintained separately for separate sorting, charting or study by Owner if necessary. Contractor shall submit such electronic file monthly, with the Monthly Progress Report.
9. Status reports, and the information contained therein, shall not be construed as claims, notice of claims, notice of delay, or requests for changes or compensation.

D. At the close of each workday provide Owner with report of Contractor and its Subcontractors' work activities for that day, including trades, equipment, work activities worked on, staff levels, and equipment deliveries. Use form acceptable to Owner.

E. Submit all reports and schedule files on CD, in addition to written copies.

F. Submit all Title 24-required reports in the applicable required time, format and detail required by Title 24, as applicable.

1.15 Verified Reports.

A. Contractor shall ensure that the Verified Reports required by Title 24 of the California Code of Regulations be timely completed by Subcontractors and others

PART 2 PART 2 PRODUCTS – NOT USED

PART 3 PART 3 EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 3300

SUBMITTALS

PART 1 GENERAL

1.01 Summary

A. This section describes general requirements for submittals for the Work:

1. Procedures
2. Schedule of Shop Drawing and Sample Submittals
3. Safety Plan
4. Progress Schedule
5. Product Data
6. Shop drawings
7. Samples
8. Quality Control Submittals
   (a) Engineering Data
   (b) Test Reports
   (c) Certificates
   (d) Manufacturers' Instructions
9. Machine Inventory Sheets
10. Operations and Maintenance Manuals
11. Computer Programs
12. Project Record Documents

1.02 Procedures

A. Submit in duplicate sets, Schedule of Shop Drawing and Sample Submittals, Safety Plans, Progress Schedule, Product Data, Shop Drawings, Samples, Quality Control Data, Machine Inventory Sheets, Operations and Maintenance Manuals, Computer Programs, and Project Record Documents required by the Contract Documents.

B. Transmit each item with a standard letter of transmittal in form approved by Owner.

C. Identify Contractor, subcontractor, subconsultant, major supplier, pertinent drawing sheet and detail number, and specification section number as appropriate. Provide space for Owner review stamps.

D. Where manufacturers' standard drawings or data sheets are used, they shall be marked clearly to show those portions of the data which are applicable to this Project.

E. Submit Shop Drawings, Samples, Product Data and other submittals (collectively, **Submittals**) to Owner for review and action in accordance with accepted Schedule of Submittals. If no such schedule is agreed upon, then all Submittals shall be completed within 30 Days after commencement of Contract Time.

F. The data shown on all Submittals shall be complete with respect to quantities, dimensions, materials and similar data to show Owner the materials and equipment Contractor proposes to provide and to enable Owner to review the information for the limited purposes specified below. Samples shall be identified clearly as to material, supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as Owner may require to enable Owner to review the submittal. The number of each Sample to be submitted will be as specified in the Specifications.

G. At the time of each submission, Contractor shall give Owner specific written notice of all variations, if any, that the Submittal may have from the requirements of the Contract Documents, and the reasons therefore. This written notice shall be in a written communication separate from the Submittal. In addition, Contractor shall cause a specific notation to be made on each Submittal submitted to Owner for review and approval of each such variation.

H. If Owner accepts deviation, Owner shall issue an appropriate Contract Modification.

I. Submittal coordination and verification is the responsibility of Contractor, this responsibility shall not be delegated in whole or in part to subcontractors, subconsultants or suppliers. Before submitting each Submittal, Contractor shall have determined and verified:

J. Submittal coordination and verification is the responsibility of Contractor; this responsibility shall not be delegated in whole or in part to subcontractors, subconsultants or suppliers. Before submitting each Submittal, Contractor shall have determined and verified:

1. All field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto;
2. All materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work; and
3. All information relative to Contractor's sole responsibilities and of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

K. Contractor shall also have reviewed and coordinated each Submittal with other Submittals and with the requirements of the Work and the Contract Documents.

L. Contractor's submission to Owner of a Submittal will constitute Contractor's representation that it has satisfied its obligations under the Contract Documents, and as set forth immediately above, with respect to Contractor's review and approval of that Submittal.

M. Designation of work "by others", if shown in Submittals prepared by a subcontractor, subconsultant or supplier, shall mean that work will be responsibility of Contractor rather than the subcontractor, subconsultant or supplier who has prepared submittals.

N. After review by Owner of each of Contractor's Submittals, one of set of duplicates of material will be returned to Contractor with actions defined as follows:

1. NO EXCEPTIONS TAKEN - Accepted subject to its compatibility with future Submittals and additional partial Submittals for portions of the Work not covered in this Submittal. Does not constitute approval or deletion of specified or required items not shown on the Submittal.
2. MAKE CORRECTIONS NOTED (NO RESUBMISSIONS REQUIRED) - Same as 1. above, except that minor corrections as noted shall be made by Contractor.
3. AMEND AND RESUBMIT - Rejected because of major inconsistencies or errors which shall be resolved or corrected by Contractor prior to subsequent review by Owner.
4. REJECTED - RESUBMIT - Submitted material does not conform to Drawings and Specifications in major respect, i.e.: wrong size, model, capacity, or material.
5. NOT REVIEWED - Submitted material has not been reviewed and is being returned to be acted upon by Contractor without review by Owner.

O. It is considered reasonable that Contractor shall make a complete and acceptable Submittal at least by its second submission. Owner reserves the right to deduct monies from payments due Contractor to cover additional costs of Owner's review beyond the second submission. Illegible Submittals will be rejected and returned to Contractor for resubmission.

P. Favorable review will not constitute acceptance by Owner of any responsibility for the accuracy, coordination and completeness of the Submittals. Accuracy, coordination, and completeness of Submittals shall be sole responsibility of Contractor, including responsibility to backcheck comments, corrections, and modifications from Owner's review before proceeding with the Work which is the subject of the Submittals. Submittals may be prepared by Contractor, Subcontractors or suppliers, but Contractor shall ascertain that Submittals meet all requirements of the Contract Documents, while conforming to structural space and access conditions at the point of installation. Owner's review will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the requirements of the Contract Documents. Favorable review of a Submittal, method of work, or information regarding materials and equipment Contractor proposes to furnish shall not relieve Contractor of responsibility for errors therein and shall not be regarded as an assumption of risk or liability by Owner, or any officer or employee thereof, and Contractor shall have no claim under Contract on account of failure or partial failure or inefficiency

or insufficiency of any plan or method of work or material and equipment so reviewed. Favorable review shall be considered to mean merely that Owner has no objection to Contractor using, upon his own full responsibility, the plan or method of work proposed, or furnishing the materials and equipment proposed.

Q. Owner's review will not extend to the means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Owner may decline to review Submittals in which event the Submittals will be returned to Contractor to be acted upon without review. There is no obligation running to Contractor by Owner, or anyone acting upon its behalf to act upon Contractor's Submittals, and action upon them does not give rise to liability of any type to Contractor.

R. Submit a complete initial Submittal for those items where required by individual Specification sections. The complete submittal shall contain sufficient data to demonstrate that items comply with the Contract Documents, shall meet minimum requirements for submissions cited in the technical specifications, shall include motor data and seismic anchorage certifications, where required, and shall include other necessary revisions required for equipment. If Contractor submits an incomplete initial Submittal, when complete the Submittal is required, submittal may be returned to Contractor without review.

S. It shall be Contractor's responsibility to copy, conform and distribute reviewed Submittals in sufficient numbers for Contractor's files, Subcontractors and vendors.

T. After Owner's review of a Submittal, revise and resubmit as required. Identify changes made since previous Submittal.

1. Begin no fabrication or work which requires Submittals until return of Submittals not requiring resubmittal.
2. Normally, Submittals will be processed and returned to Contractor within 15 working days of receipt.

U. Distribute copies of reviewed Submittals to concerned persons. Instruct recipients to promptly report any inability to comply with Submittals.

1.03 Schedule Of Shop Drawings And Sample Submittals

A. Submit preliminary Schedule of Shop Drawing and Sample Submittals as required by Document 00 72 00 (General Conditions). Submit two copies of final and accepted Schedule of Submittals of Shop Drawings and samples as required by Document 00 72 00 (General Conditions), and in no event later than 30 days following Notice to Proceed.

B. The Schedule of Shop Drawing and Sample Submittals will be used by Owner to schedule activities relating to review of submittals. Schedule of Submittals shall indicate a spreading out of Submittals and early Submittals of long lead-time items and of items which require extensive review.

C. Schedule of Shop Drawing and Sample Submittals shall be reviewed by Owner and shall be revised and resubmitted until accepted by Owner.

1.04 Safety Plan

A. Submit two copies of a Safety Plan specific to this Contract to Owner within 15 Days after commencement of Contract Time.

B. One copy of accepted the Safety Plan will be returned to Contractor.

C. No on-site work shall be started until Safety Plan has been reviewed and accepted by Owner. Acceptance of the Safety Plan shall not affect Contractor's responsibility for maintaining a safe working place and instituting safety programs in connection with project. Neither Owner nor Owner assumes any responsibility for Contractor's safety related obligations. Contractor shall have sole responsibility for safety on and off the Site.

1.05 Progress Schedule

A. See Section 01 3200 (Progress Schedules and Reports), for schedule and report requirements.

B. Submit one electronic and three print copies of the schedule at each of the following times:

1. Initial CPM Schedule at the Preconstruction Conference.
2. Original CPM Schedule within 60 days of commencement of Contract Time.
3. Adjustments to the CPM Schedule as required.
4. CPM Schedule updates monthly, submitted with each Pay Application.

C. Submit four copies of the reports listed in Section 01 3200 Progress Schedules and Reports, with:

1. Initial CPM Schedule
2. Original CPM Schedule
3. Each monthly Schedule update

D. Progress Schedules and Reports shall be submitted electronically in addition to hard copies specified above.

1.06 Product Data

A. Within 30 calendar days after commencement of Contract Time submit two copies of complete list of major products proposed for use, with name of the manufacturer, trade name, and model number of each product.

B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

C. Tabulate products by specification section number.

D. Supplemental Data:

1. Submit number of copies which Contractor requires, plus two copies which will be retained by Owner.
2. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to the Project.

E. Provide copies for Project Record Documents described in Section 01 7700 Contract Closeout.

1.07 Shop Drawings

A. Minimum Sheet Size: 8-1/2 inches by 11 inches. All others: Multiples of 8-1/2 inches by 11 inches, 34 inches by 44 inches maximum.

B. For 8-1/2 inch by 11 inch and 11 inch by 17 inch sheets, submit the number of copies which Contractor requires, plus two copies which will be retained by Owner.

C. For 17 inch by 22 inch through 34 inch by 44 inch sheets, submit one reproducible transparency and two prints. After review, reproduce and distribute.

D. The original sheet or reproducible transparency will be marked with Owner's review comments and returned to Contractor.

E. Mark each copy to identify applicable products, models, options, and other data; supplement manufacturers' standard data to provide information unique to the Work.

F. Include manufacturers' installation instructions when required by Specification section.

1.08 Samples

A. Submit full range of manufacturers' standard colors, textures, and patterns for Owner's selection.

B. Submit samples to illustrate functional and aesthetic characteristics of each product, with integral parts and attachment devices. Coordinate Submittal of different categories for interfacing work.

C. Include identification on each sample, giving full information.

D. Submit two samples unless otherwise specified. One will be retained.

E. Sizes: Unless otherwise specified, provide the following:

1. Paint Chips: Manufacturers' standard

2. Flat or Sheet Products: Minimum 6 inches square, maximum 12 inches square
3. Linear Products: Minimum 6 inches, maximum 12 inches long
4. Bulk Products: Minimum 1 pint, maximum 1 gallon

F. Full size samples may be used in the Work upon approval.

G. Mock-ups:

1. Erect field samples and mock-ups at the Project Site in accordance with the requirements of Specification sections.
2. Modify or make additional field samples and mock-ups as required to provide appearance and finishes approved by Owner.
3. Approved field samples and mock-ups may be used in the Work upon approval.

1.09 Quality Control Submittals

A. Test Reports: Three copies. One copy will be marked with Owner's review comments and returned to Contractor.

1. Indicate that the material or product conforms to or exceeds specified requirements.
2. Reports may be from recent or previous tests on material or product, but must be acceptable to Owner. Comply with requirements of each individual Specification.

B. Certificates: Three copies. One copy will be marked with Owner's review comments and returned to Contractor.

1. Indicate that the material or product conforms to or exceeds specified requirements.
2. Submit supporting reference data, affidavits, and certifications as appropriate.
3. Certificates may be recent or from previous test results on material or product, but must be acceptable to Owner.

C. Manufacturers' Instructions: Three copies. One copy will be marked with Owner's review comments and returned to Contractor.

1. Include manufacturers' printed instructions for delivery, storage, assembly, installation, startup, adjusting, and finishing.
2. Identify conflicts between manufacturers' instructions and Contract Documents.

1.10 Operations And Maintenance Manuals

A. Submit two copies of manufacturers' operations and maintenance manuals. If necessary, both copies will be marked with Owner's review comments and returned to Contractor for correction until satisfactory information is provided. Owner will retain satisfactorily corrected manuals for Owner's own use.

B. Operations and maintenance manuals shall include the following as appropriate:

1. Operating instructions
2. Preventive maintenance instructions
3. Cleaning instructions
4. Safety precautions
5. Trouble shooting procedures
6. Theory of operation to discrete component level
7. Schematic diagrams, flow diagrams, wiring diagrams, logic diagrams, etc. to discrete component level
8. Parts lists showing all discrete components with part number, current prices and availability
9. List of replaceable supplies; paper, ink, ribbon, etc. with part numbers, current prices and availability
10. Recommended levels of spare parts and supplies to keep on hand
11. Manufacturers' service and maintenance technical manuals
12. Names, addresses and telephone numbers of service and repair firms for the equipment

C. Manuals shall be the same as are used by manufacturers' authorized technicians to completely service and repair the equipment.

1.11 Computer Programs

A. When any equipment requires operation by computer programs, submit a copy of the program on appropriate diskette plus all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Programs must be compatible with Owner software requirements, or in a form otherwise acceptable to Owner. Provide required licenses to Owner at no additional cost.

1.12 Project Record Documents

A. Submit one copy of each of the Project Record Documents listed in Section 01 7700 Contract Closeout.

1.13 Delay Of Submittals

A. Delay of Submittals by Contractor is considered Contractor-caused delay. Liquidated damages incurred because of late Submittals will be assessed to Contractor.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4100

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 Summary

A. Section includes

1. Regulatory requirements applicable to Contract Documents.
2. Required provisions regarding resolution of construction claims.
3. Required references under federal law.

1.02 General

A. Compliance with Laws

1. Conform to all applicable codes, laws, ordinances, rules and regulations, which shall have full force and effect as though printed in full in these Specifications. Codes, laws, ordinances, rules, regulations and ordinances (**Regulatory Requirements**) are not furnished to Contractor, because Contractor is assumed to be familiar with these requirements.
2. Any listing of Regulatory Requirements for hazardous waste abatement Work in the Contract Documents is supplied to Contractor as a courtesy and shall not limit Contractor's responsibility for complying with all applicable Regulatory Requirements having application to the Work. Where conflict among the Regulatory Requirements or with these Specifications occurs, the most stringent requirements shall be used.
3. Specific reference in the Specifications to codes and regulations or requirements of regulatory agencies shall mean the latest printed edition of each adopted by the regulatory agency in effect at the time of the opening of Bids, except as may be otherwise specifically stated in the Contract Documents.

B. Precedence

1. Where specified requirements differ from Regulatory Requirements, the more stringent requirements shall take precedence. Where Drawings or Specifications require or describe products or execution of better quality, higher standard or greater size than required by Regulatory Requirements, then Drawings and Specifications shall take precedence so long as such increase is legal. Where no requirements are identified on Drawings or in Specifications, comply with all Regulatory Requirements of governing authorities having jurisdiction.
2. Should any conditions develop not covered by the Contract Documents wherein the finished Work will not comply with current codes, a Change Order detailing and specifying the required Work shall be submitted to and approved by Owner before proceeding with the Work.

1.03 Regulatory Requirements

A. Applicable Codes

1. Codes that apply to Contract Documents include all Codes applicable to construction, including**, WITHOUT LIMITATION,** the following:
   (a) California Building Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
   (b) California Electrical Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.

(c) California Plumbing Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for plumbing, sewage disposal and health requirements.
(d) California Mechanical Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
(e) California Fire Code (2016 Edition or latest applicable code) as amended by applicable local ordinances for all construction work.
(f) California Administrative Code Titles 15, 19 and 24 (with California amendments), and Americans with Disabilities Act (ADA) accessibility guidelines, whichever is more stringent.
(g) All State laws and City and County Ordinances, rules of the State or City or County Health Departments, rules of the National Board of Fire Underwriters and National Fire Protection Associations, and local power company regulations for mechanical and electrical work.

B. Applicable Laws, Statutes, Ordinances, Rules, And Regulations

1. During prosecution of Work to be done under Contract Documents, Contractor shall comply with applicable laws, ordinances, rules and regulations including, without limitation, the following:
   (a) Federal:
      (i) Americans With Disabilities Act of 1990
      (ii) 29 CFR, Section 1910.1001, Asbestos
      (iii) 40 CFR, Subpart M, National Emission Standards for Asbestos
      (iv) Executive Order 11246
      (v) Federal Endangered Species Act
      (vi) Clean Water Act
   (b) State of California:
      (i) Code of Regulations, Titles 5, 8, 17, 19, 21, 22, 24 and 25
      (ii) Public Contract Code
      (iii) Health and Safety Code
      (iv) Government Code
      (v) Labor Code
      (vi) Civil Code
      (vii) Code of Civil Procedure
      (viii) CPUC General Order 95, Rules for Overhead Electric Line Construction
      (ix) CPUC General Order 128, Rules for Construction of Underground Electric Supply and Communications Systems
      (x) Cal/OSHA
      (xi) OSHA: Hazard Communications Standards
      (xii) California Endangered Species Act
      (xiii) Water Code
      (xiv) Fish and Game Code
   (c) State of California Agencies:
      (i) State and Consumer Services Agency
      (ii) Office of the State Fire Marshall
      (iii) Office of Statewide Health Planning and Development (if applicable)
      (iv) Department of Fish and Wildlife
      (v) All Air Quality Management Districts with jurisdiction
      (vi) All Regional Water Quality Control Boards with jurisdiction
      (vii) Division of the State Architect
   (d) All Local Agencies with jurisdiction (cities, counties, fire departments)

C. Change Orders and Claims

1. The Public Contract Code including, without limitation, Section 7105(d)(2), and the California Government Code Section 930.2, et seq., apply to all contract procedures for changes, time extensions, change orders (time or compensation) and claims. Federal law

(*U.S. v. Holpuch* 326 U.S. 234) shall supplement California law on the enforceability of these requirements.

2. Any change, waiver, or omission to implement contract change order and claim procedures shall have no legal effect unless expressly permitted in a fully executed change order approved by Contractor and Owner and approved as to form by their respective legal counsel.

D. Required Provisions On Contract Claim Resolution

1. Public Contract Code Section 9204 specifies provisions on resolving contract claims of any size, and Public Contract Code Section 201014, et seq., specifies required provisions on resolving contract claims less than $375,000. Those statutes constitute a part of this Contract. In the event any other Contract provision violates such statutes, the applicable statute controls.

2. Public Contract Code Section 9204 provides:

a. For the purposes of this section, "Claim" means a separate demand by Contractor for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by Owner.

b. Procedure:

1) Upon receipt of a Claim the Owner shall conduct a reasonable review of the Claim and within 45 days, or if Owner's governing body must approve Owner's response to the Claim and the governing body has not met within the 45 days then within three (3) days of the governing body's meeting, shall provide Contractor with a written statement identifying what portion of the claim is disputed and what portion is undisputed. Should Owner take no action on the Claim within 45 days of submission, it shall be deemed denied.

2) If the Contractor disputes Owner's response to its Claim, including a failure to respond, it may submit via registered mail or certified mail, return receipt requested, a written demand for an informal conference to meet and confer for settlement of the issues in dispute. Owner shall schedule such a meet and confer conference within 30 days for settlement of the dispute. Within ten (10) days of the meet and confer conference Owner shall provide Contractor with a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed. If the Contractor disputes Owner's statement it shall inform Owner and they shall mutually agree to a mediator within 10 business days of the written statement.

3) Owner shall pay the undisputed portions of the Claim within 60 days of the issuance of a written statement identifying an undisputed portion.

4) Any disputed portion of the Claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation, with the Owner and the claimant sharing the associated costs equally. The Owner and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be subject to applicable procedures outside this section.

5) For claims under $375,000, unless the parties agree otherwise in writing, mediation pursuant to these provisions shall excuse the mediation obligation under Public Contracting Code section 20104.4(a).

6) The parties may mutually agree, in writing, to waive the mediation requirements of this subsection and proceed to the commencement of a civil action [**or binding arbitration, as applicable**].

7) Failure by the Owner to respond to a Claim from a Contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A Claim that is denied by reason of the public entity's failure to have responded to a Claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the Claim or the responsibility or qualifications of

the claimant.

8) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.

9) If a Subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against Owner because privity of contract does not exist, the Contractor may present to the Owner a claim on behalf of a Subcontractor or lower tier subcontractor. A Subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the Contractor present a claim for work which was performed by the Subcontractor or by a lower tier subcontractor on behalf of the Subcontractor. The Subcontractor requesting that the Claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the Contractor shall notify the Subcontractor in writing as to whether the Contractor presented the claim to the Owner and, if the original Contractor did not present the claim, provide the Subcontractor with a statement of the reasons for not having done so.

10) Nothing in this section shall impose liability upon an Owner that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

11) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

3. To the extent applicable, Public Contract Code Section 20104, et seq., provide:

a. For the purposes of this section, “Claim” means a separate demand by Contractor of $375,000 or less for (1) a time extension, (2) payment or money or damages arising from Work done by or on behalf of Contractor arising under the Contract Documents and payment of which is not otherwise expressly provided for or the Claimant is not otherwise entitled to, or (3) an amount the payment of which is disputed by Owner. Separate Contractor Claims that together total more than $375,000 do not qualify as a “separate demand of $375,000 or less,” as referenced above, and are not subject to this section.

b. Caution. This section does not apply to tort claims, and nothing in this section is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 and Chapter 2 of Part 3 of Division 3.6 of Title 1 of the Government Code.

c. Procedure:

1) The Claim must be in writing, submitted in compliance with all requirements of Document 00 7200 (General Conditions), Article 12 including, without limitation, the time prescribed by and including the documents necessary to substantiate the Claim, pursuant to Document 00 7200 (General Conditions), Paragraph 12.02. Nothing in this section is intended to extend the time limit or supersede notice requirements for the filing of claims as set forth in Document 00 7200 (General Conditions), Article 12 or elsewhere in the Contract Documents.

2) For Claims of fifty thousand dollars ($50,000) or less, Owner shall respond in writing within forty-five (45) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section upon mutual agreement of Owner and Claimant. Owner’s written response to the Claim, as further documented, shall be submitted to Claimant within fifteen (15) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.

3) For Claims over Fifty Thousand Dollars ($50,000) and less than or equal to $375,000: Owner shall respond in writing within sixty (60) days of receipt of the Claim, or Owner may request in writing within thirty (30) days of receipt of the Claim, any additional documentation supporting the Claim or relating to any defenses or claims Owner may have against Claimant. If additional information is thereafter required, it shall be requested and provided in accordance with this section, upon mutual agreement of Owner and Claimant; Owner’s written response to the Claim, as further documented, shall be submitted to Claimant within thirty (30) days after receipt of further documentation or within a period of time no greater than taken by Claimant in producing the additional information, whichever is greater.

4) Meet and Confer: If Claimant disputes Owner’s written response, or Owner fails to respond within the time prescribed above, Claimant shall notify Owner, in writing, either within fifteen (15) days of receipt of Owner’s response or within fifteen (15) days of Owner’s failure to timely respond, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon demand Owner will schedule a meet and confer conference within thirty (30) days for settlement of the dispute.

(a) Following the meet and confer conference, if the Claim or any portion remains in dispute, Claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time Claimant submits its written claim as set forth herein, until the time that Claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

E. Compliance With Americans With Disabilities Act

1. Contractor acknowledges that, pursuant to the Americans with Disabilities Act (**ADA**), programs, services and other activities provided by a public entity to the public, whether directly or through a Contractor, must be accessible to the disabled public. Contractor shall provide the services specified in the Contract Documents in a manner that complies with the ADA and any and all other applicable federal, state and local disability rights legislation. Contractor agrees not to discriminate against disabled persons in the provision of services, benefits or activities provided under the Contract Documents and further agrees that any violation of this prohibition on the part of Contractor, its employees, agents or assigns shall constitute a material breach of the Contract Documents.

F. Compliance With IRCA

1. Contractor acknowledges that Contractor, and all subcontractors hired by Contractor to perform services under this Agreement, are aware of and understand the Immigration Reform and Control Act (**IRCA**). Contractor is and shall remain in compliance with the IRCA and shall ensure that any subcontractors hired by Contractor to perform services under this Agreement are in compliance with the IRCA. In addition, Contractor agrees to indemnify, defend and hold harmless Owner, its agents, officers and employees, from any liability, damages or causes of action arising out of or relating to any claims that Contractor's employees, or employees of any subcontractor hired by Contractor, are not authorized to work in the United States for Contractor or its subcontractor and/or any other claims based upon alleged IRCA violations committed by Contractor or Contractor's subcontractors.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4200

REFERENCES AND DEFINITIONS

PART 1 GENERAL

1.01 Summary

A. Section Includes:

1. Reference standards, abbreviations, symbols, and definitions used in Contract Documents.
2. Full titles are given in this Section for standards cited in other Sections of Specifications.

1.02 Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies

A. References

1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to the laws or regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code, or laws or regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated in the Contract Documents.
2. If during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such law or regulation applicable to the performance of the Work or of any such standard, specification, manual, or code or of any instruction of any supplier, Contractor shall report it in writing at once to Owner's Representative and Architect/Engineer, and Contractor shall not proceed with the Work affected thereby until consent to do so is given by Owner.

B. Precedence

1. Except as otherwise specifically stated in the Contract Documents or as may be provided by Change Order, CCD, or Supplemental Instruction, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
   (a) The provisions of any such standard, specification, manual, code, or instruction (whether or not specifically incorporated by reference in the Contract Documents); or
   (b) The provisions of any such laws or regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such law or regulation).
2. No provision of any such standard, specification, manual, code, or instruction shall be effective to change the duties and responsibilities of Owner, Owner's Representative, Architect/Engineer or Contractor, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents, nor shall it be effective to assign to Owner, Architect/Engineer, or any of their consultants, agents, representatives or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

C. Referenced Grades, Classes, and Types:

1. Where an alternative or optional grade, class, or type of product or execution is included in a reference but is not identified in Drawings or in Specifications, provide the highest, best, and greatest of the alternatives or options for the intended use and prevailing conditions.

D. Edition Date of References:

1. When an edition or effective date of a reference is not given, it shall be understood to be the current edition or latest revision published as of the date of opening Bids.
2. All amendments, changes, errata and supplements as of the effective date shall be included.

E. ASTM and ANSI References: Specifications and Standards of the American Society for Testing and Materials (ASTM) and the American National Standards Institute (ANSI) are identified in the Drawings and Specifications by abbreviation and number only and may not be further identified by title, date, revision, or amendment. It is presumed that Contractor is familiar with and has access to these nationally- and industry-recognized specifications and standards.

1.03 Definitions

A. Meaning of Words and Phrases

Wherever any of the words or phrases defined below, or a pronoun used in place thereof, is used in any part of the Contract Documents, it shall have the meaning here set forth. Where abbreviations and symbols are used, such abbreviations and symbols shall be given their common meaning in the construction industry. In the Contract Documents, the neuter gender includes the feminine and masculine, and the singular number includes the plural.

While Owner has made an effort to identify all defined terms with initial caps, the following definitions shall apply regardless of case unless the context otherwise requires:

1. Addenda: Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the bidding requirements or the Contract Documents. Addenda shall not include the minutes of the Pre-Bid Conference and/or Site Visit.
2. Agreement (Document 00 5200): Agreement is the basic Contract Document that binds the parties to construction Work. Agreement defines relationships and obligations between Owner and Contractor and by reference incorporates Conditions of Contract, Drawings, and Specifications and contains Addenda and all Modifications subsequent to execution of Contract Documents.
3. Alternate: Work added to or deducted from the base Bid, if accepted by Owner.
4. Application for Payment: Written application for monthly or periodic progress or final payment made by Contractor complying with the Contract Documents.
5. Approved Equal: Approved in writing by Owner as being of equivalent quality, utility and appearance.
6. Architect/Engineer: If used elsewhere in the Contract Documents, “Architect/Engineer” shall mean a person (or that person’s firm) holding a valid California State Architect’s or Engineer’s license representing the Owner in the administration of the Contract Documents. Architect/Engineer may be an employee of or an independent consultant to Owner. When Architect/Engineer is referred to within the Contract Documents and not an employee of Owner, Architect/Engineer shall be construed to include employees of Architect/Engineer and/or employees that Architect/Engineer supervises. When the designated Architect/Engineer is an employee of Owner, his or her authorized representatives on the Project will be included under the term Architect/Engineer. If Architect/Engineer is an employee of Owner, Architect/Engineer is the beneficiary of all Contractor obligations to Owner, including without limitation, all releases and indemnities. Architect/Engineer may also be referred to as Architect or Engineer.
7. Asbestos: Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by OSHA or Cal/OSHA.
8. Bid: The offer or proposal of the Bidder submitted on the prescribed form(s) setting forth the prices (including, if applicable, maximum prices) for the Work to be performed .
9. Bidder: One who submits a Bid or Proposal.
10. Bidding Documents: All documents comprising the Project Manual (including all documents and Specification Sections listed in Document 00 0110 [Table of Contents]), including documents supplied for bidding purposes only and Contract Documents.

11. Board: The governing body of the Owner.
12. Business Day: Any Day other than Saturday, Sunday, and the following days that have been designated as holidays by Owner. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.
    (a) New Year's Day, January 1;
    (b) Martin Luther King Jr.'s Birthday, third Monday in January;
    (c) Lincoln's Birthday, February 12;
    (d) Presidents' Day, third Monday in February;
    (e) Memorial Day, last Monday in May;
    (f) Independence Day, July 4;
    (g) Labor Day, first Monday in September;
    (h) Veterans' Day, November 11;
    (i) Thanksgiving Day, as designated by the President;
    (j) The Day following Thanksgiving Day;
    (k) Christmas Day, December 25; and
    (l) Each day appointed by the Governor of California and formally recognized by the Governing Board as a day of mourning, thanksgiving, or special observance.
13. By Owner: Work that will be performed by Owner or its agents at the Owner's expense.
14. By Others: Work that is outside scope of Work to be performed by Contractor under this Contract, which will be performed by Owner, other contractors, or other means.
15. Change Order: A written instrument prepared by Owner and signed by Owner and Contractor, stating their agreement upon all of the following:
    (a) a change in the Work;
    (b) the amount of the adjustment in the Contract Sum, if any; and
    (c) the amount of the adjustment in the Contract Time, if any.
16. City: The City in which the Project is located.
17. Code Inspector: A local or state agency responsible for the enforcement of applicable codes and regulations.
18. Commencement Date: The date on which Contract Time commences, as provided in the Agreement or General Conditions.
19. Concealed: Work not exposed to view in the finished Work, including within or behind various construction elements.
20. Construction Change Directive (**CD**): A written order prepared and signed by Owner, directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both.
21. Contract Amount: a change order price, line item price, Contract Sum, or other price assigned to a scope of work.
22. Contract Conditions or Conditions of the Contract: Consists of two parts: General Conditions and Supplementary Conditions.
    (a) General Conditions are general clauses that are common to the Owner Contracts, including Document 00 7200 (General Conditions).
    (b) Supplementary Conditions modify or supplement General Conditions to meet specific requirements for Contract Documents, including Documents 00 7300, *et seq.* (Supplementary Conditions).
23. Contract Documents and Contract: Contract Documents and Contract shall consist of the documents identified as the Contract Documents in Document 00 5200 (Agreement), plus all changes, Addenda, and modifications thereto.
24. Contract Modification: Either:
    (a) a written amendment to Contract signed by Contractor and Owner; or
    (b) a Change Order; or
    (c) a Construction Change Directive; or
    (d) a written directive for a minor change in the Work issued by Owner.
25. Contract Sum: The sum stated in the Agreement and, including authorized adjustments, the total amount payable by Owner to Contractor for performance of the Work and the

Contract Documents. The Contract Sum is also sometimes referred to as the Contract Price or the Contract Amount.

26. Contract Time: The number or numbers of Days or the dates stated in the Agreement to achieve Substantial Completion of the Work or designated Milestones; and/or to achieve Final Completion of the Work so that it is ready for final payment and is accepted.
27. Contractor: The person or entity identified as such in the Agreement and referred to throughout the Contract Documents as if singular in number and neutral in gender. The term "Contractor" means the Contractor or its authorized representative.
28. Contractor's Employees: Persons engaged in execution of Work under Contract as direct employees of Contractor, as Subcontractors, or as employees of Subcontractors.
29. County: The County in which the Project is located.
30. Day: One calendar day of 24 hours measured from midnight to the next midnight, unless the word "day" is specifically modified to the contrary.
31. Defective: An adjective which, when modifying the word "Work," refers to Work that is unsatisfactory or unsuited for the use intended, faulty, or deficient, that does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents (including, without limitation, approval of Samples and "or equal" items), or has been damaged prior to final payment (unless responsibility for the protection thereof has been assumed by Owner). Unapproved substitutions are defective. Owner is the judge of whether Work is Defective.
32. Drawings: The graphic and pictorial portions of Contract Documents, wherever located and whenever issued, showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
33. DSA: Division of State Architect, or successor agency.
34. Equal: Equal in opinion of Owner. Burden of proof of equality is responsibility of Contractor.
35. Final Acceptance or Final Completion: Owner's acceptance of the Work as satisfactorily completed in accordance with Contract Documents. Requirements for Final Acceptance/Final Completion include, but are not limited to:
    (a) Final cleaning is completed.
    (b) All systems having been tested and accepted as having met requirements of Contract Documents.
    (c) All required instructions and training sessions having been given by Contractor.
    (d) All Project Record Documents having been submitted by Contractor, reviewed by Owner, and accepted by Owner.
    (e) All punch list Work, as directed by Owner, having been completed by Contractor.
    (f) Generally all Work, except Contractor maintenance after Final Acceptance/Final Completion, having been completed to satisfaction of Owner.
36. Force Account: Work directed to be performed without prior agreement as to lump sum or unit price cost thereof, and which is to be billed at cost for labor, materials, equipment, taxes, and other costs, plus a specified percentage for overhead and profit.
37. Exposed: Work exposed to view in the finished Work, including behind louvers, grilles, registers and various other construction elements.
38. Furnish: Supply only, do not install.
39. GMP: Guaranteed Maximum Price.
40. Indicated: Shown or noted on the Drawings.
41. Install: Install or apply only, do not furnish.
42. Latent: Not apparent by reasonable inspection including, without limitation, the inspections and research required as a condition to bidding under Document 00 7200 (General Conditions).
43. Law: Unless otherwise limited, all applicable laws including without limitation all federal, state, and local laws, statutes, standards, rules, regulations, ordinances, and judicial and administrative decisions.
44. Material: This word shall be construed to embrace machinery, manufactured articles, materials of construction (fabricated or otherwise), and any other classes of material to be

furnished in connection with Contract, except where a more limited meaning is indicated by context.

45. Milestone: A principal event specified in Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all Work.
46. Modification: Same as Contract Modification.
47. Not in Contract or **NIC**: Work that is outside the scope of Work to be performed by Contractor under Contract Documents.
48. Notice of Completion: Shall have the meaning provided in California Civil Code Section 9202, and any successor statute.
49. Off Site: Outside geographical location of the Project.
50. Owner: Owner is defined in Document 00 5200 (Agreement).
51. Owner-Furnished or Assigned: Items furnished by Owner at its cost for installation by Contractor at its cost under Contract Documents.
52. Owner's Representative(s): See Document 00 5200 (Agreement).
53. Partial Utilization: Use by Owner of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all of the Work.
54. PCBs: Polychlorinated biphenyls.
55. Phase: A specified portion of the Work (if any) specifically identified as a Phase in Document 00 5200 (Agreement) or Section 01 1100 (Summary).
56. Product Data: That information (brochures, catalog sheets, manufacturer's cut sheets, etc.) supplied by vendors having technical and commercial characteristics of the supplied equipment or materials and accompanying commercial terms such as warranties, instructions, and manuals.
57. Progress Report: A periodic report submitted by Contractor to Owner with progress payment invoices accompanying progress schedule. See Document 00 7200 (General Conditions).
58. Project: Total construction of which Work performed under Contract Documents may be whole or part.
59. Project Inspector: The individual who has been duly approved by DSA and hired by Owner to provide continuous inspection of all Project Work.
60. Project Manual: Project Manual consists of Bidding Requirements, Agreement, Bonds, Certificates, Contract Conditions, Drawings, and Specifications.
61. Project Record Documents: All Project deliverables required under the Contract Documents, including without limitation, as built drawings; Installation, Operation, and Maintenance Manuals; and Machine Inventory Sheets.
62. Proposal: A Bid.
63. Provide: Furnish and install.
64. Request for Information (**RFI**): A document prepared by Contractor requesting information regarding the Project or Contract Documents. The RFI system is also a means for Owner to submit Contract Document clarifications or supplements to Contractor.
65. Request for Proposals (**RFP**): A document issued by Owner to Contractor whereby Owner may initiate changes in the Work or Contract Time as provided in Contract Documents.
66. Request for Substitution (**RFS**): A document prepared by Contractor requesting substitution of materials as permitted and to the extent permitted in Contract Documents.
67. RFI-Reply: A document consisting of supplementary details, instructions, or information issued by Owner that clarifies or supplements Contract Documents, and with which Contractor shall comply. RFI-Replies do not constitute changes in Contract Sum or Contract Time except as otherwise agreed in writing by Owner. RFI-Replies will be issued through the RFI administrative system.
68. Samples: Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
69. Shop Drawings: All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

70. Shown: As indicated on Drawings.
71. Site: The particular geographical location of Work performed pursuant to the Contract Documents.
72. Specifications: The written portion of the Contract Documents consisting of requirements for materials, equipment, construction systems, standards, and workmanship for the Work; performance of related services.
73. Specified: As written in Specifications.
74. Subcontractor: A person or entity that has a direct contract with Contractor to perform a portion of the Work at the Site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and neutral in gender and means a Subcontractor or an authorized representative of the Subcontractor. The term Subcontractor does not include a separate contractor or subcontractors of a separate contractor.
75. Substantial Completion: The Work (or a specified part thereof) has progressed to the point where, in the opinion of Owner as evidenced by a notice or certificate of Substantial Completion, the Work is sufficiently complete, in accordance with Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended, and unperformed or incomplete work elements are minor in nature; or if no such certificate is issued, when the Work (or specified part) is complete and ready for final payment as evidenced by written recommendation of Owner for final payment. The terms **"Substantially Complete"** and **"Substantially Completed"** as applied to all or part of the Work refer to Substantial Completion thereof.
76. Supplemental Instruction: A written directive from Owner to Contractor ordering alterations or Modifications that do not result in change in Contract Sum or Contract Time, and do not substantially change Drawings or Specifications.
77. Technical Specifications: Specification Sections included within Division 02 and above.
78. Testing and Special Inspection Agency: An independent entity engaged to inspect and/or test the workmanship, materials, or manner of construction of buildings or portions of buildings, to determine if such construction complies with the Contract Documents and applicable codes.
79. TIE: Time Impact Evaluation; see Section 01 2600 (Modification Procedures). May also be referred to as Time Impact Analysis (**TIA**).
80. Title 24: California Code of Regulations, Title 24, Part 1 California Building Standards Administrative Code.
81. Underground Facilities: All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities that have been installed underground to furnish any of the following services or materials: electricity, gases, chemicals, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems, or water.
82. Unit Price Work: Shall be the portions of the Work for which a unit price is provided in Document 00 5200 (Agreement) or Section 01 1100 (Summary of Work).
83. Work: The entire completed construction, or the various separately identifiable parts thereof, required to be furnished under the Contract Documents within the Contract Time. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents including everything shown in the Drawings and set forth in the Specifications. Wherever the word "work" is used, rather than the word "Work," it shall be understood to have its ordinary and customary meaning.
84. Working Day: Same Definition as Business Day. Any Day other than Saturday, Sunday, and days that have been designated as holidays by Owner. If a holiday falls on a Saturday, the preceding Friday will be the holiday. If a holiday falls on a Sunday, the following Monday will be the holiday.

B. Other Defined Terms

The following terms are not necessarily identified with initial caps; however they shall have the meaning set forth below:

1. Wherever words “as directed,” “as required,” “as permitted,” or words of like effect are used, it shall be understood that direction, requirements, or permission of Owner is intended. Words “sufficient,” “necessary,” “proper,” and the like shall mean sufficient, necessary, or proper in judgment of Owner. Words “approved,” “acceptable,” “satisfactory,” “favorably reviewed,” or words of like import, shall mean approved by, or acceptable to, or satisfactory to, or favorably reviewed by Owner.
2. Wherever the word “may” or “ought” is used, the action to which it refers is discretionary. Wherever the word “shall” or “will” is used, the action to which it refers is mandatory.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 4523

TESTING AND INSPECTION

PART 1 GENERAL

1.01 Section Includes

A. Contractor's Quality Control.

B. Quality of the Work.

C. Inspections by Division of the State Architect Inspector of Record.

D. Inspections and Tests by Serving Utilities.

E. Inspections and Tests by Manufacturer's Representatives.

F. Inspections by Independent Testing and Inspection Agency.

G. Additional Testing and Inspection.

1.02 Contractor's Quality Control

A. Contractor's Quality Control. Contractor shall develop a Quality Control (**QC**) program to qualify all Work through personal review of the Work, assuring complete and accurate installation of all materials, products and equipment in accordance with the approved Contract Documents. Contractor's QC program shall be staffed with individuals sufficiently learned in specific trade specialties as to recognize any and all deficiencies in the Work. The QC staff shall assure all Work is in accordance with the approved Contract Documents prior to submitting an Inspection Request (**IR**) to Owner, third party, any IOR and/or City Building Official. All aspects of the Work, including product verification, appropriate product installation and application, shall be reviewed by such QC personnel and qualified as meeting the requirements of applicable codes and the approved Contract Documents.

B. Quality Requirements. Work shall be accomplished in accordance with quality requirements of Drawings and Specifications, including, by reference, all codes, laws, rules, regulations, and standards. When no quality basis is prescribed, the quality and testing procedures shall be in accordance with the best-accepted practices of the construction industry for the locale of the Project, for projects of this type, or standards set by engineering or technical societies (e.g., ASTM or ASHRAE), whichever is more stringent.

C. Quality Control Personnel. Employ and assign knowledgeable and skilled personnel as necessary to perform quality control functions to ensure that the Work is provided as required.

1.03 Quality of the Work

A. Quality of Products. Unless otherwise indicated or specified, all products shall be new, free of defects, and fit for the intended use.

B. Quality of Installation. All Work shall be produced plumb, level, square and true, or true to indicated angle, and with proper alignment and relationship between the various elements, as shown on or required by Contract Documents.

C. Protection of Completed Work. Take all measures necessary to preserve completed Work free from damage, deterioration, soiling, and staining, until acceptance by Owner.

D. Standards and Code Compliance and Manufacturer's Instructions and Recommendations. Unless more stringent requirements are indicated or specified, comply with manufacturer's instructions and recommendations, reference standards and building code requirements in preparing, fabricating, erecting, installing, applying, connecting, and finishing Work.

E. Deviations from Standards and Code Compliance and Manufacturer's Instructions and Recommendations. Secure Owner's advanced written consent. Document and explain all deviations from reference standards and building code research report requirements and manufacturer's product installation instructions and recommendations, including acknowledgement by the manufacturer that such deviations are acceptable and appropriate for the Project.

F. Verification of Quality. Work shall be subject to verification of quality by Owner in accordance with provisions of the Contract Documents.

1. Cooperate by making Work available for inspection by independent testing and inspection agencies.
2. Such verification may include mill, plant, shop, or field inspection as required.
3. Provide access to all parts of the Work, including plants where materials or equipment are manufactured or fabricated.
4. Provide all information and assistance as required, including that by and from subcontractors, fabricators, materials suppliers and manufacturers, for verification of quality by Owner.
5. Applicable provisions of the Contract Documents shall govern Contract Modifications, if any, resulting from such verification activities.

G. Observations by Owner's Consultants. Periodic and occasional observations of Work in progress will be made by Owner and Owner's consultants as deemed necessary to review progress of Work and general conformance with design intent.

H. Limitations on Inspection, Testing and Observation. Neither employment of independent testing and inspection agency nor observations or tests by Owner and Owner's consultants shall in any manner relieve Contractor of obligation to perform Work in full conformance to all requirements of Contract Documents.

I. Owner's Acceptance and Rejection of Work. Owner reserves the right to reject all Work not in conformance to the requirements of the Drawings and Specifications, or otherwise defective.

J. Correction of Defective Work. Defective Work shall be modified, replaced, repaired or redone by the Contractor at no change in Contract Sum or Contract Time.

K. Acceptance of Defective Work. Acceptance of defective Work, without specific written acknowledgement and approval of Owner, shall not relieve the Contractor of the obligation to correct such Work.

L. Contract Adjustment for Defective Work. Should Owner determine that it is not feasible or in Owner's interest to require defective Work to be repaired or replaced, an equitable reduction in Contract Sum shall be made by agreement between Owner and Contractor. If equitable amount cannot be agreed upon, a Construction Change Directive will be issued and the amount in dispute resolved in accordance with Document 00 72 00 (General Conditions) Article 12.

M. Non-Responsibility for Defective Work. Owner and Owner's consultants disclaim any and all responsibility for Work produced not in conformance with the Drawings and Specifications.

N. Responsibility for Defective Work. Contractor shall have full responsibility for all consequences resulting from defective work, including without limitation all delays, disruptions, extra inspection and correction costs by Contractor and Owner and re-Work, and extra time and costs of all types. Contractor waives excuses for defective work relating to Owner's prior review of Submittals and/or prior failure to notice defective work in place on inspection.

1.04 Inspections and Tests by Governing Authorities

A. Contractor shall cause all tests and inspections required by governing authorities having jurisdiction to be made for Work under this Contract.

1. Such authorities may include, but are not limited to, the Division of State Architect, Office of Statewide Health Planning Department (**OSHPD**), Public Works Department, Fire Department, and similar agencies.

2. Except as specifically noted, scheduling, conducting and paying for such inspections shall be solely the Contractor's responsibility.

1.05 Inspections and Tests by Serving Utilities

A. Contractor shall cause all tests and inspections required by serving utilities to be made for Work under this Contract. Scheduling conducting and paying for such inspections shall be solely the Contractor's responsibility.

1.06 Inspections and Tests By Manufacturer's Representatives

A. Contractor shall cause all tests and inspections specified to be conducted by materials or systems manufacturers to be made. Additionally, all tests and inspections required by materials or systems manufacturers as conditions of warranty or certification of Work shall be made, the cost of which shall be included in the Contract Sum.

1.07 Inspections By Independent Testing and Inspection Agency

A. Owner will select an independent testing and inspection agency or agencies approved to conduct tests and inspections in accordance with Part 1, Title 24, Section 4-335, California Code of Regulations and as indicated on Drawings, in Specifications and as required by governing authorities having jurisdiction.

B. Responsibility for time and costs shall be as indicated in the schedule below. All time and costs for Contractor's service related to such tests and inspections shall be included in Contract Time and Contract Sum.

C. Contractor shall notify Owner and Inspector in writing (and, if provided, on inspection request form provided by Owner) and, if directed by Owner, testing and inspection agency, when Work is ready for specified tests and inspections. Contractor shall deliver this written notification at least 48 hours before the requested inspection date.

D. Contractor will pay or reimburse Owner for all additional charges by testing and inspection agencies and governing authorities having jurisdiction due to the following:

1. Contractor's failure to properly schedule or notify testing and inspection agency or authorities having jurisdiction.
2. Changes in sources, lots, or suppliers of products after original tests or inspections.
3. Changes in means, methods, techniques, sequences, and procedures of construction that necessitate additional testing, inspection, and related services.
4. Changes in mix designs for concrete and mortar after review and acceptance of submitted mix design.
5. Contractor submitted requests to change materials or products, which are accepted, but require testing and/or reinspection beyond original design.

E. Tests and special inspections to be paid by Owner may, where required, include the following:

SPECIAL INSPECTION

Trench backfill compaction
Asphalt Density

F. Test and Inspection Reports. After each inspection and test, one copy of report shall be promptly submitted to Owner's Representative, the Contractor and/or any other consultant Owner designates and any agency having jurisdiction (if required by Code).

1. Reports shall clearly identify the following:
   (a) Date issued.
   (b) Project name and number.
   (c) Identification of product and Specifications Section in which Work is specified.
   (d) Name of inspector.

(e) Date and time of sampling or inspection.
(f) Location in Project where sampling or inspection was conducted.
(g) Type of inspection or test.
(h) Date of test.
(i) Results of tests.
(j) Comments concerning conformance with Contract Documents and other requirements.

2. Test reports shall indicate specified or required values and shall include statement whether test results indicate satisfactory performance of products.
3. Samples taken but not tested shall be reported.
4. Test reports shall confirm that methods used for sampling and testing conform to specified test procedures.
5. When requested, testing and inspection agency shall provide interpretations of test results.

G. Contractor Responsibilities in Inspections and Tests.

1. Unless specified otherwise, Contractor shall notify Inspector, Owner's Representative, or any other consultant Owner designates and independent testing and inspection agencies 48 hours in advance of expected time of each test and inspection, and for all other operations requiring inspection and testing services, by submitting Contractor's inspection request in writing (or, if Owner provides a specific form, on that form).
   (a) When tests or inspections cannot be performed after such notice, reimburse Owner for testing and inspection agency personnel and travel expenses incurred due to Contractor's negligence.
2. Contractor shall deliver to laboratory or designated location, adequate samples of materials proposed to be used that require advance testing, together with proposed mix designs.
3. Contractor shall cooperate with Inspector, Owner's Representative, or any other consultant Owner designates, and Owner's consultants. Provide access to Work areas and off-Site fabrication and assembly locations, including during weekends and after normal Work hours.
4. Contractor shall provide incidental labor and facilities to provide safe access to Work to be tested and inspected, to obtain and handle samples at the Site or at source of products to be tested, and to store and cure test samples.
5. Contractor shall provide, at least 15 Days in advance of first test or inspection of each type, a schedule of tests or inspections indicating types of tests or inspections and their projected scheduled dates.

1.08 Additional Testing and Inspection

A. If initial tests or inspections made by the Inspector or Owner's Representative, or any other consultant Owner designates reveal that materials do not comply with Title 24, California Code of Regulations or with the Contract Documents, or if Owner has reasonable doubt that materials do not comply with Title 24, California Code of Regulations or with Contract Documents, additional tests and inspections shall be made as directed.

1. If additional tests and inspections establish that materials comply with Contract Documents, Owner shall pay all costs for such tests and inspections.
2. If additional tests and inspections establish that materials do not comply with Contract Documents, all costs of such tests and inspections shall be deducted from Contract Sum.
3. If Work requiring inspection is covered by follow-on or follow-up Work before it is inspected, uncover Work so proper inspections can be performed. All costs of such tests and inspections shall be deducted from Contract Sum.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 5000

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 Summary

A. Section Includes:

1. Temporary Electricity.
2. Temporary Communications.
3. Temporary Water.
4. Fences.
5. Protection of Public and Private Property.
6. Temporary Sanitary Facilities.
7. Temporary Barriers and Enclosures.
8. Water Control.
9. Pollution Control.
10. Construction Aids.
11. Erosion Control.
12. Noise Control.
13. Traffic Control.
14. Removal of Temporary Facilities and Controls.

1.02 Temporary Electricity

A. Contractor shall provide, maintain and pay for electrical power at the Site for construction purposes and for Contractor's and Construction Manager's trailers and any other site offices or trailers required by the Owner in the Contract Documents to be provided by Contractor. Power may be obtained from Owner, but Contractor must provide all necessary wiring and appurtenances for connection to Owner's system and Contractor must coordinate with PG&E to install electricity meters to monitor and pay for Contractor's power usage.

1.03 Temporary Communications

A. Contractor shall provide, maintain and pay for all applicable communications and data services (including without limitation telephone, facsimile, e-mail and internet) to field office commencing at time of Project mobilization, including all installation and connection charges. In addition, the Contractor shall provide, maintain and pay for a high speed internet service (such as cable or DSL) at the Site for both Contractor and Construction Manager's trailers.

1.04 Temporary Water

A. Contractor shall provide, maintain and pay for all suitable quality water service required for construction operations.

B. All water required for and in connection with the Work, including without limitation for dust control, shall be furnished by and at the expense of Contractor. Contractor shall be allowed to utilize water from the Owner for domestic uses. Water shall not be provided for dust control or street cleaning. However, Owner does not guarantee availability of this water. There will be no charge to Contractor for water used. Contractor shall furnish all necessary pipes, hoses, nozzles, ***meters,*** and tools and perform all necessary labor to use Owner's water. Waste of water will not be permitted. Special hydrant wrenches shall be used for opening and closing fire hydrants; in no case shall pipe wrenches be used for this purpose.

1.05 Fences

A. All existing fences affected by the Work shall be maintained by Contractor until Final Completion. Fences which interfere with construction operations shall not be relocated or dismantled until

Owner gives written permission to do so, and the period the fence may be left relocated or dismantled has been agreed upon. Where fences must be maintained across the construction easement, adequate gates shall be installed. Gates shall be kept closed and locked at all times when not in use.

B. On completion of the Work across any tract of land, Contractor shall restore all fences to their original or to a better condition and to their original locations.

1.06 Protection of Public and Private Property

A. Contractor shall protect, shore, brace, support, and maintain all underground pipes, conduits, drains, and other underground construction uncovered or otherwise affected by its construction operations. All pavement, surfacing, driveways, curbs, walks, buildings, utility poles, guy wires, fences, and other surface structures affected by construction operations, together with all sod and shrubs in yards, parkways, and medians, shall be restored to their original condition, whether within or outside the easement. All replacements shall be made with new materials.

B. Contractor shall be responsible for all damage to streets, roads, highways, shoulders, ditches, embankments, culverts, bridges, and other public or private property, regardless of location or character, which may be caused by transporting equipment, materials, or workers to or from the Work, Site or any part thereof, whether by Contractor or Subcontractors. Contractor shall make satisfactory and acceptable arrangements with the Owner, or the agency or authority having jurisdiction over the damaged property, concerning its repair or replacement or payment of costs incurred in connection with the damage.

C. All fire hydrants and water control valves shall be kept free from obstruction and available for use at all times.

1.07 Temporary Sanitary Facilities

A. Contractor shall provide and maintain required temporary buildings with sanitary toilets for use of all workers. At a minimum, sanitary facilities shall be located at trailer site, staging area, and adjacent to work area.

B. Sanitary facilities shall be of reasonable capacity, properly maintained throughout the construction period, and obscured from public view to the greatest practical extent. If toilets of the chemically treated type are used, at least one toilet will be furnished for each 20 persons. Contractor shall enforce the use of such sanitary facilities by all personnel at the Site.

C. Contractor shall comply with all minimum requirements of the Health Department or other public agency having jurisdiction; maintain sanitary facilities in a sanitary condition at all times.

D. Contractor shall provide temporary sanitary facilities for Campus and Staff during utility interruptions.

E. Contractor shall keep sanitary facilities free from graffiti.

1.08 Temporary Barriers and Enclosures

A. Provide barriers to prevent unauthorized entry to construction areas to allow for Owner's use of Site, and to protect existing facilities and adjacent properties from damage from construction operations.

B. Provide barricades required by governing authorities for public access to existing buildings.

C. Protect vehicular traffic, stored materials, Site, and structures from damage.

1.09 Water Controls

A. Grade Site to drain.

B. Maintain excavations free of water.

C. Protect Site from puddling or running water.

D. Provide water barriers as required to protect Site from soil erosion.

E. Provide for drainage of storm water and such water as may be applied or discharged on the Site in performance of the Work. Drainage facilities shall be adequate to prevent damage to the Work, the Site, and adjacent property.

F. Clean, enlarge and/or supplement existing drainage channels and conduit as necessary to carry all increased runoff attributable to Contractor's operations. Provide sediment tanks and other features to avoid increased runoff, to protect Owner's facilities and the Work, and to direct water to drainage channels or conduits. Provide ponding as necessary to prevent downstream flooding.

1.10 Pollution Control

A. Contractor shall comply fully with the most current version of the State Water Resources Construction General Permit in addition to any other local agency requirements.

B. Contractor shall prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris, and other substances resulting from construction activities. No sanitary wastes shall be permitted to enter any drain or watercourse other than sanitary sewers. No sediment, debris, or other substance shall be permitted to enter sanitary sewers without authorization of the receiving sanitary sewer service, and all possible Best Management Practices (**BMPs**) shall be taken to prevent such materials from entering any drain to watercourse. Rate of discharge for storm water may not be increased by the Project during or following construction.

C. In the event that dewatering of excavations is required, Contractor shall obtain the necessary approval and permits for discharge of the dewatering effluent from the local jurisdiction. Contractor shall be responsible for assuring that water quality of such discharge meets the appropriate permit requirements prior to any discharge.

1.11 Construction Aids

A. Contractor shall furnish, install, maintain, and operate all construction aids required by it and its Subcontractors in the performance of the Work, except as otherwise provided herein. Such construction aids shall include elevators and hoists, cranes, temporary enclosures, swing staging, scaffolding and temporary stairs. Construction aids shall be furnished without charge to the Subcontractors, and all necessary erection, maintenance, and operating personnel shall be included. In the event of conflict, the contractor furnishing the equipment shall determine priorities in the best interest of the Project.

1.12 Erosion Control

A. Contractor shall prevent soil erosion on the Site and adjacent property resulting from its construction activities to the maximum extent practical, including implementation of Best Management practices. Effective measures shall be initiated prior to the commencement of clearing, grading, excavation, or other operations that will disturb the natural protection.

B. Work shall be scheduled to expose areas subject to erosion for the shortest possible time, and natural vegetation shall be preserved to the greatest extent practicable. Temporary storage and construction buildings shall be located, and construction traffic routed, to minimize erosion. Temporary fast-growing vegetation or other suitable ground cover shall be provided as necessary to control runoff.

1.13 Noise Control

A. When required by OSHA Standards, construction workers shall be provided with ear protection to operate equipment.

B. Contractor shall take reasonable measures to avoid unnecessary noise. Such measures shall be appropriate for the normal ambient sound levels in the area during working hours. All construction machinery and vehicles shall be equipped with practical sound-muffling devices, and operated in a manner to cause the least noise consistent with efficient performance of the Work. During construction activities on or adjacent to occupied buildings, and when appropriate, Contractor shall

erect screens or barriers effective in reducing noise in the building and shall conduct its operations to avoid unnecessary noise which might interfere with the activities of building occupants.

C. Ensure and provide certification to Owner that all construction equipment and vehicles used for the Work are:

1. Maintained in good mechanical condition
2. Equipped with properly installed engine mufflers

1.14 Traffic Control

A. All traffic associated with the construction, including without limitation delivery and mail trucks, shall enter the Contractor's access gate and shall use the route indicated in Section 01 1100 (Summary of Work). Sign types and locations shall be reviewed by the Owner's Representative. Contractor shall provide signs directing construction and delivery traffic to this gate. Construction truck traffic shall be limited to off-peak traffic hours, between the hours of 10:00 a.m. and 4:00 p.m., Monday through Friday, unless other arrangements are made at least 24 hours in advance with Owner's Representative.

1.15 Removal of Temporary Facilities and Controls

A. Remove temporary utilities, equipment, facilities, and materials prior to final inspection.

B. Remove underground installations.

C. Clean and repair damage caused by installation or use of temporary work.

D. Restore existing facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 5600

SITE SECURITY AND SAFETY

PART 1 GENERAL

1.01 Submittals

A. See Section 01 3300 (Submittals).

B. Site Security.

C. Safety Program.

1.02 Overview.

A. Failure to comply with the requirements of this Section will be considered grounds for Owner or its designated representatives to issue an order suspending Work or terminate the Contract for cause.

B. Owner or its designated representatives may also perform safety inspections, and may issue a written notice ordering Contractor to correct an unsafe act or condition. If Contractor fails to correct the unsafe act or condition within the requested time frame, Owner or its representative may have the condition corrected and bill Contractor for the costs associated with the correction.

1.03 Protection

A. Contractor shall continuously maintain protection as necessary to protect the Work, as a whole and in part, and adjacent property and improvements from accidents, injuries or damage.

B. Properly protect the Work:

1. With lights, guard rails, temporary covers and barricades.
2. Enclose excavations with proper barricades.
3. Brace and secure all parts of the Work against storm and accident.
4. Provide such additional forms of protection that may be necessary under existing circumstances.

C. Contractor shall provide and maintain in good condition all protective measures required to adequately protect the public from hazards resulting from the Work and to exclude unauthorized persons from the Work. When regulated by Building Code, Cal OSHA, or other authority, such legal requirements for protection shall be considered as minimum requirements. Be responsible for the protection in excess of such minimum requirements as required.

1.04 Control of Site

A. Contractor shall ensure that no alcohol, firearms, weapons, or controlled substance enters or is used at the Site. Contractor shall immediately remove from the Site and terminate the employment of any employee found in violation of this provision.

1.05 Site Security

A. As part of the Work included within the Contract Price, Contractor shall take and be fully responsible for all reasonably required measures to protect and maintain the security of persons, existing facilities and property at the Site, including without limitation preventing theft, loss, vandalism and improper concealment of personal property of the Owner and all persons lawfully present on the Site, and including times where workers are not present on the Site. Contractor's measures shall include, at a minimum, maintaining a log of all persons entering and leaving the Site and who they represent, what they are delivering and to whom.

B. No claim shall be made against Owner by reason of any act of an employee or trespasser, and Contractor shall repair all damage to Owner's property resulting from Contractor's failure to provide adequate security measures.

C. Contractor shall maintain a lock on the construction access gate at all times. Contractor shall appoint one person to let people through the gate and maintain the sign-in/out list, with person's name, company, reason for entering, what they are delivering, time and date. Alternatively, Contractor shall provide a full-time guard at the gate at all times to control access and maintain the sign-in/out list. The sign in/out list shall be available to Owner at any time upon request. If Owner determines that the gate has been left unlocked, Contractor shall if requested by Owner provide a full time guard at no additional expense to the Owner.

D. Contractor shall supply additional security fencing, barricades, lighting, and other security measures as required to protect and control the Site.

1.06 Safety Program

A. Within 15 days after Notice to Proceed or prior to starting work at the site (whichever is sooner), Contractor shall submit a Safety Program that has been reviewed and approved by an Industrial Hygienist certified by the American Board of Industrial Hygiene or a Certified Safety Professional. The Safety Program shall include the name, certification number, and certification seal of the Industrial Hygienist or Certified Safety Professional. Comply with the Safety Program and all applicable federal, state, and local regulation codes, rules, law and ordinances.

B. Receipt and/or review of the Safety Program by Owner, Engineer or Owner's representative shall not relieve Contractor of any responsibility for complying with all applicable safety regulations.

C. It is essential that Contractor and each Subcontractor implement an effective and vigorous Safety and Health Program to cover their respective portions of the Work. Subject to Contractor's overall responsibility for Project safety, it shall be understood that the full responsibility for providing a safe place to work with respect to their respective portions of the Work rests with Contractor and each individual Subcontractor.

D. Safety Program components:

1. Injury and Illness Prevention Program (**IIPP**): Conforming to the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 3203), and the California Labor Code (Section 6401.7).
2. Site-Specific Safety and Health Plan (**SSHP**): Describing health and safety procedures that shall be implemented during the Work in order to ensure safety of the public and those performing the Work. Follow the guidelines for a SSHP listed in CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5192, Item (b)(4) f.
3. Confined Space Program: The Site contains permit- and non-permit-confined spaces. Owner will provide Contractor with any available information regarding permit space hazards, entry operations, and safety information relating to work in the permit spaces as set forth in the General Industrial Safety Orders (CCR Title 8, Division 1, Chapter 4, Subchapter 7, Section 5157). Permit space entry is allowed only through compliance with a permit space program meeting the requirements of Section 5157 of the General Industrial Safety Orders. During entry operations, or at the conclusion of entry operations, verbally notify Engineer of the permit space program followed and of any hazards confronted or created in permit spaces during entry operations.

E. The wearing of hard hats shall be mandatory at all times for personnel on Site. Supply sufficient hard hats to equip properly all employees and visitors.

F. Whenever an exposure exists, appropriate personal protective equipment (**PPE**) shall be used by all affected personnel. Supply PPE to all personnel under Contractor's direction.

1.07 Safety Requirements

A. Standards. Contractor shall maintain the Project in accordance with state and local safety and insurance standards.

B. Hazards Control. Contractor shall:

1. Store volatile wastes in covered metal containers and remove from premises daily.
2. Prevent accumulation of wastes that create hazardous conditions.

3. Provide adequate ventilation during use of volatile or noxious substances.

C. Contractor shall conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws. Contractor shall not:

1. Burn or bury rubbish or waste material on the Site.
2. Dispose of volatile wastes such as mineral spirits, oil, or paint thinner in storm or sanitary drains.
3. Dispose of wastes into streams or waterways.

D. Contractor shall provide accident information on the forms provided by Contractor. This information shall be provided on the same day as the occurrence of the applicable incident.

1.08 Site Safety Officer

A. Contractor shall designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection provisions of the Contract Documents including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Submit for review by Owner Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition program, and environmental safety and health plan. After review by Owner, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by Owner.

B. Owner's risk management representative(s) shall be allowed access to accident/injury and illness reports, inspection reports, scheduling and construction meetings, and safety meetings.

1.09 Additional Safety Controls

A. According to industry practices, it is the responsibility of Contractor and Subcontractors of every tier to exercise reasonable care to prevent work-related injuries, property and equipment damage at the Project site, as well as minimize risk to the public and third-party property. Contractor and all Subcontractors shall undertake loss control prevention practices according to those requirements set by federal, state and city laws, statutes and specific project procedures developed for this Project.

B. Should Owner elect to proceed with an Owner Controlled Insurance Program (**OCIP**), in the event of an accident it will be the responsibility of Contractor and Subcontractors of every tier to see that injured workers or members of the public are given immediate medical treatment and that all appropriate medical and claim forms are filed with the appropriate State Authorities and in accordance with the claim procedures developed for this project by OCIP Administrator.

C. Should Owner elect to proceed with an OCIP, failure of a Contractor or Subcontractor to submit Safety documents to the OCIP Administrator will result in the Assessment of liquidated damages against the Contractor in the amount specified in the OCIP.

D. Regardless of the insurance program chosen by the Owner, Contractor and Subcontractors of every tier will be expected to comply with the following safety and loss control requirements:

1. All Subcontractors of any tier shall identify their contact person(s) to Contractor.
2. Contractor and all Subcontractors of any tier Owner procedures regarding dealing with the media.
3. Hard hats will be mandatory as per CAL OSHA Construction Safety orders.
4. All construction employees will be required to be attired in workpants, shirt and appropriate boots or closed toe shoes.
5. No Alcohol will be allowed construction sites at any time.
6. Smoking Policy: Owner's policy is to provide a safe learning and working environment for both students and employees. It is recognized that smoke from cigarettes, pipes and/or cigars is hazardous to health; therefore, it is Owner's intent to provide a smoke-free environment to the greatest extent possible. To achieve this goal, Owner limits smoking on its property to outdoor areas only, at a minimum of 20 feet away from any doorway,

entrance to an indoor facility, or fresh air intake vent. Smoking is prohibited in all of Owner's indoor facilities. The sale or distribution of cigarettes or other smoking material is also prohibited.

(a) Contractor shall develop and enforce a smoking policy within work site area(s) that is in alignment with Owner's smoking policy. Contractor shall prohibit smoking in existing buildings that are under renovation. Contractor shall prohibit smoking in new buildings under construction no later than when the roof and exterior walls have been installed.

E. Controlling access to the construction site is a very high priority, and Contractor and Subcontractors of every tier must take whatever preventative measure, such as barriers, fencing, etc., as are outlined in Contract Specifications.

F. Contractor and Subcontractors of every tier must respond to any Owner complaints about objectionable levels of dust or noise and must provide appropriate abatement as quickly as possible.

G. Construction personnel may not enter Owner's grounds other than the construction site unless accompanied by Owner personnel, and they are allowed only 'incidental' contact with students. Violations of these requirements by any construction employee will result in a mandatory background check of that employee – including fingerprinting – as required by California law.

H. Fall protection is mandatory on all projects in accordance with CAL OSHA, OSHA and any other appropriate code.

I. A site specific Injury and Illness Prevention Program shall be available on site with Contractor. Contractor and Subcontractors of every tier shall abide by this program.

J. Personal radios, headsets, I-Pods and CD players are not allowed on the job site.

K. Contractor and Subcontractors of every tier must attend the pre-construction safety meeting.

L. No sexual reference or preference shall be permitted on any piece of clothing or the hardhat. Any construction employee observed disregarding this policy shall be removed from the job site until further notice.

M. All construction employees shall park in their designated parking area. Any sticker attached to the employees' vehicle that displays any form of sexual preference or reference shall be removed prior to parking at the site. Each employee will provide their license plate number to Contractor. Any employee disregarding this policy shall be removed from the site until further notice.

N. Contractor and Subcontractors of every tier shall control employee break time activities to assure cleanup of all soda cans, food wrappers, plastic bottles, and food containers, from break areas. All break areas shall be cleaned immediately after the break and all waste placed in trash receptacles. No glass containers are permitted on the site.

O. Theft or willful damage to any property of the Owner, faculty, student, or other contractors will be prosecuted fully.

P. No guns, switchblades, or knives with blades greater than two inches shall be allowed on the job site. Any employee disregarding this policy shall be removed from the site until further notice.

Q. The Prime Contractor shall assume overall responsibility for project safety compliance.

R. Contractor and all Subcontractors shall advise those non-English speaking employees in their native language either in a written format or via an interpreter of these policies.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 5650

EXCAVATION SUPPORT AND PROTECTION

PART 1 - GENERAL

1.01 DESCRIPTION

A. The work of this section covers protective installations consisting of shores, wales, braces, posts, piling, sheeting, anchorages and fastenings required to perform the work.

1.02 SUBMITTALS

A. In accordance with Section 01 3300 – Submittals.

B. Submit to the Engineer for record purposes copies of the drawings and calculations used to determine the strength, size, and stability of the protective installations. All designs submitted under this section shall be signed by a Structural or Civil Engineer duly registered in the State of California.

C. Prior to the start of any work involving sheeting and bracing, the Contractor shall obtain a valid excavation permit from the Cal OSHA City office as required. A copy of the permit and all accompanying drawings, data, and calculations shall be submitted to the Engineer for record purposes only and not for review or approval.

D. Submit confined space certificates of all personnel anticipated to enter existing pipelines or structures.

1.03 GENERAL DESIGN REQUIREMENTS

A. Design excavation support systems to meet requirements and standards of the Occupational Safety and Health Administration (OSHA).

B. Design excavation support systems to meet the requirements of California Code of Regulations, Title 8 – Construction Safety Orders and California Labor Code Sections 6705 to 6707

C. Design structural steel members in accordance with the American Institute of Steel Construction (AISC) Manual of Steel Construction Allowable Stress Design and the Uniform Building Code.

D. Excavation support systems for trench excavations shall be selected by the Contractor based on the soil conditions, depths of trench excavations, groundwater conditions and other site conditions. No attempt has been made by Engineer to define acceptable trench shoring options.

1.04 PERFORMANCE REQUIREMENTS

A. Design and install excavation support and protection systems that are capable of:

1. Supporting excavation sidewalls and bottom to maintain the required excavation or trench section.

2. Resisting soil and hydrostatic pressure and superimposed construction loads and other live loads.

3. Protecting existing facilities in the vicinity of the excavation from damage due to settlement or movement of soil

B. Provide professional engineering services necessary to assume engineering responsibility, including preparation of Shop Drawings and a comprehensive engineering analysis by a qualified professional engineer registered in the State of California.

C. Install and remove excavation support and protection systems without damaging existing buildings, pavements, utilities, railroad facilities and other improvements adjacent to excavation.

D. Excavations

1. Protect workers from hazard of caving ground and other hazards.

2. Install excavation protection system in locations where:

a. Protection system is specifically indicated on the Drawings.

b. Excavations are equal to, or greater than, 5 feet deep.

c. Excavations are less than 5 feet deep, but there is a potential for cave-in.

d. When engineering analyses prepared by the Contractor indicate the stability of existing structures and facilities may be jeopardized by settlement or movement of soil.

e. Contractor may utilize a movable trench shield at the receiving pit in lieu of a constructed shoring system.

1.05 ALTERNATIVES

A. The use or application of alternative methods and materials, or the employment of propriety systems in lieu of those specified herein, will be allowed if the Contractor demonstrates their suitability in conformance with the design submittal and excavation permitting requirements of section 1.04 and the quality assurance

requirements of section 1.03. Demonstration of suitability and compliance with these specifications and approval of the Engineer shall be required.

1.06 JOB SITE POSTINGS

A. Maintain at least one copy of the protection system design at the job site while the excavation is open in accordance with the requirements of California Code of Regulations, Title 8 Construction Safety Orders and the California Labor Code

1.07 SEQUENCE AND SCHEDULING

A. Do not begin excavations or installation of excavation supports until submittals for excavation support systems have been accepted by the Engineer and until materials necessary for installation are on site.

PART 2 - PRODUCTS

2.01 MATERIALS

A. General: Provide materials that are either new or in serviceable condition.

B. Sheet Piling: Sheeting shall be continuous interlock type. Steel sheeting shall be made in accordance with ASTM A 857 from steel meeting the requirements of ASTM A570, Grade 30. The sides of each piece of sheeting shall be furnished with an interlock that is continuous for the full length of the sheeting. The interlock shall have an opening of sufficient width to allow free slippage of the adjoining sheet. Sheeting shall be "Metric Sheeting" as manufactured by Contech Construction Products, Inc., or equal

C. Structural Steel Soldier Beams: ASTM A 36, ASTM A 690 or ASTM A 992.

D. Wood Lagging: Lumber, mixed hardwood, nominal rough thickness as determined by design calculations, but not less than 3 inches.

E. Lean Concrete Mix

1. A mixture of sand, fine aggregate, water and 2 sacks of cement per cubic yard to create a flowable mixture that fills voids.

2. Minimum Compressive Strength: 1500 psi.

PART 3 - EXECUTION

3.01 GENERAL

A. Install sheeting and bracing for trench and structure excavation as the work requires. Butt planks to and/or interlock sheets to exclude groundwater and fines, preventing the erosion of voids outside sheeting. In soft, wet ground drive sheeting to a lower level as excavation progresses so that sheeting is embedded in

undisturbed earth. Install wales and struts at close intervals so as to prevent displacement of the surrounding earth and to maintain safe conditions in the work area. Any damage proven to result from improper installation shall be the responsibility of the Contractor.

B. Temporary sheeting for trench and structure excavation may be removed and re- used. Withdraw individual planks alternatively as the backfill is raised, maintaining sufficient sheeting and bracing to protect the work and workmen. Remove bracing completely.

3.02 PREPARATION

A. Prior to beginning installation of the excavation support system, pothole to locate existing buried utilities in the vicinity of the excavation. Survey utilities and compare actual locations to those locations indicated on the Drawings and the Shop Drawings. Determine any areas of conflict and revise the design and layout of the excavation support system to eliminate these conflicts.

3.03 TRENCHING SUPPORT SYSTEMS

A. Where structural excavation support systems are not specifically indicated on the Drawings, trench support systems consisting of hydraulic jacks and plates, trench shield systems, and other trench protection systems may be utilized.

3.04 SOLDIER BEAMS AND LAGGING

A. Before starting excavation, drive steel soldier beams or install steel soldier beams in pre-drilled holes.

1. Installation of Soldier Beams in Pre-Drilled Holes

a. Diameter of pre-drilled hole: Not to exceed the outside dimensions of the soldier beam.

b. Backfill around soldier beam using a lean concrete mix.

B. Space soldier beams at regular intervals not to exceed allowable flexural strength of the wood lagging. Align exposed faces of flanges to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.

C. Install wood lagging within flanges of soldier beams as excavation proceeds. Trim excavation as required to install lagging.

D. Install horizontal wales at locations indicated on the shop drawings and secure to soldier beams.

E. Fill voids behind lagging with gravel, lean concrete or other material acceptable to the Engineer.

3.05 SHEET PILING

A. Depth of piling shall be sufficient to prevent heave when the trench is dewatered.

B. Before starting excavation, install one-piece sheet piling lengths and tightly interlock to form a continuous barrier. Align exposed faces of sheet piling to vary not more than 2 inches from a horizontal line and not more than 1:120 out of vertical alignment.

C. If any pile is damaged during driving, it shall be removed and replaced. If piles are driven out of interlock or are not properly plumbed or aligned, the piles shall be pulled and re-driven.

D. Cut tops of sheet piling to uniform elevation at top of excavation.

3.06 BRACING

A. Locate bracing to clear temporary and permanent work and to allow lowering of material and equipment into the excavation.

B. If necessary to move brace, install new bracing before removing original brace.

C. Install internal bracing when calculations indicate bracing is required to prevent spreading or distortion of braced frames.

D. Maintain bracing until structural elements are supported by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures.

3.07 INSPECTION

A. Designer of the shoring system is responsible for confirming proper installation of the shoring system. Shoring system designer, or a representative of the designer, shall make site visits to confirm installation is in accordance with the accepted shoring design.

B. Submit letter of proper installation confirming installation is in accordance with the shoring design.

3.08 REMOVAL

A. Remove all of the excavation support systems.

B. Remove excavation support and protection systems when backfill can support the remaining open excavation and bear soil and hydrostatic pressures. Remove support and protection systems in stages to avoid disturbing underlying soils or damaging structures, pavements, facilities, and utilities.

C. After removal, promptly fill voids resulting from the extraction of shoring with 2

sack cement slurry. Repair or replace adjacent work damaged or displaced by excavation support and protection systems removal.

3.09 PROTECTION OF EXISTING FACILITIES

A. It is the Contractor's responsibility to protect existing facilities from the consequences of Contractor's work. Where any sloped excavation infringes on or potentially endangers any existing facilities or structures, provide shoring, sheeting, and bracing according to shop drawings and calculations signed and stamped by a structural or civil engineer registered in the State of California.

END OF DOCUMENT

SECTION 01 6000

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 Section includes

A. Products.

B. Product Options and Substitutions.

C. Product Delivery Requirements.

D. Shipping Requirements.

E. Product Storage and Handling Requirements.

1.02 Products

A. Products: Term includes new material, machinery, components, equipment, fixtures, and systems forming the Work. Term does not include machinery and equipment used for preparation, fabrication, conveying and erection of the Work. Products may also include existing materials or components required for reuse.

B. Contractor shall not use materials and equipment removed from existing premises, except as specifically permitted by the Contract Documents.

C. For similar components, Contractor shall provide interchangeable components of the same manufacturer.

D. Tabulate products by Specification Section number and title.

E. For products specified only by reference standards, list each such product:

1. Name and address of manufacturer.
2. Trade name.
3. Model or catalog designation.
4. Manufacturer's data:
   (a) Reference standards.
   (b) Performance test data.

1.03 Product Options and Substitutions

A. Summary. This Paragraph 1.03 describes procedures for selecting products and requesting substitutions of unlisted materials in lieu of materials named in the Specifications or approved for use in Addenda that were not already the subject of a Document 00 6325 (Substitution Request Form) submittal as provided in Document 00 2113 (Instructions to Bidders). Time periods provided in Document 00 2113 are mandatory.

B. All substitution requests must be made by using Document 00 63 5 (Substitution Request Form), regardless of when requested.

C. Contractor's Options.

1. For products specified only by reference standard: Select any product meeting that standard.
2. For products specified by naming one or more products or manufacturers:
   (a) Select products of any named manufacturer meeting specifications.
   (b) If product becomes unavailable due to no fault of Contractor, submit Request for Substitution (**RFS**), including all information contained in this Section 01 6000 (Product Requirements) and a fully executed Document 00 6325 (Substitution Request Form), but using the term "Contractor" each place the term "Bidder" or "Proposer" appears in that form.

D. Substitutions.

1. Except as provided in Document 00 2113 (Instructions to Bidders) with respect to “or equal” items, Owner will consider Contractor’s substitution requests only when product becomes unavailable due to no fault of Contractor, or if the product specified no longer complies with local regulations or laws.
2. Catalog numbers and specific brands or trade names followed by the designation “or approved equal” are used in conjunction with material and equipment required by the Specifications to establish the standard of quality, utility, and appearance required. Substitutions which are equal in quality, utility, and appearance to those specified may be accepted subject to the following provisions.
   (a) Failure of Contractor to submit proposed substitutions for approval in the manner described above and within the time prescribed shall be sufficient cause for disapproval by Owner or the Architect of any substitutions otherwise proposed.
   (b) Such acceptance shall not relieve Contractor from complying with the requirements of the Drawings and Specifications.
   (c) Wherever more than one manufacturer’s product is specified, the first-named product is the basis for the project design and the use of alternative named manufacturer’s products or substitutes may require modifications in the project design and construction. If such alternatives are proposed by Contractor and are favorably reviewed by Architect, Contractor shall be responsible for all costs of any changes resulting from Contractor’s proposed substitutions which affect other parts of the Work, including the cost of Architect’s additional services, testing, permits, etc. thereby made necessary.
   (d) If a request for substitution occurs after the period specified in Document 00 2113, the substitution may be reviewed at the sole discretion of Owner and Architect, and the costs of such review, as approved by Owner, shall be borne by Contractor and will be deducted from the Contract Sum.
   (e) Requests for review of proposed substitute items will not be accepted from anyone other than Contractor. The RFS shall state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice Contractor’s achievement of Substantial Completion on time, and whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for work on the Project).
3. Contractor shall submit separate RFS and Document 00 6325 (five copies each) for each product and support each request with:
   (a) Product identification.
   (b) Manufacturer’s literature.
   (c) Samples, as applicable.
   (d) Name and address of similar projects on which product has been used, and dates of installation.
   (e) Name, address, and telephone number of manufacturer’s representative or sales engineer.
   (f) For construction methods: Detailed description of proposed method; drawings illustrating methods.
4. Where required, Contractor shall itemize a comparison of the proposed substitution with product specified and list significant variations including, but not limited to dimensions, weights, service requirements, and functional differences. If variation from product specified is not pointed out in submittal, variation will be rejected even though submittal was favorably reviewed. Identify all variations of the proposed substitute from that specified in the RFS and indicate available maintenance, repair, and replacement service.
5. Contractor shall state whether the substitute will require a change in any of the Contract Documents (or provisions of any other direct contract with Owner for work on the Project) to adapt the design of the proposed substitute, and whether or not incorporation or use of the substitute in connection with Work is subject to payment of any license fee or royalty. Submit data relating to changes in construction schedule.

6. Contractor shall include accurate cost data comparing proposed substitution with product and amount of net change in Contract Sum including, but not limited to, an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by Owner in evaluating the proposed substitute. Owner may require Contractor to furnish additional data about the proposed substitute.
7. Owner will not consider substitutions for acceptance (or, in Owner's sole discretion, Owner may make Contractor solely responsible for all resulting costs, expenses and other consequences) when a substitution:
   (a) Results in delay meeting construction Milestones or completion dates.
   (b) Is indicated or implied on submittals without formal request from Contractor.
   (c) Is requested directly by Subcontractor or supplier.
   (d) Acceptance will require substantial revision of Contract Documents.
   (e) Disrupts Contractor's job rhythm or ability to perform efficiently.
8. Substitute products shall not be ordered without written acceptance of Owner.
9. Owner will determine acceptability of proposed substitutions and reserve right to reject proposals due to insufficient information.
10. Accepted substitutions will be evidenced by a Change Order. All Contract Documents requirements apply to Work involving substitutions.

E. Contractor's Representation and Warranty.

1. Contractor's RFS constitute a representation and warranty that Contractor.
   (a) Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
   (b) Will provide the same warranty for substitution as for specified product.
   (c) Will coordinate installation and make other changes that may be required for Work to be complete in all respects.
   (d) Waives claims for additional costs which may subsequently become apparent.
   (e) Will compensate Owner for additional redesign costs associated with substitution.
   (f) Will be responsible for Construction Schedule slippage due to substitution.
   (g) Will be responsible for Construction Schedule delay due to late ordering of available specified products caused by requests for substitution that are subsequently rejected by Owner.
   (h) Will compensate Owner for all costs; including extra costs of performing Work under Contract Documents, extra cost to other contractors, and any claims brought against Owner, caused by late requests for substitutions or late ordering of products.

F. Owner's Duties. Owner will:

1. Review Contractor's RFS with reasonable promptness.
2. Notify Contractor in writing of decision to accept or reject requested substitution.

G. Administrative Requirements.

1. Specified products, materials, or systems for Project may include architectural or engineering or on-file standards required by the regulatory agency. Contractor's substitution of products, materials or systems may require additional architectural or engineering, testing, reviews, approvals, assurances, or other information for compliance with regulatory agency requirements or both. Contractor shall provide all agency approvals or other additional information required and pay additional costs for required Owner services made necessary by the substitution at no increase in Contract Sum or Contract Time, and as a part of substitution proposal.

1.04 Product Delivery Requirements

A. Contractor shall:

1. Deliver products in accordance with manufacturer's instructions.
2. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.

B. Preparation for Shipment. All equipment shall be suitably packaged to facilitate handling and to protect against damage during transit and storage. All equipment shall be boxed, crated, or otherwise completely enclosed and protected during shipment, handling, and storage. All equipment shall be protected from exposure to the elements and shall be kept dry at all times.

1. Painted and coated surfaces shall be protected against impact, abrasion, discoloration, and other damage. Painted and coated surfaces which are damaged prior to acceptance of equipment shall be repainted to the satisfaction of Owner.
2. Grease and lubricating oil shall be applied to all bearings and similar items.

C. Shipping. Before shipping each item of equipment shall be tagged or marked as identified in the delivery schedule or on the Shop Drawings. Complete packing lists and bills of material shall be included with each shipment.

1.05 Product Storage and Handling Requirements

A. Contractor shall:

1. Store products only in staging area per provisions of Section 01 1100 (Summary of Work).
2. Handle, store, and protect products in accordance with manufacturer's instructions, with seals and labels intact and legible.
3. Store sensitive products in weather-tight, climate-controlled enclosures.
4. For exterior storage of fabricated products, place on appropriate supports, above ground.

B. Contractor shall also:

1. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to avoid condensation.
2. Store loose granular materials on solid flat surfaces in a well-drained area.
3. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
4. Arrange storage of products to permit access for inspection.
5. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

C. Without limiting the foregoing:

1. Contractor shall bear the responsibility for delivery of equipment, spare parts, special tools, and materials to the Site and shall comply with the requirements specified herein and provide required information concerning the shipment and delivery of the materials specified in Contract Documents. These requirements also apply to any sub-suppliers making direct shipments to the Site. Acceptance of the equipment shall be made only after it is installed, tested, placed in operation and found to comply with all the specified requirements.
2. All items shall be checked against packing lists immediately on delivery to the Site for damage and for shortages. Damage and shortages shall be remedied with the minimum of delay.
3. No metalwork (miscellaneous steel shapes and reinforcing steel) shall be stored directly on the ground. Masonry products shall be handled and stored in a manner to hold breakage, chipping, cracking, and spalling to a minimum. Cement, lime, and similar products shall be stored off the ground on pallets and shall be covered and kept completely dry at all times. Pipe fittings and valves may be stored out of doors, but must be placed on wooden blocking. PVC pipe, geomembranes, plastic liner, and other plastic materials shall be stored off the ground on pallets and protected from direct sunlight.
4. Electrical equipment, and all equipment with antifriction or sleeve bearings shall be stored in weathertight structures maintained at a temperature above 60°F. Electrical equipment,

controls, and insulation shall be protected against moisture and water damage. All space heaters furnished in equipment shall be connected and operated continuously.

5. Equipment having moving parts such as gears, bearings, and seals, shall be stored fully lubricated with oil, grease, etc., unless otherwise instructed by the manufacturer. Manufacturer's storage instructions shall be carefully followed by Contractor.
6. When required by the equipment manufacturer, moving parts shall be rotated a minimum of twice a month to ensure proper lubrication and to avoid metal to metal "welding". Upon installation of the equipment, Contractor shall, at the discretion of Owner, start the equipment at one-half load for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
7. When required by the equipment manufacturer, lubricant shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment by Contractor at the time of acceptance.
8. Equipment and materials shall not show any pitting, rust, decay, or other deleterious effects of storage when installed in the Work.
9. In addition to the protection specified for prolonged storage, the packaging of spare units and spare parts shall be for export packing and shall be suitable for long-term storage in a damp location. Each spare item shall be packed separately and shall be completely identified on the outside of the container.

D. Handling. Stored items shall be laid out to facilitate their retrieval for use in the Work. Care shall be taken when removing the equipment for use to ensure the precise piece of equipment is removed and that it is handled in a manner than does not damage the equipment.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION

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DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 7400

CLEANING AND WASTE MANAGEMENT

PART 1 GENERAL

1.01 Section Includes:

A. Progress Cleaning.

B. Final Cleaning.

1.02 Progress Cleaning

A. Contractor shall perform periodic daily cleaning to ensure that any streets and other Owner and public properties are maintained free from accumulation of waste materials, dust, mud, and debris.

B. Where required, Contractor shall wet down surfaces to lay dust and prevent the blowing of dust to nearby residences or public properties.

C. Contractor shall keep all streets clean and free of dust, mud, and debris resulting from Contractor's operations. Daily cleanup throughout the job will be necessary as Contractor progresses with Work, but extra attention to cleanup shall be made prior to weekends and holidays. Without limiting the foregoing, Contractor shall remove trench spoil along traveled ways daily; grade and vacuum broom surfaces initially where applicable and later water flush with high-pressure sprays, being careful to avoid downstream contamination.

D. All dust, mud, spoils, and construction debris shall be removed daily from all roadways, ditches, shoulders, and private property (fills or spoils placed on private property at private property owner's written request excepted).

E. Disposal of Materials:

1. As part of the scope of Work included within the Contract Sum, Contractor shall be fully responsible for disposing of all construction debris, dirt and spoils resulting from the Work.
2. All waste materials, debris, dirt and rubbish shall be disposed of at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations.
3. Contractor is cautioned that County and cities within the County have regulations governing the disposal of rubble, broken pavement, and similar materials.
4. Contractor shall become familiarized with the requirements of the agency having jurisdiction over any contemplated disposal site and shall comply with all such requirements.

F. The Contractor will estimate and report to the Owner, an estimate of quantities (e.g. tonnage) of waste materials disposed of for compliance with AB75. Reporting requirements include: the nature of materials, destination, volume and tonnage.

G. All excess soil from performance of Work shall be disposed at sites to be chosen by Contractor in accordance with applicable local, state, and federal regulations. If Contractor elects to dispose of soil on any private property, prior to any dumping, a letter allowing such dumping shall be obtained from the property owner and presented to Owner. Contractor is advised that the property owner is required to obtain a fill permit from the applicable government agency(ies). In addition, placement of fill in wetland areas is subject to permit procedures of the US Army Corps of Engineers. At the completion of Work, a letter from each affected property owner will be required releasing Contractor**,** County, Owner and any Owner consultant from future liability.

H. If Contractor does not properly clean the Site, in Owner's opinion, then Owner shall have the option of using outside equipment to perform the cleanup and such cost will be withheld from the Contract Sum.

1.03 Final Cleaning

A. Contractor shall execute final cleaning prior to final inspection, using only properly skilled workers.

B. Remove grease, dust, dirt, stains, labels, fingerprints, and other foreign materials from exposed interior and exterior finished surfaces.

C. Repair, patch, and touch up marred surfaces to match adjacent finishes.

D. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

E. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.

F. Clean Site; mechanically sweep paved areas.

G. Remove waste and surplus materials, rubbish, and construction facilities from Site.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

DIVISION 1 GENERAL REQUIREMENTS

SECTION 01 7700

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 Summary

A. Section describes requirements and procedures for:

1. Removal of Temporary Construction Facilities
2. Substantial Completion
3. Equipment and Systems
4. Final Completion
5. Final Cleaning
6. Close Out
7. Warranties
8. Release of Claims
9. Fire Inspection Coordination
10. Building Inspection Coordination

1.02 Substantial Completion

A. Removal of Temporary Construction Facilities and Project Cleaning.

1. Prior to Substantial Completion inspection: remove temporary materials, equipment, services, and construction; clean all areas affected by the Work; clean and repair damage caused by installation or use of temporary facilities; restore permanent facilities used during construction to specified condition.

B. Equipment and Systems.

1. Prior to Substantial Completion, Contractor shall start up, run for periods prescribed by Owner, operate, adjust and balance all manufactured equipment and Project systems, including but not limited to, mechanical, electrical, safety, fire, and controls.
2. Demonstrate that such equipment and systems conform to contract standards and manufacturer's guarantees. Where applicable, use testing protocols specified, and if the contract is silent, then consistent with manufacturer's recommendations and industry standards.

C. Procedure for Substantial Completion.

1. When Contractor considers Work or designated portion of the Work as Substantially Complete, submit written notice to Owner, with list of items remaining to be completed or corrected and explanation of why such items do not prevent Owner's beneficial use and occupancy of the Work for its intended purposes. Within reasonable time, Owner will inspect to determine status of completion.
2. Should Owner determine that Work is not Substantially Complete, Owner will promptly notify Contractor in writing, listing all defects and omissions. Contractor shall remedy deficiencies and send a second written notice of Substantial Completion. Owner will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then pay the cost of the reinspection.
3. When Owner concurs that Work is Substantially Complete, Owner will issue a written notice or certificate of Substantial Completion, accompanied by Contractor's list of items to be completed or corrected as verified by Owner.
4. Manufactured units, equipment and systems that require startup must have been started up and run for periods prescribed by Owner before a Certificate before a notice or certificate of Substantial Completion will be issued.

5. A punch list examination will be performed upon Substantial Completion. One follow-up review of punch list items for each discipline will be provided. If further Site visits are required to review punch list items due to incompleteness of the Work by Contractor, Contractor will reimburse Owner for costs associated with these visits.

1.03 Final Completion

A. Requirements.

1. Final Completion occurs when Work meets requirements for Owner's Final Acceptance.

B. Procedure.

1. When Contractor considers Work is Finally Complete, submit written certification that:
   (a) Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
   (b) Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Equipment and systems have been tested in the presence of Owner, and are operative.
   (c) Project Record Documents are completed and turned over to Owner as required by Section 01 78 39, and Work is complete and ready for final inspection.
2. In addition to submittals required by Contract Documents, provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
3. Should Owner determine that Work is incomplete or Defective, Owner promptly will so notify Contractor, in writing, listing the incomplete or Defective items. Contractor shall promptly remedy the deficiencies and notify the Owner when it is ready for reinspection.

C. Final Adjustments of Accounts.

1. Contractor shall submit a final statement of accounting to Owner, showing all adjustments to the Contract Sum and complete and execute Document 00 6530 (Agreement and Release of Claims).
2. If so required, Owner shall prepare a final Change Order for submittal to Contractor, showing adjustments to the Contract Sum that were not previously made into a Contract Modification.

D. Warranties.

1. Execute Contractor's Submittals and assemble warranty documents, and Installation, Operation, and Maintenance Manuals, executed or supplied by Subcontractors, suppliers, and manufacturers. Provide table of contents and assemble in 8½ inches by 11 inches three-ring binder with durable plastic cover, appropriately separated and organized. Assemble in Specification Section order.
2. Submit material prior to final Application for Payment. For equipment put into use with Owner's permission during construction, submit within 14 Days after first operation. For items of Work delayed materially beyond Date of Substantial Completion, provide updated Submittal within 14 Days after acceptance, listing date of acceptance as start of warranty period.
   (a) Warranties are intended to protect Owner against failure of Work and against deficient, defective and faulty materials and workmanship, regardless of sources.
   (b) Limitations: Warranties are not intended to cover failures that result from the following:
      (i) Unusual or abnormal phenomena of the elements
      (ii) Vandalism after Substantial Completion
      (iii) Insurrection or acts of aggression including war
   (c) Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.

(d) Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than one year after corrected Work was done, whichever is later.

(e) Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.dd

3. Warranty Forms: Submit drafts to Owner for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents. Warranty shall be countersigned by manufacturers. Where specified, warranty shall be countersigned by Subcontractors and installers.

4. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.

5. Term of Warranties: For materials, equipment, systems, and workmanship, warranty period shall be one year minimum from date of Final Completion of entire Work except where:

(a) Detailed Specifications for certain materials, equipment or systems require longer warranty periods.

(b) Materials, equipment or systems are put into beneficial use of Owner prior to Final Completion as agreed to in writing by Owner.

E. Warranty of Title.

1. No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier. Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all Work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of Owner.

1.04 Final Cleaning

A. Contractor shall comply with all applicable requirements in Section 01 7400 (Cleaning).

1.05 Project Record Documents

A. Contractor shall comply with all applicable requirements in Section 01 7839 (Project Record Documents).

1.06 Project Guarantee

A. Requirements for Contractor's guarantee of completed Work are included in Article 9 of Document 00 7200 (General Conditions). Guarantee Work done under Contract against failures, leaks, or breaks or other unsatisfactory conditions due to defective equipment, materials, or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of one year from date of Final Acceptance.

B. Neither recordation of Final Acceptance nor final certificate for neither payment nor provision of the Contract or partial or entire use or occupancy of premises by Owner shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.

C. Owner may make repairs to defective Work as set forth in Document 00 7200 (General Conditions).

D. If, after installation, operation, or use of materials or equipment to be provided under Contract proves to be unsatisfactory to Owner, Owner shall have right to operate and use materials or

equipment until said materials and equipment can, without damage to Owner, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.

E. Nothing in this Section shall be construed to limit, relieve, or release Contractor's, Subcontractors', and equipment suppliers' liability to Owner for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees, or Subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by Owner of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.07 Turn-In.

A. Contract Documents will not be closed out and final payment will not be made until all keys issued to Contractor during prosecution of Work and letters from property owners, pursuant to Contract Documents, are turned in to Owner.

1.08 Release of Claims.

A. Contract Documents will not be closed out and final payment will not be due or made until Document 00 6530 (Agreement and Release of Claims) is completed and executed by Contractor and Owner.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 01 7839

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 Summary

A. Section Includes: Administrative and procedural requirements for Project Record Documents.

B. Project Record Documents required include:

1. Marked-up copies of Drawings
2. Marked-up copies of Shop Drawings
3. Newly prepared Drawings
4. Marked-up copies of Specifications, Addenda, Change Orders and Contract Change Directives (**CDs**)
5. Marked-up Product Data submittals
6. Record Samples
7. Field records, such as photographs, for variable and concealed conditions
8. Maintenance forms for major equipment
9. Record information on Work that is recorded only schematically

C. Specific Project Record Documents requirements that expand requirements of this Section are included in the individual Sections of Divisions 02 through 60.

D. General Project closeout requirements are included in Section 01 7700 (Contract Closeout).

E. Maintenance of Documents and Samples:

1. Store Project Record Documents and Samples in the field office apart from Contract Documents used for construction.
2. Do not permit Project Record Documents to be used for construction purposes.
3. Maintain Project Record Documents in good order and in a clean, dry, legible condition.
4. Make Documents and Samples available at all times for inspection by Owner.

F. Dedicate one full size set of the Drawings and one Project Manual for use for recording as-built conditions.

1.02 Project Record Drawings

A. Mark-up Procedure: During the construction period, maintain a set of blueline or blackline prints of Contract Drawings and Shop Drawings for Project Record Documents purposes. Label each document (on first sheet or format page) “PROJECT RECORD” in 2-inch high printed letters. Keep record documents current. Note: A reference by number to a Change Order, CD, RFI, RFQ, RFP, Field Order or other such document is not acceptable as sufficient record information on any record document. Do not permanently conceal any Work until required information has been recorded.

1. Mark these Drawings to indicate the actual installation where the installation varies appreciably from the installation shown originally. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:
   (a) Dimensional changes to the Drawings
   (b) Revisions to details shown on the Drawings
   (c) Depths of various elements of foundation in relation to main floor level or survey datum
   (d) Horizontal and vertical location of underground utilities and appurtenances referenced to permanent surface improvements
   (e) Location of internal utilities and appurtenances concealed in construction referenced to visible and accessible features of structure

(f) Locations of underground work, points of connection with existing utilities, changes in direction, valves, manholes, catch basins, capped stub outs, invert elevations, and similar items
(g) Actual numbering of each electrical circuit
(h) Field changes of dimension and detail
(i) Revisions to routing of piping and conduits
(j) Revisions to electrical circuitry
(k) Actual equipment locations
(l) Duct size and routing
(m) Changes made by Change Order or CD
(n) Details not on original Contract Drawings

2. Mark completely and accurately Project Record Drawing prints of Contract Drawings or Shop Drawings, whichever is the most capable of showing actual physical conditions. Where Shop Drawings are marked, show cross-reference on Contract Drawings location.
3. Mark Project Record Drawing sets with red, erasable colored pencil; use other colors to distinguish between changes for different categories of the Work at the same location.
4. Mark important additional information that was either shown schematically or omitted from original Drawings.
5. Note CD numbers; alternate numbers, Change Order numbers, and similar identification.
6. Responsibility for Mark-up: Where feasible, the individual or entity who obtained Project Record Drawing data, whether the individual or entity is the installer, Subcontractor, or similar entity, is required to prepare the mark-up on Project Record Drawings.
   (a) Accurately record information in an understandable and legible drawing technique.
   (b) Record data as soon as possible after it has been obtained. In the case of concealed installations, record and check the mark-up prior to concealment.

B. Preparation of Record Drawings: Immediately prior to inspection for Certification of Substantial Completion, review completed marked-up Project Record Drawings with Owner, Project Inspector (if any) and Architect/Engineer to consolidate and ensure accuracy of information. Once accuracy of information is confirmed, prepare and submit a full electronic set, in AutoCAD format, of as-built. When authorized, prepare a full set of correct transparencies of Contract Drawings and Shop Drawings.

1. Incorporate changes and additional information previously marked on print sets. Delete, redraw, and add details and notations where applicable. Identify and date each Drawing; include the printed designation “PROJECT RECORD DRAWING” and date prepared in a prominent location on each Drawing.
2. Refer instances of uncertainty to Owner for resolution.
3. Distribution: Whether or not changes and additional information were recorded, organize and bind original marked-up set of prints that were maintained during the construction period into manageable sets. Bind the set with durable paper cover sheets, with appropriate identification, including titles, dates, and other information on cover sheets, and submit to Owner.

C. Distribution of Marked-Up Drawings: Submit the marked-up Project Record Drawings set to Owner for Owner’s records.

D. Shop Drawings and Samples: Maintain as record documents; legibly annotate Shop Drawings and Samples to record changes made after review.

E. In addition to requirements of this Section, comply with supplemental requirements of Divisions 02 through 60.

1. Divisions [**Owner to Provide**] of the Specifications require the preparation of large scale, detailed layout drawings of the Work of those Divisions. These layout drawings are not Shop Drawings as defined by Document 00 7200 (General Conditions), but together with Shop Drawings or layout drawings of all other affected Sections are used to check, coordinate, and integrate the work of the various Sections.
2. Include these layout drawings as part of the Project Record Documents.

1.03 Project Record Specifications

A. During the construction period, maintain one copy of the Project Specifications, including addenda and modifications issued, for Project Record Documents purposes.

B. Mark the Project Record Specifications to indicate the actual installation where the installation varies substantially from that indicated in Specifications and Modifications issued. Note related Project Record Drawing information, where applicable. Give particular attention to substitutions, selection of product options, Change Order and Construction Change Directive work, and information on concealed installation that would be difficult to identify or measure and record later.

1. In each Specification Section where products, materials or units of equipment are specified or scheduled, mark the copy with the proprietary name and model number of the product furnished.
2. Record the name of the manufacturer, catalog number, supplier and installer, and other information necessary to provide a record of selections made and to document coordination with Project Record Product Data submittals and maintenance manuals.
3. Note related Project Record Product Data, where applicable, for each principal product specified, indicate whether Project Record Product Data has been submitted in maintenance manual instead of submitted as Project Record Product Data.
4. Upon completion of mark-up, submit Project Record Specifications to Owner for Owner's records.

1.04 Additional Requirements for Final Project Record Documents

A. Note all changes for the final Project Record Documents and provide one set of mylar reproducibles, one set of revised Specifications and one set of disks or CDs to be submitted to Owner.

B. After Substantial Completion and before Final Completion, carefully transfer all data shown on the job set of Record Drawings to the corresponding computer files, coordinating the information as required.

C. Using a distinct AutoCAD layer, clearly indicate at each affected detail and other drawings a full description of changes made during construction, and the actual location of items as previously specified.

D. "Cloud" all affected areas using a distinct AutoCAD layer.

E. Submit duplicate electronic files of all drawings in Tag Image File Format (.tif).

F. In the event that Contractor utilizes Building Information Modeling (**BIM**) software or an alternate computerized application to AutoCAD to design and record its design and construction services, Contractor shall submit as Project Record Documents the equivalent files, computer software, and any other relevant items, and train Owner personnel in its use, to allow Owner to receive and fully utilize the alternate method to meet the intent of the requirements of this Section 01 7839 Project Record Documents.

G. Stamp each Record Drawing with the following information:

1. Project Record Document.
2. Prepared by: Contractor's name, permanent address.
3. Date prepared.
4. Contractor's signature.
5. Owner Contract Number.

1.05 Project Record Product Data

A. During the construction period, maintain one copy of each Project Record Product Data submittal for Project Record Document purposes.

1. Mark Project Record Product Data to indicate the actual product installation where the installation varies substantially from that indicated in Project Record Product Data

submitted. Include significant changes in the product delivered to the Site, and changes in manufacturer's instructions and recommendations for installation.

2. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
3. Note related Change Orders and mark-up of Project Record Drawings, where applicable.
4. Upon completion of mark-up, submit a complete set of Project Record Product Data to Owner for Owner's records.
5. Where Project Record Product Data is required as part of maintenance manuals, submit marked-up Project Record Product Data as an insert in the manual, instead of submittal as Project Record Product Data.
6. Contractor is responsible for mark-up and submittal of Project Record Product Data for its own Work.

B. Material, Equipment, and Finish Data:

1. Provide data for primary materials, equipment and finishes as required under each Specification Section.
2. Submit three (3) hard copy sets and one (1) digital copy, on compact disc (CD) prior to final inspection, bound in 8-1/2 inches by 11 inches three-ring binders with durable plastic covers; provide typewritten table of contents for each volume. Provide project identification information on binder covers and spines.
3. Arrange by Specification Section number and give names, addresses, and telephone numbers of Subcontractors and suppliers. List:
   (a) Trade names.
   (b) Model or type numbers.
   (c) Assembly diagrams.
   (d) Operating instructions.
   (e) Cleaning instructions.
   (f) Maintenance instructions.
   (g) Recommended spare parts.
   (h) Product data.

1.06 Miscellaneous Project Record Submittals

A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to the Owner for Owner's electronic records , in Adobe pdf format. Categories of requirements resulting in miscellaneous records include, but are not limited to, the following:

1. Field records on excavations and foundations
2. Field records on underground construction and similar work
3. Survey showing locations and elevations of underground lines
4. Invert elevations of drainage piping
5. Surveys establishing building lines and levels
6. Authorized measurements utilizing unit prices or allowances
7. Records of plant treatment
8. Ambient and substrate condition tests
9. Certifications received in lieu of labels on bulk products
10. Batch mixing and bulk delivery records
11. Testing and qualification of tradespersons
12. Documented qualification of installation firms
13. Load and performance testing
14. Inspections and certifications by governing authorities
15. Leakage and water-penetration tests
16. Fire resistance and flame spread test results
17. Final inspection and correction procedures
18. Final As-Built Construction Schedule

1.07 Maintenance Forms for Major Equipment

A. See Section 01 6000 Product Requirements

1.08 Installation, Operations and Maintenance Manuals

A. Contractor shall compile O&M manuals for every piece of equipment and building operating or electrical system, commissioned or not, with the following formats:

1. Quantity: as specified in Section 01 7700 Contract Closeout ***[confirm]*** (unless more are required by the Technical Specifications).
2. Hard Media Format:
   (a) Size: 8½ x 11 inch, 3 ring loose-leaf binders. Use as many binders as required for each element as listed below. Do not overload binders.
   (b) Binding: Bind in stiff, metal-hinged, three-ring binder(s) with standard three-hole punching. Binders shall be 3-inch maximum. Use white or black colored binders with integrated clear plastic covers to enable insertion of binder titles.
   (c) Sheet lifters: Provide plastic sheet lifters prior to first page and following last page.
   (d) Binder titles: Include the following title on front and spine of binder:

   NAME OF PROJECT (YEAR)
   INSTALLATION, OPERATION AND MAINTENANCE MANUAL

   (e) Sheet Size: 8½ x 11 inch
   (f) Drawing Size: Reduce drawings or diagrams to an 8½ x 11 inch or 11 x 17 inch size. However, where reduction is not practical to ensure readability, fold larger drawings separately and place in vinyl envelopes bound into the binder. Identify vinyl envelopes with drawing numbers.
   (g) Dividers: Use dividers with permanently marked tabs of card stock to separate each section and sub section. Tab labels shall not be handwritten. Use a main tab for each specification section. Behind the section number tab there shall be the equipment ID tag sub-tab for each piece of major equipment (or group, if small or numerous). These sub-tabs shall be similar to the specification number tabs but of a different color.
   (h) Contents
      (i) Title page, which shall be a duplicate of front binder title
      (ii) Table of Contents
      (iii) Equipment Sections and Sub sections
         I. Contractor. The first page behind the equipment tab shall be the Contractor's name, address and telephone number of the manufacturer and installing contractor and the 24-hour number for emergency service for all equipment in this section, identified by equipment.
         II. Submittal and Product Data. This section shall include all approved submittal data, cut sheets, data base sheets and appropriate shop drawings. If submittal was not required for approval, descriptive product data shall be included.
         III. Operation and Maintenance Instructions. These shall be the written manufacturer's data with the model and features of this installation clearly marked and edited to omit reference to products or data not applicable to this installation. This section shall include data on the following:
            (A) Model number, serial number and nameplate data for each piece of equipment and any subcomponent.
            (B) Installation, startup and break-in instructions.
            (C) All starting, normal shutdown, emergency shutdown, manual operation and normal and emergency operating procedures and data, including any special limitations.

(1) Step-by-step procedure for system startup, including a pre-start checklist. Refer to controls and indicators by nomenclature consistent with that used on panels and in control diagrams.
(2) Sequence of operation, with detailed instruction in proper sequence, for each mode of operation (i.e., day-night; staging of equipment).
(3) Emergency operation: If some functions of the equipment can be operated while other functions are disabled, give instructions for operations under these conditions. Include here only those alternate methods of operations (from normal) which the operator can follow when there is a partial failure or malfunctioning of components, or other unusual condition.
(4) Shutdown procedure: Include instructions for stopping and securing the equipment after operation. If a particular sequence is required, give step-by-step instructions in that order.

(D) O&M and installation instructions that were shipped with the unit.

(E) Preventative and corrective maintenance, with service procedures and schedules:
(1) Provide a schedule for preventive maintenance in a printed format and an electronic format compatible with owner's system. State, preferably in tabular form, the recommended frequency of performance for each preventive maintenance task, cleaning, inspection and scheduled overhauls.
(2) Cleaning: Provide instructions and schedules for all routine cleaning and inspection with recommended lubricants.
(3) Inspection: If periodic inspection of equipment is required for operation, cleaning or other reasons, indicate the items to be inspected and give the inspection criteria for: motors; controls; filters and any other maintenance items.
(4) Provide instructions for minor repairs or adjustments required for preventive maintenance routines. Identify test points and give values for each. Include sensor calibration requirements and methods by sensor type.
(5) Corrective maintenance instructions shall be predicated upon a logical effect-to-cause troubleshooting philosophy and a rapid replacement procedure to minimize equipment downtime.
(6) Troubleshooting: Troubleshooting tables, charts, or diagrams shall be used to present specified procedures. A guide to this type shall be a three-column chart. The columns shall be titled: malfunction, probable cause and recommended action.

(7) Repair and Replacement: Indicate repair and replacement procedures most likely to be required in the maintenance of the equipment.
(8) A list of recommended spare parts with a price list and a list of spare parts provided under this Contract.
(9) Outline, cross-section, and assembly drawings; engineering data; and electrical diagrams, including elementary diagrams, labeled wiring diagrams, connection diagrams, word description of wiring diagrams and interconnection diagram

(F) Safety Precautions: This subsection shall comprise a listing of safety precautions and instructions to be followed before, during and after making repairs, adjustments or routine maintenance.
(G) Manufacturers' brochures (including controls): Manufacturers' descriptive literature covering devices and equipment used in the system, together with illustrations, exploded views and renewal parts lists. Manufacturers' standard brochures and parts list shall be corrected so that information applying to the actual installed equipment is clearly defined.
(H) Supply any special tools required to service or maintain the equipment.
(I) Performance data, ratings and curves.
(J) Warranty and guarantee, which clearly lists conditions to be maintained to keep warranty in effect and conditions that would affect the validity of the warranty.
(K) Any service contracts issued.

(iv) Supplemental Data. Prepare written text and/or special drawings to provide necessary information, where manufacturer's standard printed data is not available and information is necessary for a proper understanding and operation and maintenance of equipment or systems, or where it is necessary to provide additional information to supplement data included in the manual or project documents.
(v) Control Diagrams/Drawings. Include the as-built control diagrams/drawings for the piece of equipment and its components, including full points list, full print out of all schedules and set points after testing and acceptance of the system, and copies of all checkout tests and calibrations performed by the contractor (not commissioning tests).
(vi) Specifications. This section is comprised of the component or system specification section copied and inserted complete with all addenda.
(vii) System Description. This section shall include the individual equipment portion of the overall system Design Basis Narrative.

3. Electronic Media Format: Electronic media format shall be Adobe pdf, with chapter markers and/or bookmarks inserted in place of the equivalent hard copy section tabs. Electronic copy shall include all tables, charts, drawings, codes and all other matters reflected in hard copies. Electronic media files shall be delivered on a unique CD-ROM.
4. A separate manual or chapter shall be provided for each applicable system as follows:
   (a) Chillers
   (b) Cooling Towers
   (c) Boilers
   (d) Pumps
   (e) Air Handling Units (include sequence of operation, one line diagram and area served in a plastic pouch for mounting on equipment or in equipment room)
   (f) Exhaust Fans

(g) Supply Air Fans (excluding Air Handling Units)
(h) Plumbing and Drainage Systems/Equipment
(i) Emergency Generator Systems
(j) UPS
(k) Fire Protection Systems
(l) Fire Alarm System
(m) Valves and Pipe Specialties (include valve identification chart)
(n) Variable Frequency Drives (VFD)
(o) Smoke Control Systems
(p) Water Treatment System
(q) Elevator Systems
(r) Lighting Systems and Controls (interior, exterior and airfield)
(s) Switchgear, Transformers, Panel boards, Motor Control Centers and Motor Starters
(t) Lightning Protection and Surge Suppression Systems
(u) Public Address, Closed Circuit TV, Communication and Telephone Systems
(v) Security System
(w) Building Management/Temperature Control System (BMS)
(x) Fuel System
(y) Doors and Hardware.
(z) Power monitoring systems
(aa) HVAC, Testing Adjusting, and Balancing

1.09 Computer Programs

A. When any equipment requires operation by computer programs, submit copy of program on appropriate CD, plus a hard-copy and an electronic copy (Adobe .PDF format) of all user manuals and guides for operating the programs and making changes in the programs for upgrading and expanding the databases. Program shall be Windows XP compatible. Provide required licenses to Owner at no additional cost.

1.10 Owner's Recourse

A. If Contractor is not able to provide project record documents in specified formats, Owner and Contractor shall negotiate a credit back to Owner for this work.

B. Contractor shall post changes and modifications to the Contract Documents as they occur. Do not wait until the end of the Project. Owner may periodically review Project Record Documents to assure compliance with this requirement.

C. Submittal

1. At completion of Project, deliver Project Record Documents to Owner ***[for consideration]*** per Section 01 7700 Contract Closeout.
2. Accompany submittal with transmittal letter containing:
   (a) Date
   (b) Project title and number
   (c) Contractor's name and address
   (d) Number and title of each Project Record Document
   (e) Certification that each document as submitted is complete and accurate, and signature of Contractor or Contractor's authorized representative.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

Section 02223

TRENCHING, EXCAVATION, BACKFILLING, AND COMPACTING

PART 1 GENERAL

1.01 SECTION INCLUDES

The work of this section consists of trenching and backfilling for the construction and installation of pipelines, conduits and cables. All trenching will be open cut, unless otherwise approved in writing. It includes all clearing and grubbing, trenching or tunneling, construction of cribbing and cofferdams, dewatering, pipe removal where required, providing and compacting specified backfill, and all other activities and incidentals required to complete the work.

1.02 SUBMITTALS

A. Submit four (4) copies of a report from a testing laboratory verifying that backfill material conforms to the specified gradations of characteristics for granular material, imported sand, rock refill for foundation stabilization, and water.

B. Tests of materials shall be performed, and materials approved by the Engineer before the start of work.

C. Submit method of compaction in pipe zone including installation and removal sequence of shoring where used.

1.03 PROJECT CONDITIONS

A. Obtain all required permits and licenses before installing utilities under existing roads and follow the rules and requirements of the authority having jurisdiction.

B. Arrange construction sequences to provide the shortest practical time that the trenches will be open to avoid hazard to City staff, subcontractors, and the public, and to minimize the possibility of trench collapse.

1.04 TESTING FOR COMPACTION

A. Tests for compaction shall be the responsibility of the City.

B. Relative compaction is defined as the ratio, in percent, of the as-compacted dry density to the laboratory maximum dry density. The laboratory maximum dry density is defined in accordance with ASTM D 1557, latest edition.

C. Where compaction tests indicate a failure to meet the specified compaction, the City may take additional tests every 50 feet in each direction, until the extent of the failing area is identified. Rework the entire failed area until the specified compaction has been achieved. Compaction testing performed as a result of a failure shall be at the expense of the Contractor.

1.05 STREET OR ROAD ZONE

The street zone includes the asphalt concrete and aggregate base pavement section placed over the trench backfill.

1.06 TRENCH ZONE

A. The trench zone includes the portion of the trench from the top of the pipe zone to the bottom of the street zone in paved areas or to the existing surface in unpaved areas.

B. In unimproved areas with no concrete or asphalt surfacing proposed, the trench zone shall extend to the ground surface.

1.07 PIPE ZONE

The pipe zone shall include the full width of trench from the bottom of the pipe or conduit to a horizontal level one (1) foot above the top of the pipe, as shown on the contract drawings. Where multiple pipes or conduits are placed in the same trench, the pipe zone shall extend from the bottom of the lowest pipes to a horizontal level above the top of the highest or topmost pipe.

1.08 PIPE BASE OR BEDDING

The pipe bedding for the water main and laterals, shall be defined as a minimum 6-inches thick layer of material immediately below the bottom of the pipe or conduit and 12 -inches thick layer extending over the full trench width in which the pipe is bedded.

PART 2MATERIALS

2.01 GRANULAR MATERIAL FOR BACKFILL STREET OR ROAD ZONE

A. Granular material or granular soil for backfill used above the pipe zone shall be 3/4-inch – Class 2 Aggregate Base conforming to Caltrans Standard Specification 26-1.02.

B. No recycled materials will be allowed.

2.02 IMPORTED SAND - PIPE BEDDING AND PIPE ZONE

Sand shall only be used as pipe bedding where specified in the Standard Drawings, these Specifications, or the approved Plans. If specified and approved, all sand used shall be 100% crushed and salt-free. Imported sand used for the pipe base and pipe zone shall have a sand equivalent not less than 28 per ASTM D 2419, be free of clay or organic material and have the following gradation:

Sieve Size	Percent Passing By Weight
3/8-INCH	100
No. 4	90 – 100
No. 30	12 – 50
No. 100	5 – 20
No. 200	0 – 5

2.03 COARSE BEDDING MATERIAL

A. Coarse bedding material shall Class I per ASTM D 2321 with the following maximum particle size based on pipe diameter:

Nominal Pipe Diameter (in.)	Maximum Particle Size (in.)
2-4	½
6-8	¾
10-15	1
16+	1 1/2

2.04 TRENCH ZONE MATERIAL

A. Unless otherwise shown on the approved plans, backfill for pipe trenches shall consist of Class II AB.

B. If select Backfill is called for on the approved plans, it shall be free of deleterious material or broken concrete.

C. Unless otherwise directed by the City, backfill placed within one foot (1') of the ground surface or within six inches (6") of the pipe shall be free of heavy gravel or stones greater than three inches (3") in maximum direction.

2.05 REFILL FOR FOUNDATION STABILIZATION

1 1/2 - inch Class 1 crushed rock per ASTM D 2321 shall be used in areas where pipelines extend into loose medium dense sands or below the water table or where required to achieve a firm, stable base for pipe laying. .

2.06 CONCRETE FOR PIPE SUPPORT, ENCASEMENT AND THRUST BLOCKS

A. Concrete for pipe encasement and thrust blocks shall be Class C per Section 03300, unless otherwise shown in the drawings.

B. Provide thrust blocks at fittings in pipe having rubber gasket bell and spigot or unrestrained mechanical joints, as noted on contract drawing and in the general or specific pipe specifications, or as directed by the City Engineer.

C. Size thrust blocks in accordance with City Standard Details W-3, W-4, and W-5.

2.07 WATER FOR COMPACTION

Water for compaction shall be clean and free of oil, acids, salts, and other deleterious substances. Water shall be supplied by the Contractor at no cost to the City. The Contractor shall coordinate with the Engineer for the use of the water shall provide all necessary labor and equipment to extract the water, and shall be responsible for the repair of any damage to the existing facilities which can be attributed to this operation.

2.08 PIPELINE WARNING TAPE

Warning tape shall be metallic, 6" wide, 4 mil thick polyethylene. Tape shall be colored and labeled with black lettering as follows:

A. Non-Potable Water - Tape color shall be PURPLE and labeled with: CAUTION – BURIED NON-POTABLE WATER LINE BELOW.

B. Potable Water - Tape color shall be BLUE and labeled with: CAUTION – BURIED POTABLE WATER LINE BELOW.

C. Sewer - Tape color shall be GREEN and labeled with: CAUTION – BURIED SEWER LINE BELOW.

PART 3 - EXECUTION

3.01 COMPACTION REQUIREMENTS

Unless otherwise shown in the drawings or otherwise described in the specifications for the particular type of pipe installed, relative compaction in all pipe trench zones shall be 95% relative compaction. Backfill in Trench Zone not beneath paving or aggregate base access roadways shall be 92% relative compaction. as follows:

3.02 MATERIAL REPLACEMENT

Remove and replace any trenching and backfilling material which does not meet the specifications, at the Contractor's expense.

3.03 SLOPING, SHEETING, SHORING, AND BRACING OF TRENCHES

Trenches shall have sloping, sheeting, shoring, and bracing conforming to Section 01560, Excavation Support and Protection.

3.04 SIDEWALK, PAVEMENT, AND CURB REMOVAL

Cut bituminous and concrete pavements regardless of the thickness and curbs and sidewalks prior to excavation of the trenches with a pavement saw or pavement cutter. Width of the pavement cut shall be at least equal to the required width of the trench at ground surface. Haul pavement and concrete materials from the site. Do not use for backfill.

3.05 TRENCH WIDTHS

Trench widths in the pipe zone shall be as shown in the drawings. If no details are shown, maximum width shall be 24 inches greater than the pipe outside diameter. Comply with 29CFR Part 1926 Subpart P – Excavations. Trench width at the top of the trench will not be limited except where width of excavation would undercut adjacent structures and footings. In such case, width of trench shall be such that there is at least 2 feet between the top edge of the trench and the structure or footing.

3.06 TRENCH EXCAVATION

A. Excavate the trench to the lines and grades shown in the drawings with allowance for pipe thickness, sheeting and shoring if used, and for pipe base or special bedding. If the trench is excavated below the required grade, refill any part of the trench excavated below the grade at no additional cost to the Owner with foundation stabilization material. Place the refilling material over the full width of trench in compacted layers not exceeding 6-inches deep to the established grade with allowance for the pipe base or special bedding.

B. Material required for refill of trenches over excavated by the Contractor for his convenience will not receive any additional payment

3.07 DEWATERING

All trenches shall be dry. Dewater excavations in accordance with Section 01100, General Requirements.

3.08 LOCATION OF EXCAVATED MATERIAL

During trench excavation, place the excavated material only within the working area. Do not obstruct any roadways or streets. Conform to federal, state, and local codes governing the safe loading of trenches with excavated material. All trenches shall be backfilled at the end of each day's operation. Trench patching with asphalt concrete shall be completed within 24 hours of trench backfill.

3.09 LENGTH OF OPEN TRENCH

Limit the length of open trench to 50 feet in advance of pipelaying or amount of pipe installed in one working day, whichever is less, and not more than 50 feet in the rear of pipelaying, except as modified by encroachment permit requirements. At the end of each working day, the trench shall be backfilled to match existing surface. Use of steel plates as open trench covers shall be allowed only with prior approval of the City Engineer.

3.10 TRENCH EXCAVATION IN BACKFILL AND EMBANKMENT AREAS

A. Construct trench excavation for pipe, pipes, or conduit in backfill or embankment areas in accordance with the following procedures:

B. Construct and compact the embankment to an elevation of 1-foot minimum over the top of the layer of the largest pipe or conduit to be installed.

C. Excavate trench in the compacted backfill or embankment. Place cement slurry in the pipe base and pipe zone. Compact backfill above the pipe zone to the relative compaction required for trench zone backfill.

3.11 FOUNDATION STABILIZATION

After the required excavation has been completed, the City will inspect the exposed subgrade to determine the need for any additional excavation. It is the intent that additional excavation be conducted in all areas within the influence of the pipeline where unacceptable and/or unstable materials exist at the exposed subgrade. Over-excavation, if directed by the City Engineer, shall include the removal of all such unacceptable materials that exists directly beneath the pipeline to the required trench width and to the depth required. Backfill the trench to subgrade of pipe base with refill material for foundation stabilization. Place the foundation stabilization material over the full width of the trench and compact in layers not exceeding 6-inches deep to the required grade. Foundation stabilization work shall be executed in accordance with a change order.

3.12 PIPE BEDDING

A. All pipe, appurtenances, specials and fittings shall be bedded in sand unless otherwise specified or approved by the City Engineer. The Contractor shall use extreme care in placing the sand under the haunches to assure that all spaces are filled under and about the pipe.

B. Jetting of water is not permitted.

3.13 INSTALLING BURIED PIPING

A. Handle pipe in such a manner as to avoid damage to the pipe. Do not drop or dump pipe

into trenches under any circumstances.

B. Inspect each pipe or fitting prior to placing into the trench. Inspect the interior and exterior protective coatings. Patch damaged areas in the field with material recommended by the protective coating manufacturer. Clean ends of pipe thoroughly. Remove foreign matter and dirt from inside of pipe and keep clean during and after installation.

C. Grade the bottom of the trench to the line and grade to which the pipe is to be laid, with allowance for pipe thickness and bedding depth. Remove hard spots that would prevent a uniform thickness of bedding. Place the specified thickness pipe base material over the full width of trench. Grade the top of the pipe base ahead of the pipelaying to provide firm, continuous, uniform support along the full length of pipe, and compact to the relative compaction specified herein. After laying each section of the pipe, check the grade and alignment and correct any irregularities prior to laying next joint.

D. Excavate bell holes at each joint to permit proper assembly and inspection of entire joint. Fill the area excavated for the joints with the bedding material specified or detailed in the drawings.

E. When installing pipe, do not deviate more than 1-inch from line or 1/4-inch from grade. Measure elevation at the pipe invert. The Contractor shall verify pipe grade at not more than 80 feet intervals, in the presence of the Owner's Representative.

F. After pipe has been bedded, place pipe zone material simultaneously on both sides of the pipe, in maximum 6-inch lifts, keeping the level of backfill the same on each side. Carefully place the material around the pipe so that the pipe barrel is completely supported and that no voids or compacted areas are left beneath the pipe. Use particular care in placing material on the underside of pipe to prevent lateral movement during subsequent backfilling.

G. For pipe sizes greater than 12-inches in diameter, no more backfill material within the pipe zone than the lesser of 6-inches or 1/3rd of the pipe diameter shall be placed prior to shovel slicing. Sufficient care shall be taken to prevent movement of the pipe during shovel slicing. Shovel slicing shall be witnessed by the Field Inspector and/or Geotechnical Engineer.

H. Place tracing wire and warning tape in the trench as shown on the Drawings.

I. Compact each lift to the relative compaction specified herein.

J. Push the backfill material carefully onto the backfill previously placed in the pipe zone. Do not permit free fall of the material until at least 2 feet of cover is provided over the top of the pipe. Do not drop sharp, heavy pieces of material directly onto the pipe or the tamped material around the pie. Do not operate heavy equipment over the pipe until at least 3 feet of backfill has been placed and compacted over the pipe.

K. When pipelaying is not in progress, including the noon hours, close the open ends of pipe. Do not allow trench water, animals, or foreign material to enter the pipe.

L. Remove and dispose of all water entering the trench during the process of pipelaying. Keep the trench dry until the pipelaying and jointing are completed.

3.14 BACKFILL COMPACTION

A. Compact per the detailed piping specification for the particular type of pipe and per the following:

1. Compact trench backfill to the specified relative compaction. Compact by using mechanical compaction or hand tamping. Do not use high impact hammer-type equipment except where the pipe manufacturer warrants in writing that such use will not damage the pipe. Ponding or jetting is not allowed.

2. Compact material placed within 12-inches of the outer surface of the pipe by hand tamping only.

3. Do not use any axle-driven or tractor-drawn compaction equipment within 5 feet of building walls, foundations, or other structures.

3.15 CEMENT SLURRY BACKFILL (CLSM)

A. When cement slurry backfill is utilized, pipe shall be supported by mounding imported backfill material or sandbags filled with imported backfill material. Pipe shall not be supported on wooden or concrete blocks.

B. HDPE or other buoyant pipe shall be filled with water prior to placing slurry backfill to avoid floating the pipe.

END OF SECTION

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SECTION 02252

CONTROLLED DENSITY FILL

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Portland cement

B. Fly ash

C. Air-entraining admixture

D. Aggregate

1.02 DEFINITION AND USE

Control Density Fill (CDF) is used as a low strength, self-consolidating fill material for confined spaces which can be easily excavatable at a later time. CDF is characterized by a high maximum slump of 8 inches. CDF is not a structural concrete and should not be used in such applications.

CDF may be used as a trench backfill, structural backfill, pipe bedding, or pipe filling for abandonment in place, ONLY where approved by the City Engineer. CDF shall consist of Portland cement, aggregates, water and fly ash. Chemical admixtures and other mineral admixtures may be used.

PART 2 - PRODUCTS

2.01 MIX DESIGN

CDF shall be hand excavatable. The actual mix proportions and flow characteristics shall be determined by the producer of the CDF to meet site conditions. Mix designs and performance tests shall be submitted to the City Engineer for approval. The 28-day unconfined compressive strength of the CDF shall be 50 psi minimum and 150 psi maximum at 28-days.

2.02 MATERIALS

A. Portland Cement: ASTM C150, Type I or Type II, 50-lb. max per cubic yard.

B. Fly Ash: ASTM C618, Class F, 50 – 150 lbs. per cubic yard. Fly ash shall not inhibit air entrainment.

C. Air-Entraining Admixture: per ASTM C260. Total calculated air content of the sample, prepared in accordance with ASTM C231, shall not exceed 30

D. Aggregate: ASTM C33, graded aggregate, maximum size of 3/8 inch. 3/8-inch aggregate shall comprise no more than 20 percent of the total aggregate content. Amount passing a No. 200 sieve shall not exceed 12 percent. No plastic fines shall be present.

E. Water: Potable.

PART 3 - EXECUTION

3.01 MIXING

Controlled density fill shall be batched at a ready mixed plant and shall be mixed and delivered to the work site by transit mixing trucks in accordance with ASTM C94.

Adjustment of the mixture to achieve improved placement characteristics shall be through the use of chemical admixtures. No increase in water content or water to cement ratio will be allowed.

3.02 TESTING

CDF shall be tested for plastic unit weight. Plastic unit weight shall not deviate more than ±10 percent of theoretical unit weight shown on the approved mix design. Unit weight shall be determined in accordance with ASTM C138.CDF's consistency shall be tested by the slump method. The slump shall be measured in accordance with ASTM C143.

3.03 PLACEMENT

CDF may be placed by chutes, conveyors, buckets or pumps depending upon the application and accessibility.

For trench backfill, CDF shall be placed continuously. To contain CDF when filling long open trenches or open-ended structures in stages, the end points shall be adequately bulkheaded to prevent movement. Methods may include bulkheading with sandbags, earth dams, forms or stiffer mixtures of CDF. CDF shall be placed from the centerline of mainline utilities to the bottom of the excavation.

For bedding, CDF shall be placed in a manner to prevent flotation or displacement of the embedded item. Methods of preventing flotation or displacement may include placement of CDF in lifts, faster setting CDF or lower slump CDF over the embedded item.

For backfilling of pipelines to be abandoned in place, CDF shall be pumped into the pipeline to be abandoned. It is intended that the disconnected ends of the pipeline shall be the primary means for injecting CDF into the pipeline. The Contractor may excavate for additional injection points along the pipeline. The pipeline shall be filled uniformly to within 90 percent of the pipe soffit. The lack of voids (other than the top 10 percent) shall be demonstrated to the Engineer by breaking out small sections of pipeline in various critical locations.

Pavement may be placed directly upon the CDF as soon as the surface withstands the paving process without displacement or disruption. I f the placement of the CDF is not completed in time to allow permanent paving to be completed the same day, the Contractor shall prevent traffic contact with the CDF until paving is completed.

If traffic is to be placed directly over CDF, steel trench plates shall be provided by the Contractor to span trenches where required to provide passage for vehicles and other equipment.

END OF SECTION

SECTION 02300

EARTHWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

Excavation, backfill and compaction for site work, pipelines and structures, and bank protection.

1.02 DEFINITIONS

A. Structural backfill: the process of placing earth materials about a concrete structure, moistening the material uniformly, and compacting the successive layers with hand or mechanical tamping or vibrator equipment to the required density as determined by laboratory tests.

PART 2 MATERIALS

2.01 EMBANKMENT MATERIALS

Embankments shall be built only of materials approved by the Engineer and shall be cohesive material free of all roots, brush, objectionable organic matter, and rocks larger than once and one-half inches (1 ½") in diameter.

2.02 BORROW EXCAVATION

All materials obtained by borrow excavation shall conform to the requirements for embankment materials. The material shall be obtained from the borrow sites shown on the Drawings or as designated by the Engineer.

PART 3 EXECUTION

3.01 GENERAL

Excavation may be made by equipment optional to the Contractor insofar as the neat uniform excavation lines shown on the Drawings are maintained. Excavation shall be performed to the lines and grades established by the Engineer. The grading and trimming operation shall be formed by mechanical equipment and performed simultaneously with the excavation.

3.02 EXCAVATION AND FOUNDATIONS FOR CONCRETE PIPE AND STRUCTURES

A. The excavation shall be sufficient to provide adequate space for the proper placement and handling of the pipe sections or concrete structures.

B. If the natural foundation for the structure is disturbed or loosened during the excavation process, the Contractor shall compact the foundation to the density specified in subsection 3.10. The bottom of the excavation shall be excavated to a minimum of one foot (1') below the required neat line of the structure.

C. When water is encountered in the excavation, it shall be removed by pumping or draining. The foundation excavation shall be refilled with six inch (6") layers of 1½" crushed rock and compacted to the density specified in subsection 3.03.

3.03 COMPACTION LEVELS

A. Refer to subsection Section 02223 1.04 for required compaction test methods.

B. Embankments shall be compacted to a dry density of not less than ninety percent (90%) of the laboratory standard maximum soil dry density.

END OF SECTION

SECTION 02310

ABANDONMENT, REMOVAL AND SALVAGE

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

A. The work covered by this section consists of furnishing all labor, equipment and material necessary to abandon, remove and/or salvage structures, pipelines and appurtenances. Abandonment will be performed where shown in the Contract Documents or where designated by the City. Materials designated to be salvaged shall be delivered for storage as instructed by the Engineer.

B. The means and methods of performing removal and salvage operations are the sole responsibility of the Contractor. Contractor shall provide all protections, containment systems for and proper disposal of all materials that may be deemed hazardous by the Engineer or regulatory agency.

1.02 SUBMITTALS

In conformance with Section 03300, Contractor shall submit plan for staged abandonment, including removal methods, salvage list, plug locations, any encasement, transportation and destination.

1.03 OWNERSHIP OF MATERIAL AND EQUIPMENT

Materials and equipment not designated for reuse or salvage shall become the property of the Contractor. All demolition material and debris shall be disposed of off-site in a lawful manner.

1.04 SITE CONDITIONS

A. Existing water system laterals, mains, hydrants, services or other appurtenances which are abandoned and are exposed during the installation of a new system, shall be removed from the public right of way to the extent possible.

B. Worker Protection: The Contractor is responsible for the health and well-being of its workers during the execution of this Contract. The work shall be conducted in accordance with all applicable local, state, and federal regulations, including 29 CFR § 1926.1101. Any liability for working with residual and hazardous waste is solely the Contractor's responsibility.

1.05 REFERENCE CODES AND SPECIFICATIONS

A. California Code of Regulations (CCR), Title 8 "Industrial Relations," Subchapter 4 "Construction Safety Orders." § 1529, "Asbestos".

B. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

C. Division of Occupational Safety and Health (CALOSHA)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SALVAGE OF EXISTING FACILITIES

A. Existing materials and equipment removed by the Contractor under the provisions of the Contract, and not reused in the work shall become the Contractors property and shall be legally removed from the site of the work.

B. The Contractor shall carefully remove, in a manner to prevent damage, any and all materials and equipment specifically designated in the Contract Documents to removed and salvaged, or to remain the property of the City, or if so directed by the Engineer.

C. Salvaged items to be retained as City property shall be delivered by the Contractor in good condition at a location within the City Limits, as designated by the Engineer.

3.02 ENVIRONMENTAL CONTROLS

A. Contractor shall minimize the generation of dust and other airborne particles.

B. The Contractor shall provide Weigh Master weight slips as verification of the weight and proper disposal off site, to the Engineer within 45 days of each container disposal. Contractor is responsible for all testing required by the disposal facility.

C. The Contractor shall provide the Engineer with copies of all waste disposal documents.

D. The Contractor is responsible for all fees and charges related to waste transport and disposal operations.

3.03 PROTECTION OF PROPERTY

The Contractor shall provide safe access to adjacent property, facilities, and buildings at all times. Roadways and passageways shall not be obstructed.

3.04 REMOVAL AND ABANDOMENT

A. Piping shall be removed to the limits indicated on the plans.

1. Existing pipes indicated in the Drawings to be abandoned shall be plugged at the designated locations and abandoned by closing pipes with brick and mortar or an approved plug and reaction blocking as approved by the City Engineer.

B. Valves and Valve Boxes

1. For valves designated to be salvaged, all concrete shall be carefully removed and the valve and casting shall be removed and handled with care as required to prevent any damage during removal or transport.

2. For valves to be abandoned in place on a line to be abandoned the valve shall be fully opened and the valve box including operator, frame cover and riser pipe removed in its entirety and disposed of by the Contractor.

3. For valves to be abandoned in place on a line to remain active, the valve shall befully opened, the operating nut removed, and the valve box handled as indicated above.

4. Demolish and remove precast concrete adjustment rings, concrete vaults and covers, or other pipeline structures, to minimum depth of 4 feet below finished grade. Structure may be removed to greater depth, but not deeper than 18 inches above crown of abandoned water main. Poke holes in floor prior to filling.

5. Until a fire hydrant is physically removed, any hydrant that becomes non usable during abandonment procedures shall have a heavy-duty cover placed over it and secured and marked “Abandoned” so that fire department personnel know its status.

6. Any Backfill or Section required to complete the work shall be in accordance with Section 02223, and as indicated in the Contract Documents.

7. Contractor shall restore surfaces in accordance with 02930.

C. Concrete or Masonry Structures

1. The lines entering a structure below ground surface be plugged with brick and mortar or an approved plug. The structure shall be demolished and removed to no less than four (4) feet below ground surface. Frame and cover shall be removed and salvaged or disposed of as directed by the Engineer. The remaining structure shall then be completely filled with sand or other City approved material.

2. Any Backfill or excavations required to complete the work shall be in accordance with the Section 02223, and as indicated in the Contract Documents.

3. Restore surfaces in accordance with Section 02930.

D. Metallic Structures

1. The lines entering a structure shall be plugged with a City approved plug. The existing metallic structure shall be removed in its entirety.

2. Any Backfill or excavations required to complete the work shall be in accordance with the Section 02223, and as indicated in the Contract Documents.

3. Restore surfaces in accordance with Section 02930.

3.05 CUTTING AND CAPPING OF MAINS

A. Do not begin cut, plug, and abandonment operations until replacement water main has been constructed and tested, all service connections have been installed, and replacement main is approved for use.

B. Install plug, clamp, and concrete reaction block and make cut at the water main and/or at the location shown on Drawings.

C. Main to be abandoned shall not be valved off and shall not be cut or plugged other than as shown on Drawings.

D. After main to be abandoned has been cut and capped, check for other sources feeding abandoned water main. When sources are found, notify Project Manager immediately. Cut and cap abandoned main at point of other feed as directed by Project Manager.

E. Plug or cap ends or opening in abandoned main in manner approved by Project Manager. Install concrete around cap and over pipe to ensure it is not penetrable by groundwater.

3.06 CUTTING AND CAPPING OF WATER SERVICES

A. Do not begin cut, plug, and abandonment operations until replacement service, if necessary, has been constructed and tested, and all service connections have been installed.

B. Service lines shall be cut and capped at the meter box or other location where the service line has been exposed incidentally as part of other required work items as directed by the City Project manager.

C. Before backfilling of a capped service line is started, the capping must be observed by a representative of the City.

D. After service to be abandoned has been cut and capped, check for any other sources feeding abandoned water service. When sources are found, notify Project Manager immediately. Cut and cap abandoned main at point of other feed as directed by the City Project Manager.

E. Plug or cap ends or opening in abandoned service in manner approved by the City Project Manager. Install concrete around cap and over pipe to ensure its not penetrable by groundwater.

F. Remove all water service surface identifications and appurtenances such as valves and valve boxes, meters, and backflow devices. Return appurtenances to the City.

END OF SECTION

SECTION 02447

CELLULAR CONCRETE BACKFILL

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Requirements for designing, furnishing, and placing cellular concrete in annular space.

1.02 DESIGN CRITERIA

A. General:

1. Design cellular concrete mix in accordance with the requirements of this section and ACI 523.1.
2. Effects of fluid pressure on carrier pipe during backfill operations using a minimum factor of safety of 2.0.
3. Minimum compressive strength of 100 psi in 7 days.
4. Minimum 28-day compressive strength shall be between 200 and 300 psi. Unless otherwise specified, each cellular concrete mix shall be designed and controlled within the following limits:
   a. The cellular concrete shall have minimum density of 45 pcf, and maximum density of 55 pcf, to prevent floating of the pipe.
   b. Preformed foam shall be generated by combining controlled quantities of air, water, and foaming agent under pressure. Foam shall retain its stability until the cement sets to form a self- supporting matrix.
   c. The concentration of foam agent shall be in accordance with the manufacturer's written recommendations.
   d. Initial set time shall not be less than 3 hours.
   e. Apparent viscosity shall not exceed 18 seconds in accordance with ASTM 939.
   f. Shrinkage shall be less than 1%.

B. Contractor is cautioned that existing pipe has longitudinal cracking and is not water tight.

1.03 SUBMITTALS

A. Submit in accordance with Section 01300, at least 3 weeks prior to commencing grouting activities.

B. Experience Records:

1. Qualifications and experience record of mix design engineer.
2. Qualifications and experience record of Cellular Concrete Specialty Contractor.
3. Qualifications of cellular concrete supplier.
4. Experience records shall list the projects that demonstrate the required experience. The experience record shall include the name of project, the agency that contracted for the project and contact phone numbers. If work was performed under subcontract, identify the general contractor and contact phone numbers.

C. Cellular concrete mix design including:

1. The proposed grout densities and viscosities per ASTM Cl38 and ASTM C939. Normal range of 45-55 PCF.
2. Initial set time of the grout. Normal range 3 to 24 hours.
3. The 24-hour and 28-days compressive strengths per ASTM C495 and ASTM Cl09.
4. The grout working time before a 15 percent change in density or viscosity occurs. Minimum of 4.5 hrs.

D. Calculations and information related to filling pipelines:

1. The proposed grouting method and procedures, including references to previous projects where the proposed method and procedure was successful
2. Pipe dewatering plan.
3. Proposed grout stage (bulkhead to bulkhead).
4. Pressure gauge and recorder certification.
5. Planned means and method to ensure grout does not escape existing cracked pipe.
6. Testing laboratory qualifications.
7. Written confirmation that the Contractor has coordinated the grouting procedures with the grout installer and liner pipe manufacturer.
8. Bulkhead design.
9. Vent location drawing.
10. Daily production records submitted no later than the beginning of the following workday.

E. Quality Control:

1. Qualifications:
    a. Test laboratory used for calibrating and testing accuracy of gauges and meters to be used in grouting operations.
    b. Test laboratory performing quality assurance and testing for all grout materials, test mixes, and field testing.
2. Certifications:
    a. Certificates of compliance for materials specified herein.
    b. Calibration certificates for gauges and meters to be used m grouting operations.
3. Quality Control Drawing:
    a. Methods for assuring uninterrupted grouting at pressures that do not exceed the maximum specified.
    b. Methods for demonstrating that grout mixes meet design criteria.
4. Recordkeeping:
    a. Cumulative Records of strength tests on grout samples within two work days of performing tests.
    b. Shift report for each grout crew and for each shift, regardless of actual progress, and submitted no later than the beginning of the following working day. Include:

1) Crew size, employee name, classification, and work assignment.
2) Number and type of equipment used.
3) List of idle or inoperative equipment and reason for downtime.
4) Daily Grout injection records for each lift:
   a) Location and lift height.
   b) Mix design used and any alterations.
   c) Time of original mix and time when placed or wasted.
   d) Grouting time broken down by quantity injected, injection pressure, total volume, and pumping rate.
   e) Grout communication between adjacent grout ports.

5. Notifications:
   a. Written notification within one workday of any proposed addition, deletion, or change to the scheduling of shift work, or mix design.
   b. Written notification within one workday of performing gauge and meter tests.
6. As-Built Data:
   a. Submit laboratory test results of grout samples.

F. Submit product data for each type of cellular concrete proposed for use. Submittal shall include for each mix design:
   1. Type, brand, source, and amounts of cement, admixtures, foaming agent, and other additives.
   2. Source and amount of water including properties such as pH.
   3. Representative samples of materials for testing and mix proportion testing.
   4. Specific gravity of all materials.
   5. Results of required tests.
   6. Water/cement ratio versus compressive strength test results.
   7. Material specifications and instructions for use of concrete admixtures.
   8. Air content, unit weight, and compressive strength test results for proposed mix designs.
   9. Foaming agent supplier's written acceptance of admixtures.
   10. Maximum depth and pumping pressure of backfill grout installation before foam collapses.

G. Operating instructions for batching and conveyance equipment, pumps, foam generators, and ancillary equipment.

H. Control valve and pressure gauge assembly at the point of injection.

I. Anticipated volume of cellular concrete backfill per foot of pipe.

J. Drawings showing dimensions and configuration.

K. Assembled sequence of hoses, valves, gauges, meters, etc., between pump and injection point.

L. Work plan for placing cellular concrete including sequence of work, placing procedures, batching, mixing, pumping procedures, concrete conveyance provisions, pump line arrangement, communications provision, methods for monitoring mix, testing procedures, and cleanup procedures. The work plan shall include volume to be placed per day by injection location.

M. Submit calculations demonstrating the buoyancy of the carrier pipe (liner) for each proposed mix design.

N. Submit design calculations documenting the heat of hydration for the proposed mix designs.

1. The work plan shall include provisions for controlling the effects of the heat of hydration on the carrier pipe.

O. Test reports and certifications including:

1. Mill test reports for cement.
2. Certificates of compliance for each load of cement.
3. Certifications of compliance for all foaming agent and admixtures.
4. A delivery ticket with the information stated in ASTM C94, including actual scale weights of materials shall be furnished to the Owner's Representative with each batch of concrete before unloading at the site.
5. A printout of the actual scale weights for all loads batched shall be submitted to the Owner's Representative at the end of each working day.
6. Daily reports and records of concrete placement including volume placed, stationing of placement, injection locations, maximum injection pressure, unit weight and air content testing results, time of placement, and designation of cylinder samples prepared that day.
7. Daily reports recording as-cast unit weight reporting any changes that may result from the submitted installation methods.

P. The Contractor shall provide MSDS for all materials.

Q. Carrier pipe manufacturer's written recommendation for repairing or replacing pipe damaged during backfill operations. Repair or replacement method shall be acceptable to the Engineer.

1.04 QUALITY ASSURANCE

A. Qualifications:

1. Mix design engineer shall be a professional engineer licensed by the State of California. Experience shall include three projects within the last five years performing similar pressure calculations.
2. The Cellular Concrete Specialty Contractor shall have developed a minimum of five mix designs in the last five years.
3. The Cellular Concrete Specialty Contractor shall have supervised batching, mixing, handling, and placing cellular concrete on five crossing projects in the last five years.
4. The Cellular Concrete Specialty Contractor shall have performed pipe buoyancy and fluid pressure calculations. Calculations shall be submitted to the Owner's Representative for review and approval.

B. Acceptance Criteria:

1. Completion of cellular concrete backfill in accordance with approved submittal.
2. Grout samples shall be acceptable if all production 28-day samples meet minimum 28-day strength or if the average of all production 28-day samples meet minimum 28-day strength and the weakest sample is within 10 percent of the minimum 28-day strength.

C. Preconstruction Meeting for grouting operations:

1. Hold a meeting, a minimum of two weeks prior to beginning the work specified herein.
2. Review and discuss the following items:
   a. Scope of work to be performed.
   b. Construction methods and constraints overview.
   c. Equipment operating parameters.
   d. Maximum injection pressure, refusal, and recirculation requirements.
   e. Safety procedures.
   f. Quality Control procedures and Quality Assurance requirements.
   g. Reporting requirements.
   h. Other issues as may be raised by either party.

D. Testing:

1. Proposed mix and field mix shall be designed and tested.
   a. Prepare and test samples for 7-day and 28-day compressive strength tests according to ASTM C3 l for cylinders or ASTM Cl09 for cubes.
   b. Two sets of three samples each shall be made from each proposed cellular concrete mix and batch. One set of three samples shall be tested at an age of 7 days and the other set shall be tested at an age of 28 days. Cellular concrete test specimens shall be made, cured, stored, and tested in accordance with ASTM C495.
   c. Determination of total air content of each proposed cellular concrete mix in accordance with ASTM C796. Wet density tests shall be made prior to the addition of the foaming agent and at the point of placement.
   d. Determination of unit weight of each proposed cellular concrete mix in accordance with ASTM C567.
2. Perform the following Field Tests:
   a. Test the first batch mixed each day.
   b. Test each batch (or load if transit mixed) of cellular concrete.
   c. Test not less than one set per hour.
   d. Test any change in mix design.
   e. Test at the overflow upon completion of the pour.
   f. Test ten extra sets of samples for 7-day and/or 28-day tests taken at the Owner's Representative direction.
3. Volume of cellular concrete injected each day shall be measured, recorded, and compared with the anticipated volume per foot of tunnel backfilled.

4. Contractor shall provide a means of direct communication between the injection point and the pump operator.

PART 2 PRODUCTS

2.01 MATERIALS

A. Cement: Conform to the requirements of ASTM C150.

B. Water shall be potable. Water temperature shall not exceed 80°F.

C. No calcium chloride or admixture containing chloride other than impurities from admixture ingredients shall be acceptable.

D. Admixtures may only be used when specifically approved by the foaming agent supplier in writing.

E. Foaming agent shall comply with ASTM C869 when tested in accordance with ASTM C796. The type and manufacturer shall be:

1. Mearl Geofoam Liquid Concentrate manufactured by The Mearl Corporation, or

2. Foam Liquid Concentrate manufactured by Cellufoam Concrete Systems, or

3. Approved equal.

2.02 EQUIPMENT

A. Foam Generator System:

1. The batch system shall consist of a tank in which the foam liquid concentrate and water are first mixed. This dilute solution shall be discharged from either a pressurized tank or by means of a mechanical pump through a foam-making nozzle in which this solution is blended with compressed air in fixed proportions.

2. The continuous generating system shall consist of a container, which continuously draws the concentrate directly from its shipping container, automatically blends it with water and compressed air in fixed proportions and forms the stable micro-bubbled foam.

B. Foam refining column or nozzle shall be calibrated for foam quality and discharge rate. The foam nozzle shall be timer-controlled to repetitively discharge any pre- selected quantities or to discharge continuously at a fixed rate.

C. Mixers and Pumps: The rate s of mixing and pumping shall be properly adjusted and a continuous flow of cellular concrete shall be obtained at the point of placement.

PART 3 - EXECUTION

3.01 GENERAL

A. Perform all work in accordance with accepted submittals.

B. Eliminate standing water where low density cellular concrete is to be placed.

C. Incrementally fill the carrier pipe with water and coordinate incremental placement of cellular grout backfill to counterbalance water in pipe and the heat of hydration of the backfill material.

3.02 GROUTING OF ANNULAR SPACE

A. Grouting Equipment

1. The materials shall be mixed in equipment of sufficient size and capacity to provide the desired amount of grout material for each reach, bulkhead- to-bulkhead, in a single operation.
2. The equipment shall be capable of mixing the grout at densities required for the approved procedure and shall also be capable of changing density as dictated by field conditions any time during the grouting operation.
3. The gaged pumping pressure shall not exceed the liner pipe manufacturer's approved recommendations.
4. Pumping equipment shall be of a size sufficient to inject grout at a velocity and pressure appropriate to the size of the annular space.
5. Gages to monitor grout pressure shall be-attached immediately adjacent to each injection port.
6. The gage shall conform to an accuracy of no more than one- half percent (0.5%) error over the full range of the gage.
7. The range of the gage should not be more than 100 percent greater than the design grout pressure.
8. Pressure gages shall be instrument oil filled and attached to a saddle-type diaphragm seal (gage saver) to prevent clogging with grout.
9. All gages shall be certified and calibrated in accordance with ANSI B40, Grade 2A.
10. Pressure must be continuously monitored and recorded during injection using a pressure chart recorder.
11. The range of the chart recorder should not be more than 200 percent greater than the design grout pressure.

B. Injection Procedure and Pressure

1. Construct water-tight bulkheads at the grouting supply and vent ends.
2. Plug pipe with flow-through plug to fill pipe during grouting operation.
3. Maximum grout pressure shall be in accordance with pipe manufacturer's recommendations and shall be no less than 5 psig and no greater than 10 psig.
4. A minimum two grouting tubes and one venting tube shall be furnished per grout stage.
    a. Size and quantity shall be per pipe manufacturer's recommendations.
    b. Grout shall be applied until it flows out of the vent tube. Then the vent tube shall be capped.
    c. Additional grout shall be applied to one grout tube until the grout flows out of the second grout tube. Then the grout tubes shall be capped.
5. The bulkhead shall be sealed flush to the manhole walls with non-shrink grout, where applicable.

6. Grout and vent tubes shall be cut off and ground flush with manhole walls after the non-shrink grout bulkhead seal has cured.

7. Bulkheads on pipe ends shall be constructed as needed to contain grout injected at required pressures.

C. On-Site Test Equipment

1. Density for each batch shall be verified by ASTM C138 or by other methods as approved by the Engineer.

2. Viscosities shall be checked with a flow cone provided by the Contractor.

3. The apparent viscosity should not exceed 18 seconds in accordance with ASTMC939.

D. No grout shall be allowed to spill into adjacent drainage or irrigation ditches. Provide catchment for any spills and clean all grout on the ground.

3.03 FIELD QUALITY CONTROL

A. One set of three standard cylinders shall be cast for each batch.

B. Testing of the specimens for compressive strength shall be in accordance with ASTMC39.

C. One test shall be made one day from the time of casting, and two tests shall be made 28 days from the time of casting.

D. The average of the 28-day strength tests shall be equal to or greater than 300 psi.

E. All testing shall be done by an independent testing laboratory at the expense of the Contractor.

F. The grout shall have a minimum penetration resistance of 100 psi in 24 hours when tested in accordance with ASTM C403 and a minimum compressive strength of 100 to 300 psi in 28 days when tested in accordance with ASTM C495 or C109.

3.04 PREPARATION

A. Mixing shall not exceed one hour after the addition of foam in order to reduce the possibility of changes in unit weight, consistency, and separation.

B. The as-cast unit weight shall be monitored, as well as the method of placement, such as mechanical or pneumatic pumping, and any unit weight changes that may result from these methods.

END OF SECTION

SECTION 02517

HIGH DENSITY POLYETHYLENE (HDPE) PIPE AND FITTINGS

PART 1 GENERAL

1.01 GENERAL

A. All HDPE pipe and fittings for each installation shall be from a single manufacturer, who is fully experienced, reputable, and qualified in the manufacture of the HDPE pipe to be furnished. The pipe shall be designed, constructed, and installed in accordance with the manufacturer's recommendations and these Specifications.

1.02 SUBMITTALS

A. Provide documentation from the manufacturer showing results of the tests for the required material characteristics.

B. Fusion Technician

1. A minimum of three (3) years of experience in butt fusion of HDPE
2. Experience completing a minimum of 1,000 lineal feet of butt fusion HDPE 18-inches in diameter or larger.

C. Electrofusion Technician

1. A minimum of three (3) years of experience in electrofusion of HDPE

D. Manufacturer Certification of Pipe Fusion

1. The pipe manufacturer shall provide a certified field technician to verify the adequacy of the fusion equipment and shall provide a certification that the fusion is completed in accordance with manufacturer's requirements.

PART 2 MATERIALS

2.01 HIGH DENSITY POLYETHYLENE (HDPE)

A. Polyethylene (PE) IPS Plastic Pipe conforming to ASTM D3035 Standard specification for polyethylene (PE) plastic pipe (DR-PR) based on controlled outside diameter. pipe diameter ratio shall be DR17, unless otherwise noted.

B. High Density Polyethylene Resin Class: PE 4710 per ASTM D3350.

C. HDPE pipe shall be plain end, butt-fused in the field.

2.02 ELECTROFUSION FITTINGS

A. Electrofusion fitting may only be installed where specifically shown on the Drawings.

B. No electrofusion fittings larger than 4" diameter will be allowed.

C. Electrofusion fittings shall be manufactured in accordance with ATM F1055 and AWWA C906.

PART 3 EXECUTION

3.01 BUTT FUSE JOINING OF HDPE

A. The pipe shall be joined with butt, heat fusion joints as outlined in ASTM D2657 and conform to the Generic Butt Fusion Joining Procedure for Field Joining of Polyethylene Pipe, Technical Report TR-33/2005, published by the Plastic Pipe Institute (PPI). All joints shall comply with the manufacturer's recommendations. A factory qualified joining technician as designated by pipe manufacturer or experienced, trained technician shall perform all heat fusion joints in the presence of the City's Construction Observer/Inspector.

B. Lengths of pipe shall be assembled into suitable installation lengths by the butt- fusion process. All pipes so joined shall be made from the same class and type of raw material made by the same raw material supplier.

C. On days that butt fusions are to be made; the first fusion shall be a trial fusion in the presence of the City's Construction Observer/Inspector. The following shall apply:

1. Heating plate surfaces shall be inspected for cuts and scrapes and shall be free of dirt and residue. Heater surfaces should be between 400ºF (minimum) to 450ºF (maximum). Measure the temperature @ 12:00, 3:00, 6:00 and 9:00 o'clock positions using a pyrometer of infrared thermometer at locations where the heating plate will contact the pipe/fitting ends. The maximum temperature difference between any two points on a single heating surface must not exceed 24ºF. If this temperature is exceeded, the heating plate shall be cleaned per the manufacturer's recommendations and retested as stated above.
2. The fusion or test section shall be cut out after cooling completely for inspection.
3. The test section shall be 12" or 30 times (minimum) the wall thickness in length and 1" or 1.5 times the wall thickness in width (minimum).
4. The joint shall be visually inspected as to continuity of "beads" from the melted material, and for assurance of "cold joint" prevention (i.e. – joint shall have visible molded material between walls of pipe). Joint spacing between the walls of the two ends shall be a minimum of 1/16" to a maximum 3/16".

3.02 HDPE PIPE INSTALLATION

A. Care shall be taken in loading, transporting and unloading to prevent damage to the pipe. Pipe or fitting shall not be dropped. All pipe or fitting shall be examined before installation, and no piece shall be installed which is found to be defective. Any damage to the pipe shall be repaired as directed by the Engineer. If any defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner by the Contractor, at his own expense.

B. Care shall be taken during transportation of the pipe such that it will not be cut, chipped, kinked or otherwise damaged. Do not drop the pipe in the trench.

C. Ropes, fabric or rubber protected slings and straps shall be used when handling pipes. Chains, cables or hooks inserted into the pipe ends shall not be used. Two slings spread apart shall be used for lifting each length of pipe.

D. Pipes shall be stored on level ground, preferably turf or sand, free of sharp objects, which could damage the pipe. Stacking of the polyethylene pipe shall be limited to a height that will not cause excessive deformation of the bottom layers of pipes under anticipated temperature conditions. Where necessary due to ground conditions, the pipe shall be stored on wooden sleepers, spaced suitably and of such width as not to allow deformation of the pipe at the point of contact with the sleeper or between supports.

E. Pipe shall be stored on clean level ground to prevent undue scratching or gouging. The handling of the pipe shall be in such a manner that the pipe is not damaged by dragging it over sharp and cutting objects. The maximum allowable depth of cuts, scratches or gouges on the exterior of the pipe is 5 percent of wall thickness. The interior pipe surface shall be free of cuts, gouges or scratches.

F. Sections of pipe with cuts, scratches or gouges exceeding 5 percent of the pipe wall thickness shall be removed completely and the ends of the pipeline rejoined.

G. Pipe shall be laid to lines and grade shown on the Drawings with bedding and backfill as shown on the Drawings or Standard Details.

H. When laying is not in progress, including lunchtime, the open ends of the pipe shall be closed by fabricated plugs, or by other approved means.

I. The pipe shall be joined by the method of thermal butt fusion, as described herein.

J. All HDPE pipe must be at the temperature of the surrounding soil at the time of backfilling and compaction.

K. If a defective pipe is discovered after it has been installed, it shall be removed and replaced with a sound pipe in a satisfactory manner at no additional cost to the District. All pipe and fittings shall be thoroughly cleaned before installation, shall be kept clean until they are used in the work and when laid, shall conform to the lines and grades required.

L. The centerline of the pipe shall not deviate from a straight line drawn between the centers of the openings at the ends of the pipe by more than 1/16-in per foot of length. If a piece of pipe fails to meet this requirement check for straightness, it shall be rejected and removed from the site. Laying instructions of the manufacturer shall be explicitly followed.

M. Good alignment shall be preserved during installation. Deflection of the pipe shall occur only at those places indicated in the Drawings and as approved by the Engineer. Fittings, in addition to those shown on the Drawings, shall be used only if necessary or required by the Engineer.

N. When moveable trench bracing such as trench boxes, moveable sheeting, shoring or plates are used to support the sides of the trench, care shall be taken in placing and moving the boxes or supporting bracing to prevent movement of the pipe, or disturbance of the pipe bedding and the backfill. As trench boxes, moveable sheeting, shoring or plates are moved, pipe bedding shall be placed to fill any voids created and the backfill shall be recompacted to provide uniform side support for the pipe.

O. Contractor shall protect pipe from floating during rain events.

3.03 HYDROSTATIC TESTING

A. HDPE shall be pressure tested in accordance with Section 02520.

3.04 CLEANING

At the conclusion of the work, thoroughly clean the new pipelines to remove all dirt, stones, pieces of wood or other material which may have entered during the construction period. Debris cleaned from the lines shall be removed from the job site by the Contractor.

END OF SECTION

SECTION 02520

HYDROSTATIC PRESSURE TESTING

PART 1 GENERAL

1.01 SECTION INCLUDES

A. The work under this section shall consist of furnishing all labor, materials, and equipment required to hydrostatically test water facilities in accordance with the requirements of these specifications. The contractor shall provide a calibrated pump suction tank for the test pressure pump. Water line to be tested shall pass a pretest conducted by the contractor before the official test is scheduled. Hydrostatic pressure leak tests of PE pressure piping systems should be conducted in accordance with ASTM F 2164(8).

PART 2 MATERIALS

2.01 GENERAL

A. The Contractor shall provide a calibrated pump suction tank for the test pressure pump. Water line to be tested shall pass a pretest conducted by the contractor before the official test is scheduled.

B. The Contractor shall prepare a hydrostatic testing work plan which clearly illustrates the proposed means and methods intended to be used to comply with the requirement of this section. The plan shall be submitted to the Engineer 28 days prior to the start of the testing. The plan shall be considered “Design Data” as included in Section 01300 for the purposes of review.

PART 3 EXECUTION

3.01 GENERAL

A. In addition to any tests required by AWWA, ASTM and any other standard Specifications referred to in these Specifications, and in addition to any specified shop or plant hydrostatic tests for pipe, a field hydrostatic test shall be required for all pipelines and appurtenances. The Contractor shall provide all labor, equipment, materials, bulkheads and recently calibrated measuring apparatus required to make the test. The City shall not be responsible for any damage, including damage to the pipeline or appurtenances, due to testing.

B. In the event that the new waterline requires connection to an existing line for the purpose of filling the new line with water, the connection between the existing and new line shall be broken and the new line plugged prior to commencing the test, unless prior approval is received from the Engineer.

C. Acceptance and Repair of Pipelines: Regardless of the actual leakage from the pipe, the Contractor shall repair all visible leaks. Cracked or defective pipe, fittings, valves, and appurtenances shall be replaced. Contractor shall continue testing and repair of leaks until the actual leakage is reduced to or below the allowable leakage for 24 hours. If leakage persists after repair, fittings, valves, appurtenances, the pipe joint, joints, or entire pipeline shall be removed and replaced with new material and retested. Leaks shall be repaired by and at the expense of the Contractor.

3.02 HYDROSTATIC TESTING

A. Preparation for Testing:

1. Prior to the start of testing, the Contractor shall submit the proposed testing procedure, in writing, to the Engineer for review.

2. By necessity, installation of all valves, fittings, appurtenances, concrete thrust blocks and backfill shall be completed so that testing may be undertaken.

3. Temporary bulkheads furnished and installed by the Contractor may be used with prior approval. After completion of the test, the Contractor shall remove said bulkheads. The Contractor may test against closed sectionalizing valves.

4. Testing shall be done as soon as possible after the completion of the pipeline, but in no event sooner than three (3) days after the placement of any concrete thrust block that will be subject to hydrostatic pressure during a test.

B. Test Sections: Pipelines may be tested in one length, between valves, or between bulkheads, as approved. All appurtenances and service lines shall be considered as part of the main pipeline for the purpose of hydrostatic testing. All exposed pipe, appurtenances and services shall be examined during the pressure test.

C. Hydrostatic pressure testing of all waterlines shall be conducted with clean water only, air testing is not allowable.

D. The contractor shall furnish all material, equipment, and labor necessary to perform the hydrostatic pressure test with the exception of the pressure gauge which shall be provided by the Engineer.

E. Hydrostatic testing may be conducted against existing valves upon written acceptance of the Engineer. However, it is understood by the contractor that such

acceptance shall in no way relieve the contractor of responsibility for damage to lines, valves, or appurtenances caused by the test. Further, the City assumes no risk, liability, or obligation of any kind regarding the condition of existing facilities nor any connection the contractor may make to said facilities. Any damage to new or existing water facilities resulting from the hydrostatic testing shall be repaired at the contractor's sole cost.

F. All sections of newly installed waterline shall be inspected to ensure that all entrapped air has been completely expelled from the pipe, valves, and hydrants. If permanent air release outlets are not located at all high points, the contractor shall install additional air release ports as may be necessary or as directed by the Engineer. These components shall be considered incidental to the construction and testing of the waterline.

G. The test pump may be either hand or motor driven. The test pump shall be connected to the waterline under test only through a tap into the main.

H. The Contractor shall determine the limits of hydrostatic testing and provide all necessary materials to perform tests on each segment of pipeline as approved in

the hydrostatic test plan.

l. Hydrostatic testing shall be conducted only in the presence of the Engineer. Unless otherwise noted in the special specifications, on the plans or as directed by the Engineer, test pressures shall conform with the following:

1. The test procedure consists of initial expansion, and test phases. Initial expansion at 60 psi and test phase at 50 psi. For the initial expansion phase, the test section is pressurized to test pressure and make-up test liquid is added as required to maintain maximum test pressure for twenty-four (24) hours.

2. For the test phase, the test pressure is reduced by 10 psi. This is the target test pressure. If the pressure remains steady (within 5% of the target test pressure) for an hour, leakage is not indicated, and the tested section will be considered to have passed the hydrostatic testing.

3. Test equipment and the pipeline test section should be examined before pressure is applied to ensure that connections are tight, necessary restraints are in place and secure, and components that should be isolated or disconnected are isolated or disconnected.

4. All low-pressure filling lines and other items not subject to the test pressure should be disconnected or isolated.

5. If leaks are discovered, depressurize the test section before repairing leaks. Correctly made fusion joints do not leak.

6. Leakage at a butt fusion joint may indicate imminent catastrophic rupture. Depressurize the test section immediately if butt fusion leakage is discovered. Leaks at fusion joints require the fusion joint to be cut out and redone.

7. If the pressure leak test is not completed due to leakage, equipment failure, etc., the test section should be de-pressurized, and repairs made. Allow the test section to remain depressurized for at least eight (8) hours before retesting.

END OF SECTION

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SECTION 02570

STEEL PIPE, SPECIALS AND FITTINGS

PART 1 – GENERAL

1.1 WORK INCLUDED IN THIS SECTION

A. The WORK of this Section includes providing Steel Water Pipe (SWP) fittings and specials, complete in place in accordance with the Contract Technical Documents.

1.2 REFERENCE SPECIFICATIONS

A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section.

1. AWWA C200 Steel Water Pipe - 6 Inches and Larger

2. AWWA C205 Cement-Mortar Protective Lining and Coating for Steel Water Pipe - 4 Inches and Larger - Shop Applied

3. AWWA C206 Field Welding for Steel Water Pipe

4. AWWA C207 Steel Pipe Flanges for Waterworks Service – Sizes 4 Inches through 144 Inches

5. AWWA C208 Dimensions for Fabricated Steel Water Pipe Fittings

6. AWWA C602 Cement-Mortar Lining of Water Pipelines in Place – 4 Inches and Larger

7. AWWA M11 Steel Water Pipe - A Guide for Design and Installation

1.3 SUBMITTALS

A. The Contractor shall field verify the horizontal and vertical locations of all proposed steel water pipe connections at existing tie-in flange locations on pipe nozzles off existing 48” manifold which are new or to remain prior to finalizing the design and fabrication of the new individual steel pipe spools, specials, and fittings which need to be manufactured/fabricated to complete the new pump/valve discharge connections.

B. The following shall be submitted in compliance with the Section 01300 entitled, “Submittals” of these Technical Specifications:

1. Shop drawings:

a. Shop drawings showing dimensions and details of pipe, joint fittings, fitting specials, valves and appurtenances.

b. Joint and fitting wall construction details, which indicate the type and thickness of cylinder; the position, type, size and area of reinforcement; manufacturing tolerances and all other pertinent information required for the manufacture of the product.

c. Joint details shall be submitted where deep bell or butt strap joints are

required for control of temperature stresses.

d. Details of the fittings and specials such as elbows, reducers, wyes, tees, crosses, outlets, connections, test bulkheads, nozzles or other specials where shown which indicate amount and position of all reinforcement. All fittings and specials shall be properly reinforced to withstand the internal pressure, both circumferential and longitudinal, and the external loading conditions as indicated in the Contract Technical Documents.

e. Material lists and steel reinforcement schedules, which include and describe all materials to be utilized.

f. Full and complete information regarding location, type, size and extent of all welds shall be shown on the shop drawings. The shop drawings shall distinguish between shop and field welds.

g. Shop drawings shall indicate by welding symbols or sketches the details of the welded joints and the preparation of parent metal required to make them.

2. Design Calculations

a. Calculations supporting selected wall thickness.

b. Calculations supporting welded joint design.

C. Certificates

1. The CONTRACTOR shall furnish a certification stating that all pipe, special fittings and other products or materials furnished under this Section comply with AWWA C200 and C205.

D. Test Reports

1. The CONTRACTOR shall furnish certified reports of the following tests:

a. Physical and chemical properties of all steel.

b. Hydrostatic test reports.

c. Results of production weld tests.

d. Upon request by the CITY ENGINEER, mill test reports on each sheet from which steel is rolled will be submitted.

1.4 INSPECTION

A. Factory Inspection

1. All pipes shall be subject to inspection at the place of manufacturer in accordance with the provisions of AWWA C200 and C205, respectively, as supplemented by the requirements herein.

2. The CONTRACTOR shall notify the CITY ENGINEER in writing of the manufacturing starting date not less than fourteen (14) calendar days prior to the start of any phase of the pipe manufacture.

1.5 WELDING

A. All welding procedures used to fabricate pipe/fitting specials shall be pre-qualified under the provisions of AWS D 1.1.

B. Welding procedures shall be required for, but not necessarily limited to, longitudinal and girth or spiral welds for pipe cylinders, spigot and bell ring attachments, reinforcing plates and ring flange welds, and plates for lug connections.

C. All welding shall be done by skilled welders, welding operators and tack welders who have had adequate experience in the methods and materials to be used.

D. Welders shall be qualified under the provisions of AWS D 1.1 by an independent local, approved testing agency not more than six (6) months prior to commencing work on the pipeline. Machines and electrodes similar to those used in the WORK shall be used in qualification tests.

E. The CONTRACTOR shall furnish all material and bear the expense of qualifying welders.

1.6 TESTING

A. Except as modified herein, all materials used in the manufacture of the pipe shall be tested in accordance with the requirements of AWWA C200 and C205, as applicable.

1. Shop Testing of Steel Pipe

a. After the joint configuration is completed and prior to lining with cement-mortar, each length of pipe of each diameter and pressure class shall be shop-tested and certified to a pressure of at least eighty percent (80%) of the yield strength of the pipe steel.

b. Production welding tests shall be conducted in compliance with AWWA C200. In addition to the frequency of tests required in AWWA C200, welding tests shall be conducted on each 2,000 feet of production welds and at any other times there is a change in the welding procedure or welding equipment.

2. Shop Testing of Steel Plate Specials

a. Upon completion of welding, but before lining and coating, each special shall be bulk headed and tested under a hydro-static pressure of not less than 1-1/2 times the design pressure; provided, that if straight pipe used in fabricating the specials has been previously tested and meets the requirements of the applicable piping section, no further hydrostatic testing will be required; or provided, that all other welded seams are tested by a liquid penetrant inspection procedure conforming to the requirements of ASTM E165, under Method “B” or a magnetic particle inspection procedure conforming to the requirements of ASTM E709 and “Leakage Testing” or where applicable by the soap and compressed air method at a minimum air pressure of 25 psi. Any pinholes or porous welds, which may be revealed by the test, shall be chipped out and the joint re-welded and the special retested.

b. No outside coating shall be applied over a seam prior to testing; however, mortar lining may be applied over a seam prior to hydrostatic

testing, but under such conditions said pressure test shall be held on the pipe or fitting for a period of not less than thirty (30) minutes.

B. The CONTRACTOR shall perform said material tests at no additional cost to the CITY. The CITY ENGINEER shall have the right to witness all testing conducted by the CONTRACTOR, provided that the CONTRACTOR's schedule is not delayed for the convenience of the CITY ENGINEER.

C. In addition to those tests specifically required, the CITY ENGINEER may request additional samples of any material, including mixed concrete and mortar lining and coating samples, for testing by the CITY ENGINEER. The additional samples shall be furnished at no additional cost to the CITY.

D. All expenses incurred in making samples for certification of tests shall be borne by the CONTRACTOR.

PART 2 – PRODUCTS

2.1 GENERAL

A. Steel water pipe shall conform to AWWA C200 and C205, subject to the following supplemental requirements: The pipe shall be of the diameter and class shown, shall be furnished complete with welded joints, as indicated in the Contract Technical Documents, and all specials and bends shall be provided as required for a complete piping system.

B. Specials are defined as fittings, closure pieces, bends, reducers, wyes, tees, crosses, outlets, manifolds, and other steel plate specials, wherever located, and all piping above ground or in structures.

C. Dimensions of fabricated Steel Water Pipe fittings shall comply with AWWA C208.

D. Pipe smaller than fourteen (14) inches in diameter may be furnished in standard outside diameters.

E. Closures and correction pieces shall be provided, as required, so that closures may be made due to different headings in the pipe laying operation and so that correction may be made to adjust the pipe laying to conform to pipe stationing shown on the Project Plans.

F. The CONTRACTOR shall be fully liable for the cost of replacement or repair of pipe fittings and specials, which are damaged.

G. The CONTRACTOR shall legibly mark all pipe fittings and specials in accordance with the laying schedule and marking diagram. Each pipe shall be numbered in sequence and said number shall appear on the laying schedule and marking diagram in its proper location for installation.

H. All special pipe sections and fittings shall be marked at each end indicating the top. The word "TOP" shall be painted or marked on the outside top spigot end of each pipe section.

2.2 STRUTTING

A. Adequate strutting shall be provided on all specials, fittings, and straight pipe so as to avoid damage to the pipe and fittings during handling, storage, hauling and installation. In addition, the following requirements shall apply:

1. The strutting shall be placed as soon as practicable after the mortar lining has been applied and shall remain in place while the pipe is loaded, transported, unloaded, installed and backfilled at the jobsite.

2. The strutting materials, size, and spacing shall be adequate to support the earth backfill plus any greater loads, which may be imposed by the backfilling and compaction equipment.

3. Any pipe damaged during handling, hauling, storage or installation due to improper strutting shall be repaired or replaced.

4. The details of the strutting assembly shall be submitted for review by the CONTRACTOR prior to the start of pipe manufacture.

2.3 PIPE DESIGN CRITERIA

A. General

1. The Steel Water Pipe (SWP) shall be designed, manufactured, tested, inspected and marked according to applicable requirements of AWWA C200 except as modified herein. The pipe shall consist of steel cylinder, either shop-lined or lined-in-place with Portland cement mortar, with an exterior shop primer epoxy coating.

2. The pipe shall be of the diameter indicated on the drawings, and if indicated, by pressure class. The minimum steel cylinder thickness for each pipe fitting or special diameter shall be ¼" minimum.

3. Joint Design: The SWP fittings and specials shall have double welded joints (i.e., welds inside and outside).

B. Cylinder Thickness for Internal Pressure

1. For resistance to internal pressure, the thickness of the steel cylinder shall not be less than the greater of that determined by the following formulas with ¼" as the minimum:

a. $Tw = (Pw\ D/2) / (Y/Sw)$

b. $Tt = (Pt\ D/2) / (Y/St)$

Where:

Tw = Steel cylinder thickness at design working pressure, inch

Tt = Steel cylinder thickness at design transient pressure, inch

D = Outside diameter of steel cylinder, inches

Pw = Design working pressure, psi

Pt = Design transient pressure, psi = 1.33 Pw

Y = Specified minimum yield point of steel, psi

Sw = 2.0 (Safety Factor at design working pressure)

St = 1.5 (Safety Factor at design transient pressure)

C. Unless otherwise indicated, Pw shall be assumed to equal the indicated pipe pressure class and Pt shall be assumed to equal 1.33 Pw. In no case shall the design stress (Y/Sw) exceed 16,500 psi at design working pressure, Pw, nor shall the design stress (Y/St) exceed 22,000 psi at design transient pressure, Pt, nor shall the steel shell thickness be less than ¼" (0.25 in,) or the nominal pipe diameter divided by 240, whichever is greater, as shown in the following table:

Nominal Pipe Diameter (in.)	Minimum Cylinder Thickness (in.)
6 - 30	0.25

2.4 DESIGN SPECIALS

A. Except as otherwise provided herein, materials, fabrication and shop testing of straight pipe shall conform to the requirements of AWWA C200. Dimensions for fittings shall conform to AWWA C208. The minimum thickness of plate for pipe from which specials are to be fabricated shall be the greater of that determined by the following two formulas:

a. $T = (Pw\ D/2) / (Y/Sw)$

b. $T = (Pt\ D/2) / (Y/St)$

Where: T = Steel cylinder thickness, inches

D = Outside diameter of steel cylinder, inches

Pw = Design working pressure, psi

Pt = Design transient pressure, psi

Y = Specified minimum yield point of steel, psi

Sw = Safety factor of 2.0 at design working pressure

St = Safety factor of 1.5 at design transient pressure

B. In no case shall the design stress at design working pressure (Y/Sw) for Steel Water Pipe exceed 16,500 psi or 22,000 psi at design transient pressure (Y/St), nor shall plate thickness be less than the thickness of adjacent mainline pipe or the following:

Pipe Manifolds & Elbows

Nominal Pipe Diameter (in.)	Piping above Ground Piping in Structures	Bends Reducers
24 and under	1/4 - inch	1/4 - inch
25 to 48	1/4 - inch	1/4 - inch
over 48	5/16 - inch	5/16 - inch

C. Pipe installed on saddle supports shall be designed to limit the longitudinal bending stress to a maximum of 10,000 psi. The design shall be in accordance with the provisions of Chapter 7 of AWWA M-11.

2.5 MATERIALS

A. Pipe manufactured under AWWA C200 shall be fabricated from sheet, plate or coils conforming to the requirements of Table 1 in Section 4.7. All longitudinal and girth seams,

whether straight or spiral, shall be butt welded using an approved electric-fusion-weld process.

B. All steel used for the fabrication of pipe shall have a maximum carbon content of 0.25 percent, a maximum sulfur content of 0.015 percent, and shall have a minimum elongation of 22 percent in a 2-inch gauge length.

C. All steel used in fabricating pipe, which exceeds 1/2 inch in thickness, shall be tested for notch toughness using the Charpy V-Notch test in accordance with ASTM A 370. The steel shall withstand a minimum impact of 25 ft. lb. at a temperature of 30° F.

D. Steel shall be fine-grained, fully kilned and manufactured by the continuous casting process.

E. Cement for mortar shall conform to the requirements of AWWA C205; provided that cement for the mortar lining shall be ASTM C 150, Type II, Low Alkali. Fly ash or pozzolan shall not be used as a cement replacement.

2.6 JOINT DESIGN

A. GENERAL

1. Steel Water Pipe joints shall be single welded joints (i.e., welds inside or outside).

2. Mechanically coupled or flanged joints shall be with same Class Type to match the Valve Body as shown on Project Plans.

3. Butt-strap joints shall be used only where required for closures, where shown or where approved by the CITY ENGINEER.

4. The joints furnished shall have the same or higher-pressure rating as the abutting pipe.

5. Shop-applied interior linings and exterior coatings shall be held back from the ends of the pipe as indicated or as otherwise acceptable to the CITY ENGINEER.

6. Where indicated, restrained joints shall be continuous field-welded joints. Designs shall include considerations of stresses induced in the steel cylinder, the joint rings, and any field welds, caused by thrust at bulkheads, bends, reducers, and line valves resulting from the design working pressure. All joints to be field welded for thrust restraint shall have joint rings attached to the cylinder with double fillet welds. Calculations for the number of joints that need to be welded on each side of all vertical and horizontal angle points shall be furnished to the CITY ENGINEER at no additional cost to the CITY.

7. For field welded joints, design stresses shall not exceed fifty percent (50%) of the indicated minimum yield strength of the grade of steel utilized, or 16,500 psi, whichever is less, for the part being examined when longitudinal thrust is assumed to be uniformly distributed around the circumference of the joint. At the CONTRACTOR's option, the steel cylinder area may be progressively reduced from the point of maximum thrust to the end of the restrained length, with the approval of the CITY ENGINEER.

B. Welded Joints

1. Full and complete information regarding location, type, size, and extent of all welds shall be shown on the shop drawings. The shop drawings shall distinguish between shop and field welds. Shop drawings shall indicate by welding symbols or sketches the details of the welded joints, and the preparation of parent metal required to make them. Joints or groups of joints in which welding sequence or technique are especially important shall be carefully controlled to minimize shrinkage stresses and distortion.

2.7 CEMENT-MORTAR LINING OF PIPE/SPECIALS

A. General

1. Except as otherwise required, interior surfaces of all steel pipe, fittings, and specials shall be cleaned and lined in the shop with cement-mortar lining applied centrifugally in conformity with AWWA C205.

2. The progress of the application of mortar lining shall be regulated in order that all hand work, including the repair of defective areas, is cured in accordance with the provisions of AWWA C205.

3. During the lining operation and thereafter, the pipe shall be maintained in a round condition by suitable bracing or strutting.

4. The lining machine shall be of a type that has been used successfully for similar work.

5. If lining is damaged or found faulty at the delivery site, the damaged or unsatisfactory portions shall be replaced with lining conforming to these Specifications at no additional cost to the CITY.

B. The minimum lining thickness shall be in accordance with AWWA C205, Table 1 of Section 4.

C. The pipe shall be left bare where field joints occur as indicated. The ends of the linings shall be left square and uniform. Feathered or uneven edges will not be permitted.

D. Defective linings, as determined by the CITY ENGINEER, shall be removed from the pipe wall and shall be replaced to the full thickness required. Defective linings shall be cut back to a square shoulder to avoid feathered edged joints.

E. Cement-mortar for patching shall be the same materials as the mortar for machine lining, except that a finer grade of sand and mortar richer in cement shall be used when field inspection indicates that such mix will improve the finished lining of the pipe.

F. For all pipe and fittings with plant-applied cement-mortar linings, the pipe manufacturer shall provide a polyethylene or other suitable bulkhead on the ends of the pipe and on all special openings to prevent drying out of the lining. All bulkheads shall be substantial enough to remain intact during shipping and storage until the pipe is installed.

G. Cement-Mortar Lining for Field Application

1. The materials and design of in-place cement-mortar lining shall be in accordance with AWWA C602 and the following supplementary requirements.

a. Portland cement shall conform to ASTM C150, Type II, Low Alkali.

b. Pozzolanic material shall not be used in the mortar mix.

c. Admixtures shall contain no calcium chloride.

d. The minimum lining thickness shall be as indicated for shop-applied cement-mortar lining and the finished inside diameter after lining shall be as shown.

2.8 FABRICATION OF SPECIALS

A. General

1. Specials and fittings shall conform to dimensions stipulated in AWWA C208.

2. Reinforcement for wyes, tees, outlets, and nozzles shall be designed in accordance with the AWWA Manual M-11. Reinforcement shall be designed for the pressure indicated and shall be in accordance with the Project Plan Details.

3. Specials and fittings shall be equal in pressure design strength and shall have the same lining and coating as the adjoining pipe.

4. Unless otherwise specified, the minimum radius of elbows shall be 2.5 times the pipe diameter and the maximum miter angle on each section of the elbow shall not exceed 11-1/4 degrees.

B. Fittings may be fabricated from pipe that has been mechanically lined or coated.

C. Access manways with covers shall be as indicated. All threaded outlets shall be forged steel suitable for 300 psi service.

D. Outlets 12 inches and smaller may be fabricated from Schedule 30 or heavier steel pipe in the standard outside diameters, i.e., 12-3/4 inch, 10-3/4 inch, 8-5/8 inch, 6-5/8 inch, and 4-1/2 inch.

E. The design of outlet reinforcement shall be in accordance with the procedures given in Chapter 12 of AWWA Manual M-11, except that the design pressure, P, used in the M-11 procedure shall equal the greater of 1.25 Pw or 0.9376 Pt. Unless otherwise indicated, outlets 2 inches in diameter and smaller need not be reinforced.

F. In lieu of saddle or wrapper reinforcement as required by the design procedure in Manual M-11, pipe or specials with outlets may be fabricated in their entirety of steel plate having a thickness equal to the sum of the pipe wall plus the required reinforcement.

G. Where required by the M-11 design procedure, crotch plate reinforcement shall be furnished.

H. Steel welding fittings shall conform to ASTM A 234.

I. Ends for Mechanical-Type Couplings

1. Except as otherwise required, where mechanical-type couplings are indicated, the ends of pipe shall be banded with Type C collared ends using double fillet welds. Where pipe 12 inches and smaller is furnished in standard schedule thicknesses, and where the wall thickness equals or exceeds the coupling

Manufacturer's minimum wall thickness, the pipe ends may be grooved.

J. Lining

1. All requirements pertaining to thickness, application and curing of lining indicated for straight pipe shall apply to specials, with the following exception: If the special cannot be lined centrifugally, it shall be lined by hand. In such a case, the lining shall be reinforced with 2-inch by 4-inch No. 12 welded wire fabric positioned approximately in the center of the lining. The wires spaced 2 inches on center shall extend circumferentially around the pipe with the fabric securely fastened to the pipe. Splices shall be lapped 4 inches and the free ends tied or looped to assure continuity.

K. Coating

1. Pipe above ground or in structures shall be field painted.

L. Specials and fittings that cannot be mechanically lined and coated shall be lined and coated by hand-application, using the same materials as are used for the pipe and in accordance with the applicable AWWA C602 Standards. Coating and lining applied in this manner shall provide protection equal to that indicated for the pipe.

M. Areas of lining that have been damaged by such fabrication shall be repaired by hand-applications in accordance with applicable AWWA C602 Standards.

PART 3 – EXECUTION

3.1 INSTALLATION OF ABOVE GROUND PIPE AND SPECIALS

A. Immediately before placing each section of pipe in final position for jointing, Pipe specials shall be checked for firmness and uniformity of proper support.

B. All damaged areas along the pipe shall be repaired using materials and methods acceptable to the CITY ENGINEER.

C. The openings of all pipe and specials where the pipe and specials have been cement-mortar lined in the shop shall be protected with suitable bulkheads to maintain a moist atmosphere and to prevent unauthorized access by persons, animals, water or any undesirable substance. The bulkheads shall be designed to prevent drying out of the interior of the pipe. The CONTRACTOR shall introduce water into the pipe or special to keep the mortar moist where moisture has been lost due to damaged bulkheads.

3.2 WELDED JOINTS

A. General

1. Field welded joints shall be in accordance with AWWA C206.

2. Where exterior welds are performed, adequate space shall be provided for welding and inspection of the joints.

3. During installation of welded steel pipe in either straight alignment or on curves, the pipe shall be laid so that the lap joint clearance, at any point around the circumference of the joint, shall comply with the requirements of AWWA C206.

4. Unless double fillet welds are indicated, field welded lap joints may, at the

CONTRACTOR's option, be made on either the inside or the outside of the pipe.

5. Butt straps, where used or required, shall be a minimum of six (6) inches wide, the same thickness as the pipe wall and shall provide for a minimum of 3/4 inch lap at each pipe joint.

6. The pipe ends shall be cut straight on joints where butt straps are used for realignment, adjustment or deflection and fillet welds shall be made as indicated.

7. After the pipe and pipe joint are properly positioned in the trench, the length of pipe between joints shall be backfilled to at least one (1) foot above the top of the pipe. Care shall be exercised during the initial backfilling to prevent movement of the pipe and to prevent any backfill material from being deposited on the joint.

8. Prior to the beginning of the welding procedure, any tack welds used to position the pipe during laying shall be removed. Any annular space between the faying surfaces of the bell and spigot shall be equally distributed around the circumference of the joint by shimming, jacking, or other suitable means. The welding shall then be made in accordance with AWWA C206. Where more than one pass is required, each pass except the first and final one shall be peened to relieve shrinkage stresses; and all dirt, slag and flux shall be removed before the succeeding bead is applied.

9. As soon as practicable after welding of each joint, all field-welded joints shall be tested by the liquid penetrant inspection procedure conforming to the requirements of ASTM E 165 under Method "B" or the magnetic particle inspection procedure conforming to the requirements of ASTM E709 and "Leak Testing". All defects shall be chipped out and the joint re-welded and retested.

10. The welding Inspector shall be employed by a separately owned independent company than the company that is performing the welding. The inspection reports prepared by the welding Inspector shall be submitted to the City Engineer for review daily.

11. All welds will be visually inspected by the independent welding inspector in accordance with all applicable AWS inspection requirements.

12 Following tests of the joint, the exterior joint spaces shall be coated in accordance with these specifications after which backfilling may be completed.

13. Repair of Welds: All defective welds shall be repaired by the Contractor to meet the requirements of the applicable sections of these specifications at no additional cost to the City. Defects in welds or defective welds shall be removed, and that section of the joint shall then be rewelded. Only the removal of sufficient defective material that is necessary to correct the defect is required. After the repair is made, the joint shall be checked by repeating the original test procedure. Welds deficient in size shall be repaired by adding weld metal.

3.3 JOINT LINING

A. The interior joint recesses shall be thoroughly wiped clean, and all water, loose scale, dirt and other foreign material shall be removed from the inside surface of the pipe.

B. After welding of specials to steel manifold the interior joint recess shall be filled with mortar lining material of stiff consistency mixed in proportions of one part cement to two parts sand. The mortar shall be tightly packed into the joint recess and troweled flush with

the interior lining surface, and all excess shall be removed. At no point shall there be an indentation or projection of the mortar exceeding 1/16 inch.

C. The CONTRACTOR shall perform all work in a thorough and workmanlike manner by trained personnel, under the supervision of experienced personnel skilled in the field hand application of cement-mortar lining to pipelines specials.

D. Curing of the in-place cement-mortar lining shall be in accordance with AWWA C602.

3.4 INSTALLATION OF PIPE APPURTENANCES

A. Protection of Appurtenances: Where the joining pipe is concrete or coated with cement mortar, buried appurtenances shall be coated with a minimum thickness of 3/4 inch of cement mortar having one part cement to not more than two parts plaster sand. All buried valves, flexible couplings and flanges shall be coated and protected.

B. Installation of Valves: All valves shall be handled in a manner to prevent any injury or damage to any part of the valve. All joints shall be thoroughly cleaned and prepared prior to installation. The CONTRACTOR shall adjust all stem packing and operate each valve prior to installation to ensure proper operation. All valves shall be installed so that the valve stems are plumb and, in the location, indicated.

C. Installation of Flanged Joints: Before the joint is assembled, the flange faces shall be thoroughly cleaned of all foreign material with a power wire brush. The gasket shall be centered, and the connecting flanges drawn up watertight without unnecessarily stressing the flanges. All bolts shall be tightened in a progressive diametrically opposite sequence and torqued with a suitable, approved, and calibrated torque wrench. All clamping torque shall be applied to the nuts only. Full face reinforced rubber gaskets shall be applied to the inside face of blind flanges with adhesive.

D. Insulated Joints: Insulated joints and appurtenant features shall be provided as indicated. The CONTRACTOR shall exercise special care when installing these joints to prevent electrical conductivity across the joint. After the insulated joint is completed, the CONTRACTOR shall perform an electrical resistance test. Should the resistance test indicate a short circuit, the CONTRACTOR shall remove the insulating units to inspect for damage, replace all damaged portions, and reassemble the insulating joint. The insulated joint shall then be retested to ensure proper insulation.

E. Flexible Coupled Joints: When installing flexible couplings, care shall be taken that the connecting pipe ends, couplings, and gaskets are clean and free of all dirt and foreign matter with special attention being given to the contact surfaces of the pipe, gaskets, and couplings. The couplings shall be assembled and installed in conformity with the recommendation and instruction of the coupling Manufacturer.

Coupling bolts shall be tightened to secure a uniform annular space between the follower rings and the body of the pipe with all bolts tightened approximately the same amount. Diametrically opposite bolts shall be tightened progressively and evenly. Final tightening

shall be done with a suitable, approved, and calibrated torque wrench set for the torque recommended by the coupling Manufacturer. All clamping torque shall be applied to the nut only.

END OF SECTION

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SECTION 02741

SUBGRADE

PART 1 GENERAL

1.01 SECTION INCLUDES

The work shall include the scarifying, grading, compacting, testing and all other work required to prepare a uniform and stable surface to receive geotextile fabric and base rock under streets, curbs, gutters, driveways, walls, and similar structures.

PART 2 MATERIALS

2.01 LIME TREATMENT

Lime treatment shall not be allowed as an additive to increase the bearing capacity of native soils and the reduction in engineered fill required to support any structural section or structure to be placed above it. If requested by the contractor and supported by a geotechnical report, the City Engineer may approve the addition of lime to the subgrade as a drying agent to promote stability. If so approved, the lime base shall not be considered as a structural element in determining the design and thickness of overlying materials. The structural design shall be based on the untreated, native soils.

PART 3 EXECUTION

3.01 GRADE TOLERANCE

Immediately prior to placing subsequent layers of material, the grading plane of the basement material shall not vary more than 0.05 foot above or below the design grade.

3.02 SUBGRADE STABILITY/DEFLECTION TEST

The contractor shall be required to furnish loaded trucks for the purpose of testing the load bearing capacity of the finished subgrade or fill material. Total gross load per rear axle shall be 16,000 pounds. Tire pressure must be over 65 pounds. If the tested surface shows a visible defection extending more than 6 inches from the wheel track at the time of loading, or a visible crack remains after loading, the contractor shall take corrective measures.

3.03 RELATIVE COMPACTION

Relative compaction of 92 percent shall be used in lieu of 95 percent required in the State Specifications unless otherwise specified. In excavated areas, the top 0.5-foot of undisturbed material shall be compacted to 92 percent. All fill material shall be considered as embankment construction and compacted to 95%.

END OF SECTION

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SECTION 02742

AGGREGATE BASE

PART 1 GENERAL

1.01 SECTION INCLUDES

The work shall include the placement, moisture conditioning, grading, compacting, and all other work required to the placement of aggregate base in the manner, location, and thicknesses indicated on the approved plans, standard details, and elsewhere in these Standard Specifications.

PART 2 MATERIALS

2.01 AGGREGATE BASE

Unless otherwise indicated on the approved plans, all aggregate base shall conform with Section 26 of the State Specifications and shall be 3/4-inch maximum Class 2 AB, except the third, fourth and fifth paragraphs of section 26-1.01D(3) “Department Acceptance,” and line item 5 of section 26-1.02A “General” shall not apply.

2.02 RECYCLED MATERIALS

Due to the nature and variability of recycled aggregates and other materials, only those recycled materials allowed by law or by the City Engineer will be considered by the City. Contractor’s wishing to use recycled materials or materials with recycled components shall make a submittal to the City Engineer and include a proposed QA/QC program to be implemented by the Contractor to ensure compliance with the City Standard Specifications. If approved, the City Engineer may condition the approval of such submittals on the reimbursement by the Contractor to the City for the City’s own compliance testing at the frequencies specified by the City Engineer.

PART 3 EXECUTION

3.01 AGGREGATE BASE UNDER ASPHALT OF CONCRETE PAVING

Aggregate base placed under asphalt or concrete pavements, including but not limited to streets, curbs, gutters, sidewalks, and driveways, shall comply with Section 26-1.03 State Specifications. Unless otherwise specified in the City Standard Details, compaction shall be a minimum of 95%.

3.02 AGGREGATE BASE IN PIPE BEDDING, TRENCH, AND STRUCTURAL BACKFILL

Aggregate base used as pipe bedding, trench or structural backfill in utility trenches shall have a uniform moisture content that is suitable to obtain the required compaction. The AB shall be placed in lifts not exceeding 12-inches and compacted. Thinner lifts shall be used if conditions and/or compaction equipment cannot obtain the required compaction. Unless otherwise specified, the minimum compaction shall be 95%.

END OF SECTION

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SECTION 02743

HOT MIX ASPHALT

PART 1 GENERAL

1.01 SECTION INCLUDES

The work shall include the grade preparation, prime coat, placement, grading, compacting, tack coat, moisture conditioning, grading, compacting, and all other work required to the placement of hot mix asphalt in the manner, location, and thicknesses indicated on the approved plans, standard details, and elsewhere in these Standard Specifications.

1.02 GENERAL REQUIREMENTS

Unless otherwise indicated herein or on the approved plans, all asphalt concrete materials and execution shall conform with Section 39 of the State Specifications.

PART 2 MATERIALS

2.01 HOT MIX ASPHALT

All hot mix asphalt shall be Type A. Trench repairs shall be completed per project plan details. Asphalt shall be PG70-10.

Contractor shall submit a mix design for hot mix asphalt for the review and approval of the City Engineer prior to the start of work or utilize an approved mix design on file with the City Engineer.

2.02 ASPHALT EMULSIONS

Prime coat shall be MC-70. Tack coat shall be SS-1.

PART 3 EXECUTION

3.01 HOT MIX ASPHALT PAVING

Asphalt shall be spread according to the following:

Total Thickness Shown on The Plans *	No. Layers	Top Layer Grading Thickness		Next Lower Layer Grading Thickness		All Other Lower Layers Grading Thickness	
		Min.	Max.	Min.	Max.	Min.	Max.
20 or less	1	N/A		N/A		N/A	
25	2	12	13	12	13	N/A	
30 through 40	2	15	20	15	20	N/A	
45 or more	3	15	20	15	25	15	40

Note: All thicknesses shown are in hundredths of a foot.

3.02 PRIME COAT, TACK COAT, AND SEAL COAT

Prime coat shall be required on all finished rock grade prior to paving. Tack coat shall be required

between lifts of asphalt concrete when it has been subjected to dirt and dust or whenever traffic has used the underlying paved surface. The City Engineer shall be the sole judge as to the need for tack coat. Exact rates of application and asphalt grade will be determined by the City Engineer.

Type	Asphalt Grade	Rate Gal./Sq.Yd.
Prime	MC-70	0.15 to 0.25
Tack	SS-1	0.02 to 0.10

3.03 ADJUSTMENT OF IRON

Manholes, cleanouts, blowoffs, water valve boxes, and survey monument boxes shall be brought to finish grade after the final pavement lift has been installed per the applicable Standard Detail(s). All iron shall be lowered prior to any pavement planning.

3.04 STAGE CONSTRUCTION

Asphalt concrete and asphalt concrete base shall be spread and compacted in layers. The top layer of asphalt concrete shall not exceed 0.20-foot in compacted thickness. The next lower layer shall not exceed 0.25-foot in compacted thickness, and any lower layers shall not exceed 0.40-foot in compacted thickness. Each subsequent layer of asphalt concrete base shall not exceed 0.40-foot in compacted thickness. No layer shall be placed over a layer which exceeds 0.25-foot in compacted thickness until the temperature at mid depth, of the layer which exceeds 0.25-foot in compacted thickness, is not more than 160°F.

END OF SECTION

SECTION 02930

SURFACE RESTORATION

PART 1 - GENERAL

1.01 SUMMARY

A. This section specifies the restoration of features and includes restoration of surface features disturbed or damaged during the course of execution of this contract to be restored as part of this work. The work may include such repairs as water appurtenances, pavement, sidewalk, curb and gutters, fencing, landscape, vegetation, grass, and plants.

B. Unless otherwise specified, all public and private property impacted by construction shall be restored as nearly is practical to the original condition or better.

C. Restrict operations to cause the least amount of damage to surrounding property and do not damage off-site features or adjacent vegetation.

D. The Contractor shall be held responsible for any damage to existing structures, improvements, features, materials, or equipment due to the work in this contract, and the Contractor shall repair or replace any damaged structures, improvements, features, materials, or equipment to the satisfaction of the property owner.

E. A City representative shall be notified immediately if accidental damage occurs. Contractor shall insure that adjacent roads are maintained and clear of soil and/or other debris at all times during the construction period. Any changes or modifications to this plan shall receive prior approval from the City Representative.

F. Contractor shall remove or obliterate all USA markings at project completion.

PART 2 - MATERIALS – NOT USED

PART 3 - EXECUTION

3.01 PAVEMENT RESTORATION

A. In accordance with Section 02743 Asphaltic Concrete.

B. Restoration of pavement, curb, gutter, and sidewalks shall be to the satisfaction of the inspector of the agency having jurisdiction and the Engineer.

3.02 OTHER SITE FEATURES

All other site features either damaged or destroyed during the execution of this contract shall be repaired or replaced to the satisfaction of the City Representative, and the agency having jurisdiction to the installation specifications of the agency having jurisdiction and the manufacturer of the approved replacement item.

3.03 EXISTING OBSTRUCTIONS.

Locations of obstructions shown on the drawings are approximate and are shown only for information purposes and are not intended as an accurate location of such obstructions. Obstructions not shown on the drawings but encountered by the Contractor shall be removed as necessary and, if directed by the City, replaced in their original state, or protected by the Contractor at no additional cost to City.

3.04 PROTECTION OF OBSTRUCTIONS OUTSIDE WORK, RIGHT-OF-WAY, AND/OR EASEMENT LIMITS

A. The Contractor shall protect and avoid damage to all trees, shrubs, plants, fences, turfed areas, structures, and all other objects outside of the right-of-way/easement limits shown on the drawings from damage due to construction operations

B. Damage caused by the Contractor shall be repaired or restored at no cost to the City. Particular care shall be used to avoid damage to trees, shrubs, bushes, turfed areas, and private property located adjacent to rights-of-way/easements on private property. No trees, plants, turfed areas, or other objects outside such limits shall be disturbed or damaged without the written permission of the property owner.

3.05 DISPOSAL OF DEBRIS

A. All trees, brush, logs, snags, leaves, sawdust, bark, construction debris, and refuse shall be collected and disposed of in accordance with all applicable local and state codes and ordinances.

B. Debris shall be removed from the site as soon as practical and shall not be left until the completion of the contract. When materials are to be disposed of, the Contractor shall obtain written permission beforehand from the property owner on whose property the disposal is to be made and shall file a copy of such permit with the City.

C. Unless otherwise provided in the Contract Documents, the Contractor shall make his own arrangements for disposing of such materials off site.

3.06 RESTORATION OF PRIVATE ROADS AND DRIVEWAYS

A. Contractor shall restore all private roads, parking areas, and driveways to existing condition or better.

B. Roads shall be graded and compacted to avoid water pooling and rutting.

C. Restore surface to match existing or as shown on drawing

3.07 REPLACEMENT OF FENCES

A. Any fences disturbed within the rights-of-way, right-of-entry area, or easement limits shall be replaced to the satisfaction of the City and the property owner.

B. Fences in such poor condition that they cannot be removed and replaced shall be replaced with new fence material similar in original quality, size, and appearance to the removed fence or a written release shall be obtained from the property owners.

C. All fences removed shall be replaced in their original location. Any fence damaged during construction shall be restored to original or better condition.

3.08 REPLACEMENT OF VEGETATION

As soon as backfill operations permit, the Contractor shall replace transplanted trees, shrubs, and plants. The Contractor shall properly water the transplanted vegetation immediately upon replanting and at suitable intervals thereafter. If shrubs, plants, or trees die after transplanting and before final acceptance of the Work, the Contractor shall at his expense, replace same with equal shrubbery, plants, or trees.

3.09 RESTORATION OF TURFED AREAS

A. After final restoration of settled trench surfaces, all areas which were established turfed areas prior to construction, shall be seeded.

B. Finished lawn areas upon which soil or debris has been deposited or vehicles have been parked, shall be cleared to the level of the existing turf and then raked and watered. Areas where turf has been damaged, destroyed, or ruts have been filled in shall be reseeded. Areas where turf is only slightly damaged may be lightly reseeded, if so permitted by the City and the property owner.

C. Contractor shall submit a list of proposed products and materials along with a work plan that describes any required seeding.

3.10 WARRANTY

A. Contractor shall warrant for a period of 12 months from the date of substantial completion that flatwork and asphalt trench repair do not crack or settle due to poor installation.

B. Contractor shall warrant for a period of eighteen (12) months from the date of substantial completion of the project that the turf and plant materials used for restoration are in good, healthy, and flourishing condition. During the 12-month warranty period, the Contractor shall replace any turf or plant materials, that are defective, have died, or failed to thrive.

END OF SECTION

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SECTION 03399

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Requirements for cast-in-place concrete work.

1.02 REFERENCED SECTIONS

A. The following Section is referenced in this Section

1. Section 01 3300 – Submittals

1.03 REFERENCES

A. NSF International (NSF) and American National Standards Institute (ANSI)

1. NSF/ANSI Standard 61 Drinking Water System Components – Health Effects

1.04 SUBMITTALS

A. Comply with Section 01 3300.

B. Shop Drawings

1. Reinforcing Steel: Prepare shop fabrication and field installation drawings in accordance with CRSI Manual of Standard Practice and ACI SP.

2. Layout drawings for construction joints.

C. Product Data: Water stops, curing, form release agent compound data.

D. Concrete Mix Design: Data on the concrete mix, including aggregate gradations and admixtures, in accordance with ASTM C94.

E. Quality Control Submittals

1. Manufacturer’s application instructions for curing compound.

2. Ready-mix delivery tickets for each truck in accordance with ASTM C94.

F. NSF/ANSI Standard 61 Certification: Submit the complete mix design and certification of each component of Concrete, form-release agent, and curing compound for review and potentially certify by review, or if required by qualified certification agency, submit test cylinders of concrete for testing and certification by NSF, Underwriters Laboratory (UL), or an equal that can test and certify concrete batches in accordance with NSF/ANSI Standard 61. Submit certification results to the Engineer.

1.05 QUALITY ASSURANCE

A. Supplier Qualifications: A minimum of 5 years’ experience manufacturing ready-mixed concrete and that complies with ASTM C94 for production facilities and equipment.

B. Source Limitations: Use the same brand of cement from the same manufacturer's plant, obtain aggregate from one source, and obtain admixtures through one source from a single manufacturer.

C. Concrete and Reinforcement: Unless otherwise specified, meet the requirements of ACI 301 and 318.

D. Hot Weather Concreting: Conform to ACI 305R.

PART 2 - PRODUCTS

2.01 FORMWORK

A. Exposed Areas: Use hard plastic or finished plywood.

B. Unexposed Areas: Use new ship lap or plywood.

C. Earth cuts may be used for forming footings.

2.02 CONCRETE

A. Ready-mixed meeting ASTM C94, Option A.

B. Portland Cement: ASTM C150, Type II.

C. Aggregates: Furnish from one source.

1. Natural Aggregates

a. Free from deleterious coatings and substances in accordance with ASTM C33, except as modified herein.

b. Free of materials and aggregate types causing pop outs, discoloration, staining, or other defects on surface of concrete.

2. Non-Potentially Reactive: In accordance with ASTM C33, Appendix XI, paragraph X1.1.

3. Aggregate Soundness: Test for fine and coarse aggregates in accordance with ASTM C33 and ASTM C88 using sodium sulfate solution.

4. Fine Aggregates

a. Clean, sharp, natural sand.

b. ASTM C33.

c. Materials Passing 200 Sieve: 4 percent maximum.

d. Limit deleterious substances in accordance with ASTM C33, Table 1 with material finer than 200 sieve limited to 3 percent, coal and lignite limited to 0.5 percent.

5. Coarse Aggregate

a. Natural gravels, combination of gravels and crushed gravels, crushed stone, or combination of these materials containing no more than 15 percent flat or elongated particles (long dimension more than five times the short dimension).

b. Materials Passing 200 Sieve: 0.5 percent maximum.

D. Admixtures: Do not use admixtures that contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride.

1. Air-Entraining: ASTM C260.

2. Water-Reducing: ASTM C494, Type A or D.

3. Superplasticizers: ASTM C494, Type F or G.
4. Fly Ash: ASTM C618, Class C or F.
5. Color Pigments: Inert mineral or metal oxide pigments, natural or synthetic; resistant to lime and other alkalies.

E. Concrete Mix Design

1. Minimum Compressive Field Strength: 4,000 psi at 28 days when cured and tested in accordance with ASTM C31 and C39.
2. Coarse Aggregate Size: 1-1/2 inches and smaller.
3. Slump Range: 3 to 5 inches.
4. Air Entrainment: Between 3 and 6 percent by volume.
5. Water Reducers: Use in concrete without plasticizers.

F. Proportions

1. Design mix to meet aesthetic and structural concrete requirements.
2. Water-cement ratio (water-cement plus fly ash ratio) shall control amount of total water added to concrete as follows:

Coarse Aggregate Size	W/C Ratio
1-1/2 inch	0.50
1 inch	0.45

3. Minimum Cement Content (Combined Cement Plus Fly Ash Content):
   a. 517 pounds per cubic yard for concrete with 1-1/2 inch maximum size aggregate.
   b. 540 pounds per cubic yard for 1 inch maximum size aggregate.
4. Increase cement content (combined cement plus fly ash content), as required meeting strength requirements and water-cement ratio.
5. Fly Ash Content: minimum 20 percent, maximum 50 percent by weight of total cement content.

G. Mixing: Minimum 70 and maximum 270 revolutions of mixing drum. Non-agitating equipment is not allowed.

2.03 REINFORCING STEEL

A. Deformed Bars: ASTM A615, Grade 60.

B. Welded Wire Reinforcement: ASTM A185, fabricated from as-drawn steel wire into flat sheets.

C. Bar Supports:

1. For Slab Rebar: Concrete blocks or plastic bar supports.
2. For Rebar in Walls, Beams, Columns, and Slabs Exposed to View: Galvanized steel chairs with plastic tips or plastic bar supports and side form spacers.

2.04 ANCILLARY MATERIALS

A. Curing Compound

1. Material: Solvent based containing chlorinated rubber solids in accordance with ASTM C309, with additional requirement that the moisture loss not exceed 0.030 gram per centimeter squared per 72 hours.

2. Manufacturers and Products

a. Master Builders Co.; Masterkure CR

b. Euclid Chemical Co.; Euco Super Floor Coat

c. Atlas Quantum-Cure 61 (NSF/ANSI Standard 61-certified product)

d. Dayton Superior (NSF/ANSI Standard 61-certified product)

B. Epoxy Bonding Agent and Adhesives (for Binding New Concrete to Existing Concrete)

1. Epoxies: Two component material for use on dry or damp surfaces and conforming to the requirements of ASTM C881.

2. Apply in accordance with manufacturer's recommendations.

3. Epoxy Bonding Agent for water-containing structures at potable water treatment or storage tanks shall have NSF/ANSI Standard 61 certification for contact with water for the water-containing structure's area/volume ratio.

4. Manufacturers: One of the following or equal:

a. Sika Armatec 110 EPOCEM; Sika Chemical Corporation.

b. CCS Bonder Paste LWL; Chemco Systems.

C. Waterstops

1. General: Place hydrophilic and/or rubber dumbbell type or center bulb type waterstops at construction joints and other joints as specified and indicated on the Drawings.

2. Hydrophilic Waterstops:

a. Use: For concrete repairs or when attaching new concrete to existing structures.

b. Manufacturers: One of the following or equal:

1) Greenstreak, Hydrotite CJ.

2) Tremco, Parastop II.

c. Installation: As indicated on the Drawings and in accordance with manufacturer's instructions.

3. Rubber Waterstops

a. Use: At new construction joints where indicated on the Drawings.

b. Material: PVC or rubber waterstops manufactured by one of the following, or equal:

1) Greenstreak.

2) Progress Unlimited.

3) Williams Products.

c. Size:

1) Construction and Contraction Joints. 6-inch flat dumbbell type.

2) Expansion Joints: 9-inch wide dumbbell with hollow center bulb.

D. Vapor Barrier

1. Material: 15 mil, multilayer plastic, 0.01 minimum permeance rating.

2. Manufacturers: One of the following or equal:

a. StegoWrap, Stego Industries.

b. Premoulded Membrane Vapor Seal with Plasmatic Corel, W. R. Meadows.

E. Form-Release Agent

1. Water-based, high solids content non-yellowing curing compound meeting requirements of ASTM C309 and C1315.

2. Moisture Loss: 0.40 kg/square m/72 hours maximum.

3. Capable of meeting moisture retention at manufacturer's specified application rate.

4. Manufacturers and Products:

a. Atlas; Bio-Guard.

b. Dayton Superior; Clear Strip J1EF.

PART 3 - EXECUTION

3.01 FORMWORK

A. Design, construct, erect, brace and maintain formwork in accordance with ACI 301.

B. Form Ties

1. Fixed conical or spherical type inserts that remain in contact with forming material and allow for dry packing of form tie holes.

2. Space ties to withstand pressures and to limit deflection of forms to acceptable limits.

3. Wire ties are not acceptable.

C. Construction

1. In accordance with ACI 347.

2. Make joints tight to prevent escape of mortar and to avoid formation of fins.

3. Brace as required to prevent distortion during concrete placement.

4. On exposed surfaces locate form ties in uniform pattern or as shown.

5. Construct so ties remain embedded in the wall with no metal within 1-inch of concrete surface when forms, inserts, and tie ends are removed.

D. Form Removal

1. Remove after concrete has attained 28 day strength, or approval is obtained in writing from Engineer.

2. Remove forms with care to prevent scarring and damaging the surface.

3.02 PLACING REINFORCING STEEL

A. Place reinforcing steel in accordance with CRSI Recommended Practice for Placing Reinforcing Bars.

B. Field bending or welding of reinforcing bars will not be allowed.

C. Bar Supports: Provide in sufficient quantity to prevent sagging and to support bars during concrete placement.

D. Splices and Laps

1. Top Bars: Horizontal bars placed such that 12 inches of fresh concrete is cast below in single placement.

2. Horizontal wall bars are considered top bars.

3. Bar lap splices shall conform to General Structural Notes on the Drawings.

4. Tie splices with 18-gauge annealed wire as specified in CRSI Standard.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 301.

B. Before placing concrete:

1. Check reinforcing steel for proper placement and correct discrepancies.

2. Remove excessive rust, mill scale, dirt, oil and other material from rebar that may adversely affect bonding to concrete.

3. Remove water from excavation and debris and foreign material from forms.

C. Before depositing new concrete on existing concrete, clean surface using sandblast or other mechanical means to obtain a 1/4 inch rough profile, and apply epoxy bonding agent in accordance with the manufacturer's instructions.

D. Place concrete as soon as possible after leaving mixer, without segregation or loss of ingredients, without splashing forms or steel above, and in layers not over 2 feet deep. Place within 1-1/2 hours after adding cement to mix.

E. Placement Limitations: 8 feet maximum vertical drop to final placement, when not guided with chutes or other devices to prevent segregation due to impact with reinforcing.

F. Hot Weather

1. Prepare ingredients, mix, place, cure, and protect in accordance with ACI 305R.

2. Maintain concrete temperature below 80 degrees F at time of placement, or furnish test data or provide other proof that admixtures and mix ingredients do not produce flash set plastic shrinkage, or cracking due to heat of hydration. Ingredients may be cooled before mixing to maintain fresh concrete temperatures at 80 degrees F or less.

3. Make provisions for windbreaks, shading, fog spraying, sprinkling, ice, or wet cover, or other means to provide concrete with temperature specified.

4. Maximum allowable temperature differential between reinforcing steel and concrete: Not greater than 20 degrees F at the time of concrete placement.

3.04 COMPACTION

A. Vibrate concrete as follows:

1. Apply approved vibrator at points spaced not farther apart than vibrator's effective radius.

2. Apply close enough to forms to vibrate surface effectively but not damage form surfaces.

3. Vibrate until concrete becomes uniformly plastic.

4. Vibrator must penetrate fresh placed concrete and into previous layer of fresh concrete below.

3.05 CONSTRUCTION JOINTS

A. Locate as shown or as approved.

B. Maximum Spacing Between Construction Joints: 40 feet, unless otherwise indicated.

3.06 CRACK CONTROL JOINTS

A. Provide crack control joints in concrete slabs on grade, curbs, gutters, sidewalks and other concrete flatwork as follows:

1. Install crack control joints by use of grooving tool on fresh concrete or saw-cut by use of a saw designed for crack control joints as soon as the concrete hardens sufficiently to support the saw, however, no longer than 12 hours after concrete placement.

2. Depth: 1/4 the thickness of the slab.

3. Frequency: Unless otherwise indicated,

a. At least 2 times the slab thickness in feet (6-inch slab = 12 foot on center).

b. Rectangular slabs: Maximum spacing 1-1/2 to 1

3.07 FINISHING FLOORS AND SLABS

A. Unexposed Slabs: Screed to true surface, bull float with wood float, and wood trowel to seal surface and to provide a uniform surface.

B. Exposed Slabs to Receive Grout: Screed to indicated elevation and leave without special finish.

C. Exposed Floors and Slabs: Screed to true surface and use bull float to form a uniform surface with minor texture then apply final surface finish.

D. Final Surface Finishes for Exposed Floors and Slabs: Apply final surface finish as scheduled.

1. Walkway finish: Apply to concrete surfaces that will be used for foot traffic such as walkways around basins and sidewalks. Apply steel trowel surface, then a light hair broom finish to produce a profile that is parallel to the slab drainage.

2. Scratch Finish: Apply to surfaces receiving concrete floor topping and other bonded cementitious floor finishes, unless otherwise indicated on the Drawings. Use brushes or brooms with stiff bristles to produce 1/4-inch deep scratches.

3. Float Finish: Apply to slabs of water-bearing basins and channels and to roof surfaces to receive membrane roofing. Use power-driven floats or hand floats to produce a surface that is uniform and smooth.

4. Trowel Finish: After applying float finish, trowel surface until surface is uniform in texture and appearance and free of trowel marks. Apply trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet or tile.

5. Non-slip Finish: After concrete has been screeeded level and slightly hardened, sprinkle abrasive onto surface, wood float into concrete, and trowel abrasive into surface to obtain the proper non-slip finish with the exposed abrasive.

E. Tolerances: Exposed surfaces shall not vary from level or true plane more than 1/4 inch in 10 feet when measured with a straightedge.

3.08 FINISHING AND PATCHING FORMED SURFACES

A. Unexposed Surfaces: Provide rough-formed concrete texture as imparted by form-facing material, fill form tie holes with nonshrink grout and grind off projections, fins, and rough spots.

B. Exposed Surfaces: Provide smooth-formed concrete texture as imparted by form-facing material, arranged in an orderly and systematic manner with a minimum number of seams. Fill form tie holes with nonshrink grout and grind off projections, fins, and rough spots. Where scheduled, apply rubbed surface as follows:

1. Smooth Rubbed Finish: Not later than one day after form removal, moisten concrete surfaces and rub with carborundum brick or another abrasive to produce a uniform color and texture. Do not apply cement grout other than that created by the rubbing process.

2. Grout-Cleaned Finish: Wet concrete surfaces and apply grout of a consistency of thick paint to coat surfaces and fill small holes.

a. Mix one part portland cement to one and one-half parts fine sand with a 1:1 mixture of bonding admixture and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces.

b. Scrub grout into voids and remove excess grout. When grout whitens, rub surface with clean burlap and keep surface damp by fog spray for at least 36 hours.

3. Cork-Floated Finish: Wet concrete surfaces and apply a stiff grout.

a. Mix one part portland cement and one part fine sand with a 1:1 mixture of bonding agent and water. Add white portland cement in amounts determined by trial patches so color of dry grout will match adjacent surfaces.

b. Compress grout into voids by grinding the concrete surface in a swirling motion, then finish the surface with a cork float.:

C. Patching Defective Areas: Contact Engineer for direction prior to patching defective areas. Patch defective areas and repair rough spots resulting from form release agent failure or other reasons to provide smooth uniform appearance.

1. Cut out honeycombed and defective areas.

2. Cut edges perpendicular to surface at least 1-inch deep. Do not feather edges. Soak area with water for 24 hours.

3. Finish surfaces to match adjacent concrete.

4. Keep patches damp for minimum 7 days or spray with curing compound to minimize shrinking.

3.09 PROTECTION AND CURING

A. Protect fresh concrete from direct rays of sunlight, drying winds, and wash by rain.

B. Keep concrete slabs continuously wet for a 7 day period. Intermittent wetting is not acceptable.

C. Use curing compound only where approved by Engineer. Cure formed surfaces with curing compound applied in accordance with manufacturer's directions as soon as forms are removed and finishing is complete.

1. Do not use curing compound on concrete surfaces that will be painted.

D. Remove and replace concrete damaged by freezing.

3.10 FIELD QUALITY CONTROL

A. Concrete Samples:

1. Provide concrete for making composite samples for testing slump, air content, and for making five (5) cylinders for determination of compressive strength.

2. Prepare samples in accordance with ASTM C172. Select trucks or batches of concrete on a random basis.

3. Samples may be obtained at the discharge chute of the truck or at the point of discharge into forms.

B. Sampling Frequency: One composite sample for each 100 cubic yards of structural concrete, or fraction thereof, of each concrete mixture placed in any one day.

C. Evaluation will be in accordance with ACI 301, Chapter 17 and Specifications.

D. Slump tests and concrete cylinders will be made by the Owner. Owner will handle cured test cylinders, transport to the testing laboratory and pay testing costs.

E. Enforcement of Compressive Strength Requirements:

1. Compressive strength of concrete will be considered acceptable if the following conditions are satisfied:

a. Averages of all sets of 3 consecutive strength test results are greater or equal to the specified compressive strength.

b. No individual strength test (average of 2 cylinders) falls below specified compressive strength by more than 500 pounds per square inch.

2. Whenever one, or both, of 2 conditions stated above is not satisfied, provide additional curing of affected portion of structure, then obtain test cores from the affected area.

a. Obtain 3 test cores in accordance with ASTM C42 and ACI 318.

b. Concrete will be considered acceptable if the average compressive strength of the 3 test cores is equal to at least 90 percent of the specified.

28-day compressive strength and no single core is less than 80 percent of the specified 28-day compressive strength.

c. Concrete will be designated as defective when the specified conditions are not achieved.

d. Fill core holes with concrete.

3. Engineer may require the Contractor to strengthen defective concrete by means of additional concrete, additional reinforcing steel, or replacement of defective concrete, at the Contractor's expense.

END OF SECTION

SECTION 03420

PRECAST CONCRETE STRUCTURES

PART 1 GENERAL

1.01 SECTION INCLUDES

This work shall include the furnishing of all the labor, materials, tools and equipment and incidentals required to complete, in an efficient and workman-like manner, the installation of miscellaneous concrete structures and other related items in accordance with the approved plans, these specifications, and the Standard Details.

1.02 SUBMITTALS

A. Shop fabrication drawings

B. Proposed Dewatering Plan

1.03 REFERANCES

A. American Association of State Highway Transportation Officials:

1. AASHTO M91 – Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale).

2. AASHTO M306 – Standard Specification for Drainage, Sewer, Utility, and Related Castings.

B. American Concrete Institute: ACI 530 – Building Code Requirements and Specification for Masonry Structures.

C. ASTM International:

1. ASTM A48 – Standard Specification for Gray Iron Castings.

2. ASTM A123M – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.

3. ASTM C32 – Standard Specification for Sewer and Manhole Brick (Made from Clay or Shale).

4. ASTM C478 – Standard Specification for Circular Precast Reinforced Concrete Manhole Sections.

5. ASTM C497 – Standard Test Methods for Concrete Pipe, Manhole Sections, or Tile.

6. ASTM C877 – Standard Specification for External Sealing Bands for Concrete Pipe, Manholes, and Precast Box Sections.

7. ASTM C913 – Standard Specification for Precast Concrete Water and Wastewater Structures.

8. ASTM C990 – Standard Specification for Joints for Concrete Pipe, Manholes, and

Precast Box Sections Using Preformed Flexible Joint Sealants.

1.04 QUALITY ASSURANCE

Perform Work according to ASTM and AASHTO standards and manufacturer's instructions.

1.05 WARRANTY

A. Section Contract Closeout 01 7700 1.03D–Warranties.

B. Furnish a one-year manufacturer's warranty for all concrete precast structures.

1.06 SUBMITTALS

A. Section 01 3300 – Submittal Procedures.

B. Submittals:

1. Section 01 7700 – Execution and Closeout Requirements.

2. Product Data: Submit manufacturer information for manhole covers, component construction, features, configuration, and dimensions.

3. Manufacturer Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures.

4. Shop Drawings:

a. Indicate structure locations and elevations.

b. Indicate sizes and elevations of piping, conduit, and penetrations.

5. Source Quality-Control Submittals: Indicate results of factory tests and inspections.

6. Qualifications Statement: Submit qualifications for manufacturer.

7. Project Record Documents: Record actual locations of manholes and connections, and record invert elevations.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Inspection:

1. Materials shall be shipped to the Site in manufacturer's original packaging and inspected for damage.

B. Handling:

1. Comply with precast concrete manufacturer instructions and ASTM C913 for unloading and moving precast manholes and drainage structures.

2. Bent Reinforcing steel bars are not permitted for use as lifting devices.

3. Lifting devices shall be evaluated and approved by the Engineer.

C. Storage:

1. Store materials according to manufacturer instructions.

1.08 EXISTING CONDITIONS

A. Field Measurements:

1. Verify field measurements prior to fabrication.

2. Indicate field measurements on Shop Drawings.

PART 2 PRODUCTS

2.01 PRODUCT SPECIFICATIONS

Refer to referenced specifications for additional materials requirements

2.02 SOURCE QUALITY CONTROL

A. Section 01 4523 – Quality Requirements: Requirements for testing, inspection, and analysis.

B. Provide shop inspection and testing of completed assembly.

C. Verify that items provided have met factory testing requirements and are inspected upon delivery.

D. Certificate of Compliance:

1. If manufacturer is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at manufacturer's facility conforms to Contract Documents.

PART 3 EXECUTION

3.01 EXAMINATION

The following shall be performed by the Contractor before starting installation work:

A. Verify that items provided by other Sections of Work are properly sized and located.

B. Verify that built-in items are in proper location and are ready for roughing into Work.

C. Verify that excavation base is ready to receive Work and excavation dimensions and elevations are as indicated on Drawings.

3.02 PREPARATION

A. Mark each precast structure by indentation or waterproof paint showing date of manufacture, manufacturer, and identifying symbols and numbers as indicated on Drawings to indicate its intended use.

B. Coordinate placement of inlet and outlet pipe or duct sleeves as required by other Sections.

C. Do not install manholes and structures where Site conditions induce loads exceeding structural capacity of manholes or structures.

D. Inspect precast concrete manholes and structures immediately prior to placement in excavation to verify that they are internally clean and free from damage; remove and replace damaged units.

3.03 INSTALLATION

A. Conduct operations not to interfere with, interrupt, damage, destroy, or endanger integrity of surface structures or utilities in immediate or adjacent areas.

B. Correct over-excavation with Class 1 aggregate.

C. Remove large stones or other hard matter impeding consistent backfilling or compaction.

D. Protect manhole and structures from damage or displacement while backfilling operation is in progress.

E. Excavating:

1. As specified in Section 02223 Trenching, Excavation, Backfilling and Compacting and in indicated locations and depths.

2. Provide clearance around sidewalls of manhole or structure for construction operations.

3. If ground water is encountered, prevent accumulation of water in excavations, place manhole or structure in dry trench.

4. Where possibility exists of watertight manhole or structure becoming buoyant in flooded excavation, anchor manhole or structure to avoid flotation as approved by Engineer.

F. Base and Alignment:

1. Install manholes and structures supported at proper grade and alignment on compacted crushed-stone bedding or piles as indicated on Drawings.

2. Grout base of shaft sections to achieve slope to exit piping, trowel smooth, and contour to form continuous drainage channel.

3. Form and place manhole or structure cylinders plumb and level, to correct dimensions and elevations.

G. Assembly:

1. Assemble multi-section manholes and structures by lowering each section into excavation.

2. Install rubber gasket joints between precast sections according to manufacturer recommendations.

3. Lower, set level, and firmly position base section before placing additional sections.

4. Remove foreign materials from joint surfaces and verify that sealing materials are placed properly.

5. Maintain alignment between sections by using guide devices affixed to lower section.

6. Joint sealing materials may be installed on Site or at manufacturer's plant.

7. Verify that installed manholes and structures meet required alignment and grade.

8. Remove knockouts or cut structure to receive piping without creating openings larger than required to receive pipe; fill annular spaces with mortar.

9. Cut pipe flush with interior of structure.

10. Shape inverts through manhole and structures as indicated on Drawings or as specified in manhole specification.

H. Grouting:

1. As specified in Section 03620 – Non-Shrink Grout

2. Verify all surfaces have been inspected and prepared for application. All surfaces shall be free of dirt, oil, grease, and other contaminants.

3. Surface shall be clean, sound and roughened to ensure a sufficient bond.

4. Surface shall be saturated up to 24 hours prior to application but free of standing water at the time of application.

5. Provide sufficient support for items to be embedded into the work. Diagrams, templates, and other forms can be used to properly locate such items.

6. Refer to Manufacturer’s instructions for proper grouting application and installation. Application shall be inspected immediately after and any defects repaired or removed for re-installation if directed by the Engineer. Castings:

7. Set frame and cover at finished grade for manholes and other structures with covers located within unpaved areas and graded away from cover.

8. Set frames using mortar and masonry as indicated on Drawings. 3. Lay concrete brick in full bed of mortar and completely fill joints.

9. If more than one course of concrete brick is required, stagger vertical joints.

I. Backfilling: As specified in Section 02223 Trenching, Excavation, Backfilling and Compacting

J. All structures shall be leak tested prior to backfilling.

3.04 FIELD QUALITY CONTROL

A. Testing:

1. Perform testing in accordance with ASTM C497.

B. Conduct a visual inspection and perform leak testing of concrete structures.

1. Repair all visible and detectable leaks.

2. Leakage testing for structures shall be performed prior to backfilling by the following procedure:

3. Temporarily plug all wall sleeves, piping entrances and other openings during test period.

4. Fill structure to overflow level.

5. Allow to stand for a minimum of four (4) hours.

6. Refill to overflow level.

7. Allow to stand for 24 hours.

8. Examine exterior surfaces and joints for leakage. Measure drop in surface water. Allowable leakage is a drop of ½ inch or less during the test period and no visible signs of leakage.

9. Repair all visible and detectable leaks. If leakage exceeds allowable limit, the structure shall be repaired by approved method per Engineer.

C. Equipment Acceptance: Contractor shall adjust, repair, modify, or replace components failing to perform as specified and rerun tests at no cost to the Owner.

END OF SECTION

SECTION 03620

GROUT

PART 1 – GENERAL

1.01 SECTION INCLUDES

A. Grout for uses other than masonry construction, including:

1. Dry pack grout
2. Cement grout
3. Nonshrink grout, non-metallic
4. Nonshrink grout, metallic
5. Pressure grout
6. Epoxy grout
7. Polymer concrete

1.02 REFERENCED SECTIONS

A. The following Sections are referenced in this Section

1. Section 01 3300– Submittals
2. Section 03399 – Cast-in-Place Concrete

1.03 SUBMITTALS

A. Conform to Section 01 3300.

B. Product Data

1. Manufacturer’s product data of all materials proposed for use in the Work.
2. Manufacturer’s literature containing instructions and recommendations on the mixing, handling, placement and appropriate uses for each type of grout used in the Work

C. Laboratory Test Reports

1. Test reports on previously tested materials shall be accompanied by the manufacturer's statement that the previously tested material is the same type, quality, manufacture, and make as that proposed for use in this project.
2. Test reports are required for the following:
   a. Cement
   b. Aggregates
   c. Bonding compounds
   d. Admixtures

D. Certifications that all grout used on the project are free of chlorides or other chemicals that may cause corrosion.

1.04 QUALITY ASSURANCE

A. Field tests

1. Compression test specimens will be taken during construction from the first placement of each type of grout and at intervals thereafter as selected by the Owner to ensure compliance with the Contract Documents.

2. The test specimens will be obtained, tested, and paid for by the Owner except the Contractor will be charged the cost of any additional tests on work which does not meet the Specifications.

3. Compression tests for grout and non-shrink grout:

a. Per ASTM C109.

b. Obtain three samples.

c. At a minimum test at 7 and 28 days.

4. Compression test for epoxy grout:

a. Per ASTM C579 Method B.

b. Obtain three samples.

c. At a minimum test at 7 days.

PART 2 – PRODUCTS

2.01 GENERAL

A. Use grouts indicated in the grout schedule whether called for on Drawings or not.

2.02 CEMENT GROUT

A. Minimum Compressive Strength: 5,000 psi at 28 days when cured and tested in accordance with ASTM C31 and C39.

B. Portland cement ASTM C150 Type II or Type V

C. Low alkali, containing less than 0.60 percent alkalis.

D. Aggregate

1. Nonreactive and washed before use.

2. Fine Aggregate

a. Hard, dense, durable particles of either sand or crushed stone regularly graded from coarse to fine and shall conform to ASTM C33 as modified herein.

b. Gradation (ASTM C136): 100 percent by weight will pass a standard No. 8 mesh sleeve and no less than 45 percent by weight will pass a standard No. 40 mesh sieve.

c. Tolerance: The average of three consecutive tests fall within the limits listed below:

US standard sieve size	Permissible variation in individual tests, percent
30 or coarser	2.0
50 or finer	0.5

3. Meet the requirements of the following specifications:

Test	Test Method	Requirements
Organic Impurities	ASTM C40	Color lighter than standard
Amount of Material Passing No. 200 Sieve	ASTM C117	3% maximum by weight
Soundness	ASTM C88	10% maximum loss with sodium sulfate
Reactivity	ASTM C289	Innocuous aggregate
Sand Equivalent	ASTM D2419	Minimum 80

4. Admixtures
   a. General
      1) Compatible with the grout.
      2) Do not use calcium chloride or admixtures containing calcium chloride.
      3) Follow the manufacturer's recommendations for use.
      4) Add separately to the grout mix.
   b. Water Reducing Retarder
      1) ASTM C494 Type D.
      2) Manufactured by:
         a) Master Builders MasterSet R 300,
         b) Sika Corporation Plastiment,
         c) Or equal.
   c. Lubricant for Cement Pressure Grouting
      1) Manufactured by:
         a) Intrusion Prepakt Intrusion Aid,
         b) Sika Intraplast N,
         c) Or equal.
5. Water
   a. Free from oil and deleterious amounts of acids, alkalis, and organic materials;
   b. Do not use water containing more than 500 mg/1 of chlorides as Cl, nor more than 800 mg/1 of sulfates as SO_4;
   c. Do not use water containing impurities that may cause a change of more than 25 percent in the setting time of the cement nor a reduction of more than five percent in the compressive strength of the grout at 14 days when compared with the result obtained with distilled water.
   d. Do not use water for curing that discolors the grout.

E. Drypack Grout

1. A mixture of approximately one part cement, 1-1/2 to 2 parts sand, water reducing retarder, and sufficient water to make a stiff workable mix.

2. Consistency: Plastic and moldable but does not flow.

F. Cement Grout

1. Mixture of one part cement, two parts sand, proportioned by volume, admixtures for pressure grouting, and sufficient water to form workable mix.

2. Maximum slump: 4 inches.

2.03 PREPACKAGED GROUT

A. Non-shrink Grout

1. Cementitious non-shrink, non-metallic grout

2. Conform to ASTM C827 and C1107.

3. Manufactured by:

a. Sika Corporation, SikaGrout 212

b. Five Star Products, Inc. Five Star Grout

c. Chemrex Inc. Masterflow 928

d. Euclid Chemical Co. High-Flow Grout

e. Or equal.

B. Epoxy grout bonding/grouting adhesive

1. Multi-purpose, two-component, 100% solids, moisture-tolerant, structural adhesive.

2. Conform to ASTM C881, Types I, II and V, Grade-2.

3. Manufactured by:

a. Sika Corporation, Sikadur 32, Hi-Mod

b. Chemrex Inc. MasterFlow 649

c. Or equal.

C. Epoxy grout paste adhesive

1. High modulus, two-component, moisture insensitive, 100 percent solids, thermo-setting modified polyamid epoxy compound.

2. Paste form consistency capable of not sagging in horizontal or overhead anchoring configurations.

3. Conform to ASTM C881 Type 1, Grade 3

4. Heat deflection temperature: In excess of 130 degrees F.

5. Manufactured by:

a. Chemrex Inc. Concresive Paste LPL

b. Sika Corporation Sikadur Hi-Mod Series

c. Adhesive Technology Corporation Ultrabond 1350

d. Or equal,

D. Epoxy grout for pressure grouting

1. Two component, 100% solids, moisture-tolerant, epoxy adhesive. Low-viscosity, high-strength adhesive formulated specifically for injection grouting.
2. Consistency as necessary to achieve complete penetration in hairline cracks and larger.
3. Conform to ASTM C881 Type 1 and 2, Grade 1.
4. Manufactured by:
    a. Sika Corporation Sikadur 52
    b. Chemrex Inc. Concresive LV1
    c. Adhesive Technology Corporation SLV 300 series
    d. Or equal.

E. Polymer concrete grout

1. Liquid binder and dry aggregate mixed together to make a mortar or grout of a consistency as necessary for the application.
2. Liquid binder: Chemical and oil resistant, stress relieved, low modulus, moisture insensitive, two-component epoxy-resin compound.
3. Consistency similar to lightweight oil for proper mixing with aggregate.
4. Conform to ASTM C881 Type 3 Grade 1,
5. Aggregate:
    a. Size and consistency compatible with recommendations of manufacturer of liquid binder for intended application.
    b. Keep aggregate oven dry in sealed packages until time of mixing.
6. Manufactured by:
    a. Sika Corporation Sikadur Lo-Mod series
    b. Adhesive Engineering Concresive 1470
    c. Adhesive Technology Corporation 400 series
    d. Or equal.

2.04 PRESSURE GROUTING EQUIPMENT

A. Mixer and holdover agitator tanks

B. Designed to place grout at pressures up to 50 psi.

C. Provide gages to indicate pressure grout pressure during application.

D. Provide mixer with a meter capable of indicating to one-tenth of a cubic foot the volume of grout used.

PART 3 – EXECUTION

3.01 GENERAL

A. Conduct mixing, surface preparation, handling, placing, consolidation, and curing for prepackaged grouts according to the instructions and recommendations of the grout manufacturer.

B. Mix grouts in a mortar mixer.

C. Bonding compound for use with grout is specified in Section 03301.

D. Provide primer, if required, for polymer concrete, per manufacturer's recommendation.

3.02 DRYPACK GROUT

A. Roughen surfaces to be built up with drypack grout by brushing

B. Clean, and coat surface with bonding compound in conformance to Section 03301 before the application of the grout.

C. Apply drypack grout immediately following the application of the bonding compound in layers to the required thickness.

D. Finish the surface smooth.

E. Where construction joints are necessary, slope face of construction joints and clean and wet the existing grout before application is resumed.

F. Cure drypack grout in accordance with Section 03301.

G. Do not place drypack grout during freezing weather unless adequate protection is provided.

3.03 CEMENT GROUT

A. Except for the specialized equipment for pressure grouting, mixing and placing apparatus use equipment similar to that normally used for cast-in-place concrete.

B. Mix grout for a period of at least 1 minute.

3.04 NONSHRINK GROUT

A. Place in accordance with manufacturer's instructions.

3.05 EPOXY GROUT

A. Prime surface to be grouted in accordance with the grout manufacturer's instructions.

3.06 PRESSURE GROUTING

A. Prior to grouting, Wash clean surfaces and holes to be grouted, prior to grouting.

B. Washing is not required for grouting soil voids outside pipe cylinders or casing pipes.

C. Once commenced, continue grouting to completion without stoppage.

D. In case of breakdown of equipment, wash out the grouting system sufficiently to ensure fresh grout and adequate bond and penetration will occur upon restarting the grouting operation.

E. Maintain grout pressure until grout has set.

3.07 GROUT SCHEDULE

A. Use grout type indicated in the table below unless otherwise indicated.

Grout	Application
Drypack Cement Grout	Built-up surfaces, setting miscellaneous metal items and minor repairs.
Cement Grout	Filling nonbearing portions of equipment pads and pressure grouting.
Non-shrink Grout	Bearing surfaces of machinery and equipment bases, column base plates, and bearing plates, and setting handrail, guardrail, or fence posts in pipe sleeves.
Epoxy Grout	Reinforcing steel set in grout, repairing cracks in concrete, concrete repair.
Pressure Grout	Repairing cracks in concrete.
Polymer Cement Grout	Repair of concrete floors, patching.

END OF SECTION

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SECTION 03730

CONCRETE REPAIR

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Provide materials labor, equipment, and services necessary to repair concrete as specified.

B. Complete concrete repair operations in accordance with these specifications and the various system manufacturers' instructions regarding surface preparation, application, inspection and requirements for safety.

C. Complete crack repair work in accordance with these specifications and crack repair material manufacturer's instructions.

D. Complete joint repair work in accordance with these specifications and the joint repair material manufacturer's instructions.

E. The areas of concrete repair shall be determined by the Contractor and the Engineer and shall include any location where acidic attack of the concrete surfaces has reached a depth of ½" or deeper and at any air voids, bug holes or poorly consolidated concrete areas where the specified filler/surfacer materials cannot be used for filling or surfacing of the concrete.

F. If repair work is required for an area indicated to receive protective lining or coating, provide such repair in accordance with the requirements of this specification and the related lining or coating specifications.

G. The repair work specified herein is intended to cover the requirements for repair of concrete only, to a maximum depth of approximately 4-inch. If after blasting and cleaning, an area is discovered that requires a repair greater than 4-inch deep, or an area is discovered that requires repair or replacement of reinforcing steel notify the Engineer so that details may be provided to the Contractor to complete the repair.

1.02 REFERENCES:

A. National Association of Corrosion Engineers (NACE):

1. 6D-173: "A Manual for Painter Safety"

2. 6F-163: "Surface Preparation of Steel or Concrete Tank Interiors"

3. TPC2: "Coatings and Linings for Immersion Service"

B. American Concrete Institute (ACI):

1. 503.4: Standard Specification for Repairing Concrete with Epoxy Mortars

C. ASTM International:

1. C33: Standard Specifications for Concrete Aggregates

2. C150: Standard Specification for Portland Cement

3. C321: Standard Test Method for Bond Strength of Chemical-Resistant Mortars

4. C882: Test Method for Bond Strength of Epoxy Resin Systems

5. D570: Test Method for Water Absorption of Plastics

6. D638: Test Method for Tensile Properties of Plastics

7. D695: Test Method for Compressive Properties of Rigid Plastics

8. D790: Standard Test Method for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials

9. D4262: L.R. Standard Test Method for pH of Chemically Cleaned or Acid Etched Concrete Surfaces

10. E329: Standard Specification for Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

D. National Sanitation Foundation (NSF):

1. NSF/ANSI Standard 61: Drinking Water System Components – Health Effec

1.03 SUBMITTALS:

A. Submit the following in accordance with Section 01 3300.

1. Procedures proposed for the accomplishment of repair work. Include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations to be coordinated with other works in progress.

2. Manufacturer's recommendations and product data sheets for all repair materials including performance criteria, surface preparation, ambient condition requirements and applications, curing requirements, volatile organic compound (VOC) data, and safety requirements.

3. Material Safety Data Sheets (MSDS) for any materials brought on-site including all repair system materials, solvents and abrasive blast media.

4. Qualifications of foreman and epoxy gun operators and demonstration of meeting the minimum requirements specified.

5. Design Mixes: Provide concrete and cement mortar in conformance with Section 03300 and as specified herein.

6. ANSI/NSF 61 Certification that repair material proposed for use in structures to contain potable water are non-toxic and have no adverse effect on the quality or appearance of potable water.

1.04 QUALITY ASSURANCE:

A. Furnish the names of all subcontractors proposed for use for this work including necessary evidence and/or experience records to ascertain their qualifications in the application of epoxy, polyurethane, polymer-modified and cement-based compounds.

B. Include in accepted applicator qualifications:

1. A minimum of five years experience in applying epoxy, polyurethane and polymer-modified and cement-based compounds, and crystalline waterproofing repair systems similar to those specified in this Section.

2. A letter from the manufacturer of the specified materials, on the manufacturer's letterhead, signed by an officer of the company, stating that the subcontractor/applicator has been trained in the proper techniques for the preparation of the surface, and proper methods for mixing, placing, curing, and caring of the manufacturer's products. This letter shall further state that the subcontractor/applicator is on the manufacturer's approved list of contractors.

C. Adhere strictly to the manufacturer’s printed recommendations supplied with the product regarding temperature at time of application for all work. Do not use epoxy materials when either the temperature of the concrete to be repaired or the ambient temperature is below 50 degrees F 24 hours before, during, or for a period of 48 hours after the completion of the repair. Do not use crystalline waterproofing materials when either the temperature of the concrete to be repaired or the ambient temperature is below 40 degrees F 24 hours before, during, or for a period of 48 hours after the completion of the repair. Temporary heat may be used to meet the specified requirements.

D. Use new materials and use within the shelf-life limitations set forth by the manufacturer. Clearly mark the shelf-life limitations of each container.

E. The Contractor is ultimately responsible for the concrete repair work. Inspections by the Engineer or others do not limit the Contractor’s responsibility.

F. Make all parts of the work accessible for inspections by the Engineer. Correct any conditions not in conformance with the specifications at no additional cost to the Owner.

G. Provide a Representative on site at all times when work is ongoing to represent the Contractor and to have authority to receive and execute all instructions given by the Engineer.

H. Allow changes in the specified repair work methods only with the permission of the Engineer.

I. Provide technical field support or training services required by the accepted material manufacturers at no additional cost to the Owner.

J. Provide materials from a single manufacturer for all components of a single repair.

1.05 SERVICES OF MANUFACTURERS REPRESENTATIVES:

A. Provide the services of a qualified manufacturer's technical representative to instruct the Contractor's personnel in the mixing, proper use and application of the epoxy, polyurethane, polymer-modified, crystalline repair systems and cement-based compounds.

B. Provide written certification from the manufacturers' representative that materials have been mixed and applied properly and surfaces to receive these products have been prepared properly, all in conformance with manufacturer's requirements.

C. Provide on-site time required for the manufacturer's representative to achieve a successful installation at no additional cost to the Owner.

1.06 DELIVERY, STORAGE AND HANDLING:

A. Provide shelter to store materials in area or areas designated by the Owner solely for this purpose. Confine mixing, thinning, clean-up and associated operations and storage of repair mortar materials debris before authorized disposal, to these areas.

B. Mix all specified materials in the sheltered mixing operation and materials from direct sunlight and inclement weather. Protect facilities from staining and damage.

C. Do not dispose of waste materials on-site.

D. Store waste temporarily in closed, nonflammable containers until final disposal. Keep no rubbish in Contractor's area longer than 24 hours.

E. Deliver all materials to the job site in new, unopened containers. Each container shall bear the manufacturer's name and label. Labels on all material containers shall contain the following information:

1. Name of product.

2. Federal Specification Number if applicable.

3. Manufacturer's batch number.

4. Manufacturer's name.

5. Generic type of material.

6. Hazardous material identification label.

7. Shelf-life date.

F. Clearly mark all containers indicating any safety hazards associated with the use of or exposure to the materials.

G. Handle and store materials to prevent damage or loss of label. Protection of materials is the Contractor's responsibility.

1.07 PROJECT/SITE CONDITIONS:

A. Environmental Requirements:

1. Comply with the repair materialmanufacturer's recommendations as to environmental conditions under which materials can be applied and cured.

2. Do not apply materials when dust is being generated.

B. Protection:

1. Cover or otherwise protect finish work or other surfaces not being repaired.

C. Ventilation:

1. Provide ventilation to meet product requirements prior to, during, and after application.

PART 2 - PRODUCTS

2.01 WATER:

A. Use water free from injurious amounts of ice, oil, acid, alkali, salt, organic matter, or other

deleterious substances and conforms to requirements of ASTM C1602.

B. Water shall not contain more than 500 mg of chlorides or more than 500 mg of sulfates.

C. Heat or cool water to obtain concrete repair product temperatures in accordance with manufacture's printed recommendations, and in accordance with ACI 305.1 and ACI 306.1.

2.02 AGGREGATE:

A. All aggregates shall conform to ASTM C33.

2.03 EPOXY BONDING AGENT:

A. Epoxy bonding agent shall conform to ASTM C881 Type I, II, IV or V; Grade 2 for epoxy resin adhesives, depending on the application. The class of epoxy bonding agent shall be suitable for all ambient and substrate temperatures.

B. Products:

1. Sika Corporation; Sikdur 32 Hi-Mod
2. Euclid Chemical Company; Duralcrete
3. BASF Corporation; MasterEmaco ADH 326
4. Or acceptable equivalent product.

2.04 ANTI-CORROSION COATING:

A. Anti-corrosion coating shall be a three-component, solvent free, and moisture tolerant epoxy-modified cementitious material.

B. Products:

1. Sika Corporation; Sika Armatec 110
2. Sto Corporation; CR 246
3. Euclid Chemical Company; Duralprep A.C.
4. Or acceptable equivalent product.

2.05 EPOXY CRACK REPAIR BINDER:

A. Epoxy crack repair binder shall be a two-component, 100 percent solids, high-modulus, low viscosity epoxy adhesive suitable for crack grouting by injection or gravity feed.

B. Products:

1. Sika Corporation; Sikadur 52
2. Euclid Chemical Company; Duralcrete LV
3. BASF Corporation; MasterInject 1380

4. Or acceptable equivalent product.

2.06 RIGID POLYURETHANE CRACK REPAIR MATERIAL:

A. Rigid polyurethane crack repair material shall be a one-component, water-activated polyurethane hydrophobic injection grout capable of 700 percent expansion. Polyurethane grout shall form a tough rigid foam seal that is impenetrable to water.

B. Products:

1. Euclid Chemical Company; Dural Aqua-Dam LV

2. Prime Resins; Prime Flex 920

3. Sika Corporation; Sikafix HH LV

4. Or acceptable equivalent product.

2.07 EPOXY REPAIR MORTAR:

A. Epoxy Repair Mortar shall be two-component, 100 percent solids, and 100 percent reactive epoxy resin system.

B. Spall repair mortar for use in horizontal applications.

1. Products:

a. BASF Corporation; MasterEmaco ADH 327

b. Sika Corporation; Sikadur 22 Lo-Mod

c. Euclid Chemical Company; Euco #4565 Mortar

d. Or acceptable equivalent product.

C. Spall repair mortar for use in vertical and overhead applications.

1. Products:

a. Sika Corporation; Sikadur 23 Lo-Mod Gel

b. BASF Corporation; MasterEmaco ADH 327

c. Or acceptable equivalent product.

2.08 SPALL REPAIRS USING NON-SHRINK CEMENTITOUS MORTAR:

A. Products:

1. BASF Corporation; MasterEmaco S 488CI

2. Sika Corporation; Sika Repair 224

3. Sauereisen, Inc.; Restokrete Underlayment No. F-120

4. Or acceptable equivalent product.

2.09 SPALL REPAIRS USING POLYMER MODIFIED CEMENTITOUS MORTAR:

A. Repair spalls repair not requiring formwork using a two-component, polymer-modified cementitious mortar having a minimum 28-day compressive strength of 6,000 psi.

B. Spall repair mortar for use in horizontal applications.

1. Products:

a. Sika Corporation; Sikatop 122 Plus

b. Euclid Chemical Company; Duraltop Flowable Mortar

c. BASF Corporation; MasterEmaco T302

d. Or acceptable equivalent product.

C. Spall repair mortar for use in vertical applications.

1. Products:

a. Sika Corporation; Sikatop 123 Plus

b. Euclid Chemical Company; Duraltop Gel

c. BASF Corporation; MasterEmaco N 423RS

d. Or acceptable equivalent product.

2.10 SPALL REPAIRS REQUIRING FORMWORK:

A. Repair spalls repair requiring formwork using a two-component, polymer-modified cementitious mortar/pea gravel mixture and shall have a minimum 28-day compressive strength of 5,000 psi. Mix each unit of mortar with Saturated Surface Dry (SSD) pea gravel to form the repair material following the manufacturer's recommendations.

B. Products:

1. Sika Corporation; Sikatop 111 Plus

2. Euclid Chemical Company; Duraltop Flowable Mortar

3. BASF Corporation; MasterEmaco N 1500HCR Self Consolidated-Extended

4. Or acceptable equivalent product.

2.11 SEALANT:

A. Sealant shall be a two-component polyurethane sealant as specified in Section 03150. Primers and bond breakers shall conform to the sealant manufacturer's recommendations.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS:

A. Perform exterior work during dry weather and appropriate temperature conditions in accordance with the manufacturer's recommendations. Protect unfinished work during inclement weather with tarpulins or heavy gage polyethylene sheeting.

B. Perform work in spaces within structures at temperature and conditions suitable for proper curing in accordance with the manufacturer's recommendations.

C. Coordinate concrete rehabilitation work with other work being performed.

D. Remove scaling, broken, loose and disintegrating materials by use of hand tools or power driven saws, down to solid unyielding material.

E. Clean surfaces thoroughly of efflorescence, oils, grease and other objectionable material in area to be repaired in accordance with the manufacturer's recommendations.

3.02 EPOXY BONDING AGENT:

A. Use epoxy bonding agent to adhere fresh mortar to existing concrete. Roughen existing concrete surfaces prior to application of bonding agent. Concrete surface shall be clean and sound, free of all foreign particles and laitance. Place repair material while bonding agent is still tacky or per the written instructions of the manufacturer. Reapply bonding agent if bonding agent cures prior to placement of repair material.

B. Conform to all the requirements of ACI 503.4, and as specified herein.

3.03 ANTI-CORROSION COATING:

A. Sandblast, clean and coat reinforcing steel that is cut or exposed during alteration and/or repair operations with an anti-corrosive coating.

B. Cover all exposed parts of the steel with the coating and apply according to manufacturer's recommendations.

3.04 EPOXY CRACK REPAIR:

A. Cracks on horizontal surfaces: When permitted by the Engineer repair existing cracks by gravity feeding an epoxy crack repair binder into the prepared crack.

1. Rout concrete surface at the crack to form a minimum 1/4-inch wide by 1/4-inch deep V-notch and clean to remove all loose and foreign particles. Fill crack with clean, dry sand and pour epoxy crack repair binder into V-notch, completely filling crack.

2. As binder penetrates into crack, apply additional binder to the V-notch.

B. Cracks on vertical or horizontal surfaces: Repair cracks by pressure injecting an epoxy crack repair binder into the prepared crack. Seal cracked surfaces and install injection ports per manufacturer's recommendations.

1. Do not damage reinforcement steel when drilling holes for injection ports. If rebar is encountered during drilling, abandon the hole and relocate. Patch the abandoned hole immediately with epoxy mortar flush with the surface of the existing concrete.

2. Inject crack with epoxy crack repair binder once the surface sealing material has cured as directed by the manufacturer.

3. Remove injection ports upon satisfactory completion of crack injection and patch with epoxy mortar.

3.05 RIGID POLYURETHANE CRACK REPAIR:

A. Repair leaking cracks by pressure injecting with a waterproof hydrophobic injection grout as directed by the Structural Engineer of Record. Seal crack surfaces and install injection ports per manufacturer's recommendations.

B. Do not damage rebar when drilling holes for injection ports. If rebar is encountered during drilling, abandon the hole and patch immediately with epoxy mortar flush with the surface of the existing concrete.

C. Inject crack with hydrophobic injection grout as directed once the surface sealing material has cured, as directed by the manufacturer.

3.06 SPALL REPAIR:

A. Saw cut the perimeter of the repair area to a minimum depth of 1/4-inch below the surface of the concrete. Chip all loose concrete in the repair area to remove loose and degraded concrete to a minimum of 1/4-inch or until a sound substrate is reached. Clean the area to be repaired and restore to the original dimensions with spall repair patching material according to the manufacturer's recommendations.

B. Make final finished surface of patches flat, level and even with the existing concrete surface. Do not feather repair mortar to meet existing concrete surface.

C. Finish final patches on horizontal surfaces consistent with the finish on the existing structure.

3.07 CURING:

A. Cure repair materials in accordance with manufacturer’s printed instructions

3.08 CLEANING:

A. Mechanically remove excess material from walls, floors, etc. after material has cured.

B. Clean excess materials caused by work under this Section from existing surfaces by the use of power sanders. Vacuum surfaces to receive final cleaning and finishing specified under other sections of the specifications. Sand cracks flush to adjacent surfaces.

C. Remove misplaced sealants using methods and materials recommended by the manufacturers. Leave finished work and work area in a neat and clean condition.

3.09 LEAKAGE TESTING

A. Provide leakage testing in accordance with Section 03800. Leak test all cells in the single test. Do not test cells individually.

3.10 CLOSEOUT ACTIVITIES:

A. Provide in accordance with Section 01 7700

END OF SECTION

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SECTION 05500
MISCELLANEOUS METAL

PART 1 - GENERAL

1.00 DESCRIPTION:

A. The Contractor shall furnish and install the following items of metalwork, as miscellaneous metalwork, as shown on the drawings or otherwise directed:
   1. Structural steel shapes

   2. Anchor bolts

B. Provide, erect, set and fasten miscellaneous metal items as indicated and specified including surface preparation and shop prime/painting, except as noted below.

C. Items to be cast in concrete which are to be furnished under this Section for installation under Division 3:

   1. Sleeves and inserts.

   2. Anchor bolts with layout templates (except anchor bolts for structural steel and anchor bolts for equipment).

1.01 REFERENCES:

A. American Institute of Steel Construction (AISC):

   1. Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.

B. American Welding Society (AWS):

   1. D1.1: Structural Welding Code Steel.

C. Aluminum Association Standard Anodic Finish (AASAF).

D. ASTM International (ASTM):

   1. A36: Specification for Structural Steel.

   2. A53: Specification for Pipe, Steel Black and Hot-dipped, Zinc-Coated Welded and Seamless.

   3. A123: Specification for Zinc (Hot-Galvanized) Coatings on Iron and Steel Products.

   4. A153: Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.

   5. A167: Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate,

Sheet, and Strip.

6. A269: Specification for Seamless and Welded Austenitic Stainless-Steel Tubing for General Service.

7. A276: Specification for Stainless and Heat-Resisting Steel Bars and Shapes.

8. A325: Specification for High Strength bolts for Structural Steel Joints.

9. B308: Specification for Aluminum-Alloy 6061-T6 Standard Structural Shapes, Rolled or Extruded.

1.02 SUBMITTALS:

A. Shop Drawings: Submit the following in accordance with Section 01 3300:

1. Manufacturer's literature describing standard items.

2. Shop drawings showing materials, sizes, finishes, locations, attached hardware and fittings, and details for manufactured items and fabricated metalwork, including field erection details showing cuts, copes, miter connections, holes, thread fasteners and welds. Indicate welds, both shop and field, by symbols conforming to AWS standards. Indicate coatings or other protection against corrosion.

3. Setting diagrams, erection plans, templates and directions for installation of backing plates, anchors, and other similar items.

4. Manufacturer’s specifications, load tables, anchor details, installation details for grating plank.

5. Material, product data and specifications with standards designated.

1.03 QUALITY ASSURANCE:

A. Provide in accordance with Section 01 4523 and as specified.

B. Obtain field measurements prior to preparation of shop drawings and fabrication.

C. Welding Qualification and Certification:

1. Furnish written welding procedure for all welds in conformance with AWS Structural Welding Code.

2. Each welder, tacker and welding operator shall be certified by test within the past six months to perform type of work required in conformance with AWS Structural Welding Code. Testing shall be conducted and witnessed by an independent testing laboratory.

1.04 DELIVERY, STORAGE AND HANDLING:

A. Identify and match-mark, materials, items and fabrications, for installation and field assembly.

B. Deliver items to jobsite as complete units, wherever practicable, ready for installation or erection, with anchors, hangers, fasteners and miscellaneous metal items required for installation.

C. Carefully handle and store materials, protected from weather, rusting and other damage.

D. Store structural shapes, pipes, tubes and sheets off the ground on suitable supports, with webs of flanged shapes vertical.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Steel:

1. Conform to latest issue for the following:

a. Steel Shapes and Plates: ASTM A36

b. Steel Pipe: ASTM A53.

c. Nuts, Bolts, Rivets, Washers, and Anchorage Devices: ASTM A325 and AISC Specification.

d. Steel Sheets: Cold-rolled or hot-rolled carbon steel, ASTM A366, or ASTM A569.

B. Stainless Steel:

1. Type 304 unless otherwise indicated or specified.

2. Type 316 unless otherwise indicated or specified.

3. General: Type (or Grade) 304L for welding, otherwise Type (or Grade) 304.

4. Shapes and Bars: ASTM A276

5. Plate, Sheet, and Strip: ASTM A167

6. Tubing: ASTM A269

7. Pipe: ASTM A312, Schedule 40S

C. Aluminum:

1. Plates, rolled or extruded shapes, sheets or castings conforming (unless otherwise permitted or indicated) to the following Aluminum Association alloy and temper designations:

a. Rolled structural sheets and plates: ASTM B209-6061-T6

b. Rolled Structural Shapes: ASTM B308-6061

c. Extruded structural shapes, bars and tubes: ASTM B221 Alloy 6061-T6

d. Extruded structural tube or pipe: ASTM B429 Alloy 6061 T-6

e. Gratings (bearing bars): ASTM B211-6061-T6
(crimp bars): ASTM B211-6061-T5

f. Castings: ASTM B26-214

g. Sheets: ASTM B209-Alclad 3003-H14 and 3003

h. Bolts and nuts: Type 316 stainless steel

i. Pipe railings: ASTM B241-6061-T6

j. Handrail posts: ASTM B241-6061-T6

k. Die and hand forgings: ASTM B247 Alloy 6061-T6

l. Welding filler rods: ASTM B241-6061-T6

m. Plank: ASTM B211-6061-T6 or ASTM B221-6063-T6

D. Bolts, washers and nuts: Type 316 stainless steel

E. Welding:

1. Provide filler materials appropriate and compatible for the alloys and tempers in accordance with the AWS Structural Welding Code.

2. Provide Class 5356 electrodes.

2.02 FABRICATION:

A. General:

1. Fabricate true to shape, size and tolerances as indicated and specified with straight lines, square corners or smooth bends; free from twists, kinks, warps, dents, and other imperfections. Straighten work bent by shearing or punching.

2. Dress exposed edges and ends of metal smooth, with no sharp edges and with corners slightly rounded. Construct connections and joints exposed to weather to exclude water.

3. Provide sufficient quantity and size of anchors for the proper fastening of work.

4. Fabricate details and connection assemblies in accordance with drawings and with projecting corners clipped and filler pieces welded flush.

5. Weld shop connections, bolt or weld field connections, unless otherwise noted or specified.

6. Provide clips, lugs, brackets, straps, plates, bolts, nuts, washers, and similar items, as required for fabrication and erection.

7. Use connections of type and design required by forces to be resisted, and to

provide secure fastening.

8. Welding:

   a. Grind exposed edges of welds to a 1/8-inch minimum radius. Grind burrs, jagged edges and surface defects smooth.

   b. Prepare welds and adjacent areas such that there is (1) no undercutting or reverse ridges on weld bead, (2) no weld spatter on or adjacent to weld or any other area to be painted, and (3) no sharp peaks or ridges along weld bead. Grind embedded pieces of electrode or wire flush with adjacent surface of weld bead.

9. Bolting:

   a. Provide Type 316 stainless steel stud bolts and nuts with heavy aluminum washer for fastening of aluminum material.

   b. Draw up bolts or nuts tight, and deform threads where possible. Use bolts of lengths required so that bolts do not project more than 1/4-inch beyond face of nut. Do not use washers unless specified. Provide hexagonal head bolts with hexagonal nuts.

   c. Provide holes required for the connection of adjacent or adjoining work wherever noted on drawings. Locate holes for bolting equipment to supports to a tolerance of + 1/16-inch of exact dimensions indicated.

   d. Provide plastic protection caps.

B. Fit work together in fabrication shop and deliver complete, or in parts, ready to be set in place.

C. Fabricated Products:

1. Pipe Sleeves in Concrete Construction: Weld standard weight, black steel pipe, with anchors to exterior to accommodate passage of conduits, pipes ducts and similar items.

2.03 ALUMINUM FINISHES:

A. After fabrication, provide interior and exterior aluminum pipe railing assemblies, kick plates, posts, and ladders with Aluminum Association Standard clear anodized finish, Designation C22A41.

B. After fabrication, provide interior and exterior aluminum pipe railing assemblies, kick plates, posts and ladders, with Aluminum Association Standard dark bronze anodized finish, Designation C22A42.

C. After fabrication, provide exterior aluminum railing assemblies, kick plates, aluminum posts, and ladders with a mill finish followed by a factory applied high performance coating conforming to the requirements of Section 09850.

1. Color as indicated.

2. Color to be selected.

2.04 ALUMINUM PROTECTION:

A. Protect aluminum against electrolysis from all sources. Under no circumstances shall aluminum contact a dissimilar metal.

1. Members Encased in Concrete: Zinc chromate primer.

2. Members in Contact with Concrete Masonry or Mortar: Coal tar epoxy.

B. Manufacturers:

1. 46H-413 Hi-Build Tneme Tar by Tnemec Co., Inc.

2. Bitumastic 300M by Carboline Co.

3. Targuard by Sherwin Williams.

4. Or acceptable equivalent product.

2.10 MISCELLANEOUS ITEMS:

A. Provide items of miscellaneous metalwork not particularly specified, of the shape, size, material, and detail indicated and suitable for the purpose intended.

2.11 GALVANIZING:

A. Conform to ASTM A123 or ASTM A153 for zinc-coating by hot-dip process.

PART 3 - EXECUTION

3.01 GENERAL:

A. Accurately set and properly secure in place as indicated and specified. Where bolted connections are used, draw closely together and draw nuts tightly. Use bolts of lengths so that they do not project more than 1/4-inch [6 mm] beyond face of nut. Do not use washers unless specified. Provide hexagonal head bolts with hexagonal nuts.

B. Locate anchors and anchor bolts and build into connecting work. Insert expansion bolts into drilled holes.

C. After erection, clean aluminum with mild soap and water, followed by clear water rinse, after erection.

3.02 ALUMINUM PROTECTIVE COATING:

A. Protect aluminum from contact with dissimilar metals, concrete, masonry, motar or grout.

B. Coat surfaces of aluminum with heavy coat of bitumastic paint.

C. Before coating application, clean contact surfaces, remove dirt, grease, oil, foreign substances, followed by immersing in, or wipe thoroughly with, an acceptable solvent. Rinse with clean hot water and dry thoroughly.

3.03 FIBERGLASS GRATINGS AND FRAMES:

A. Set frames, with threaded rods, in concrete as placed.

3.04 GALVANIZING:

B. Touch-up abraded hot-dip galvanized areas by the brush applied method with zinc-rich coatings as specified herein having dry film thickness of not less than 6 mils [0.15 mm]. Make all repairs to galvanized surfaces in conformance with ASTM A 780.

3.05 CONTRACT CLOSEOUT:

C. Provide in accordance with Section 01 7700.

END OF SECTION

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SECTION 05501

ANCHOR BOLTS AND ANCHORING DEVICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Anchor bolts, concrete anchors, adhesive anchors, and other anchoring devices.

1.02 REFERENCED SECTIONS

A. The following Section is referenced in this Section

1. Section 01 3300 – Submittals

1.03 SUBMITTALS

A. Comply with Section 01 3300.

B. Product Data: Manufacturer's data for nuts, bolts, concrete anchors, chemical anchors and other fasteners.

C. Catalog data and ICC-ES reports for each type of anchor bolt.

1.04 QUALITY ASSURANCE

A. For applications that require special inspection in accordance with building codes, coordinate the progress of the Work with the required inspection activities.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Unless otherwise specified or indicated on the Drawings, materials of construction for anchoring devices shall conform to the following:

1. Anchor bolts and other anchoring devices, nuts and washers installed indoors: Type 304 stainless steel.

2. Anchor bolts and other anchoring devices, nuts and washers installed outdoors or in locations exposed to wastewater: Type 316 stainless steel.

a. Locations exposed to wastewater includes:

1) Below tops of walls of water-containing structures.

2) Underside of roof, slab or walkways of enclosed water-containing structures.

3) Dry side of walls on water-containing structures.

2.02 CAST-IN-PLACE ANCHOR BOLTS

A. Locations for use of cast-in-place anchor bolts:

1. In locations indicated on the Drawings.

2. To anchor engine-driven equipment and equipment with motors 3 horsepower and larger.

B. Cast-in-Place Anchor Bolts

1. Material: Stainless steel conforming to ASTM A320.

2. Minimum Length of Bolt: As indicated on the Drawings. When not indicated, provide bolt length such that the length of the embedded anchor is at least 10 bolt diameters.

3. Minimum length of 90-degree hook: 4 bolt diameters.

2.03 CONCRETE ANCHORS

A. Concrete Anchors: Drilled in place wedge-type anchors with threaded stud body, stainless steel expansion clip, nut and washer.

B. Materials: Type 304 or Type 316 stainless steel, depending upon installed location.

C. Code Compliance: Test in accordance with, and comply with requirements of, ASTM E488 and ICC-ES AC193.

D. Manufacturers: One of the following or equal:

1. Hilti Kwik Bolt 3.

2. ITW Redhead, Trubolt Wedge Anchor.

3. DeWalt, Power-Stud SD4 or SD6.

4. Simpson Strong Tie, Strong Bolt 2.

2.04 STUDS

A. Material: Conforming to ASTM A108 with 50,000 pounds per square inch minimum yield strength, and 60,000 pounds per square inch minimum tensile strength.

B. Manufacturers: One of the following or equal:

1. Nelson Stud Welding Company, S3L Shear Connectors or H4L Concrete Anchors.

2. Stud Welding Products, Headed Concrete Anchors and Shear Connectors or Concrete Anchors.

2.05 ADHESIVE ANCHORS

A. Applications: Use for bonding threaded rods and concrete reinforcing bars to hardened concrete and grouted cement masonry. Do not use in overhead applications, in chlorine gas environments, or where anchor may be exposed to machine oil or diesel oil.

B. Code Compliance: Test in accordance with, and comply with requirements of, ASTM E488 and ICC-ES AC58.

C. Materials

1. Epoxy Adhesive: Two component, injectable epoxy adhesive.

2. Concrete Reinforcing Bars: Grade 60.

3. Threaded Rods: Type 304 stainless steel all-thread rod conforming to ASTM F593.

D. Manufacturers: One of the following or equal:

1. Hilti HIT-HY-200 Adhesive Anchor System.
2. ITW Redhead G5 Adhesive Anchoring System.
3. DeWalt PE1000+ Epoxy Anchoring System.
4. Simpson Strong Tie SET-XP Epoxy Adhesive Anchoring System.

PART 3 - EXECUTION

3.01 GENERAL ANCHORING REQUIREMENTS

A. Use equipment shop drawings, anchorage layout drawings, and anchor bolt layout templates to accurately position anchor bolts.

B. Install anchor bolts, concrete anchors and other anchoring devices with at least 2 threads projecting beyond the nut, but no more than 1/2-inch projecting beyond the nut.

C. Prior to installing nuts, coat threads of stainless steel bolts with material to prevent galling of threads.

1. Manufacturers: One of the following or equal:

a. Never Seez Compound Corporation, Never-Seez.

b. Oil Research, Inc., WLR No. 111.

D. Tighten nuts on anchor bolts, concrete anchors and other anchoring devices to the "snug-tight" condition, defined as tightness attained by a few impacts of an impact wrench or the full effort of a man using an ordinary wrench.

3.02 CAST-IN-PLACE ANCHOR BOLTS

A. Do not use expansion type concrete anchors or adhesive anchors as substitution for cast-in-place anchor bolts.

B. Accurately place anchor bolts to be embedded in concrete within the formwork and perpendicular to surface from which they will project. Secure in correct position while concrete is placed.

C. Do not allow anchor bolts to touch reinforcing steel. Where anchor bolts are within 1/4 inch of reinforcing steel, isolate with a minimum of 4 wraps of 10 mil polyvinyl chloride tape in area adjacent to reinforcing steel.

D. In anchoring machinery bases subject to heavy vibration, use 2 nuts, with 1 serving as a locknut.

E. Where bolts are indicated on the Drawings for future use, first coat thoroughly with non-oxidizing wax, then turn nuts down full depth of thread and neatly wrap exposed thread with waterproof polyvinyl tape.

F. Where indicated on the Drawings, set anchor bolts in metal sleeves having inside diameter approximately 2 inches greater than the bolt diameter and a minimum of 10 bolt diameters deep. Fill sleeves with grout when equipment is grouted in place.

3.03 CONCRETE ANCHORS AND ADHESIVE ANCHORS

A. Cast-in-place anchor bolts may be used in place of concrete anchors and adhesive anchors at Contractor’s option.

B. Installation

1. Drill holes using concrete drill bits and impact type drill motors. Hole diameter shall be in accordance with the manufacturer's recommendations.
2. Clean drilled hole using compressed air to dislodge and remove drilling dust.
3. Accurately locate concrete anchors and set anchors with axis perpendicular to surfaces from which they will project.
4. Do not disturb adhesive anchors until cure time has elapsed.
5. Unless otherwise indicated on the Drawings or as required by structural calculations prepared by the equipment supplier, comply with minimum embedment lengths identified in the following table.

Minimum Embedment Lengths for Concrete and Adhesive Anchors

Diameter of Anchor or Bar, inches	Embedment Length for Concrete Anchors, inches	Embedment Length for Adhesive Anchors or Reinforcing Bars
1/4	1-3/4	As indicated on the Drawings
3/8	1-7/8	
1/2	2-1/4	
5/8	2-3/4	
3/4	3-1/4	
(1) Provide longer embedment where otherwise indicated		

END OF SECTION

SECTION 06600

FIBERGLASS REINFORCED PLASTIC GRATING AND STRUCTURAL FABRICATIONS

PART 1 – GENERAL

1.01 DESCRIPTION:

A. Provide fiberglass reinforced plastic grating and structural fabrications as indicated and specified.

B. The work under this section includes:

1. FRP Grating and Stair Treads
2. FRP Grating Embed Frames
3. FRP Structural Fabrications
4. FRP Stairs
5. FRP Handrail
6. FRP Ladders

1.02 RELATED WORK:

A. Section 03300: Cast-In-Place Concrete

B. Section 05500: Miscellaneous Metal

1.03 REFERENCES:

A. ASTM International (ASTM):

1. ASTM D-256, Standard Test Method for Izod Impact.
2. ASTM D-570, Standard Test Method for Water Absorption of Plastics.
3. ASTM D-635, Standard Test Method for Flammability of Plastics.
4. ASTM D-638, Standard Test Method for Tensile Strength.
5. ASTM D-695, Standard Test Method for Compressive Strength.
6. ASTM D-696, Standard Test Method for Co-Efficient of Linear Thermal Expansion of Plastics.
7. ASTM D-732, Standard Test Method for Shear Strength.
8. ASTM D-790, Standard Test Method for Flexural Properties.
9. ASTM D-792, Standard Test Method of Specific Gravity and Density of Plastics by Displacement.

10. ASTM D-2583, Standard Test Method for Barcol Hardness.

11. ASTM D-3918, Standard Test Method for Parameters of Part Size Variance.

12. ASTM E-84, Standard Test Method for Surface Burning Characteristics.

13. ASTM G-23, Standard Test Method for Weathering.

14. OSHA

1.04 SUBMITTALS:

A. Submit the following in accordance with Section 01 3300:

1. Manufacturers specifications, catalog data with load charts for all FRP Gratings.

2. Manufacturers specifications, catalog data for all FRP Structural Shapes.

3. Shop drawings showing all FRP materials as required including dimensions, connections, fasteners, tolerances, assembly and complete installation details.

4. Submit samples of the following products: Grating and Treads, Railing, Ladder, Plank

1.05 QUALITY ASSURANCE:

A. All FRP products and fabrications shall be supplied by an experienced firm who has continually engaged in the manufacture and/or fabrication or fiberglass reinforced plastic for a minimum of five years within the last five years.

B. Assure that all field dimensions are taken accurately so that other trades will not affect a proper installation of the FRP, and that all manufacturer's instruction and recommendations are followed.

C. No substitution of materials will be accepted unless they are submitted for review and the Engineer approves their use.

1.06 DELIVERY, STORAGE AND HANDLING:

A. Provide in accordance with Section 01 6000 and as specified.

B. All components shall be shop fabricated and assembled into the largest practical size for transporting.

C. Deliver manufactured materials in original, unbroken pallets, packages, containers, or bundles bearing the label of the manufacturer. Crate and box adhesives, resins and their catalysts and hardeners separately and note as such to facilitate their movement to a dry indoor storage facility.

D. Materials shall not be stored in direct sunlight but shall be covered with light blocking tarps located off of the ground on suitable supports or stored indoors.

E. Store all materials and equipment necessary for the fabrication and installation of the grating, handrails, guardrails and structural shapes before, during, and after shipment to prevent cracking, twisting, bending, breaking, chipping or damage to the materials or equipment, including damage due to over exposure to the sun.

F. In winter months or whenever ambient temperatures are below 40 degrees Fahrenheit, store materials in heated locations to eliminate potential damage resulting from accidental impact.

G. Identify and match-mark all materials, items and fabrications for installation and field assembly.

1.07 DESIGN REQUIREMENTS:

A. OSHA – 29 CFR as it pertains to worker safety and walking-working surfaces for stairs, ladders, handrail, and platforms.

B. FRP grating shall be designed to support 100 lbs. per square foot Uniform Load or as directed on contract drawings, whichever is more stringent. Deflection shall not exceed L/240.

C. FRP structural shapes shall be designed into structures that will support all applicable loads. Deflection shall not exceed L/240.

D. Design and provide FRP structural support framing for grating spans as required to meet loading criteria. Support framing consisting of channels or beams for the spans indicated on the drawings shall be determined by the grating manufacturer's design requirements.

PART 2 – PRODUCTS

2.01 MANUFACTURERS:

A. Seasafe Inc.

B. Fiberglass Specialties, Inc.

C. International Grating, Inc.

D. Or acceptable equivalent product.

2.02 GENERAL:

A. All FRP materials shall be manufactured with Isophthalic-Polyester resins.

B. All structural shapes shall be constructed of strand roving, transverse mat, and a synthetic surface veil. Including ultraviolet (UV) light inhibitors.

C. All structural shapes shall be flame retardant per ASTM E-84 Class 1 Flame Spread of less than 25.

D. After fabrication of FRP, all cuts, holes, and abrasion shall be sealed to prevent corrosion.

2.03 FRP GRATING, LADDERS, AND STAIR TREADS:

A. FRP grating shall be molded fiberglass grating made with manufacturer's resin system.

B. Color shall be safety yellow.

C. FRP Grating shall designed to support 100 lbs. per square foot Uniform Load. Deflection shall not exceed L/240.

D. All molded grating shall have ultraviolet (UV) inhibitors.

E. Grating and Stair Treads shall have integral embedded grit for slip resistance.

F. Stair Treads shall have 1-3/4" safety yellow integral bull nosing.

G. All platform grating shall be attached with Type 316 stainless steel grating clips. Minimum of 4 clips per piece.

H. Design ladder system to meet the configuration and loading requirements of OSHA, IBC. Apply requirements of the most stringent code

1. Provide ladder side rails 2 inches by 2 inches by 0.156 inches minimum thickness square tubes manufactured by the pultrusion process.
2. Provide ladder rungs pultruded 1 inch diameter minimum solid round bar with slip resistance epoxy grit surface.
3. Ladder shall be safety yellow.

2.04 FRP GRATING EMBED FRAMES:

A. All FRP grating set in concrete openings shall have an angle iron support frame unless otherwise indicated in the plans.

B. Angle iron support frame shall satisfy the grating manufacturer's requirements and the project plans. In the event of a conflict, the more stringent of the two requirements shall control.

2.05 FRP STRUCTURAL FABRICATIONS:

A. FRP structural shapes shall be (select either Isophthalic-Polyester or Vinylester) pultruded fiberglass shapes. All shapes shall meet ASTM E-84 Class 1 Flame Spread of less than 25 and ASTM D-635 self-extinguishing.

B. The minimum physical properties shall be:

Property	ASTM	Longitudinal Direction	Transverse Direction
Tensile Stress	D-638	30,000 psi	7,000 psi
Tensile Modulus	D-638	2.5×10^6 psi	0.8×10^6 psi
Compressive Stress	D-695	30,000 psi	15,000 psi
Compressive Modulus	D-695	2.5×10^6 psi	1.0×10^6 psi

Flexural Stress	D-790	30,000 psi	10,000 psi
Flexural Modulus	D-790	1.8×10^6 psi	0.8×10^6 psi
Modulus of Elasticity, E	Full Section	2.8×10^6 psi	
Maximum Deflection	NA	Span/240	Span/240

C. All structural shapes shall be fabricated per the drawings with good workmanship, closely fitted joints, and finished true to line and in accurate position to permit installation and proper joining of parts in the field.

D. Use Type 316 stainless steel bolts and washers.

E. All joint surfaces to be bonded shall be abraded to remove surface gloss and be free of burrs or other foreign materials that would prevent proper adhesion.

F. Use high-strength epoxy adhesives designed for FRP use and mechanical fasteners.

G. All pieces shall have easily identified part numbers or piece marks.

H. Shop assemble pieces into the largest practical assembly suitable for shipping.

2.06 FRP STAIRS:

A. Fabricate from FRP structural shapes as specified.

B. Use OSHA standards for rise and run.

C. Use Stair Treads as specified.

D. Use FRP handrail as specified.

E. Use Type 316 stainless steel bolts throughout.

2.07 FRP HANDRAIL:

A. The handrail system shall be fabricated de from (select either Isophthalic-Polyester or Vinylester) resin.

B. All handrail components shall be flame retardant per ASTM E-84 Class 1.

C. Handrail posts and rail shall be 2 x 2 x ¼ square tube. All posts and rails shall use the same tube size. All tubing for handrail shall have a minimum ¼” wall thickness.

D. All handrail to be safety yellow.

E. All post to rail connection shall be fully bonded with an epoxy adhesive and shall have a 1-1/2” square solid internal connection plug for added strength and durability. All connections shall have a smooth transition between post and rail.

F. Fabricate FRP handrail to standard 2-rail design unless noted otherwise.

2.08 PLANK COVER:

A. Design Requirements:

1. Design Loads:

a. Design structural framing to sustain dead loads and superimposed live loads.

b. 300 pound concentrated live load, on an area of 4 square inches located in the center of the plank, whichever produces greater stress.

2. Deflection:

a. 1/4-inches maximum.

B. Manufacture planks by the pultrusion process. Provide planks 2 inches deep and 24 inches wide with interlocking joints on outside legs of plank. The glass fiber reinforcement for the planks shall be a core of continuous glass strand rovings wrapped with continuous strand glass mat. A synthetic surface veil shall be the outermost layer covering the exterior surfaces.

C. Provide planks with UV inhibitor and a skid resistant surface.

D. Cap ends of individual plank pieces with channel caps.

E. Provide 3/8-inches diameter bent stainless steel rod recessed lifting handles. Provide two handles at each end of individual pieces.

F. Set planks in concrete openings with embedded angle support frames having continuous integral anchor unless noted otherwise. Bear planks on length as required by plank manufacturer.

1. The color shall be gray.

PART 3 - EXECUTION

3.01 INSPECTION:

A. Upon receipt of material at job site, the Contractor shall inspect all materials for shipping damage.

3.02 HANDLING AND STORAGE:

A. Handle all FRP materials with reasonable care to prevent damage. Use shipping pallets to move material. Do not drag FRP material.

B. If FRP materials are not to be installed immediately, then store to prevent twisting, bending, breaking, or damage of any kind. Keep material covered to prevent unnecessary exposure to UV.

3.03 INSTALLATION:

A. Coordinate and verify that other construction trades and materials have been installed per the contract drawings, and, that they are accurate in location, alignment, elevation, and are plumb and level.

B. Install FRP materials in accordance with approved shop drawings.

C. Install materials accurately in location and elevation, level, and plumb. Field fabricate as necessary for accurate fit.

D. All field cuts, holes or abrasions shall be sealed with sealing resin to prevent corrosion.

3.04 CONTRACT CLOSEOUT:

A. Provide in accordance with Section 01 7700.

END OF SECTION

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SECTION 11000

GENERAL REQUIREMENTS FOR EQUIPMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. General requirements applicable to mechanical equipment and systems.

B. Ensure mechanical equipment meets the requirements of this Section in addition to the specific requirements of the individual equipment specification Sections.

1.02 REFERENCED SECTIONS

A. The following Sections are referenced in this Section

1. Section 01 3300 – Submittals

1.03 GENERAL REQUIREMENTS

A. Equipment shall be of new construction and comply with the following requirements:

1. Designed for all stresses that may occur during fabrication, transportation, erection, and during continuous or intermittent operations.

2. Adequately anchored, leveled, aligned, and ready for operation without binding or overloading of critical components or motors.

3. Installed with necessary appurtenances required for proper operation and installation in a neat and workmanlike manner.

4. Tested by factory trained service mechanics or engineers.

1.04 UNIT RESPONSIBILITY

A. Equipment systems shall be assembled as a unit by a single manufacturer responsible for the entire unit.

1. Responsibility extends to selecting components of the system to assure compatibility, proper operation, and compliance with specified performance requirements.

2. Unit responsibility does not relieve Contractor of responsibility to Owner for performance of the Work.

1.05 QUALITY ASSURANCE

A. Arrangement

1. The arrangement of equipment shown on the Drawings is based upon information available at the time of design and is not intended to show exact dimensions peculiar to a specific manufacturer.

2. Some features of the illustrated equipment installation may require revision to meet actual equipment installation requirements.

3. Structural supports, foundations, connected piping, and valves shown may have to be altered to accommodate the equipment provided. Additional payment will not be made for such revisions and alterations.

B. Balance: Fully assemble all rotating elements in motors, pumps, blowers and centrifugal

compressors before performing static and dynamic balance. Where specified, submit balancing reports, demonstrating compliance with this requirement.

1.06 SUBMITTALS

A. Comply with Section 01 3300.

B. General: Provide separate submittals for each equipment item or group of related equipment items.

C. Equipment Anchorage: Submit anchor bolt sizing calculations.

D. Bearing Life Calculations: Submit bearing L-10 life calculations in accordance with AFBMA requirements.

E. Operation and Maintenance manuals for each equipment system

1.07 PROTECTION DURING SHIPMENT

A. Shipping: Ship equipment in sealed, weather-tight, enclosed conveyances, and protected against damaging stresses during transport and handling.

B. Bearing Housings: Wrap or otherwise seal to prevent contamination by grit and dirt, and tape closed ventilation and other types of openings.

C. Repair any damaged materials to conform to the requirements of the Contract before the assembly is incorporated into the Work. The Contractor shall bear the costs arising out of dismantling, inspection, repair, and reassembly.

PART 2 - PRODUCTS

2.01 PIPING CONNECTIONS ON EQUIPMENT

A. Flanges on Equipment: Conform to dimensions and drilling specified in ANSI B16.1, Class 125 unless otherwise required by Division 15 pipe specifications or the Drawings.

B. Pipe Flanges: Conform to dimensions and drilling specified in AWWA C207, Class D, 125 lb flanges provided on connection pipe.

C. Threaded Flanges: Flat faced with standard taper pipe thread conforming to ANSI B1.20.1.

D. Pipe Threads: Conform in dimension and limits of size to ANSI B1.1, coarse thread series, Class 2 fit.

E. Flange Assembly Bolts and Nuts

1. Heavy pattern, hexagonal head, carbon steel machine bolts with heavy pattern, hot pressed, hexagonal nuts conforming to ANSI B18.2.1 and B18.2.2.

2. Threads: Unified Screw Threads, Standard Coarse Thread Series, Class 2A and 2B, ANSI B1.1.

2.02 BEARINGS

A. Service: Unless otherwise specified, equipment bearings shall be oil or grease lubricated, ball or roller type, designed to withstand the stresses of the service specified.

B. Rating

1. L-10 Rating Life: Minimum 50,000 hours unless otherwise specified. Determine rating life using the maximum equipment operating speed.

2. Determine rating in accordance with the latest revisions of AFBMA Methods of Evaluating Load Ratings of Ball and Roller Bearings.

3. Where individual equipment Sections specify higher bearing life ratings, those

requirements supersede the minimum bearing life specified above.

C. Grease Lubricated Bearings

1. Fit with easily accessible grease supply, flush, drain and relief fittings, except those bearings specified to be factory sealed and lubricated.

2. Extend non-accessible grease fittings to an easily accessible location using 1/4-inch diameter stainless steel tubing as an extension tube.

3. Grease supply fittings: Standard hydraulic Alemite or Zerk type.

D. Oil Lubricated Bearings

1. Equip with either a pressure lubricating system or a separate oil reservoir type system.

2. Size oil lubrication systems to safely absorb the heat energy normally generated in the bearing under a maximum ambient temperature of 60°C.

3. Equip with a filler pipe and an external level indicator gage.

E. Incorporate bearing housings with sufficient cooling to maintain surface temperature at 65 degrees C or less for continuous operation at bearing rated load and a 50 degrees C ambient temperature, or install appropriate shielding on bearings that are accessible to touch.

F. Bearing Isolators

1. Provide for bearing where the shaft exits the bearing housing.

2. Motor Bearings: Provide Inpro/Seal style VBX vapor blocking isolators.

3. Gears: Provide Inpro/Seal “Double Runner” bearing isolator for shafts exiting the gear casing.

4. Pumps, Blowers and Compressors: Provide Inpro/Seal style VBX blocking bearing isolators where shafts exit casings/housings.

5. Pillow Block Bearings: Provide Inpro/Seal “Pop-In” style bearing isolators.

2.03 SHAFT COUPLINGS

A. Type and Rating: Non-lubricated, designed for a minimum of 50,000 hours operating life.

B. Equipment with a driver greater than 1/2 horsepower, and where the input shaft of a driven unit is directly connected to the output shaft of the driver, shall have its two shafts connected by a flexible coupling which can accommodate angular misalignment, parallel misalignment and end float, and which cushions shock loads and dampens torsional vibrations.

C. Provide couplings recommended by the coupling manufacturer for the specific application, considering horsepower, speed of rotation, and type of service.

D. Install couplings in conformance to the manufacturer's instructions.

2.04 GUARDS AND CAUTION SIGNS

A. Guards

1. Enclose exposed moving parts with guards that meet the requirements of federal and state OSHA requirements.

2. Enclose drive shafts to at least 7 feet above floors or operating platforms.

B. Materials

1. Fabricate guards of 14 gauge steel and expanded metal screen to provide visual inspection of moving parts without removal of the guard.

2. Galvanize after fabrication and paint with the equipment.

3. Fasteners: Type 304 stainless steel.

C. Warning Sign

1. Provide warning signs near equipment with moving parts that operate automatically or by remote control.

2.05 PRESSURE TAPS AND GAUGES

A. Pressure Taps and Gauges: Unless otherwise indicated, provide on the discharge and suction sides of pumps, blowers and compressors.

B. Pressure Gauges: 4-1/2-inch size, range as specified, stainless steel case, liquid filled, safety glass, weather proof, bronze tube and brass socket, industrial grade stainless steel movement with brass hairspring, 1.5% accuracy, and 1/2-inch NPT lower connection. Supply with 1/2-inch brass gauge cock.

2.06 NAMEPLATES AND LIFTING EYES

A. Nameplates

1. Provide on each item of equipment with the specified equipment name or abbreviation and equipment number.

2. Engrave or stamp (not painted) on stainless steel and fastened to the equipment in an accessible location with stainless steel screws or drive pins.

B. Lifting Eyes

1. Provide on equipment weighing over 80 lbs.

2.07 SPARE PARTS AND LUBRICANTS

A. Spare Parts: Provide for each item of mechanical, electrical, and instrumentation equipment a supply of spare parts and special tools required for the starting, testing, adjustments, and initial operation. Pack spare parts required by individual equipment specifications:

1. Pack spare parts with individual weights less than 50 pounds in a heavily constructed painted wood box with hinged cover and a locking clasp.

2. Provide a typed inventory of spare parts stapled to the underside of the cover.

3. Tag and wrap each part in a waterproof container. Spare bearings shall be encapsulated in an airtight plastic film.

B. Lubricants: Provide for each item of mechanical equipment of the type recommended by the equipment manufacturer a supply of the lubricant for startup, testing, and initial operation.

1. Provide a list showing the required lubricants for each item of mechanical equipment. List estimated quantity of lubricant needed for a full year's operation, assuming the equipment will operate continuously.

2. Lubricants shall be products of the Owner's current lubricant supplier.

3. Limit the various types of lubricants by consolidating them, with the equipment manufacturer's approval, into the least number of different types.

2.08 ANCHOR BOLTS

A. Anchor bolts and concrete anchors for equipment shall be in accordance with Section 5501.

2.09 FACTORY APPLIED COATINGS

A. Ship each item of equipment to the site of the work with a shop applied coating prepared in accordance with the requirements of the individual specification sections. Provide touch-up coating products for field touch-up.

B. Finish Painting of Motors: Factory-apply finish coats using manufacturer's standard coating.

2.10 SPECIAL TOOLS AND ACCESSORIES

A. Furnish with each piece of equipment all tools, instruments, or accessories of a special nature that are required to assemble, disassemble, maintain, or repair any item of equipment.

1. Tag and mark each piece indicating their service and the piece of equipment for which their use is intended.

2. Include a list and description or pictorial representation of all special tools required for a given piece of equipment for insertion into the equipment operation and maintenance manual.

2.11 FASTENERS AND DIELECTRIC ISOLATION

A. Fasteners for Aluminum: Stainless steel.

B. Isolate steel surfaces, other than stainless steel, from aluminum with stainless steel, neoprene, non-metallic washers or other acceptable material.

C. Dissimilar Metals: Protect from galvanic corrosion by means of pressure tapes, coatings, or isolators.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install, align and test each item of equipment within the tolerances recommended by the equipment manufacturer.

B. When specified in individual Sections, install and test equipment under the direction of installation engineers who have been factory trained by the equipment manufacturer.

C. Perform all work in accordance with manufacturer's recommendations.

3.02 QUALITY CONTROL

A. Test equipment in accordance with the individual equipment Section.

B. Furnish written certification from the equipment manufacturers that each item has been installed, aligned, and tested correctly and that the installation meets the manufacturer's requirements for efficient, trouble-free operation.

C. Equipment manufacturer’s certification shall not be construed as relieving the Contractor of his overall responsibility for this portion of the work.

END OF SECTION

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SECTION 11021

STAINLESS STEEL SLUICE GATES

PART 1 GENERAL

1.01 SCOPE

A. Description of Work

1. Provide all labor, material and equipment to remove the existing self- contained, stainless steel sluice gate from the existing concrete walls in the Diversion and Filter Structures and furnish and install stainless steel sluice gates with floor stands and gear operators. The existing wall thimbles will remain.

2. Except as modified or supplemented herein, all gates and operators shall conform to the applicable requirements of AWWA C561, latest addition.

3. Except as modified or supplemented herein, all electric motor actuators shall conform to the applicable requirements of AWWA C542, latest addition.

4. It is noted that the size of the gate is estimated. The Contractor shall verify the dimensions of existing wall thimbles prior to the submitting of information on the proposed gate for review and approval.

B. Work and Components Included (But Not Limited to the Following Items):

1. Stainless Steel Gate

2. Floor Stand and Gear Operator

3. Electric Motor Actuators

4. Anchor Bolts

C. Related Work Specified Elsewhere

1. The provisions of this Section are a direct extension of SECTION 11000 GENERAL REQUIREMENTS FOR EQUIPMENT and although set forth only once within the Specification, shall apply equally to this Section.

2. Section 01 1140, Work Sequence and Constraints

3. Section 15201, Valve and Gate Actuators

1.02 QUALIFICATIONS

A. Manufacture

1. It is the intention of the Specifications to cover minimum acceptable quality equipment for a complete installation with the exception of the motor controls, electrical work and piping requirements.

2. Part numbers or trade names are used in this Specification only to facilitate the description of the equipment and in no way implies that equal equipment of other manufacturers cannot be used.

B. Manufacturer's Experience

1. The Equipment Manufacturer shall have not less than five (5) successful years experience in the design, construction, and operation of equipment of the type specified at ten (10) installations.

2. The manufacturer’s shop welds, welding procedures and welders shall be qualified and certified in accordance with the requirement of the latest edition of AWS Sections D1.1, 1.2, and 1.6.

3. Gates shall be shop inspected, tested for operation, and fully adjusted before shipping.

a. No assembling or adjusting on the job site other than for the lifting mechanism.

4. The manufacturer shall be ISO 9001 : 2000 certified or shall provide Quality Control Manual that is acceptable to the Engineer

C. Acceptable Manufacturers

1. Subject to compliance with the Contract Documents, the following are acceptable:

a. Stainless Steel Gates

(1) Golden Harvest, Inc.

(2) Or equal

2. All products, whether named as "acceptable" or proposed as "equal", must fully comply with these Specifications. If the standard product cannot be modified to meet the Specifications, then each non-compliant item must be listed as an exception in the space provided on the Bid form.

1.03 SUBMITTALS

A. Operating instructions, manuals and shop drawings shall be submitted in accordance with SECTION 11000, GENERAL REQUIREMENTS FOR EQUIPMENT.

B. Manufacturer shall submit for approval, drawings showing the principal dimensions, general construction and material used in the gate and lift mechanism.

C. Manufacturer shall submit for approval, complete engineering design calculations in compliance with AWWA standards latest edition.

1.04 EQUIPMENT MANUFACTURER'S SERVICE REPRESENTATIVE

A. General

1. See Section 11000 for complete requirements for the Manufacturer's Service Representative.

B. Installation Assistance

1. Provide installation assistance for the equipment supplied.

C. Equipment Start-Up Assistance

1. Provide for equipment start-up and/or process stabilization and balancing assistance for the equipment supplied.

D. Operating Instructions and/or Operator Training

1. Provide for one (1) eight (8) hour working day total to instruct pump station Operators for the equipment supplied. The training period will be coordinated by the Owner with overall plant training.

1.05 GUARANTEE AND WARRANTY

A. The equipment shall be unconditionally guaranteed to meet or exceed the design criteria detailed in Part 2 of this Specification.

PART 2 PRODUCTS

2.01 GENERAL

A. The equipment provided under this Section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the drawings, specifications, engineering data, instructions, and recommendations of the equipment manufacturer unless exceptions are noted by the Engineer.

B. Gates and operators shall be supplied with all the necessary parts and accessories indicated on the drawings, specified or otherwise required for a complete, properly operating installation, and shall be the latest standard product of a manufacturer regularly engaged in the production of fabricated gates.

C. Gates supplied under this Section shall be Model GH-29 Tapered-Wedge Stainless Steel Gates as manufactured by Golden Harvest, Inc.

2.02 PERFORMANCE

A. Leakage: Sluice gates shall be substantially watertight under the design head conditions. Under the design seating head, the leakage shall not exceed 0.005 U.S. gallon per minute per foot of seating perimeter. Under the design unseating head, the leakage for heads of 7 feet or less shall not exceed 0.01 U.S. gallon per minute per foot of perimeter.

B. Design Head: The sluice gates shall be designed to withstand the design head shown in the schedule.

2.03 PRODUCT

A. Each sluice gate shall be of the self-contained or non-self contained, rising stem type.

B. All parts of the gate shall have a minimum thickness of 1/4 inch.

C. Frame: The gate frame shall be stainless steel and designed for maximum rigidity.

1. The guide slot shall be made of UHMWPE (ultra high molecular weight polyethylene).

2. The frame configuration shall be of the flush-bottom type and shall allow the replacement of the top and side seals without removing the gate frame from the concrete or wall thimble.

D. Slide: The slide shall consist of a stainless-steel plate reinforced to limit its deflection to 1/720 of the gate's span or 1/16-inch (whichever is less) under the design head.

1. The head guide angles shall be attached to the slide to place the slide in an angle corresponding to the seating surface and seals attached to guide frame spigot.

E. Guides and Seals: The guides shall be provided with UHMWPE seats on both sides of the slide and shall be of such length as to retain and support at least two thirds (2/3) of the vertical height of the slide in the fully open position. Guide frame shall not weigh less than 13 lbs. per foot.

1. The seating face of the seals shall be oriented at an angle to the plane of the head guide angles to create a resilient seated wedge of the entire gate slide upon closure.

2. Side and top seals shall be frame mounted. Seals shall be of resilient neoprene D-seal with a stainless-steel retainer bar and shall be fully adjustable. P-bulb seal, self-adjusting compression cord seal, flat or winged UHMW slide gate seals will not be considered.

3. The flush bottom resilient neoprene seal shall be mounted to bottom of disc and seal against the invert portion of the frame. Frame mounted invert seals will not be considered.

F. Wedge Bar: Gates with widths of 24-inches or greater subjected to unseating head pressure shall have a minimum of two intermediate top wedges to minimize any deflection across the horizontal top sealing portion of the gate slide.

G. Yoke And Pedestal: The yoke, to support the operating bench stand, shall be formed by two structural members welded at the top of the guides to provide a one-piece rigid frame.

1. Self-contained gates shall be provided with a yoke to support the operating bench stand. The yoke shall be formed by two structural members welded at the top of the guides to provide a one-piece rigid frame. The maximum deflection of the yoke shall be 1/720 of the gate's span.

2. Non-self contained gates shall be provided with pedestal mounted lifts. Pedestal shall be cast iron or mild steel.

3. All carbon steel components shall be provided with 2-part epoxy coating per SSPC-10 standard.

H. Stem and Couplings: The operating stem shall be of stainless steel designed to transmit in compression at least 2 times the rated output of the operating manual mechanism with a 40 lb effort on the crank or handwheel.

1. The stem shall have a slenderness ratio (L/R) less than 200. The threaded portion of the stem shall have Acme type cold rolled threads with a maximum surface of 16 micro-inches.

2. Where a hydraulic, pneumatic or electric operator is used, the stem design force shall not be less than 1.25 times the output thrust of the hydraulic or pneumatic cylinder with a pressure equal to the maximum working pressure of the supply, or 1.25 times the output thrust of the electric motor in the stalled condition.

3. Stems in more than one piece shall be joined together with solid stem sections and couplings.

4. Gates having a width equal to or greater than two times their height shall be provided with two lifting mechanisms connected by a tandem shaft.

I. Stem Guides: Stem guides shall be fabricated from stainless steel. Stem guides shall be equipped with a UHMWPE bushing. Guides shall be adjustable and spaced in accordance with the manufacturer's recommendation. The L/R ratio shall not be greater than 200.

J. Stem Cover: Rising stem gates shall be provided with a clear polycarbonate stem cover. The stem cover shall have a cap and condensation vents and a clear mylar position indicating tape. The tape shall be field applied to the stem cover after the gate has been installed and positioned.

K. Lifting Mechanism: Operators of the types listed in the schedule shall be provided by the gate manufacturer. Each manual operator shall be designed to operate the gate under the maximum specified seating and unseating heads by using a maximum effort of 40 lb on the crank or handwheel, and shall be able to withstand, without damage, an effort of 80 lb.

1. Gearboxes shall be provided when required to maintain the operating force below 40 lb. All bearings and gears shall be totally enclosed in a weather tight housing. Operator housing shall be cast steel or cast iron. The pinion shaft of crank-operated mechanisms shall be supported by roller bearings. The operating shaft shall be fitted with a 2-in. AWWA square operating nut and removable crank. The crank shall be fitted with a corrosion-resistant rotating handle. The maximum crank radius shall be 15 inches and the maximum handwheel diameter shall be 24 inches.

2. Electric Motor Actuators shall be provided.

L. Materials

Part	***Material***
Slide, Spigot, Frame, Stiffeners, Yoke, Guide Angles	Stainless Steel Type 304L or 316L ASTM A276 / A240

Side, Top Seals, Invert Seals	Resilient Neoprene or EDPM ASTM D-2000
Bearing bars, Guides, Stem Guide Liner	Ultra High Molecular Weight Polyethylene ASTM D4020
Threaded stem, Stem Guides	Stainless steel Type 304L, 316L ASTM A-276,
Fasteners	Stainless steel Type 304, 316 ASTM - F593 / F594
Pedestal, Wall Bracket	Stainless Steel Type 304L ASTM A240/A312
Stem cover	Butyrate ASTM D-2411
Lift and stop nut	Manganeze bronze ASTM B584

PART 3 EXECUTION

3.01 INSTALLATION

A. Gates and appurtenances shall be handled and installed in accordance with the manufacturer's recommendations.

3.02 FIELD TESTS

A. Following the completion of each gate installation, the gates shall be operated through at least two complete open/close cycles. If an electric or hydraulic operator is used, limit switches shall be adjusted following the manufacturer's instructions.

B. Gates should be checked for leakage by the Contractor (refer to the "Performance" section for approval criteria).

END OF SECTION

SECTION 11500

DISINFECTION

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Furnish materials, tools, equipment, and labor required to disinfect all inside surfaces where water may come in contact with the following structures, pipelines, equipment, accessories:

1. Filter Structure
2. Diversion Structure
3. Sedimentation Basin
4. Disinfection of newly installed Utility and Backwash water pipelines, fittings, valves, and other components.

B. Provide required testing.

C. Dechlorinate and dispose of disinfection solution.

1.02 REFERENCED SECTIONS

A. The following Section is referenced in this Section:

1. Section 01 3300 – Submittals

1.03 REFERENCE STANDARDS

A. The standards listed below are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

Reference	Title
AWWA B300	Hypochlorites
AWWA B301	Liquid Chlorine
AWWA C651	Disinfecting Water Mains
AWWA C653	Disinfection of Water Treatment Plants
AWWA C652	Disinfection of Water Storage Facilities
AWWA C654	Disinfection of Wells
AWWA C655	Field Dechlorination
NSF/ANSI 60	Drinking Water Treatment Chemicals

1.04 SUBMITTALS

A. Comply with Section 01330.

B. Submit product data for disinfectant.

C. Submit product data for appurtenances that will be permanently installed.

D. Submit a disinfection plan that identifies the procedures, methods, materials, schedule, and testing that will be used to disinfect the pipelines, including the membrane filter unit

piping, in accordance with the AWWA Standards and this Specification. The plan shall include, but not be limited to the following:

1. Methods and procedures
2. Type of disinfectant
3. Sample locations
4. Testing laboratory
5. Method of disposing spent disinfectant solution
6. Schedule for performing disinfection and testing

E. Submit product information for disinfectant and dichlorination chemicals that will be used.

F. Submit test results.

1.05 REQUIREMENTS

A. Disinfection shall be performed in accordance with AWWA Standards.

B. Demonstrate through analytical testing that the pipelines are disinfected and meet the requirements in AWWA C651 and C653.

C. Perform disinfection verification in accordance with the AWWA Standards.

1. Enlist the services of a certified testing laboratory to perform the bacteriological sampling and testing for disinfection verification.
2. Testing arrangement and expenses shall be borne by the Contractor.

PART 2 - PRODUCTS

2.01 GENERAL

A. Furnish all pumps, tanks, hoses, valves, sample connections, and other equipment and appurtenances needed to perform disinfection.

2.02 DISINFECTANT

A. Forms of chlorine that may be used for the disinfection operation are sodium hypochlorite solution and calcium hypochlorite granules or tablets.

B. The chlorine used for the disinfection operation shall meet the requirements of AWWA C651 and C653 and shall conform to AWWA B300.

C. The chlorine used for the disinfection operation shall be certified, in accordance with NSF/ANSI 60.

2.03 DILUTION WATER

A. Use potable water for pressure testing pipelines. Obtain water from the source identified in Section 01500.

3 PART 3 – EXECUTION

3.01 SCHEDULING

A. Disinfection shall be conducted after completing all construction activities.

B. Disinfection of pipelines shall follow successful pressure testing.

C. Schedule and coordinate the disinfection work with the Owner.

D. When disinfection of a facility has been satisfactorily completed, no further entry to the interior of the facility will be allowed. See Paragraph 3.06 below for requirements is re-entry is required.

3.02 PREPARATION

A. Provide and install all necessary appurtenances required for the disinfection procedure, including taps, temporary piping, connections, and shutoff valves. Submit data on appurtenances that will be permanently installed to the Engineer for review.

B. The Contractor is advised to take precautions to keep surfaces clean during construction and prevent entry of deleterious substances during construction of the facility to facilitate achieving the disinfection requirements.

C. Prior to disinfection, thoroughly clean accessible surfaces to remove dust, dirt, foreign matter, and deleterious substances.

1. Remove any oil and grease by contact with absorbents.

2. Use water sprays, steam cleaning, vacuum cleaning, swabbing, hand brushing, or a combination of other methods and rinsing to clean the surfaces, but do not use any methods that will damage the finished surfaces.

3. Flush accessible surfaces clean.

D. Isolate systems to be disinfected from operating components of the water treatment plant prior to disinfection. Protect existing systems from backflow during the disinfection procedures.

E. Disinfect all tools, equipment and clothing that will come in contact with the interior of structures or fluid inside structures prior to structure entry.

3.03 APPLICATION

A. After completing all construction activities, disinfect the required surfaces with chlorine solutions in accordance with the following procedures. Following disinfection and flushing, the testing laboratory shall obtain water samples for bacteriological analysis of the water. If the specified bacteriological requirements are not satisfied, repeat disinfection procedure until the requirements are met.

B. Disinfect surfaces as required with chlorine solution in accordance with the following procedures.

C. Water Storage Facilities

1. Standard: AWWA C652, as amended herein

2. Forms of Chlorine: Sodium hypochlorite or calcium hypochlorite.

3. Method: Brush or Spray (Method 2, as described in AWWA 652).

D. Large Pipelines (≥ 4-inch)

1. Standard: AWWA C651, as amended herein.

2. Forms of Chlorine: Sodium hypochlorite or calcium hypochlorite.

3. Method: Continuous feed.

E. Small Pipelines (< 4-inch)

1. Preparation: Provide a 1-inch minimum service cock or valve or other means to inject chlorine solution at point within 2 or 3 feet of its junction with the supply source. When the system is complete, thoroughly flush it by fully opening every

outlet until clear water flows from all outlets.

2. Disinfectant: Sodium hypochlorite or calcium hypochlorite in sufficient quantities to produce chlorine concentration of at least 50 parts per million (ppm) in the system.

3. Disinfection Procedure

   a. Connect a hand-operated pump or other means of injecting the disinfectant into the service cock or injection device.

   b. When the system is completely full of water, adjust every outlet so that a trickle of water flows from each outlet

   c. Inject the disinfectant slowly at an even rate until the free chlorine residual concentration at each outlet reaches at least 50 ppm, as verified by a test at each outlet.

   d. Close all outlets and valves, including the water supply and disinfectant injection connections. Maintain the condition for 24 hours. After 24 hours, test the free chlorine residual at each outlet. The free chlorine residual shall not be less than 10 ppm. If the free chlorine residual at any outlet is less than 10 ppm, repeat the disinfection procedure until an approved result is obtained.

   e. When the above procedure has been completed to the satisfaction of the Engineer, flush the entire system with fresh potable water until all outlets show a free chlorine residual of not more than the chlorine residual in the fresh potable water used for flushing.

3.04 FIELD QUALITY CONTROL

A. Chlorine Residual Testing

1. AWWA C651, Appendix A, DPD Drop Dilution Method, except where otherwise specified.

2. Testing shall be performed by the Contractor.

B. Bacteriological Analyses of Water

1. After completion of the disinfecting procedure, including final flushing as described in AWWA C651, the certified laboratory personnel will obtain water samples from the disinfected system for bacteriological analyses.

2. Two or more samples from the facility shall be collected not less than 30 minutes apart and tested for the presence of total coliform bacteria in accordance with the Standard Methods referenced in AWWA C653.

3. If the presence of total coliform bacteria is not detected in any of the samples, the facility has been adequately disinfected and may be placed into service.

4. If any of the samples show presence of total coliform bacteria, then one of the following must be conducted before placing the facility into service:

   a. Take a repeat sample at least 24 hours apart until consecutive samples do not show the presence of total coliform bacteria.

   b. Repeat disinfection procedures and resample.

3.05 DISPOSAL OF SPENT DISINFECTANT SOLUTION

A. Dechlorinate and dispose of disinfection solution into the existing Backwash Ponds.

B. Coordinate schedule, flow, and duration of disposal with the Owner to confirm that there is adequate capacity to handle the additional flow.

C. Monitor the chlorine concentration in the dechlorinated solution for disposal and report to Owner to ensure that the solution has been dechlorinated to acceptable levels prior to disposal.

3.06 PROTECTION OF DISINFECTED FACILITIES

A. Once disinfection has been satisfactorily completed, the Contractor shall be responsible for maintaining the disinfected status until the facility is placed into service.

B. If work or repairs must be conducted following completion of the disinfection operations, the work shall be conducted using techniques and work methods necessary to maintain the disinfected status.

C. If a disinfected facility is not immediately placed into service or work is conducted on the facility following successful disinfection, additional bacteriological testing may be warranted, as determined by the Engineer, to confirm disinfected status.

The cost of the additional bacteriological testing shall be borne by the Contractor at no additional cost to the Owner.

D. If a disinfected facility becomes contaminated, the Contractor shall re-disinfectthe facility at no additional cost to the Owner.

END OF SECTION

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SECTION 15056

PIPE SUPPORTS

PART 1 - GENERAL

1.01 DESCRIPTION:

A. Design, and provide a complete system of pipe supports with inserts, bolts, nuts, restraining and hanger rods, washers, miscellaneous steel, sliding Teflon plates, and accessories as indicated and in compliance with Contract Documents. The term pipe support includes hangers, guides, restraints, anchors and saddles.

B. Provide all support systems and the design of all support systems for all piping as specified herein. The Contractor shall provide pipe support locations, configurations and details through accepted shop drawing submittals stamped by a Registered Professional Engineer, registered in the State of California.

C. The Contractor shall be responsible for the proper design, fabrication, location, shop drawings and installation of all pipe supports in accordance with the specified requirements.

D. Pipe support locations and types for piping 1/2-inch and larger shall be determined by the Contractor using the guidelines for support spacing specified herein and other criteria contained in this pipe support specification. Guidelines for pipe supports may need to be adjusted based upon field coordination, field routing, or other considerations outlined herein such as structural load limits. The Contractor may revise the pipe support locations and details through accepted shop drawing submittals stamped by a Registered Professional Engineer, as specified herein. The Contractor is responsible for the proper design, installation and fabrication of all pipe supports in accordance with the specified requirements. For pipe supports 1/2-inch and larger pipe support shop drawings together with a marked up piping drawing showing support number, location and typical type shall be submitted by the Contractor for acceptance.

1. The Contractor shall be responsible for coordinating all pipe support designs for all trades to ensure compliance with all of the requirements of this specification, including but not limited to the total limitations specified herein.

E. Design and provide all temporary pipe supports required during installation and testing.

1.02 REFERENCES:

A. The American Society of Mechanical Engineers (AMSE):

1. B31.1: Power Piping.

B. ASTM International (ASTM):

1. A36: Standard Specification for Carbon Structural Steel

2. A307: Standard Specification for Carbon Steel Externally Threaded Standard Fasteners

3. A312: Seamless and Welded Austenitic Stainless Steel Pipe

4. A500: Cold Formed Welded and Seamless Carbon Steel Structural Tubing.

5. A572: Specification for Steel Plate.
6. E165: Practice for Liquid Penetrant Inspection Method.

7. E709: Practice for Magnetic Particle Examination.

C. American Welding Society (AWS):

1. D1.1: Structural Welding

D. Fluid Sealing Association: Technical Handbook.

E. Manufacturers' Standardization Society (MSS):

1. SP-58: Pipe Hangers and Supports - Materials and Design.

2. SP-69: Pipe Hangers and Supports - Selection and Application.

3. SP-89: Pipe Hangers and Supports - Fabrication and Installation Practices.

4. SP-90: Guidelines on Terminology for Pipe Hangers and Supports.

F. NSF International (NSF)

1. 61: Drinking Water System Components – Health Effects

1.03 SUBMITTALS:

A. Submit the following in accordance with Section 01 3300:

1. Pipe support drawings specified herein and including data for accessory items for acceptance prior to fabrication. The Contractor shall submit pipe support coordination drawings including all piping and pipe supports for all trades.

a. Detailed drawing of the device with dimensions.

b. A table of applied forces and moments.

c. A complete bill of materials.

d. A unique identification and revision level.

e. Stamp and signature of a Registered Professional Engineer, registered in the Commonwealth of Massachusetts, experienced in pipe support design and pipe stress analysis as specified herein.

f. Detailed connections to existing structure.

g. Indicate all welds, both shop and field, by Standard Units of Measurement as specified in AWS D1.1.

2. Welding Procedure: Submit description required to illustrate each welding procedure to be performed in the specified work.

3. Welding Equipment: Submit descriptive data for welding equipment, including type, voltage and amperage.

4. Qualification for Welders: Provide certification that welders to be employed in work have satisfactorily passed AWS or ASME qualification tests. If recertification of welders is required, retesting is the Contractor's responsibility at no additional cost to the Owner.

5. Pipe support manufacturers' qualifications as specified herein.

   a. List of at least five (5) successful pipe support projects and current addresses and telephone numbers of persons in charge of representing the owner or the owner of those construction projects during the time of pipe support design, fabrication and installation.

   b. Qualification of manufacturers' Registered Professional Engineer, registered in the Commonwealth of Massachusetts, who stamps and seals shop drawings and designs.

6. Coordination drawings for pipe supports shall include as a minimum the following information.

   a. Coordination drawings shall include all pipe supports covered by specifications.

   b. These coordination drawings will be used by the Contractor to ensure that the pipe supports do not obstruct access, access for equipment operation or removal including all mechanical and electrical equipment, panels, valves, gauges, and instrumentation.

c. The Contractor shall be responsible for including and coordinating the work of all subcontractors into the coordination drawings.

d. Prepare reproducible coordination drawings, indicating equipment, piping, valves, expansion joints, ductwork, conduit, cable trays, junction boxes, lighting fixtures, sleeves, inserts, embedment's, supports, hangers and appurtenances at not less than 1/4-inch scale. Drawings shall show beams, columns, ceiling heights, wall, floors, partitions and structural features as indicated on the contract drawings. Individual pipes and conduit 2-inches or less in diameter that will be field routed need not be shown on coordination drawings.

e. Coordination drawings shall include large-scale details as well as cross and longitudinal sections required to fully delineate all conditions. Particular attention shall be given to the location, size, and clearance dimensions of equipment items, shafts, operators and necessary maintenance access.

f. Make all minor changes in duct, pipe or conduit routings that do not affect the intended function, but items may not be resized or exposed items relocated without the approval of the Owner. No changes shall be made in any wall locations, ceiling heights, door swings or locations, window or

other openings or other features affecting the function or aesthetic effect of the building. If conflicts or interferences cannot be resolved, the Owner shall be notified. Any problems of coordination that require architectural or structural changes of design shall be submitted to the Owner for resolution.

g. After the reproducible drawings have been coordinated and all changes have been made, the drawings shall be signed by the Contractor and all subcontractors indicating that all work on that drawing has been coordinated with all associated vendors and subcontractors and all conflicts have been resolved.

h. Relocation of any duct, pipe, conduit or other material that has been installed without proper coordination among all trades shall be performed at no additional cost to the Owner.

7. Written notification of any deviations from the requirements of this specification.

8. Support documentation and justification as specified.

9. Certificates of Design signed by a Registered Professional Engineer registered in the Commonwealth of Massachusetts for all pipe supports.

10. Manufacturer's product data and specifications for shop painting.

B. Material Certification:

1. Provide certification from the manufacturer that the materials of construction specified are recommended and suitable for the service conditions specified and indicated. If materials other than those specified are proposed based on incompatibility with the service conditions, provide technical data and certification that the proposed materials are recommended and suitable for the service conditions specified and indicated including an installation list of a minimum of five (5) installations in operation for a minimum of five (5) years. Provide proposed materials at no additional cost to the Owner.

2. Where materials are not specified, provide technical data and certification that the proposed materials are recommended and suitable for the service conditions specified and indicated.

3. NSF-61 approval for drinking water system components where required.

C. A copy of the contract mechanical process, and structural drawings, with addenda that are applicable to the equipment specified in this section, marked to show all changes necessary for the equipment proposed for this specification section. If no changes are required, mark all drawings with "No changes required" or provide a statement that no changes are required.

1. Failure to include all drawings or a statement applicable to the equipment specified in this section will result in submittal return without review until a complete package is submitted.

2. A copy of this specification section with addenda and all referenced specification sections with addenda, with each paragraph check-marked to indicate specification compliance or marked and indexed to indicate requested deviations

and clarifications from the specified requirements.

a. If deviations and clarifications from the specifications are indicated, therefore requested by the Contractor, provide a detailed written justification for each deviation and clarification.

b. Failure to include a copy of the marked-up specification sections and or the detailed justifications for any requested deviation or clarification will result in submittal return without review until marked up specifications and justifications are submitted in a complete package.

1.04 QUALITY ASSURANCE:

A. Provide in accordance with Section 01 4523 and as specified.

B. Provide manufacturer's certification in writing, that materials meet or exceed minimum requirements as specified.

C. Welder Qualifications:

1. Quality and certify welding procedures, welders, and operators in accordance with ANSI B31.1, paragraph 127.5 for shop and project site welding of piping work.

D. Pipe supports: All supports and parts shall conform to the latest requirements of the Code for Pressure Piping ASME/ANSI B31.1 and Manufactures Standardization Society (MSS) Standard Practice SP-58, SP-69, SP-89 and SP-90 except as supplemented or modified by the requirements of this specification.

E. Structural Concrete: Conform to the requirements of Section 03399. Concrete strength: 4,000 PSI unless noted otherwise.

F. Conform to the requirements of the latest edition of the AISC Manual of Steel Construction for miscellaneous and supplementary steel. Tube steels are ASTM A500 Grade B, structural shapes A36, plates A-572 or equal. Stainless steel structural members shall conform to ASTM requirement Type 316L.

G. Pipe Support Manufacturer Qualifications:

1. Must possess a written quality assurance program.

2. Have a minimum of 5 years experience in the design and fabrication of pipe supports.

3. Have completed the design and fabrication of at least 5 successful pipe support projects of equal size, complexity, and systems as this project within the past 10 years.

4. Retains the services of a Registered Professional Engineer, registered in the State of California, with a minimum of five years experience in the design of piping systems and pipe supports.

5. Manufacturers’ Standardization Society (MSS) Member.

6. Have a field service technician on staff with at least 5 years experience in

resolving field installation, interference and interface problems associated with the design, installation and manufacture of pipe supporting components.

H. Hanger inspections shall be performed in accordance with MSS-SP-89 and ASME B31.1.

1.05 DELIVERY, STORAGE AND HANDLING:

A. Comply with the requirements specified in Section 01610.

PART 2 - PRODUCTS

2.01 MATERIALS:

A. Provide materials used in pipe supports, which are compatible with the pipes to which they are attached. Provide Type 316L stainless steel supports for all stainless steel piping. Copper plated pipe supports are not acceptable.

B. Allowable materials: As indicated in ANSI B31.1 Appendix A and MSS-SP-58 Table 2.

C. Provide Type 316L stainless steel for pipe supports, hangers, guides, restraints, and anchors that are exterior or interior submerged, in potentially wetted areas in wet wells, channels, screening, filter, DAF areas and in chemically corrosive atmospheres. All materials in these areas shall be NSF-61 approved for drinking water system components.

D. Provide only new material. Previously used and/or scrap material is not acceptable.

E. Provide tube steels that are ASTM A500 Grade B, Structural shapes A-36, plates A-572 or equal.

F. Provide sliding Teflon plates. The sliding surfaces shall be a nominal 3/8-inches glass filled Teflon bonded to stainless steel backup plate with a 10 gauge minimum thickness. The bearing pad upper and lower units shall be as follows: Conslide Type CSA elements as manufactured by Con-Serv. Inc., Balco TFE Slide Bearing Plates 10N-cs as manufactured by Balco Inc., or Dynalon Slide Bearings as manufactured by JVI, Inc. or acceptable equivalent product.

1. The blended TFE material used for this bearing shall be composed of virgin (unreprocessed) TFE resin tested per ASTM D1457 and reinforcing agents milled glass fibers. This structural material shall have the following representative mechanical and physical properties:

2. Tensile strength -2,000 psi.

3. Elongation –225 percent

4. Specific Gravity -2.17 to 2.22

5. The coefficient of friction shall average 0.06 under compressive load of 2,000 psi .

6. The compressive creep shall be a minimum of 2 percent at 2,000 psi and 70 degrees F.

7. The elements shall be flat, clean and prepared for installation in the structure.

Slots and holes shall be fabricated in the bearing manufacturer's plant.

G. Adhesive Concrete anchor bolts

1. Hilti: HIT-HY 200R

2. ITW Redhead/Ramset: Epcon A7+

3. Powers Fasteners: PE1000+

4. Simpson: Strong-Tie Set-XP

2.02 DESIGN, LOCATION, AND TYPE OF PIPE SUPPORTS:

A. Design and provide pipe supports for piping 1/2-inch and larger to include the following loads:

1. Gravity Force: This force includes the weight of pipe, pipe contents (hydro load), valves, in-line equipment, insulation and any other weight imposed on the piping and/or pipe support.

2. Thermal Expansion Force: This force is developed by the restraint of free end displacement of the piping due to thermal growth.

3. Hydrostatic/Dynamic Forces: These forces are developed due to the internal pressure (positive and negative) during operation of the piping system. These forces include the forces due to water hammer, pressure pulses due to rapid valve closure, fluid discharge resulting from pump startup, operation of positive displacement pumps, etc.

4. Wind Loadings: Wind loadings.

B. Provide supports, guides, anchors, flexible couplings and expansion joints in accordance with the coupling and joint manufacturers' specifications and requirements.

C. For all pump suction and discharge nozzles provide an anchor located between the pump nozzles and the nearest expansion joint or non-rigid coupling.

D. Where possible, provide pipe supports, which are the manufacturers' standard products.

1. Provide pipe supports with individual means of adjustment for alignment.

2. Provide pipe supports complete with appurtenances including locking and adjusting nuts.

3. Hanger rods shall be subjected to tension only.

4. Where lateral or axial pipe movement occurs, provide hangers for the necessary swing without exceeding 4 degrees. Provide base supports designed using pipe slides. The bearing surfaces: 0.06 coefficient of friction or less.

5. Provide concrete inserts capable of supporting the design loads.

6. Metal framing systems will be acceptable to support piping 2 inch and smaller.

7. Provide insulated piping supported using rigid load bearing insulation (baton board type) with 16 gauge shields to fit between the insulation and the support. Shields to encompass a minimum 1/3 of the pipe circumference and be 12 inch in length.

8. Provide load-bearing insulation capable of supporting the load, as a minimum on the bottom 60 degrees of the pipe support. Cope insulation and adjust to avoid interference of steel structures.

9. Provide supplementary steel as needed.

10. Do not support pipes from other pipe, conduits or metal stairs.

11. Chain, strap, T-bar, perforated bar and/or wire hangers are not acceptable.

12. Contact between piping and dissimilar metals such as hangers, building structural work or equipment subject to galvanic action is not acceptable.

13. All pipe supports located in fluid flow shall be supplied with double nutting.

E. Provide thrust anchors to resist thrust where required. Wall pipes may be used as thrust anchors if so designed. Welded attachments shall be of material comparable to that of the piping, and designed in accordance with governing codes.

F. Provide expansion joints where indicated and where required based on Contractor's design of the pipe support system. Indicate expansion joints on submittal drawings.

G. For piping 2-inch and smaller provide manufacturer’s standard supports and standard spacing guidelines

H. Pipe supports connected to structural framing and slabs are subject to the following limitations:

1. Less than 100 lb horizontal load per support.

2. Vertical loads not to exceed an average of 15 psf for slabs, with a maximum vertical load per hanger of 1,500 lbs.

3. For a maximum of one pipe support per foot of slab width perpendicular to the span.

4. Vertical loads not to exceed 1,500 lbs. per column or 1,500 lbs. per support at walls.

5. Piping not supported from floors by metal framing must meet the limitations as specified above.

I. All outside above ground supports shall be Type 316L stainless steel as specified herein.

J. Provide pipe supports that do not overload or over stress the piping, equipment, or structure that they are supporting or to which they are attached. Allowable pipe stress to be within ANSI B31.1 code allowable.

K. The Contractor shall provide the services of a field service technician (preferably from the pipe support manufacturer) to field coordinate the locations of supports and resolve interferences and conflicts encountered during installation.

2.03 FABRICATION:

A. Provide pipe supports formed in accordance with paragraph 5.1 of MSS-SP-58.

B. Providing welding in accordance with Structural Welding Code.

C. Provide dimensional tolerances as specified in MSS-SP-89.

D. Provide threading and tapping in accordance with MSS-SP-89.

2.04 SHOP PAINTING:

A. Primer and Finish Paint: Shop apply to all exterior ferrous surfaces, high solids epoxy in accordance with Section 09940.

B. Ferrous surfaces which are not to be painted shall be given a shop applied coat of grease or rust resistant coating.

C. Provide additional shop paint coating for touch-up to all surfaces after installation and testing is completed and equipment accepted.

PART 3 - EXECUTION

3.01 INSTALLATION:

A. Install items in accordance with manufacturers' printed instructions and as indicated and specified herein.

B. Perform welding in accordance with Structural Welding Code:

1. Visually inspect welding while the operators are making the welds and again after the work is completed in accordance with AWS D1.1 Section 6.0. After the welding is completed, hand or power wire brush welds, and clean them before the Qualified Inspector makes the check inspection. The Qualified Inspector shall inspect welds with magnifiers under light for surface cracking, porosity, and slag inclusions; excessive roughness; unfilled craters; gas pockets; undercuts; overlaps; size and insufficient throat and concavity. The Qualified Inspector shall inspect the preparation of grove welds for throat opening and for snug positioning for back-up bars.

2. Nondestructive evaluation of welds connecting structural steel members subjected to critical stresses: Perform in accordance with the weld quality and standards of acceptance in AWS D1.1.

3. Magnetic Particle Inspection: Perform in accordance with ASTM E709.

4. Liquid Penetrant Inspection: Perform in accordance with ASTM E165.

5. For weld areas containing defects exceeding the standards of acceptance in accordance with AWS D1.1, Section 3.7. Provide additional testing of the repaired area at no additional cost to the Owner.

6. Test Locations: As selected by the Owner.

7. Correct any deficiencies detected as directed by the Engineer at no additional cost to the Owner.

C. Proceed with the installation of the pipe supports only after required building structural work has been completed and concrete support structure has reached its 28-day compressive strength as specified in Section 03399.

D. Install pipe supports to comply with MSS-SP-89. Group parallel runs of horizontal piping to be supported together on trapeze type hangers.

E. Install pipe supports to provide indicated pipe slopes. Do not exceed maximum pipe deflection allowed by ANSI B31.1.

F. For exposed continuous pipe runs, install pipe supports of same type and style as installed for adjacent similar piping.

G. Install pipe supports to allow controlled movement of piping systems. Permit freedom of movement between pipe anchors, and facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

H. Piping to be free to move when it expands or contracts except where fixed anchors are indicated or required by the Contractor's pipe support systems. Where hanger rod swing length cannot be provided or where pipe movement based on expansion of 1 inch/100 feet
, for each 100 degrees F change in temperature exceed 1/2-inch , provide sliding supports.

I. Prevent contact between dissimilar metals. Where concrete or metal support is used, place 1/8-inch thick Teflon, neoprene rubber, or plastic strip under piping at point of bearing. Cut to fit entire area of contact between pipe and pipe support.

J. Prevent electrolysis in support of copper tubing by use of pipe supports which are plastic coated. Electrician's tape is not an acceptable isolation method.

K. Apply an anti-seize compound to nuts and bolts on all pipe supports.

L. Locate reinforcing steel in concrete structure with x-ray prior to drilling for embedment plates and anchor bolts. Avoid contact or interference with reinforcing steel.

3.02 INSTALLATION OF BUILDING ATTACHMENTS:

A. Support piping from structural framing, unless otherwise indicated.

B. Concrete Inserts:

1. Use existing embedded concrete items whenever possible.

2. Use expansion anchors only when existing embedded attachment points are not available or unsuitable. Attach to hardened concrete or completed masonry.

3.03 THRUST ANCHORS AND GUIDES:

A. Thrust Anchors:

1. Center thrust anchors between expansion joints and between elbows and expansion joints for suspended piping. Anchors must hold pipe rigid to force expansion and contraction movement to take place at expansion joints and/or elbows and to preclude separation of joints.

2. Restraining rod size and number shall be as indicated and adhere to manufacturers recommendations as a minimum.

B. Pipe guides: Provide adjacent to sliding expansion joints in accordance with recommendations of the National Association of Expansion Joint Manufacturers and the specific joint manufacturer.

3.04 PIPE SUPPORTS:

A. Where piping of various sizes is to be supported together, space supports for the largest pipe size and install intermediate supports for smaller diameter pipes.

B. Provide minimum of two pipe supports for each pipe piece.

C. Where pipe connects to equipment, support pipe independently from the equipment. Do not use equipment to support piping.

D. Provide pipe supports so that there is no interference with maintenance or removal of equipment.

E. Unless otherwise indicated or authorized by the Engineer, place piping running parallel to walls approximately 1-1/2 inch out from face of wall and at least 3 inches below ceiling.

F. Pedestal pipe supports: adjustable with stanchion, saddle, and anchoring flange. Provide grout between baseplate and floor.

G. Piping supports for vertical piping passing through floor sleeves: use hot dipped galvanized steel riser clamps.

H. Support piping to prevent strain on valves, fittings, and equipment. Provide pipe supports at changes in direction or elevation, adjacent to flexible couplings, adjacent to non-rigid joints, and where otherwise indicated. Do not install pipe supports in equipment access areas or bridge crane runs.

I. Stacked horizontal runs of piping along walls may be supported by metal framing system attached to concrete insert channels.

J. Do not support piping from other piping.

K. Designs generally accepted as exemplifying good engineering practice, using stock or production parts, shall be utilized whenever possible.

L. Whenever possible, pipe attachments for horizontal piping shall be pipe clamps.

M. All rigid rod hangers shall provide a means of vertical adjustment after erection.

N. Where the piping system is subjected to shock loads, such as disturbances due to pump discharge or thrust due to actuation of safety valves, hanger design shall include provisions for rigid restraints or shock absorbing devices.

O. Hanger rods shall be subject to tensile loading only. At hanger locations where lateral or axial movement is anticipated suitable linkage shall be provided to permit rod swing.

P. Hanger spacing shall not exceed the spacing listed below:

1. In the case of concentrated loads the supports shall be placed as close as possible to the load to reduce the bending stress.

2. Where changes in direction of the piping system occur between supports, the total length between supports shall be kept to less than three-fourths of the full span. When practical, a support shall be placed immediately adjacent to any change in direction of the piping system.

Q. Where practical, riser piping shall be supported independently of the connected horizontal piping. Pipe support attachments to the riser piping shall be riser clamp shear lugs. Welded attachments shall be of material comparable to that of the piping, and designed in accordance with governing codes. If friction is relied upon to support riser piping proper justification and documentation shall be submitted to ensure that enough friction force is provided to resist the applied loading.

R. Hanger components shall not be used for purposes other than for which they were designed. They shall not be used for rigging and erection purposes.

S. All threads shall be UNC unless otherwise specified.

T. TFE slide bearing plates with steel backup plates shall be stitch weld attachments to the structure. A 1/8-inch fillet weld, 1/2-inch long every 3 inches on center each side of an element shall be used unless otherwise indicated or specified by the manufacturers' written recommendations. Bearing elements with slots or holes shall be stitch welded in place for location. The TFE surfaces of the bearings shall be maintained clean and free from grit, dirt or grease.

3.05 INSULATED PIPING:

A. Attach clamps, including spacers (if any), to piping with clamps projecting through insulation; do not exceed allowable pipe stresses.

B. Where vapor barriers are indicated on water piping, install coated protective shields.

3.06 CONTRACT CLOSEOUT:

A. Provide in accordance with Section 01 7700.

END OF SECTION

SECTION 15200

VALVES, GENERAL

PART 1 - GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide valves, actuators, and appurtenances, complete and operable, in accordance with the Contract Documents.

B. The requirements of Section 11000 - Equipment General Provisions, apply to the WORK of this Section.

C. The provisions of this Section shall apply to valves and valve actuators except where otherwise indicated. Valves and actuators in particular locations may require a combination of units, sensors, limit switches, and controls indicated in other Sections of the Specifications.

D. Where a valve is to be supported by means other than the piping to which it is attached, the CONTRACTOR shall obtain from the valve manufacturer a design for support and foundation that satisfies the criteria in Section 11000. The design, including drawings and calculations sealed by an engineer, shall be submitted with the Shop Drawings.

E. Unit **Responsibility:** A single manufacturer shall be made responsible for coordination of design, assembly, testing, and furnishing each valve; however, the CONTRACTOR shall be responsible to the OWNER for compliance with the requirements of each valve section. Unless indicated otherwise, the responsible manufacturer shall be the manufacturer of the valve.

F. **Single Manufacturer:** Where 2 or more valves of the same type and size are required, the valves shall be furnished by the same manufacturer.

1.2 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 3300 - Contractor Submittals.

B. **Shop Drawings:** Shop Drawings shall contain the following information:

1. Valve name, size, Cv factor, pressure rating, identification number (if any), and specification section number.

2. Complete information on valve actuator, including size, manufacturer, model number, limit switches, and mounting.

3. Cavitation limits for control valves.

4. Assembly drawings showing part nomenclature, materials, dimensions, weights, and relationships of valve handles, handwheels, position indicators, limit switches, integral control systems, needle valves, and control systems.

5. Data in accordance with Section 15201 – Valve and Gate Operators

6. Complete wiring diagrams and control system schematics.

7. Valve Labeling: A schedule of valves to be provided with stainless steel tags, indicating in

each case the valve location and the proposed wording for the tag.

C. **Technical Manual:** The Technical Manual shall contain the required information for each valve.

D. **Spare Parts List: A** Spare Parts List shall contain the required information for each valve assembly, where indicated.

E. **Factory Test Data:** Where indicated, signed, dated, and certified factory test data for each valve requiring certification shall be submitted before shipment of the valve. The data shall also include certification of quality and test results for factory-applied coatings.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. **General:** Valves and gates shall be new and of current manufacture. Shut-off valves 6- inches and larger shall have actuators with position indicators. Gate valves 18-inches and larger or where chain wheel is required, shall be furnished with spur gear and hand wheel. Buried valves shall be provided with valve boxes and covers containing position indicators and valve extensions. Manual shut-off valves mounted higher than 7-feet above working level shall be provided with chain actuators.

B. **Valve Actuators:** Unless otherwise indicated, actuators shall be in accordance with Section 15201 - Valve and Gate Actuators.

C. **Protective Coating:** The exterior surfaces of valves and the wet interior surfaces of ferrous valves of sizes 4-inches and larger shall be epoxy coated with a minimum DFT of 8 mils. The valve manufacturer shall certify in writing that the required coating has been applied and tested in the manufacturing plant prior to shipment, in accordance with these Specifications. Flange faces of valves shall not be epoxy coated.

D. **Valve Labeling:** Except when such requirement is waived by the ENGINEER in writing, a label shall be provided on shut-off valves and control valves except for hose bibbs and chlorine cylinder valves. The label shall be of 1/16-inch plastic or stainless steel, minimum 2-inches by 4-inches in size and shall be permanently attached to the valve or on the wall adjacent to the valve as directed by the ENGINEER.

E. **Valve Testing:** As a minimum, unless otherwise indicated or recommended by the reference standards, valves 3-inches in diameter and smaller shall be tested in accordance with manufacturer's standard and 4-inches in diameter and larger shall be factory tested as follows:

1. Hydrostatic Testing: Valve bodies shall be subjected to internal hydrostatic pressure equivalent to twice the water rated pressure of the valve. Metallic valve rating pressures shall be at 100 degrees F and plastic valves shall be 73 degrees, or at higher temperature according to type of material. During the hydrostatic test, there shall be no leakage through the valve body, end joints, or shaft seals, nor shall any part of the valve be permanently deformed. The duration shall be sufficient time to allow visual examination for leakage. Test duration shall be at least 10 minutes.
2. Seat Testing: Valves shall be tested for leaks in the closed position with the pressure differential across the seat equal to the water rated pressure of the valve. The duration of test shall be sufficient time to allow visual examination for leakage. Test duration shall be at least 1O minutes. Leakage past the closed valve shall not exceed 1 fluid ounce per hour per inch diameter for metal seated valves. Resilient- seated valves shall be drop-tight.

3. Performance Testing: Valves shall be shop-operated from fully closed to fully open position and reverse under no-flow conditions in order to demonstrate the valve assembly operates properly.

F. **Certification:** Prior to shipment, the CONTRACTOR shall submit for valves over 12- inches in size, certified, notarized copies of the hydrostatic factory tests, showing compliance with the applicable standards of AWWA, ANSI, or ASTM.

G. **Valve Marking:** Valve bodies shall be permanently marked in accordance with MSS SP25 - Standard Marking Systems for Valves, Fittings, Flanges, and Unions.

2.2 MATERIALS

A. **General:** Materials shall be suitable for the intended application. Materials in contact with potable water shall be listed as compliant with NSF Standard 61. Materials not indicated shall be high-grade standard commercial quality, free from defects and imperfections that might affect the serviceability of the product for the purpose for which it is intended. Unless otherwise indicated, valve and actuator bodies shall conform to the following requirements:

1. Cast Iron: Close-grained gray cast iron, conforming to ASTM A 48 - Gray Iron Castings, Class 30, or to ASTM A 126 - Gray Iron Castings for Valves, Flanges, and Pipe Fittings.

2. Ductile Iron: ASTM A 536 - Ductile Iron Castings, or to ASTM A 395 - Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.

3. Steel: ASTM A 216 - Steel Castings, Carbon Suitable for Fusion Welding for High-Temperature Service, or to ASTM A 515 - Pressure Vessel Plates, Carbon Steel, for Intermediate- and Higher-Temperature Service.

4. Bronze: ASTM B 62 - Composition Bronze or Ounce Metal Castings, and valve stems not subject to dezincification shall conform to ASTM B 584 - Copper Alloy Sand Castings for General Applications.

5. Stainless Steel: Stainless steel valve and operator bodies and trim shall conform to ASTM A 351 - Steel Castings, Austenitic, for High-Temperature Service, Grade CF8M, or shall be Type 316 stainless steel.

6. PVC: Poly vinyl chloride materials for valve body, flanges, and cover shall conform to Cell Classification 12454.

7. CPVC: Chlorinated poly vinyl chloride materials for valve body, flanges, and cover shall conform to Cell Classification 23447.

8. NSF Standard 14: Materials shall be listed for use in contact with potable water.

2.3 VALVE CONSTRUCTION

A. **Bodies:** Valve bodies shall be cast, molded (in the case of plastic valves), forged, or welded of the materials indicated, with smooth interior passages. Wall thicknesses shall be uniform in agreement with the applicable standards for each type of valve, without casting defects, pinholes, or other defects that could weaken the body. Welding on welded bodies shall be done by certified welders and shall be ground smooth. Valve ends shall be as indicated and be rated for the maximum temperature and pressure to which the valve will be subjected.

B. **Valve End Connections:** Unless otherwise indicated, valves 2-1/2 inches diameter and smaller shall be provided with flanged end connections. Valves 3-inches and larger shall have flanged end connections.

C. **Bonnets:** Valve bonnets shall be clamped, screwed, or flanged to the body and shall be of the same material, temperature, and pressure rating as the body. The bonnets shall have provision for the stem seal with the necessary glands, packing nuts, or yokes.

D. **Stems:** Valve stems shall be of the materials indicated, or, if not indicated, of the best commercial material for the specific service, with adjustable stem packing, O-rings, Chevron V-type packing, or other suitable seal. Bronze valve stems shall conform to ASTM B 584, except that zinc content shall not exceed 16 percent.

E. **Stem Guides:** Stem guides shall be provided, spaced 10-feet on centers unless the manufacturer can demonstrate by calculation that a different spacing is acceptable. Submerged stem guides shall be Type 304 stainless steel.

F. **Internal Parts:** Internal parts and valve trim shall be as indicated for each individual valve. Where not indicated, valve trim shall be of Type 316 stainless steel or other best suited material.

G. **Nuts and Bolts:** Nuts and bolts on valve flanges and supports shall be in accordance with Section 05500 - Miscellaneous Metalwork.

2.4 VALVE ACCESSORIES

A. Valves shall be furnished complete with the accessories required to provide a functional system.

2.5 SPARE PARTS

A. The CONTRACTOR shall furnish the required spare parts suitably packaged and labeled with the valve name, location, and identification number. The CONTRACTOR shall also furnish the name, address, and telephone number of the nearest distributor for the spare parts of each valve. Spare parts are intended for use by the OWNER, after expiration of the correction of defects period.

2.6 MANUFACTURERS

A. **Manufacturer's Qualifications:** Valve manufacturers shall have a successful record of not less than 5 years in the manufacture of the valves indicated.

PART 3 - EXECUTION

3.1 VALVE INSTALLATION

A. **General:** Valves, actuating units, stem extensions, valve boxes, and accessories shall be installed in accordance with the manufacturer's written instructions and as indicated. Gates shall be adequately braced to prevent warpage and bending under the intended use. Valves shall be firmly supported to avoid undue stresses on the pipe.

B. **Access:** Valves shall be installed with easy access for actuation, removal, and maintenance and to avoid interference between valve actuators and structural members, handrails, or other equipment.

C. **Valve Accessories:** Where combinations of valves, sensors, switches, and controls are indicated, the CONTRACTOR shall properly assemble and install such items so that systems are compatible and operating properly. The relationship between interrelated items shall be clearly noted on Shop Drawing submittals.

END OF SECTION

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SECTION 15201

VALVE AND GATE ACTUATORS

PART 1 - GENERAL

1.1 THE REQUIREMENT

A. The CONTRACTOR shall provide valve and gate actuators and appurtenances, complete and operable, in accordance with the Contract Documents.

B. The provisions of this Section shall apply to valves and gates except where otherwise indicated in the Contract Documents.

C. **Unit Responsibility:** The valve or gate manufacturer shall be made responsible for coordination of design, assembly, testing, and installation of actuators on the valves and gates; however, the CONTRACTOR shall be responsible to the OWNER for compliance of the valves, gates, and actuators with the Contract Documents.

1.2 CONTRACTOR SUBMITTALS

A. Furnish submittals in accordance with Section 01 3300 - Contractor Submittals and Section 15200 - Valves, General.

B. **Shop Drawings:** Shop Drawing information for actuators shall be submitted together with the valve and gate submittals as a complete package.

C. **Calculations:** Selection calculations showing dynamic seating and unseating torques versus output torque of actuator.

PART 2 - PRODUCTS

2.1 GENERAL

A. Unless otherwise indicated, shut-off and throttling valves and externally actuated valves and gates shall be provided with manual or power actuators. The CONTRACTOR shall furnish actuators complete and operable with mounting hardware, motors, gears, controls, wiring, solenoids, handwheels, levers, chains, and extensions, as applicable. Actuators shall have the torque ratings equal to or greater than required for valve seating and dynamic torques, whichever is greater, and shall be capable of holding the valve in any intermediate position between fully-open and fully-closed without creeping or fluttering. Actuator torque ratings for butterfly valves shall be determined in accordance with AWWA C504 - Rubber-Seated Butterfly Valves. Wires of motor-driven actuators shall be identified by unique numbers.

B. Manufacturers: Where indicated, certain valves and gates may be provided with actuators manufactured by the valve or gate manufacturer. Where actuators are furnished by different manufacturers, the CONTRACTOR shall coordinate selection to have the fewest number of manufacturers possible.

C. **Materials:** Actuators shall be current models of the best commercial quality materials and be liberally-sized for the required torque. Materials shall be suitable for the environment in which the valve or gate is to be installed.

D. **Actuator Mounting and Position Indicators:** Actuators shall be securely mounted by means

of brackets or hardware specially designed and sized for this purpose and be of ample strength. The word •open• shall be cast on each valve or actuator with an arrow indicating the direction to open in the counter-clockwise direction. Gear and power actuators shall be equipped with position indicators. Where possible, manual actuators shall be located between 48- and 60-inches above the floor or the permanent working platform.

E. **Standard:** Unless otherwise indicated and where applicable, actuators shall be in accordance with AWWA C 540- Power-Actuating Devices for Valves and Sluice Gates.

F. **Functionality:** Electric, pneumatic, and hydraulic actuators shall be coordinated with the power requirements of Division 16 Electrical and Instrumentation various applicable Sections.

G. Fasteners shall be in accordance with Section 05500 - Miscellaneous Metalwork.

H. Protective coatings shall be in accordance with AWWA C550-17 - Protective Interior Coatings for Valves and Hydrants.

2.2 MANUAL ACTUATORS

A. **General:** Unless otherwise indicated, valves and gates shall be furnished with manual actuators. Valves in sizes up to and including 4-inches shall have direct acting lever or handwheel actuators of the manufacturer's best standard design. Larger valves and gates shall have gear-assisted manual actuators, with an operating pull of maximum 60 pounds on the rim of the handwheel. Buried and submerged gear-assisted valves, gates, gear-assisted valves for pressures higher than 250 psi, valves 30-inches in diameter and larger, and where so indicated, shall have worm gear actuators, hermetically-sealed water-tight and grease-packed. Other valves 6-inches to 24-inches in diameter may have traveling-nut actuators, worm gear actuators, spur or bevel gear actuators, as appropriate for each valve.

B. **Buried Valves:** Unless otherwise indicated, buried valves shall have extension stems to grade, with square nuts or floor stands, position indicators, and cast-iron or steel pipe extensions with valve boxes, covers, and operating keys. Where so indicated, buried valves shall be in cast-iron, concrete, or similar valve boxes with covers of ample size to allow operation of the valve actuators. Covers of valve boxes shall be permanently labeled as required by the local Utility Company or the ENGINEER. Wrench-nuts shall comply with AWWA C 500 - Metal - Seated Gate Valves for Water Supply Service.

C. **Chain Actuator:** Manually-activated valves with the stem located more than 7-feet above the floor or operating level shall be provided with chain drives consisting of sprocket-rim chain wheels, chain guides, and operating chains provided by the valve manufacturer. The wheel and guide shall be of ductile iron, cast iron, or steel, and the chain shall be hot-dip galvanized steel or stainless steel, extending to 5-feet 6-inches above the operating floor level. The valve stem of chain-actuated valves shall be extra strong to allow for the extra weight and chain pull. Hooks shall be provided for chain storage where chains interfere with pedestrian traffic. **Floor Boxes:** Hot-dip galvanized cast iron or steel floor boxes and covers to fit the slab thickness shall be provided for operating nuts in or below concrete slabs. For operating nuts in the concrete slab, the cover shall be bronze-bushed.

D. **Manual Worm Gear Actuator:** The actuator shall consist of a single or double reduction gear unit contained in a weather-proof cast iron or steel body with cover and minimum 12-inch diameter handwheel. The actuator shall be capable of 90-degree rotation and shall be equipped with travel stops capable of limiting the valve opening and closing. The actuator shall consist of spur or helical gears or worm gearing. The gear ratio shall be self-locking to prevent "back-driving." The spur or helical gears shall be of hardened alloy steel and the worm gear shall be alloy bronze. The worm gear shaft and the handwheel shaft shall be of 17-4 PH or similar stainless steel. Gearing shall be accurately cut with hobbing machines. Ball or roller

bearings shall be used throughout. Output shaft end shall be provided with spline to allow adjustable alignment. Actuator output gear changes shall be mechanically possible by simply changing the exposed or helical gearset ratio without further disassembly of the actuator. Gearing shall be designed for a 100 percent overload. The entire gear assembly shall be sealed weatherproof.

E. **Traveling-Nut Actuator:** The actuator shall consist of a traveling-nut with screw (Scotch yoke) contained in a weatherproof cast iron or steel housing with spur gear and minimum 12-inch diameter handwheel. The screw shall run in 2 end bearings, and the actuator shall be self-locking to maintain the valve position under any flow condition. The screw and gear shall be of hardened alloy steel or stainless steel, and the nut and bushings shall be of alloy bronze. The bearings and gear shall be grease-lubricated by means of nipples. Gearing shall be designed for a 100 percent overload.

2.3 ELECTRIC MOTOR ACTUATORS

A. General

1. Equipment Requirements: Where electric motor actuators are indicated, an electric motor-actuated valve control unit shall be attached to the actuating mechanism housing by means of a flanged motor adapter piece.

2. Gearing: The motor actuator shall include the motor, reduction gearing, reversing starter, torque switches, and limit switches in a weather-proof NEMA 4X assembly. The actuator shall be a single or double reduction unit consisting of spur or helical gears and worm gearing. The spur or helical gears shall be of hardened alloy steel and the worm gear shall be alloy bronze. Gearing shall be accurately cut with hobbing machines. Power gearing shall be grease- or oil-lubricated in a sealed housing. Ball or roller bearings shall be used throughout. Actuator output speed changes shall be mechanically possible by simply removing the motor and changing the exposed or helical gearset ratio without further disassembly of the actuator.

3. Starting Device: Except for modulating valves, the unit shall be so designed that a hammer blow is imparted to the stem nut when opening a closed valve or closing an open valve. The device should allow free movement at the stem nut before imparting the hammer blow. The actuator motor must attain full speed before stem load is encountered.

4. Switches

   a. Electronic Type Switches: Limit switches or valve position shall be sensed by a 15 bit, optical, absolute position encoder. The open and closed positions shall be stored in a permanent, non-volatile memory. The encoder shall measure valve position continuously, including both motor and hand wheel operation, with or without use of battery. An electronic torque sensor shall be furnished. The torque limit may be adjusted from 40 to 100 percent of rating in 1 percent increments. The motor shall be de-energized if the torque limit is exceeded. A boost function shall be included to prevent torque trip during initial valve unseating, and a "jammed valve" protection feature with automatic retry sequence shall be incorporated to de-energize the motor if no movement occurs.

   b. Switches shall not be subject to breakage or slippages due to over-travel. Traveling-nuts, cams, or micro switch tripping mechanisms shall not be used. Limit switches shall be of the heavy-duty open contact type with rotary wiping action.

5. Handwheel Operation: A permanently attached handwheel shall be provided for emergency manual operation. The handwheel shall not rotate during electrical operation. The maximum torque required on the handwheel under the most adverse conditions shall

not exceed 60 lb. ft, and the maximum force required on the rim of the handwheel shall not exceed 60 lb. An arrow and either the word "open" or "close" shall be cast or permanently affixed on the handwheel to indicate the appropriate direction to turn the handwheel. A clutch lever shall be provided to put actuator into handwheel operation. Valves with electric motor actuators having stems more than 7-feet above the floor shall be provided with chain activator handwheels. The clutch lever shall be provided with a cable secured to the chain to allow disengagement for manual operation.

6. Motor: The motor shall be of the totally enclosed, non-ventilated, high-starting torque, low-starting current type for full voltage starting. It shall be suitable for operation on voltage as indicated on the valve and gate schedules. It shall have Class F insulation and a motor frame with dimensions in accordance with the latest revised NEMA MG Standards. The observed temperature rise by thermometer shall not exceed 55 degrees C above an ambient temperature of 40 degrees C when operating continuously for 15 minutes under full rated load. With a line voltage ranging between 1O percent above to 1O percent below the rated voltage, the motor shall develop full rated torque continuously for 15 minutes without causing the thermal contact protective devices imbedded in the motor windings to trip or the starter overloads to drop-out. Bearings shall be of the ball type and thrust bearings shall be provided where necessary. Bearings shall be provided with suitable seals to confine the lubricant and prevent the entrance of dirt and dust. Motor conduit connections shall be watertight. Motor construction shall incorporate the use of stator and rotor as independent components from the valve operation such that the failure of either item shall not require actuator disassembly or gearing replacement. Two Class B thermal contacts or solid state thermistors imbedded within the motor windings shall be provided to protect against over-temperature damage. The motor shall be provided with a space heater suitable for operation on 120volt, single phase, 60 Hz circuit unless the entire actuator is a hermetically sealed, non- breathing design with a separately sealed terminal compartment which prevents moisture intrusion. Each electric motor actuator shall be provided with a local disconnect switch or circuit breaker to isolate power from the motor and controller during maintenance activities.

7. Open/Close Operating Speed: Unless otherwise indicated, electric actuators shall provide a full close to full open or full open to full close operating time range from 30 to 55 seconds.

8. Valves with electric motor actuators where the valve centerline is located at a height greater than 6-feet above the floor shall provide a remote actuator control station at a location no higher than 4-feet above the floor. The CONTRACTOR shall provide conduit and wiring between the actuator controls and the valve actuator for these applications. The actuator controls shall be wall-mounted beneath the valve at a location approved by the ENGINEER.

B. Electric Motor Actuators (AC Reversing Control Type)

1. General: Where indicated, electric motor actuators shall be the AC reversing type complete with local control station with open/close and local/auto/remote selector switches.

2. Actuator Appurtenances: The actuator for each valve shall be supplied with open and close status lights; open, close and lockout/stop push buttons; and other devices indicated.

3. Starter: The starter shall be a suitably sized amperage rated reversing starter with its coils rated for operation on voltage as indicated on the valve and gate schedules. A control power transformer shall be included on all 480 volt starters to provide a 120 volt source, unless otherwise indicated. The starter shall be equipped with 3 overload relays for 480

volt starters and 1 overload relay for 120 volt starters, all of the automatic reset type. Its control circuit shall be wired as indicated. The integral weatherproof compartment shall contain a suitably sized 120 volt ac, single phase, 60 Hz space heater to prevent moisture condensation on electrical components. A local power disconnect switch shall be provided with each actuator. A close coupled, pad lockable switch shall be provided with each actuator.

4. Local Control Station: Each actuator shall be provided with a local control station with the valve actuator assembly. The station shall include open, close, and stop push buttons, and a local/remote selector switch. The local control station and local power disconnect may be provided as an integral part of the actuator or as otherwise indicated or required to permit operation by a person at floor elevation and within sight of the valve actuator.

5. Each actuator shall provide an unpowered fail contact which closes upon the occurrence of any of the following:

   a. Loss of power

   b. Loss of one or more of the power supply phases (480 volt only)

   c. Loss of control circuit power supply

   d. Motor thermostat tripped

6. Manufacturers
   a. Rotork or Equal

C. Electric Motor Actuators (AC Modulating Control Type)

1. General: Where indicated, modulating electric motor actuators shall be the ac modulating type complete with a local control station with power disconnect switch or circuit breaker, local/remote switch, non-latching open/close pushbuttons, and open/close status lights

2. Actuator Appurtenances: The actuator for each valve shall be provided with a pad lockable disconnect switch; open and closed status lights; open, close and lockout stop pushbuttons; local/remote selector switch; and other devices indicated.

3. Control Module: The control module shall be of the electronic solid-state ac type with control outputs for positioning the valve via 4 - 20 ma input signals.

4. Starter: The actuator shall control a solid-state reversing starter designed for minimum susceptibility to power line surges and spikes. The solid-state starter and control module shall be rated for continuous modulating applications. Power supply shall be as indicated on the valve and gate schedules. A disconnect switch shall be included with each actuator.

5. Construction: The control unit shall be microprocessor-based and shall contain an analog/digital converter, separate input-output switches, non-volatile random-access memory for storage of calibration parameters and push-button calibration elements for field setup. Potentiometer adjustments shall contain a PIO control function internally. In addition, the controller shall contain as standard feature a loss of command signal protection selectable to lock in last or lock in pre-set valve position and a valve position output signal in 4 - 20 ma. The system shall also allow control of the open, close, or percent open function when the local/remote switch is in the remote position. Each actuator shall have a frequency shut down system which when pre-programmed, shall function as directed upon receipt of an ESD signal.

6. Each actuator shall provide an unpowered fail contact which closes upon the occurrence of any of the following:

    a. Loss of power

    b. Loss of one or more of the power supply phases (480 volt only)

    c. Loss of control circuit power supply

    d. Motor thermostat tripped

7. Manufacturers
    a. Rotork or Equal

3.1 SERVICES OF MANUFACTURER

A. **Field Adjustments:** Field representatives of manufacturers of valves or gates with electric actuators shall adjust actuator controls and limit-switches in the field for the required function.

3.2 INSTALLATION

A. Valve and gate actuators and accessories shall be installed in accordance with Section 15200 - Valves, General. Actuators shall be located to be readily accessible for operation and maintenance without obstructing walkways. Actuators shall not be mounted where shock or vibrations will impair their operation, nor shall the support systems be attached to handrails, process piping, or mechanical equipment.

END OF SECTION

SECTION 15805

MAGNETIC FLOW METERS

PART 1- GENERAL

1.01 SUMMARY

A. Electromagnetic flow meters for permanent installations both above and below ground. The meters shall utilize bipolar pulse DC coil excitation to measure voltage induced by the flow of conductive liquid through a magnetic flux. The voltage shall be linearly proportional to flow velocity from 0.02 to 32 feet per second.

1.02 SUBMITTALS

A. Furnish complete Product Data, Shop Drawings, Test Reports, Operating Manuals, Record Drawings, Manufacturer's certifications, Manufacturer's Field Reports

B. Product Data:

1. Dimensional Drawings.
2. Materials of Construction:
   a. Sensor.
   b. Liner.
   c. Electrodes.
   d. Flanges.
3. Measurement accuracy.
4. Range and range ability.
5. Enclosure Rating.
6. Classification Rating.
7. Power:
   a. Voltage.
   b. Wattage.
8. Output options

1.03 QUALITY ASSURANCE

A. Manufacture facilities shall be certified to the quality standards of ISO Standard 9001:2015 - Quality Management Systems - Model for Quality Assurance in Design/Development, Production, Installation, and Servicing. The meter shall be certified by IAPMO R&T to NSF/ANSI 61 for material safety and NSF/ANSI 372 for low lead content.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Store all instruments in a dedicated structure with space conditioning to meet

the recommended storage requirements provided by the manufacturer.

B. Any instruments that are not stored in strict conformance with the manufacturer's recommendation shall be replaced.

1.05 PROJECT OR SITE CONDITIONS

A. Provide instruments suitable for the installed site conditions including but not limited to material compatibility, site altitude, process and ambient temperature, and humidity conditions.

1.06 WARRANTY

A. The meter shall have a standard two-year warranty from date of shipment and a life time guarantee on the its liner.

1.07 MAINTENANCE

A. Provide all parts necessary for maintenance and calibration purposes throughout the warranty period. Deliver all these supplies before project substantial completion.

1.08 LIFECYCLE MANAGEMENT

A. Instrument documentation, like original calibration certificates, manuals and product status information shall be accessed via a web enabled system with a license. The instrument-specific information shall be accessed via its serial number. When services are provided by an authorized service provider the services information like subsequent field calibrations shall be archived and accessible via this web enabled system.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. McCrometer Model UM06 Ultra Mag Electromagnetic Flow Meter or an approved equal that can allow flow disturbances up to one pipe diameter upstream and zero diameters downstream with no loss of accuracy (+/- 0.5% of actual flow).

2.02 MANUFACTURED UNITS

A. The flow meter shall be a Class D AWWA flat faced flanged sensor with transmitter which may be mounted integral (compact) to the sensor or remote with interconnecting cables with 25 feet minimum length to remote Mounted AC Powered Procomm Digital Totalizer/Converter with Dual 4-20mA Analog outputs.

1. The flow metering system shall be microprocessor-based and possess a non-volatile memory to store the sensor calibration and transmitter setup information. The electronics shall be interchangeable for meters sizes 1"- 90".
2. The sensor shall be the proper size to measure the design flow rate of the piping and measure bi-directional flow as a standard.
3. The sensor shall consist of a stainless-steel flow tube with ANSI B16.5 or AWWA C207 stainless steel tube and flanges. The flanges shall be

Class 150 for 24” and smaller, and AWWA Class D for 28” and larger (listed by the application and instrument schedule).

a. Sensors from 1”-12” shall have fixed or rotating lap joint flanges.

b. Sensors from 14”-90” shall have the flanges welded to the sensor body.

4. The sensor liner and electrode material shall be chosen to be compatible with the process fluid. All fluids require a minimum conductivity of 5µS/cm for potable water.

5. The sensor tube shall be lined with NSF approved fusion bonded epoxy.

6. The sensor shall house two measuring electrodes, a grounding electrode, and one for physical empty pipe detection. The electrodes shall be made of Type 316 SS.

7. The external sensor housing shall enclose the coil assemblies and internal wiring. The materials shall be designed and constructed to prevent moisture ingress and promote corrosion resistance.

8. The electrode circuit shall have a minimum impedance of 10^{12} ohms to overcome moderate coating buildup.

9. The sensor shall be rated for NEMA 4X service as standard.

a. An optional sensor rating for NEMA 6/IP67 service shall allow for temporary immersion in water depths of 10 feet for 168 hours OR 30 feet for 48 hours.

b. An optional sensor rating for NEMA 6P/IP68 service shall allow for permanent immersion in water depths of 10 feet OR 30 feet for 48 hours.

B. The transmitter shall be a three-stage microprocessor controller mounted integrally or remotely as specified in the instrument schedule. The transmitter shall incorporate a universal 100-240 VAC/18-30 VDC power supply. The transmitter housing will carry a NEMA 4X rating and shall be constructed to prevent moisture ingress, promote corrosion resistance, and be impervious to saline environments.

1. The transmitter shall allow local programming that can be operated through the enclosure window without opening the electrical enclosure.

2. The transmitter display shall indicate simultaneous flow rate and total flow with 3 totalizers (forward, reverse and net total) and user-selectable engineering units, readout of diagnostic error messages, and support 12 standard languages.

3 The transmitter shall safeguard against entering of invalid data for the particular meter size and all programming parameters shall be access-code protected with a minimum requirement of dual passwords according to data sensitivity.

4. The transmitter output shall be specified, as either:

a. 4-20mA HART®, 0-20mA, pulse/frequency/switch.

b. Modbus RS-485

c. Profibus® DP

d. Or a standard, unmodified form of Ethernet (ex. EtherNet/IP™)

5. The transmitter output(s) shall be integral to the magnetic flowmeter transmitter electronics; using an external third party signal converter is unacceptable.

6. There shall be no limitation of transmitter operational capability or diagnostic dependency between integral and compact mounting orientation.

7. The transmitter output selected must be supported by add-on instructions (AOI), Level 3 add-on profiles (AOP), device drivers (DD), general station description (GSD) files, instructions and pre-engineered code.

8. The transmitter shall support commissioning options via a service interface or device driver less operation via an internal web server accessible through a transmitter accessible RJ-45 Ethernet port.

9. The transmitter shall retain all setup parameters and accumulated measurements internally in non-volatile memory in the event of power failure. The memory unit shall be transferrable from a damaged unit or used for a duplicate device with no loss of device parameters or data stored.

10. The transmitter shall be protected against voltage spikes from the power source with internal transient protection. Power consumption shall be no more than 16 VA, independent of meter size.

11. The transmitter and sensor shall include a method to verify flow meter performance to the original manufacturer specifications.

a. The system shall be traceable to factory calibration using a third party, attested onboard system pursuant to ISO standards.

b. The verification technique shall not require external handhelds, interfaces, special tooling or electrical access for a verification to be performed.

c. The transmitter shall store up to eight verifications in the microprocessor.

d. A verification of the system shall be possible at any time, locally or remotely, on demand and under process conditions.

e. f. The verification report shall be compliant to common quality systems such as ISO 9000 7.6.a to prove reliability of the meter specified accuracy.

2.03 ACCESSORIES

A. Stainless steel tag - labeled to match the contract documents.

B. Provide grounding rings, as per the manufacturer's recommendations.

2.04 SAFETY

A. All electrical equipment shall meet the requirements of ANSI/NFPA 70, National Electric Code latest edition.

B. All devices shall be certified for use in hazardous areas: Class 1, Div. 2, Groups B/C; temperature rating T3 (200 deg. C)

C. All devices shall be suitable for use as non-incentive devices when used with appropriate non-incentive associated equipment. Devices with intrinsically safe ratings will normally be acceptable with vendor's approval.

D. Electrical equipment housing shall conform to NEMA 4X classification.

E. Non-intrinsically safe electrical equipment shall be approved by a Nationally Recognized Testing Laboratory (NRTL) such as FM, UL, CSA, etc. for the specified electrical area classification.

F. Electrical equipment specified as intrinsically safe shall qualify as "simple apparatus" or NTRL approved intrinsically safe equipment per ANSI/ISA-RP12.6 "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations," latest edition.

G. Device failure modes, self-monitoring characteristics and remedy diagnosis shall follow NAMUR standards NE 43 and NE 107

PART 3-EXECUTION

3.01 EXAMINATION

A. Examine the complete set of plans, the process fluids, pressures, and temperatures and furnish instruments that are compatible with installed process condition.

B. Examine the installation location for the instrument and verify that the instrument will work properly when installed.

3.02 INSTALLATION

A. As shown on installation details and mechanical/civil Drawings.

B. As recommended by the manufacturer's installation and operation manual.

C. Specific attention should be given to the following technical requirements:

1. Verify ground rings have been installed according to the manufacturer recommendations.

3.03 FIELD QUALITY CONTROL

A. Each instrument shall be tested before commissioning and the ENGINEER shall witness the interface capability in the PLC control system and associated registers.

1. Each instrument shall provide direct programming capability through the PLC

2. Each instrument shall provide direct control of totalizer reset functions through the PLC

3. Each instrument shall be supported with a device profile permitting direct integration in the PLC

B. The ENGINEER shall witness all instrument verifications in the field.

C. Manufacturers Field Services are available for start-up and commissioning by a Factory field service representative or a manufacturer's authorized service provider (ASP) – the warranty against manufacturing defects is three years.

1. The manufacturer's representative shall verify installation of all installed flow tubes and transmitters.

2. The manufacturer's representative shall notify the ENGINEER in writing of any problems or discrepancies and proposed solutions.

3. Manufacturer representative shall perform field verification at the time of installation for long-term analysis of device linearity, repeatability and electronics health. A comparative report shall be generated for each meter tested.

4. The manufacturer's representative shall generate a configuration report for each meter.

3.04 ADJUSTING

A. Verify factory setup of all instruments in accordance with the Manufacturer's instructions.

3.05 PROTECTION

A. All instruments shall be fully protected after installation and before commissioning. Replace any instruments damaged before commissioning:

a. The ENGINEER shall be the sole party responsible for determining the corrective measures.

END OF SECTION

SECTION 16001

COMMISSIONING

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes.
   1. Definitions
   2. Requirements for commissioning.

1.02 DEFINITIONS

A. Commissioning Verification Period.
   1. The commissioning period begins after the ENGINEER has approved the Functional Test Certification demonstration with the control software, the specified demonstration and training is complete, punch list deficiencies are corrected and the final operation and maintenance manuals are submitted and approved. The duration of the commissioning verification period is 14 days without significant interruption.

B. Significant Interruption.
   1. Significant interruption may include any of the following events.
      a. Failure of the CONTRACTOR to maintain qualified onsite start-up personnel as specified.
      b. Failure of critical equipment unit, system, or sub-system that is not satisfactorily corrected within two (2) hours after the failure.
      c. Failure of noncritical equipment unit, system, or sub-system that is not satisfactorily corrected within twenty-four (24) hours after the failure.
      d. As may be determined by the ENGINEER.

1.03 REQUIREMENTS FOR COMMISSIONING

A. Commissioning of the facility shall be completed prior to substantial completion.

B. CONTRACTOR shall provide for realistic durations in the progress schedule for the commissioning activities.

C. Provide the labor, medium, chemicals, tools, equipment, instruments and services required for, and incidental to, completing commissioning.

D. Demonstrate satisfactory operation within the facility of the equipment and systems in actual operation as a functional unit.

E. Conduct commissioning for a period of three (3) continuous days without significant interruption.

F. The commissioning verification period shall restart with the correction of each significant interruption.

G. Correct defects in material and workmanship immediately following their discovery.

H. Provide for maintenance until substantial completion. This includes the required maintenance activities during the commissioning verification period.

I. Perform maintenance pursuant to the operation and maintenance data requirements for the new facility during and following the commissioning verification period and prior to issuance of a certificate of substantial completion.

J. As of the date of substantial completion, OWNER's staff shall be responsible for operation and maintenance of the new facilities. This excludes any issues identified as warranty matters.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION – NOT USED

END OF SECTION

SECTION 16050
BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 GENERAL

1.01 SUMMARY

A. This Section describes the general requirements for electrical work. These requirements apply to all sections of Division 16.

B. Provide electrical materials, equipment, services, rentals, labor and testing to complete the installation and testing of the electrical work specified in the Construction Documents.

1.02 GENERAL REQUIREMENTS

A. No exposed conduit or surface raceway, except where existing conduit being replaced is currently exposed, shall be permitted without written approval from the Engineer.

B. Multi-wire branch circuits shall not be permitted. Provide a dedicated neutral for all branch circuits requiring a neutral.

C. Provide shop drawings, materials, labor and testing for all work not explicitly shown or specified in the Constructions Documents but is still required to be completed in order to have a complete and functioning system or facility as specified. Review the bid documents carefully and identify all areas in the constructions documents which require shop drawings and include them in the bid.

D. Provide a UL label or evidence of UL listing for all electrical material, unless the material is of a type for which a label or listing service is not provided.

1.03 CODE COMPLIANCE

A. Perform all work in accordance with the most recently adopted versions of the following codes:
   1. California Electrical Code
   2. California Building Code
   3. California Fire Code
   4. California Mechanical Code
   5. California Plumbing Code
   6. California Building Standards Administrative Code
   7. California Green Building Standards Code
   8. California Energy Code
   9. All Applicable State and Local Codes and Regulations

1.04 PERMITS, FEES AND INSPECTIONS

A. Call for inspections prior to burying or otherwise making work unobservable.

B. Advise Engineer, one week prior to connection of mechanical equipment.

1.05 STANDARDS

A. Comply with the current applicable standards of the listed agencies for electrical materials and installation.

B. Underwriters Laboratories, Inc. (UL): Provide a UL label or evidence of UL listing for all electrical material, unless the material is of a type for which a label or listing service is not provided.

C. National Electrical Manufacturer's Association (NEMA).

D. American National Standards Institute (ANSI).

E. American Society for Testing Materials (ASTM).

F. Insulated Power Cable Engineers Association.

G. Certified Ballast Manufacturer's Association.

H. Institute of Electrical and Electronic Engineers (IEEE).

1.06 SUBMITTALS

A. Provide submittals for items specified in individual sections in accordance with the requirements of Division 1.

B. Procedure: Submit under provisions of Section 01 3300 - Submittals.

C. Provide submittals for items listed documenting compliance with specification requirements.

1. Materials and Services
2. Contractor prepared Acceptance Test Procedures for Engineering review and approval.
3. Acceptance Test Results
4. Shop drawings
5. Operation and Maintenance Manual
6. Record Drawings.
7. Other- Submittals required elsewhere in the Construction Documents.

1.07 MATERIALS AND SUBSTITUTIONS

A. Provide new material of the quality specified and satisfactory to the Engineer.
1. Provide major equipment, which is the product of a manufacturer who has, for a period of not less than five years been in successful manufacture of similar equipment to that specified and who has a catalog covering ratings and specifications of proposed equipment.

1.08 DRAWINGS AND SPECIFICATIONS

A. Data given herein and on the plans are exact as could be secured, but their absolute accuracy

is not guaranteed. Plans and specifications are for the assistance and guidance of the Contractor and exact locations, distances, levels, and other data will be governed by the structures. The contractor shall provide a layout plan of all electrical equipment showing actual dimensions and working clearances. The contractor is responsible for ensuring that all electrical equipment will fit and no working clearances are exceeded.

B. Clarification of plans and specifications for the purpose of facilitating construction, but not involving additional labor and materials, may be prepared during construction by the Engineer. Said revised plans and specifications shall become a part of the contract. The Contractor shall conform to the revised plans and specifications at no additional cost to the Owner.

C. Layouts of equipment, accessories, and wiring systems are diagrammatic but follow these as closely as possible. Examine other drawings, noting all conditions that may affect this work. Report conflicting conditions to the Engineer for adjustment before proceeding with the work. Should the Contractor proceed with work without so reporting the matter, he does so, on his own responsibility and shall alter work if directed by the Engineer at his own expense.

D. The right is reserved to make minor changes in locations of equipment and wiring systems shown, providing the change is ordered before conduit runs and/or work directly connected to same is installed and no extra materials are required.

1.09 SUPERVISION

A. Provide adequate and competent supervision. Maintain complete control of the project execution and complete liability for the materials and work until the job is completed and accepted by the Owner.

1.10 MANUFACTURER'S INSTRUCTION

A. Follow the manufacturer's instructions when specific installation or connection details are not indicated or specified.

B. Notify the Engineer of conflicts between the manufacturer's instructions and installation or connection details prior to the installation of materials.

1.11 WORKMANSHIP

A. Firmly and permanently secure in place all electrical equipment to the structure so that it is level, plumb, and true with the structure and other equipment. Installation methods shall be as recommended by the National Electrical Contractors' Standard of Installation, except when methods specified or shown on the plans differ. The minimum installation standards shall be as required by the Codes.

1.12 PROTECTION

A. Protect all equipment and materials required for the performance of this work from damage by the elements, vandalism, or work during construction.
   1. Do not subject the work and materials of other trades to damage during execution of the

work in this division of the specifications.

1.13 COORDINATION WITH OTHER TRADES

A. Coordinate with other trades and promptly transmit all information required by them. Coordinate the sequence of construction with other trades to ensure that all work proceeds with a minimum of interference and delay. Perform all work that requires relocation due to negligence or absence of regard for the work of other trades.

1.14 EXAMINATION OF SITE

A. Examine the site prior to bid to determine existing site conditions that may affect the work. No allowance will be allowed for any extra work required due to a failure to recognize, or negligence to discover conditions prior to bid.

1.15 STRUCTURAL REQUIREMENTS

A. Secure all anchors for electrical equipment in a manner that will not decrease the structural value of any structure to an unsafe level. Inform the Engineer of any proposed modifications to the structure that involves cutting or patching of concrete, masonry, steel, or wood in the project.

1.16 IDENTIFICATION

A. Install nameplates on electrical equipment including:
   1. Individual circuit breakers on switchboards, distribution panelboards and motor control centers.
   2. Motor starters.
   3. Pilot lights, selector switches, overload resets, timers and other pilot control devices.
   4. Panelboards, switchboards, motor control centers, transformers, control cabinets and other major equipment.
   5. Disconnect switches, time switches, contactors, relays and other miscellaneous equipment enclosures.
   6. Light switches for which the control functions are not evident.
   7. Provide labeling on receptacles and light switches which describe the source panel and circuit number. Use clear adhesive label with typed text. Example, "EH-3", that is panel "EH" circuit 3.

B. Describe item, control function of sequence or operation on each nameplate, as applicable.

1.17 TESTS AND REPORTS

A. Perform routine insulation-resistance, continuity, equipment settings and rotation tests for all affected distribution and utilization equipment prior to and in addition to tests performed by the testing firm specified herein. Prepare inspection and test reports for all equipment as specified herein and submit to the Electrical Engineer for review and approval. Submit at least two weeks before the planned testing. Perform these inspections and test prior to or as part of system Acceptance Testing. Examples include:

1. Grounding systems, for resistance to earth. Provide additional grounding electrodes if main service or separately derived system ground resistance exceed 5 ohms.
2. Motor circuits with motor disconnected, for resistance to ground.
3. Control circuits for resistance to ground.
4. Lighting circuits, for resistance to ground.
5. Power feeders, for resistance to ground.
6. Switchboards, Motor Control Centers for resistance to ground.:
7. Main bus, power and control circuits, for resistance to ground.
   a. Check connection; tighten if necessary.
   b. Operation of each device.
   c. Set relays and trip settings in accord with the Engineer's directions.
   d. Check thermal overload heaters for size and reset operation.
8. Prior to energization of equipment, check the insulation resistance of listed circuits, with a 500-volt "Megger".
9. Set circuit protective devices to provide proper long-time, short-time and ground-fault tripping coordination.
10. Coordinate phase rotation of all motors with installer to ensure proper direction of rotation. List motor data:
    a. Item of equipment.
    b. Nameplate data.
    c. Overload heater catalog number and rating.

1.18 DEMONSTRATIONS:

A. After testing and final inspection, demonstrate operation of all affected systems and equipment to Engineer and Owner.

B. Arrange date of test with Owner.

C. Advise the manufacturers' representative to be present when required.

D. Instruct Owner's personnel in operation, adjustment and maintenance of equipment and systems, using the operation and maintenance data as the basis of instruction.

1.19 GUARANTEE:

A. Guarantee the electrical work against defects in work or materials for one year after filing of Notice of Completion.

B. Undertake repairs within 24 hours after notice from the Owner.

C. If the operation of the electrical system fails to conform to Division 26 requirements, approved submittals, or operation and maintenance manuals, the Owner may operate the electrical system without liability to Owner. Repair or replace defective or unsatisfactory equipment or systems.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EQUIPMENT MOUNTING SEISMIC CRITERIA

A. Brace or anchor all electrical equipment to resist a horizontal force acting in any direction using the criteria of the most recently adopted California Building Code, Title 24, Part 2.

B. Simultaneous vertical force - use 1/3 by horizontal force.

C. Where anchorage details are not shown on the drawings, the field installation shall be subject to the approval of the electrical and structural engineers.

END OF SECTION

SECTION 16070
HANGERS AND SUPPORTS FOR ELECTRICAL SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

A. Provide electrical materials, installation and testing for the project.

1.02 DESCRIPTION

A. This section describes requirements for supporting devices.

1.03 RELATED WORK

A. Section 16050: Basic Electrical Materials and Methods.

1.04 SUBMITTALS

A. Procedure: Submit under provisions of Section 01 3300 - Submittals.

B. Provide submittals for items listed documenting compliance with specification requirements.

C. Product Data:
   1. Electrical Materials: Manufacturer’s current published catalog sheets.

PART 2 PRODUCTS

2.01 SUPPORT AND ATTACHMENT COMPONENTS

A. General Requirements:
   1. Provide all required hangers, supports, anchors, fasteners, fittings, accessories, and hardware as necessary for the complete installation of electrical work.
   2. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated, where applicable.
   3. Where support and attachment component types and sizes are not indicated, select in accordance with manufacturer's application criteria as required for the load to be supported. Include consideration for vibration, equipment operation, and shock loads where applicable.
   4. Do not use products for applications other than as permitted by NFPA 70 and product listing.
   5. Steel Components: Use corrosion resistant materials suitable for the environment where installed.
      a. Zinc-Plated Steel: Electroplated in accordance with ASTM B633.
      b. Galvanized Steel: Hot-dip galvanized after fabrication in accordance with ASTM

A123/A123M or ASTM A153/A153M.

B. Conduit and Cable Supports: Straps, clamps, etc. suitable for the conduit or cable to be supported.
   1. Conduit Straps: One-hole type; steel or malleable iron.
   2. Conduit Clamps: Bolted type unless otherwise indicated.

C. Outlet Box Supports: Hangers, brackets, etc. suitable for the boxes to be supported.

D. Metal Channel (Strut) Framing Systems: Factory-fabricated continuous-slot metal channel (strut) and associated fittings, accessories, and hardware required for field-assembly of supports.
   1. Comply with MFMA-4.

E. Hanger Rods: Threaded zinc-plated steel unless otherwise indicated.

F. Anchors and Fasteners:
   1. Unless otherwise indicated and where not otherwise restricted, use the anchor and fastener types indicated for the specified applications.

2.02 SUPPORTING DEVICES

A. Conduit Supports:
   1. Straps, one hole galvanized or cadmium plated iron, T & B, Efcor, Appleton, or equal.
   2. Clamp backs, nest backs, galvanized iron or cadmium-plated steel, Efcor, OZ, Steel City, or equal. Plumbers perforated strap, not acceptable.
   3. Hanger Rod, 3/8-inch, minimum galvanized all-thread rod.

B. Conduit Racks:
   1. Framing Channel, steel, hot-dip galvanized or electroplated, Kindorf, Unistrut, Superstrut, or equal.
   2. Channels attached to building or structure surfaces, 14 gauge, 1-5/8 inches wide by 13/16 inches deep. Other channels, 12 gauge minimum, 1-5/8 inches wide by 1-5/8 inches deep, minimum.
   3. Construct racks to limit deflection to 1/360 of span.
   4. Load on trapeze, rod type hangers, concrete inserts and beam clamps, not to exceed 700 pounds per hanger. Provide rigid frames if load exceeds 700 pounds per hanger.

C. Outlet Boxes
   1. Attach device boxes with adjustable bar type hangers screw fastened to two stud/ceiling joists on both sides of box.

D. Anchor Methods:
   1. Hollow masonry anchors.
   2. Solid masonry, malleable iron expansion anchors or preset inserts.
   3. Metal surfaces, machine screws, bolts or welded studs.
   4. Wood surfaces, wood screws.
   5. Concrete surfaces or self-drilling anchors.

END OF SECTION

SECTION 16080
BOXES AND CABINETS

PART 1 GENERAL

1.01 SUMMARY

A. Provide electrical materials, installation and testing for the project.

1.02 DESCRIPTION

A. This section describes requirements for outlet boxes.

1.03 RELATED WORK

A. Section 16050: Basic Electrical Materials and Methods.

1.04 REFERENCE STANDARDS

A. NEMA FB 1 - Fittings, Cast Metal Boxes, and Conduit Bodies for Conduit, Electrical Metallic Tubing, and Cable; National Electrical Manufacturers Association.

B. NEMA OS 1 - Sheet Steel Outlet Boxes, Device Boxes, Covers, and Box Supports; National Electrical Manufacturers Association.

C. NEMA OS 2 - Nonmetallic Outlet Boxes, Device Boxes, Covers and Box Supports; National Electrical Manufacturers Association.

D. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); National Electrical Manufacturers Association.

1.05 SUBMITTALS

A. Procedure: Submit under provisions of Section 01 3300 - Submittals.

B. Provide submittals for items listed documenting compliance with specification requirements.

C. Product Data:
   1. Electrical Materials: Manufacturer’s current published catalog sheets.

PART 2 PRODUCTS

2.01 BOXES

A. General Requirements:
   1. Do not use boxes and associated accessories for applications other than as permitted by NFPA 70 and product listing.
   2. Provide all boxes, fittings, supports, and accessories required for a complete raceway system and to accommodate devices and equipment to be installed.
   3. Provide products listed, classified, and labeled by Underwriter's Laboratories Inc. (UL) or testing firm acceptable to authority having jurisdiction as suitable for the purpose indicated.
   4. Where box size is not indicated, size to comply with NFPA 70 but not less than applicable minimum size requirements specified.
   5. Provide grounding terminals within boxes where equipment grounding conductors terminate.

B. Outlet and Device Boxes Up to 100 cubic inches (1,650 cu cm), Including Those Used as Junction and Pull Boxes:
   1. Use sheet-steel boxes for dry locations unless otherwise indicated or required.
   2. Use cast iron boxes or cast aluminum boxes for damp or wet locations unless otherwise indicated or required; furnish with compatible weatherproof gasketed covers.
   3. Use suitable concrete type boxes where flush-mounted in concrete.
   4. Cast Metal Boxes: Comply with NEMA FB 1, and list and label as complying with UL 514A; furnish with threaded hubs.
   5. Boxes for Ganged Devices: Use multigang boxes of single-piece construction. Do not use field-connected gangable boxes.

C. Cabinets and Enclosures, Including Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
   1. Comply with NEMA 250, and list and label as complying with UL 50 and UL 50E, or UL 508A.
   2. NEMA 250 Environment Type, Unless Otherwise Indicated:
   3. Junction and Pull Boxes Larger Than 100 cubic inches (1,650 cu cm):
      a. Provide screw-cover or hinged-cover enclosures unless otherwise indicated.

D. Cast Boxes: NEMA FB 1, Type FD, cast ferroalloy. Provide gasketed cover by box manufacturer. Provide threaded hubs.

2.02 OUTLET BOXES

A. Construction: Deep drawn or fabricated interlocked flat pieces with welded tabs, electro-galvanized sheet steel with electro-galvanized hardware. Do not use sectional boxes.

B. Size: To accommodate the required number and sizes of conduits, wires, splices and devices but not smaller than the size indicated or specified.

C. Plaster Ring: Provide flush with wall or ceiling finish, except where otherwise indicated or specified.

D. Device Boxes: For single switches and receptacles, provide boxes not less than 4 inches square by 1-1/2 inches deep. For 2 devices, provide boxes not less than 4-11/16 inches square by 1-1/2 inches deep.

E. Telecommunications Boxes: No less than 4-11/16 inches square by 2 inches deep.

F. Special Mounting: In cabinets, tile, concrete block, brick, stone, wood or similar material, provide rectangular boxes with square corners and straight sides. For single devices, provide boxes 4 inches high by 2-1/2 inches wide by 3-3/8 inches deep. For 2 or more devices, provide multi-gang, non-sectional box with tile or masonry ring.

G. Lighting Fixtures: 4-inch octagon by 2-1/8 inch deep, minimum. Fit boxes for surface or pendant mounted fixtures with 3/8-inch malleable iron fixture stud.

H. Attach device boxes with adjustable bar type hangers screw fastened to two stud/ceiling joists on both sides of box.

2.03 PULL AND JUNCTION BOXES

A. General: For all pull and junction boxes over 300 cubic inches, provide code gauge, sheet steel boxes which meet NEMA 1 standards for panelboard and terminal cabinet box construction, with screw type covers.

B. Ground Lug: Weld, before finish is applied, a grounding pad drilled for two bolted grounding lugs or two ground studs on the box interior.

C. Finish: Apply rust inhibiting prime coat and 2 coats of baked enamel, standard factory gray.

D. Hardware: Cadmium plated steel screws.

2.04 PRECAST CONCRETE BOXES

A. Provide high-density reinforced concrete pull and junction boxes with end and side knockouts as manufactured by Christy, Forni, Brooks, or approved equal. Fabricated boxes with non-settling shoulders to facilitate maintaining grade during backfilling. Unless noted otherwise, provide galvanized steel checker plate covers with hold-down bolts, identified as follows:

System Identification

Power - 600 volts or less Electrical

PART 3 EXECUTION

3.01 BOXES AND CABINETS

A. Place outlet boxes in a location as close to that shown on the plans as possible. Coordinate location of boxes with other Divisions.

B. Install wall mounted outlet boxes so that the distance from the centerline of the box to finished floor is as listed or indicated:
1. Receptacles, + 1 foot-6 inches
2. Telephone, + 1 foot-6 inches
3. Data, + 1 foot-6 inches
4. Switches, + 4 feet-0 inches

C. Install junction boxes with covers in concealed areas accessible after installation. Do not install junction boxes flush with finish walls or ceilings unless specifically approved by the Engineer.

D. Attach surface boxes with:
   1. Steel or malleable iron expansion anchors in concrete or solid masonry.
   2. Wood screws in wood.
   3. Toggle bolts in hollow walls or masonry.
   4. Machine screws, bolts or welded studs in steel.

E. Attach flush boxes with adjustable bar type hangers screw fastened to studs on both sides of the box.

END OF SECTION

SECTION 16115

CONDUIT

PART 1 GENERAL

1.01 SUMMARY

A. This section describes requirements for conduit raceways.

1.02 RELATED WORK

A. Section 16050: Basic Electrical Material and Methods.

B. Section 16070: Hangers and Supports for Electrical Systems

1.03 REFERENCE STANDARDS

A. American National Standards Institute (ANSI):
   1. C80.1Specification for Rigid Steel Conduit, Zinc Coated
   2. C80.3Specification for Electrical Metallic Tubing, Zinc Coated

B. National Electrical Manufacturers Association (NEMA):
   1. TC 2 Electrical Plastic Tubing (EPT), Conduit (EPC-40 and EPC-80) and Fittings

C. Underwriters Laboratories, Inc. (UL):
   1. 1242 Intermediate Metal Conduit

D. Federal Specifications:
   1. WW-C-581E Conduit, Metal Electrical Conduit. Steel, Zinc Coated

1.01 SUBMITTALS

A. Procedure: Submit under provisions of Section 01 3300 - Submittals.

B. Provide submittals for items listed documenting compliance with specification requirements.

C. Product Data:
   1. Electrical Materials: Manufacturer’s current published catalog sheets.

PART 2 PRODUCTS

2.01 RACEWAYS

A. Rigid Steel Conduit:
   1. ANSI C80.1, minimum size 3/4 inch.

2. Threaded fittings, galvanized.
3. Locknuts, 3/4 inch to 1-1/2 inch, heavy nut steel.
4. Locknuts, 1-1/2 inch and larger, malleable iron.
5. Insulated bushings, malleable iron, plastic or nylon insert, OZ "IBC" series, Efcor "56" series, Appleton "GIB" series or equal.
6. Three-piece conduit couplings, malleable iron, T & B "Erickson", Appleton "EC" series, OZ "4" series, or equal.

B. Intermediate Metal Conduit (IMC):
1. Conform to UL 1242 and Federal Specification WW-C-581E, minimum size 3/4 inch.
2. Fittings: As specified for rigid steel conduit.

C. Electrical Metallic Tubing (EMT):
1. Galvanized rolled steel ANSI C80.3.
2. Fittings to 2 inch, rain-tight compression gland, steel, plated with zinc or cadmium, for wet locations and setscrew steel for dry locations.
3. Couplings, to 2 inch:
   a. Compression type: OZ "6050S" series, T & B "5120" series, Efcor "760" series, or equal.
   b. Setscrew type: OZ "5050S" series, Steel City "TK121" series, Efcor "730" series, or equal.
4. Connectors, insulated throat:
   a. Compression type: OZ "7050 ST" series, T & B "5123" series, Efcor "750B" Series, or equal.
   b. Setscrew type: OZ "4050 ST" series, Steel City "TC721" series, Efcor "720B" Series, or equal.
5. Couplings, 2-1/2 inch to 4 inch, set-screw, four screw, steel plated with zinc or cadmium, OZ "5250S" series, T & B "5042" series, Efcor "736" series, or equal.
6. Connectors, 2-1/2 inch to 4 inch, insulated throat, set-screw, two screw, plated with zinc or cadmium, Appleton "TW250 SI" series, Efcor "726B" series, or equal.
7. Adapter, EMT to rigid steel, zinc or cadmium plated malleable iron, OZ, T & B, Efcor, or equal.
8. Maximum size, 2 inch, except for Telephone, 4 inch.

D. Flexible Metal Conduit:
1. Fabricate from galvanized steel strip, minimum size 1/2 inch.
2. Connectors, T & B "Tite Bite", with insulated throat, or equal.
3. Length, no greater than 6 feet. Allow slack for movement of connected equipment.

E. Liquid-tight Flexible Metal Conduit:
1. Fabricate from galvanized steel strip, jacketed with PVC, minimum size 1/2 inch.
2. Straight connectors, cadmium plated steel or malleable iron, insulated throat and neoprene sealing ring, OZ "4Q-IT" series, T & B "5330" series, Efcor "11-B" series, or equal.
3. Angle connectors, cadmium plated steel or malleable iron, insulated throat and neoprene sealing ring, OZ, T & B, Efcor, or equal, comparable to straight connectors.
4. Hardware, cadmium plated steel.
5. Length, no greater than 6 feet. Allow slack for movement of connected equipment.

F. PVC Conduit:
1. Schedule 40, NEMA TC2, typical underground installation.
   a. Minimum size, 1 inch.
   b. Elbows, Schedule 40, encased in concrete for sizes 2-inch and larger.

c. Extensions above grade, rigid steel (exposed), EMT (concealed indoors).
d. Adapters, PVC to rigid steel, threaded plastic.

2. Schedule 80, NEMA TC2, underground installations for emergency circuits.
   a. Minimum size, 1 inch.
   b. Extensions above grade, rigid steel (exposed), EMT (concealed indoors).
   c. Adapters, PVC to rigid steel, threaded plastic.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install conduit in a neat and workmanlike manner in accordance with NECA 1.

C. Conduit Support:
   1. Secure and support conduits in accordance with CEC using suitable supports and methods approved by the authority having jurisdiction.
   2. Provide independent support from building structure. Do not provide support from piping, ductwork, or other systems.

D. Connections and Terminations:
   1. Use suitable adapters where required to transition from one type of conduit to another.
   2. Provide insulating bushings or insulated throats at all conduit terminations to protect conductors.
   3. Secure joints and connections to provide maximum mechanical strength and electrical continuity.

E. Penetrations:
   1. Do not penetrate or otherwise notch or cut structural members, including footings and grade beams, without approval of Engineer.
   2. Make penetrations perpendicular to surfaces unless otherwise indicated.
   3. Provide sleeves for penetrations as indicated or as required to facilitate installation. Set sleeves flush with exposed surfaces unless otherwise indicated or required.
   4. Conceal bends for conduit risers emerging above ground.
   5. Seal interior of conduits entering the building from underground at first accessible point to prevent entry of moisture and gases.
   6. Where conduits penetrate waterproof membrane, seal as required to maintain integrity of membrane.
   7. Make penetrations for roof-mounted equipment within associated equipment openings and curbs where possible to minimize roofing system penetrations. Where penetrations are necessary, seal as indicated or as required to preserve integrity of roofing system and maintain roof warranty. Include proposed locations of penetrations and methods for sealing with submittals.

F. Conduit Movement Provisions: Where conduits are subject to thermal expansion, provide expansion and expansion/deflection fittings to prevent damage to enclosed conductors or connected equipment. Where conduits are subject to seismic movement, provide 6 feet max. flex conduit with grounding fittings on each end bonded with #6 green wire. This includes, but is not limited to:
   1. Where conduits cross joints intended for expansion, contraction, or deflection.

G. Condensation Prevention: Where conduits cross barriers between areas of potential substantial temperature differential, provide sealing fitting or approved sealing compound at an accessible point near the penetration to prevent condensation. This includes, but is not limited to:
   1. Where conduits pass from outdoors into conditioned interior spaces.
   2. Where conduits pass from unconditioned interior spaces into conditioned interior spaces.

H. Provide grounding and bonding in accordance with Section 26 0526.

I. Hazardous (Classified) Locations: Where conduits cross boundaries of hazardous (classified) locations, provide sealing fittings located as indicated or in accordance with CEC.

3.02 ABOVE GROUND RACEWAY SYSTEMS

A. Install all wiring in raceways. Install raceway systems, including conduits, hangers and support channels parallel or perpendicular to structural members in accordance with Section 16070 Hangers and Support. Coordinate location of raceway systems with other Divisions prior to commencing installation.

B. Rigid Steel Conduit: Suitable for use in all locations.

C. Intermediate Metal Conduit: As specified for rigid steel.

D. Electrical Metallic Tubing: Suitable for use in concealed dry locations, not in concrete, masonry, or underground, and suitable exposed, minimum 8 feet above finished floor.

E. Flexible Metal Conduit: Suitable for connection of recessed lighting fixtures, motors or other devices requiring flexible connections in dry locations.

F. Liquid-Tight Flexible Metal Conduit: Suitable for connection of motors and equipment in damp or wet locations.

H. Conduit Supports:
   1. Support all conduits at intervals per Chapter 3 of the CEC for the selected raceway type (not to exceed 10-feet).
   2. Support individual conduits with conduit hangers or clamp back and nest back, if required for entrance into the equipment.
   3. Support multiple conduits, 2 or more in parallel, with framing channel and pipe clamps.
   4. Spring steel fasteners may be used to fasten electrical metallic tubing to individual hanger wires, minimum #12 AWG, specifically used for hanging conduit, nothing else.

I. Conduit Bends:
   1. Provide no more than (3) 90-degree conduit bends or the equivalent number of smaller radius bends in any conduit run between boxes or equipment.
   2. Length of run: 400-feet maximum less 100-feet for each equivalent 90-degree bend.
   3. Fabricate bends and offsets with a hickey or conduit bender designed specifically for use with the type of conduit to be bent, or use factory made bend.
   4. Radius of Bends: Conduits 2" inside diameter or less the inside bend radius shall be at least 6 times the diameter. Conduits greater than 2" diameter the inside bend radius shall be at least 10 times the conduit diameter.

J. Cap conduits during construction to prevent entrance of foreign material.

K. Provide conduit-sealing bushings at conduit penetrations through exterior walls to seal against fluid and gas pressure around the conduit.

L. Fit all conduits that enter the enclosure of a switchboard, distribution panel, or motor control center with an insulated grounding bushing.

M. Install pull ropes in all empty conduits, #12 AWG in conduits 1 inch and smaller and 3/16-inch polypropylene rope in conduits 1-1/4 inch and larger.

3.03 UNDERGROUND RACEWAY SYSTEMS

A. Install all wiring in raceways. Coordinate location of raceway systems with other Divisions prior to commencing installation. Provide conduits per drawings.

B. EXCAVATING AND BACKFILLING
1. Excavate and backfill as required for installation of electrical work. Maintain all warning signs, barricades, flares and lanterns as required by the Safety Orders and local ordinances.
2. Excavation: Dig trenches straight and true to line and grade, with bottom clear of any rock points. Support conduit for entire length on undisturbed original earth. Backfill: All backfill material shall be local material free of rubble, rubbish or vegetation. Trenches shall be backfilled and compacted to 90% of maximum dry density at optimum moisture content in layers not to exceed 6" when compacted.
3. Minimum Coverage (depth) - Per CEC Table 300.5
4. Area of Influence- Do not install conduits parallel to building footings in the area of influence. See structural drawings and specifications for the area of influence and the methods that conduits can cross a footing.
5. Drain Slope- Underground conduit shall be installed such that a.125" per foot min. slope exists at all points of the run to allow drainage and prevent the accumulation of water. Provide a drain slope of greater than.125" per foot when extending conduit away from a building.
6. Provide underground warning tape along entire conduit length.

C. CUTTING AND PATCHING
1. Provide necessary cutting and patching required to accomplish the work of Division underground 26. Restore all surfaces, roadways, sod, walks, curbs, walls, existing underground installation, etc., cut by installations to original condition in an acceptable manner.

D. Conduit Bends:
1. Provide no more than (3) 90-degree conduit bends or the equivalent number of smaller radius bends in any conduit run between boxes or equipment.
2. Length of run: 400-feet maximum less 100-feet for each equivalent 90-degree bend.
3. Fabricate bends and offsets with a hickey or conduit bender designed specifically for use with the type of conduit to be bent, or use factory made bend.
4. Radius of Bends: Conduits 2" inside diameter or less the inside bend radius shall be at least 6 times the diameter. Conduits greater than 2" diameter the inside bend radius shall be at least 10 times the conduit diameter.

E. CONCRETE DUCT BANK CONSTRUCTION
   1. Provide plastic spacers at maximum 5'-0" centers to maintain 3" spacing between conduits.
   2. Drive two reinforcing bars to anchor the conduits at 10'-0" centers to prevent floating during concrete pour.
   3. Provide 3" wide yellow “Electric Line”, T& B, Westline or equal plastic warning tape 18" above duct bank.
   4. Provide one warning tape for each 12" width of concrete duct bank or fraction thereof. Minimum ground
   5. Cover for concrete duct bank shall be 2'-6".

F. Rigid Steel Conduit: Suitable for use in all locations. Where used underground, wrap with no less than 2 layers of half-lapped 10 mil vinyl pipe wrapping tape, Manville, Minnesota Mining

G. PVC Conduit: Suitable for use underground, with a minimum of 18 inches of cover. Also suitable for use in concrete slabs (for emergency circuits, use Schedule 80 PVC). Fabricate field bends with an approved thermal bender and jig. Maintain separation between conduits using plastic spacers specifically designed for the purpose.

H. Provide conduit-sealing bushings at conduit penetrations through exterior walls to seal against fluid and gas pressure around the conduit. Ducts shall be sealed to resist liguid and gas infiltration at all maintenance holes and building entrances.

I. Install pull ropes in all empty conduits, #12 AWG in conduits 1 inch and smaller and 3/16 inch polypropylene rope in conduits 1-1/4 inch and larger.

J. Fit PVC conduits that enter pull boxes and junction boxes with belled ends.

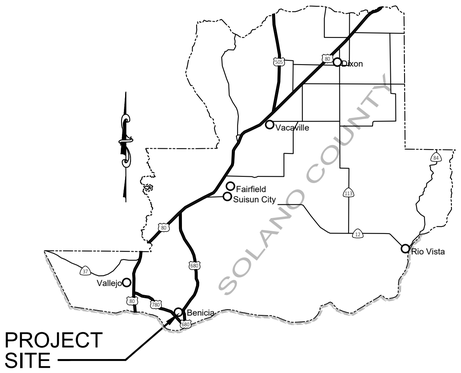
END OF SECTION

ORIGINAL PLOT DATE: AUGUST 2020
FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES
0 1 2 3

PROJECT PLANS FOR:

WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS

PROJECT No 22-09



VICINITY MAP

FOR THE

CITY OF BENICIA

COUNTY OF SOLANO

Sheet List Table	
SHEET NO.	SHEET TITLE
1	TITLE SHEET
2	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
3	BACKWASH AND UTILITY WATER - EXISTING CONDITION AND DEMOLITION
4	BACKWASH AND UTILITY WATER - PHASE I
5	BACKWASH AND UTILITY WATER - PHASE II
6	BACKWASH VALVE AND FLOW METER VAULT
7	BACKWASH AND UTILITY WATER - ORIGINAL DESIGN DRAWINGS
8	BACKWASH WATER - EXTERIOR PLAN AND PROFILE
9	FILTERS 3 & 4 GATE REPLACEMENT ORIGINAL DESIGN DRAWING
10	FILTERS 3 & 4 GATE REPLACEMENT DETAIL
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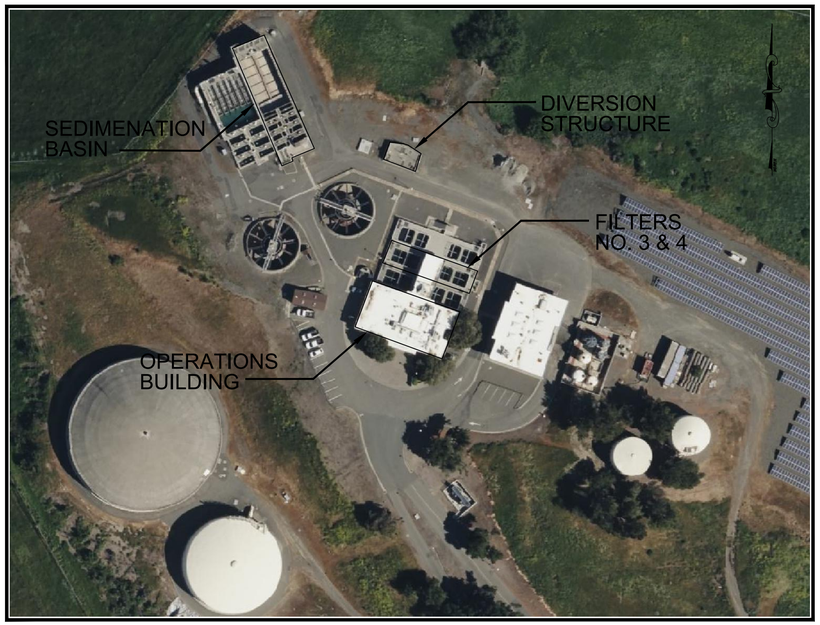
12	DIVERSION STRUCTURE GATE REPLACMENT
13	DIVERSION STRUCTURE GATE ELECTRICAL
14	SEDIMENTATION BASIN SLIDE GATE REPAIR
15	SEDIMENTATION BASIN ORIGINAL DESIGN DRAWINGS
16	DETAILS - OPERATIONS BUILDING
17	DETAILS - STEEL PIPE AND EXCAVATIONS



LOCATION MAP

NOT TO SCALE

COASTLAND | DCCM

COASTLAND | DCCM
420 Executive Court North, Suite G
Fairfield, CA 94534
707.702.1961 | coastlandcivil.com

ERIK WEBER, RCE 62547 — 10/16/24 DATE

REGISTERED PROFESSIONAL ENGINEER No. 62547 CIVIL STATE OF CALIFORNIA

THE CITY OF BENICIA CALIFORNIA

CITY OF BENICIA
APPROVED DATE 12/16/24

Neil Leary, P.E. 49318
CITY ENGINEER

PROJECT NUMBER	22-09
DRAWING DATE	3/12/24
DRAWING NUMBER	1 OF 17

WATER TREATMENT PLANT IMPROVMENTS

Xrefs: CCE-ENGINEERS STAMPS-PLAN.dwg;Benicia basemap.dwg;title block.dwg
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ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3

GENERAL NOTES

1. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO HOLD HARMLESS, INDEMNIFY AND DEFEND THE DESIGN PROFESSIONAL, THE OWNER AND THEIR CONSULTANTS, AND THE CITY OF BENICIA, AND EACH OF THEIR OFFICERS, EMPLOYEES, AND AGENTS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
2. CONSTRUCTION HOURS SHALL BE LIMITED FROM 7 AM TO 5 PM MONDAY THROUGH FRIDAY, EXCLUDING HOLIDAYS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE OR DETERIORATION OCCURRING TO EXISTING PUBLIC IMPROVEMENTS AS A DIRECT RESULT OF CONSTRUCTION ACTIVITY (GRADING, ROAD CONSTRUCTION, UTILITY INSTALLATION, ETC.). REPAIR MAY REQUIRE PATCHING, SEALING OR OVERLAYING AFFECTED AREAS AS APPROPRIATE TO RETURN THE ROADS TO AT LEAST AS GOOD A CONDITION AS THEY WERE PRIOR TO CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACT IN A TIMELY MANNER, THE CITY MAY, AT ITS DISCRETION PERFORM THE CORRECTION AND CHARGE THE CONTRACTOR FOR ALL COSTS AND OVERHEAD INCURRED.
4. EQUIPMENT AND MATERIALS NECESSARY FOR CONTROL OF SPILLS SHALL BE AVAILABLE ON SITE AT ALL TIMES. SPILLS AND LEAKS SHALL BE STOPPED AND THE MATERIAL CLEANED UP IMMEDIATELY AND DISPOSED OF PROPERLY. USE PROPER BEST MANAGEMENT PRACTICES (BMPS) TO PREVENT OIL, GREASE, OR FUEL FROM LEAKING ON THE GROUND, INTO THE STORM DRAINS OR SURFACE WATERS.
5. THE CONTRACTOR SHALL KEEP THE WORK SITE, STAGING AREAS AND OTHER AREAS USED BY IT IN A NEAT AND CLEAN CONDITION, AND FREE FROM ANY ACCUMULATION OF TRASH. THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL TANKS TRASH, RUBBISH AND WASTE MATERIALS OF ANY KIND GENERATED BY THE CONTRACTOR, SUBCONTRACTOR OR ANY COMPANY HIRED BY THE CONTRACTOR ON A DAILY BASIS. THE CONTRACTOR SHALL ALSO KEEP HAUL ROADS FREE FROM DIRT, RUBBISH, AND UNNECESSARY OBSTRUCTIONS RESULTING FROM SITE OPERATION. DISPOSAL OF ALL TANKS TRASH, RUBBISH AND DEBRIS MATERIALS SHALL BE IN A COVERED WASTE RECEPTACLE OR HAULED OFF SITE, IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES GOVERNING LOCATIONS AND METHODS OF DISPOSAL, AND IN CONFORMANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. WASTE RECEPTACLES SHALL BE COVERED AT THE END OF EVERY DAY AND DURING RAIN EVENTS.
6. CONTAIN CONCRETE WASHOUT AREAS AND SIMILAR AREAS THAT MAY CONTAIN POLLUTANTS TO PREVENT DISCHARGE INTO THE UNDERLYING SOIL OR ONTO THE SURROUNDING AREAS.
7. PLACE EQUIPMENT OR VEHICLES, WHICH ARE BEING FUELED, MAINTAINED AND STORED, IN A DESIGNATED AREA FITTED WITH APPROPRIATE BMPS.
8. SUBSURFACE UTILITY LINES, AS SHOWN HEREON, WERE COMPILED ACCORDING TO THE BEST AVAILABLE RECORD INFORMATION FROM THERE LOCATIONS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS MUST BE DETERMINED IN THE FIELD.
9. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PERFORM ALL WORK AS INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER IN CONFORMANCE WITH ALL APPLICABLE CODES IN A PROPER AND WORKMANLIKE MANNER.
10. ALL CONSTRUCTION ACTIVITY SHALL BE CONFINED TO THE LIMITS OF WORK LINES UNLESS OTHERWISE AUTHORIZED BY THE CITY
11. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF DESIGNATED WORK AREAS DURING EITHER WORKING OR NON-WORKING HOURS. THE LOCATION FOR ANY STORAGE OF EQUIPMENT BY THE CONTRACTOR DURING NON-WORKING HOURS SHALL BE AS APPROVED BY THE CITY.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF THE EXISTING FEATURES AND STRUCTURES WITHIN AND ADJACENT TOT HE WORK. ANY ITEM DISTURBED OR CONFLICT WITH THE PROPOSED WORK SHALL BE REMOVED AND RESET OR REPLACED AT THE CONTRACTORS EXPENSE. IN THE EVENT OF DAMAGE, THE REPAIRS OR REPLACEMENT SHALL BE COMPLETED AT THE CONTRACTORS EXPENSE AS APPROVED BY THE ENGINEER.
13. THE CONTRACTOR SHALL MAKE ALL REQUIRED FIELD MEASUREMENTS TO VERIFY EXISTING AND CONTRACT INTERFACE DIMENSIONS, LOCATIONS AND OTHER CONDITIONS.
14. THE CONTRACTOR SHALL PROTECT ALL STRUCTURES, EQUIPMENT, PIPING AND VALVES FROM DAMAGE DURING CONSTRUCTION AND DEMOLITION. CONTRACTOR TO TAKE ALL PRECAUTIONS NECESSARY SO AS NOT TO DISTURB EXISTING PIPELINES. ALL DAMAGE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
15. CONNECTIONS BETWEEN EXISTING AND NEW PIPES (SLEEVES, NIPPLES AND ACCESSORIES NECESSARY FOR CONNECTIONS) MAY NOT BE SHOWN IN THE DETAILS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AS NECESSARY AND SHALL INCLUDE THE COST UNDER THE APPROPRIATE BID ITEM.
16. IF AT ANY TIME THE CONSTRUCTION EXCAVATION REVEALS ANY ARTICLE OF HISTORIC OR ARCHEOLOGICAL SIGNIFICANCE, WORK AT THE LOCATION WILL CEASE AND THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER.
17. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING UNPAVED AREAS DISTURBED BY THE CONTRACTOR TO THE ORIGINAL CONDITIONS INCLUDING ALL GRADING, LOAMING AND SEEDING.
18. CONSTRACTOR TO ASSUME THAT ALL EXISTING INSITU MATERIAL ON SITE DOES NOT MEET THE REQUIREMENTS OF STRUCTURAL FILL OR ENGINEERED FILL.
19. OPERATIONS OF EXISTING WTP CANNOT BE INTERRUPTED, UNLESS AS NOTED WITHIN SPECIFICATIONS SECTION 01 1140.

EXISTING UTILITY NOTES

1. UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND ALL UTILITIES MAY NOT BE SHOWN. PRIOR TO ANY CONSTRUCTION THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT AND HAVE ALL UNDERGROUND UTILITIES MARKED AND LOCATED.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS FOR ANCHORING, SUPPORTING AND OR RELOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. ALL COSTS SHALL BE INCLUDED IN THE UNIT PRICES BID. IN THE EVENT OF DAMAGE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF ALL REPAIRS.
3. ALL PIPES OR OTHER UTILITIES DAMAGED DURING THE CONTRACTOR'S OPERATIONS SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE AT NO COST TO THE OWNER.

OPEN EXCAVATION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE TRENCH SHORING AND BRACING AT ALL TIMES IN ACCORDANCE WITH RECOMMENDED/REQUIRED SAFETY STANDARDS.
2. THE CONTRACTOR SHALL COVER OPEN EXCAVATIONS AND TRENCHES WITH STEEL PLATES SUITABLE FOR VEHICULAR TRAFFIC OR OTHER METHOD ACCEPTABLE TO THE OWNER, DURING NON-WORK HOURS. IF ANY OPEN EXCAVATIONS OR TRENCHES ARE TOO WIDE FOR THE SAFE USE OF STEEL PLATES OR OTHER COVER, THE OPEN EXCAVATIONS OR TRENCHES SHALL BE FILLED DURING NON-WORK HOURS.

LEGEND

DESCRIPTION OF LINETYPE	PROPOSED	EXISTING
FLOWLINE		
CENTERLINE/CONTROL LINE		
BACKWASH LINE		
GAS LINE	N/A	G
TELEPHONE LINE/CONDUIT	N/A	T
ELECTRICAL LINE/CONDUIT	N/A	E
OVERHEAD UTILITY	N/A	OH
ABOVE GRADE		
BELOW GRADE		

DESCRIPTION OF SYMBOL	PROPOSED	EXISTING
CONCRETE		
FRP GRATING		N/A
CONCRETE BACKFILL PER DETAIL 6		N/A
DEMOLITION		N/A
SHOULDER BACKING		N/A
CAPE SEAL		N/A
BALL VALVE		
FLOOR DRAIN	N/A	
PRESSURE GAUGE	N/A	P
PUMP	N/A	

DETAIL AND SECTION CALLOUTS

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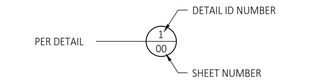

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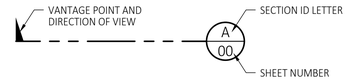
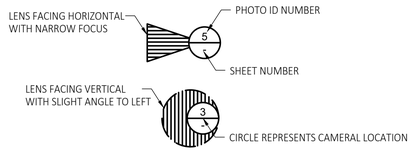


PHOTO NUMBERS AND LENS DIRECTION CALLOUTS



ABBREVIATIONS

(E)	EXISTING
(N)	NEW
AC	ASPHALT CONCRETE
AB	AGGREGATE BASE
AGG	AGGREGATE
AGS	ADVANCED GROOVE SYSTEM
APN	ASSESSORS PARCEL NUMBER
APPROX	APPROXIMATELY
ARV	AIR RELEASE VALVE
BC	BEGIN CURVE
BFV	BUTTERFLY VAVLE
BLDG	BUILDING
BO	BLOWOFF
BSW	BACK OF SIDEWALK
BVC	BEGIN VERTICAL CURVE
BW	BACKWASH
℄	CENTERLINE
CB	CATCH BASIN
CI	CURB INLET
CIPP	CAST-IN-PLACE PIPE
CL	CENTER LINE
CO	CLEAN OUT
CONC	CONCRETE
CONT	CONTINUATION
CP	CONTROL POINT
CPLG	COUPLING
CSP	CORRUGATED STEEL PIPE
CV	CHECK VALVE
DI	DUCTILE IRON
DIP	DUCTILE IRON PIPE
DR	DIMENSION RATIO
DWGS	DRAWINGS
DWY	DRIVEWAY
E	ELECTRICAL, ELECTRIC CONDUIT
EC	END CURVE
EG	EXISTING GRADE
EL	ELEVATION
EP, EOP	EDGE OF PAVEMENT
ER	END CURB RETURN
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EXIST, EX	EXISTING
EW	EACH WAY
FC	FACE OF CURB
FDR	FULL DEPTH RECLAMATION
FF	FINISHED FLOOR
FG	FINISHED GRADE
FH	FIRE HYDRANT
℄	FLOWLINE
FL	FLANGE
FLXS	FLANGE BY SLIP
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FINISHED SURFACE
FT	FOOT
FX	FENCE
G	GAS, GAS MAIN
GB	GRADE BREAK
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE
JP	JOINT POLE
JT	JOINT UTILITY TRENCH
LAT	SANITARY SEWER LATERAL
LF	LINEAL FEET
LG, LOG	LIP OF GUTTER
LT	LEFT
MB	MAILBOX
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MOV	MOTOR OPERATED VALVE
MTL	MATERIAL
NO	NUMBER
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OH	OVERHEAD UTILITY
PB	PULL BOX
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PE	PLAIN END
PH	UTILITY POTHOLE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVE
PT	POINT OF TANGENCY
PVC	POLY VINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECT
R	RADIUS
RC	RELATIVE COMPACTION
RCP	REINFORCED CONCRETE PIPE
RET	RETAINING
RPB	REDUCED PRESSURE BACKFLOW PREVENTER
RT	RIGHT
RW	RECLAIMED WATER
RWL	RAIN WATER LEADER
R/W	RIGHT-OF-WAY
S	SLOPE
SCH	SCHEDULE
SD	STORM DRAIN
SDE	STORM DRAIN EASEMENT
SF	SQUARE FOOT
SHT	SHEET
SL	STREET LIGHT
SNS	STREET NAME SIGN
SS	SANITARY SEWER
SSE	SANITARY SEWER EASEMENT
SST	STAINLESS STEEL
STA	STATION
STL	STEEL
STD	STANDARD
SXS	SLIP BY SLIP
SQ	SQUARE
T&B	TOP AND BOTTOM
TB	TOP OF BANK
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEL	TELEPHONE
TG	TOP OF GRATE
TOS	TOE OF SLAB
TP	TELEPHONE POLE
TW	TREATED WATER
TYP	TYPICAL
U	UNDERGROUND UTILITY
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
UW	UTILITY WATER
VC	VERTICAL CURVE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W	WATER, WATER MAIN
W/	WITH
WM	WATER METER
WME	WATER MAIN EASEMENT
WV	WATER VALVE

PROFESSIONAL ENGINEER — No. 62547 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
REVIEWED BY
DRAWN BY
DESIGNED BY

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

GENERAL NOTES, ABBREVIATIONS, AND LEGEND

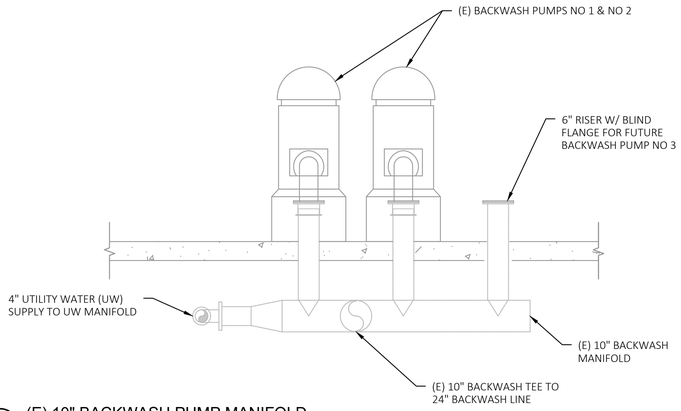
PROJECT NUMBER
22–09

DRAWING DATE
3/12/24

SHEET NUMBER
2 OF 17

ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3



D - (E) 10" BACKWASH PUMP MANIFOLD

SCALE: 1/2"=1'-0"

UTILITY WATER SALVAGE NOTES:

M1 SCHEDULE 80 PVC 90 ELBOW FLXS

M2 4" PVC BALL VALVE WITH UNIONS

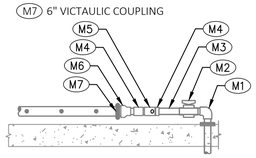
M3 SCHEDULE 80 PVC PIPE PEXPE

M4 SCHEDULE 80 PVC 45 ELBOW SXS

M5 SCHEDULE 80 PVC 4"X4"X2" TEE SXS WITH CAP

M6 SCHEDULE 80 PVC 6"X4" REDUCER SXS

M7 6" VICTAULIC COUPLING



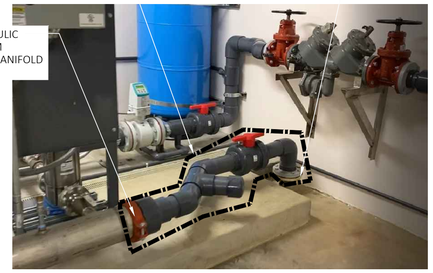
E - (E) UTILITY WATER MANIFOLD

SCALE: 3/16"=1'-0"

SALVAGE AND RELOCATE EXISTING PVC DISCHARGE LINE TO OPPOSITE END OF MANIFOLD. SEE SHEET 5 FOR INSTALL LOCATION.

INSTALL BLIND FLANGE AT RISER

RELOCATE (E) VICTAULIC BLIND FLANGE FROM OPPOSITE END OF MANIFOLD AND INSTALL



1 - (E) UTILITY WATER MANIFOLD AND DISCHARGE

NOT TO SCALE

2 - (E) UTILITY WATER PUMP MANIFOLD

NOT TO SCALE

3 - (E) BACKWASH PUMPS NO 1 & 2

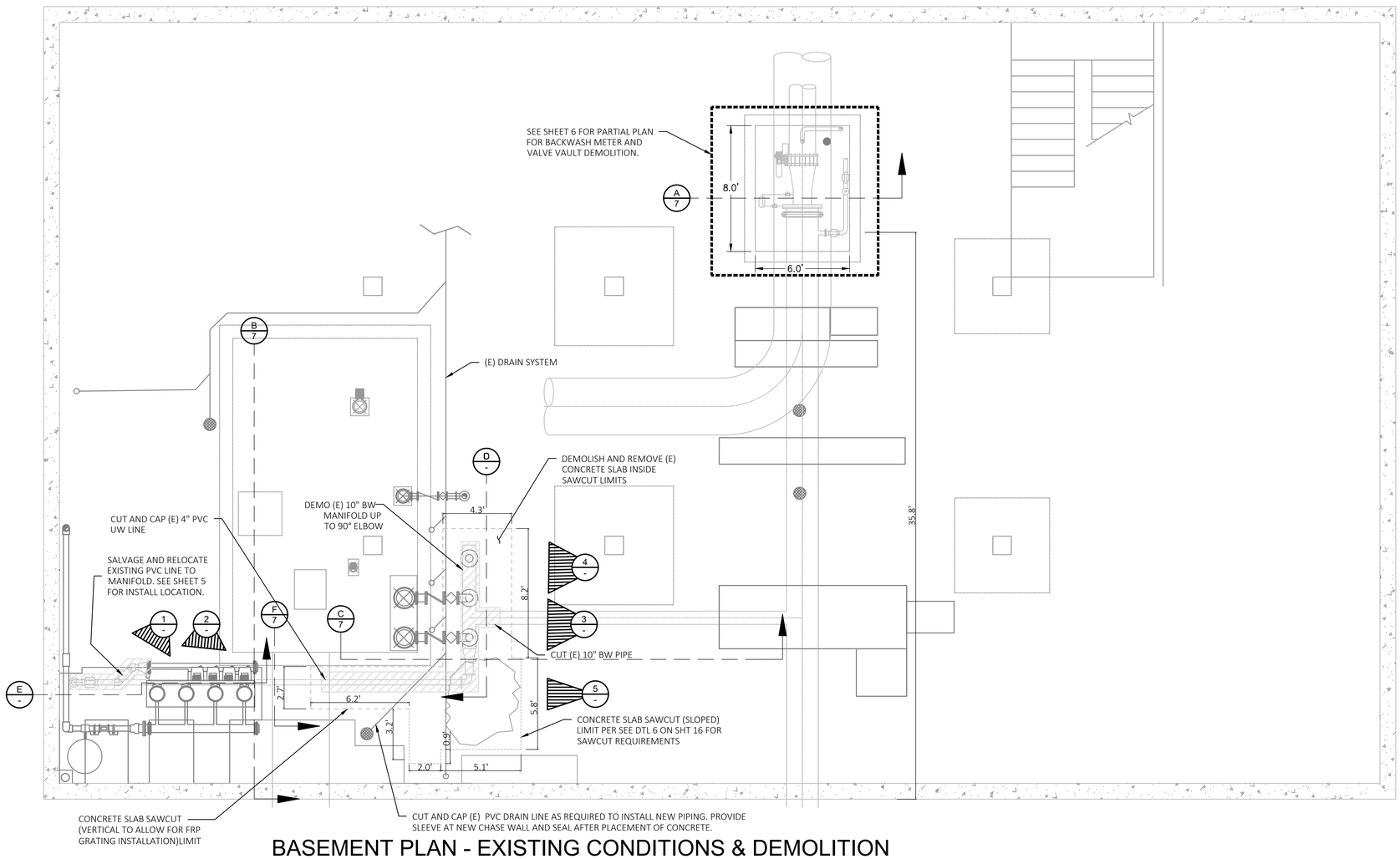
NOT TO SCALE

4 - (E) BACKWASH PUMPS NO 2 & 3

NOT TO SCALE

5 - (E) SLAB DEMOLITION

NOT TO SCALE



BASEMENT PLAN - EXISTING CONDITIONS & DEMOLITION

SCALE: 1/4"=1'

REGISTERED PROFESSIONAL ENGINEER — No. 62547 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF ERIK WEBER, RCE 62547 — DATE 10/16/24

DESIGNED BY	DRAWN BY	REVIEWED BY

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH AND UTILITY WATER - EXISTING CONDITION AND DEMOLITION

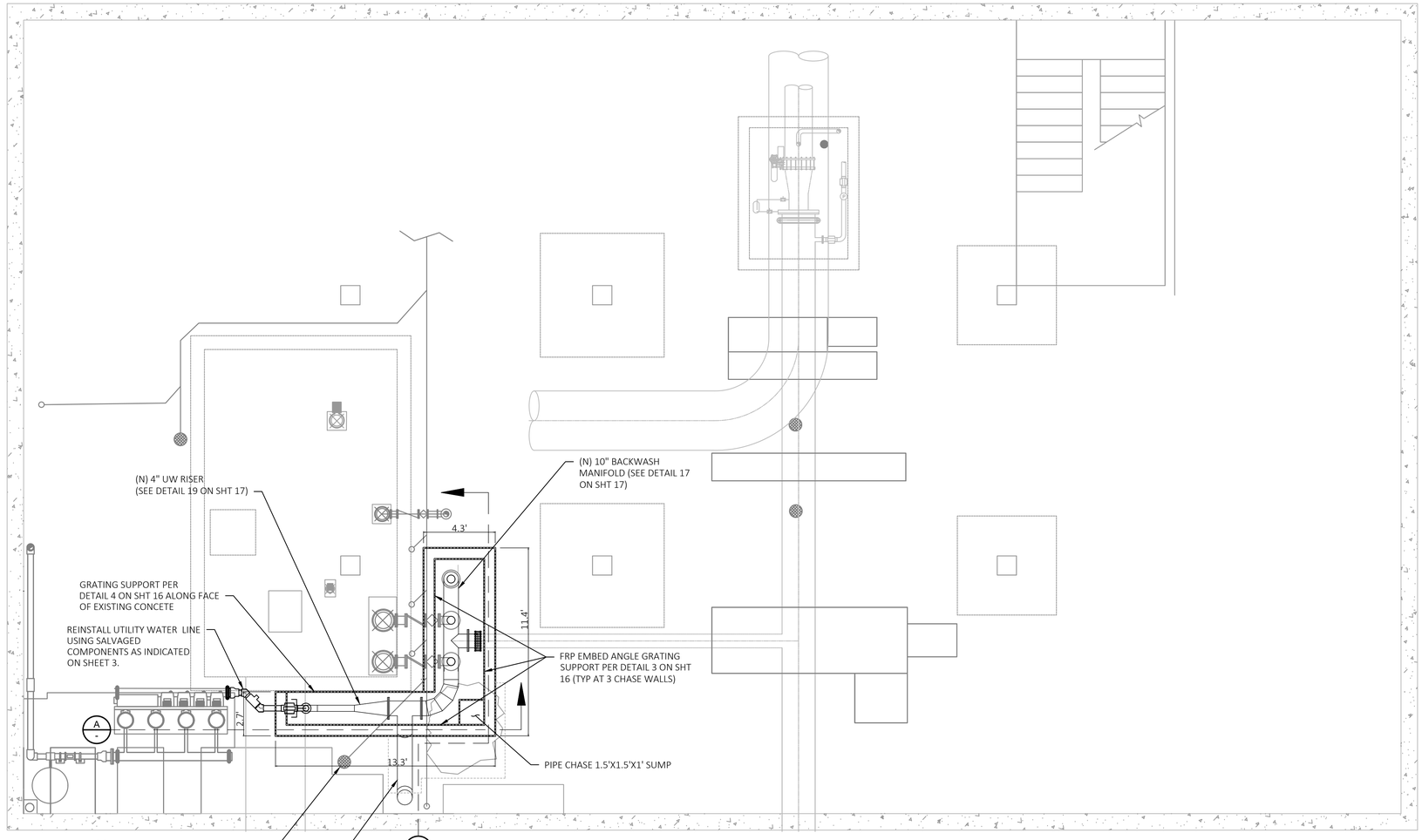
PROJECT NUMBER 22-09

DRAWING DATE 3/12/24

SHEET NUMBER 3 OF 17

ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3

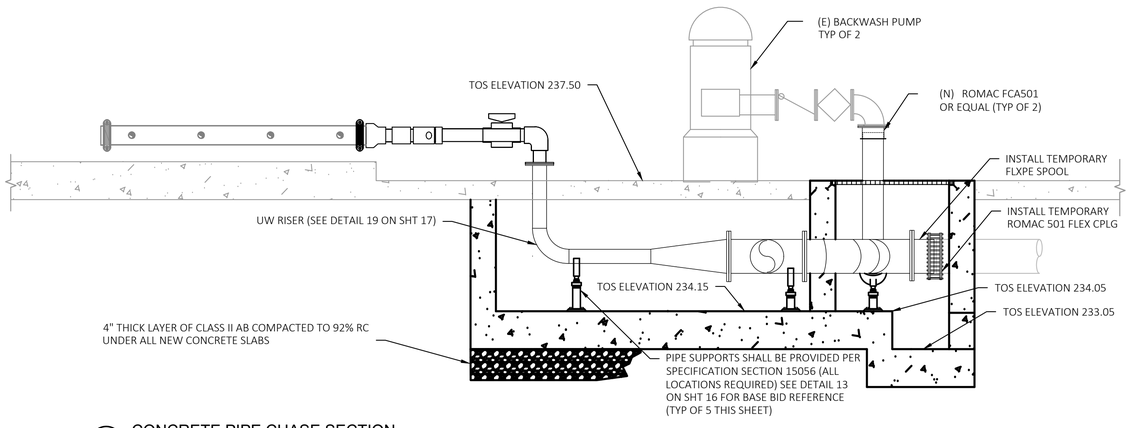


BACKWASH AND UTILITY WATER LINE REPLACEMENT - PHASE I

SCALE: 1/4"=1'

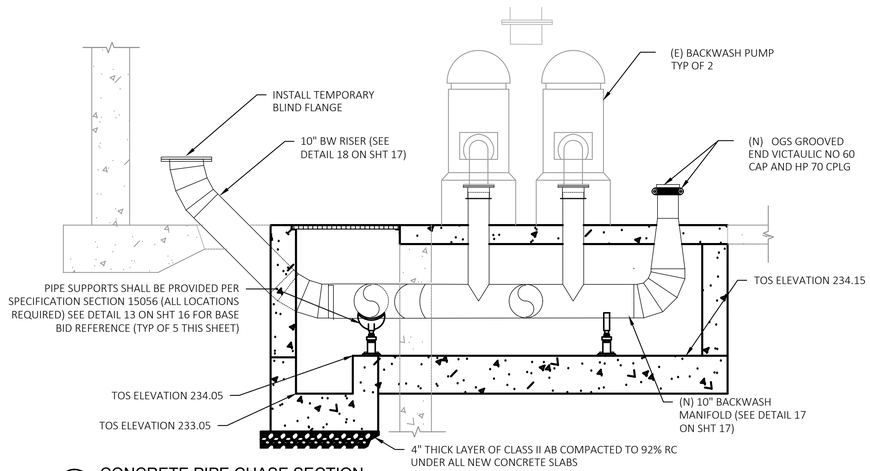
NOTES:

1. SEE DETAILS 7, 8 & 10 ON SHEET 16 FOR ADDITIONAL REQUIREMENTS INCLUDING REINFORCEMENT WATERSTOP & STRUCTURE DIMENSIONS
2. PIPE SUPPORTS AS SHOWN ON PLANS AND IN DETAILS ARE FOR BIDDING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE PIPE SUPPORTS PER SPECIFICATION AND SHALL INCLUDE COST OF ENGINEERING BY OTHERS IN THE BASE BID.



A CONCRETE PIPE CHASE SECTION

SCALE: 1/2"=1'–0"



B CONCRETE PIPE CHASE SECTION

SCALE: 1/2"=1'–0"

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10/16/24
DATE

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH AND UTILITY WATER PHASE I

PROJECT NUMBER
22–09

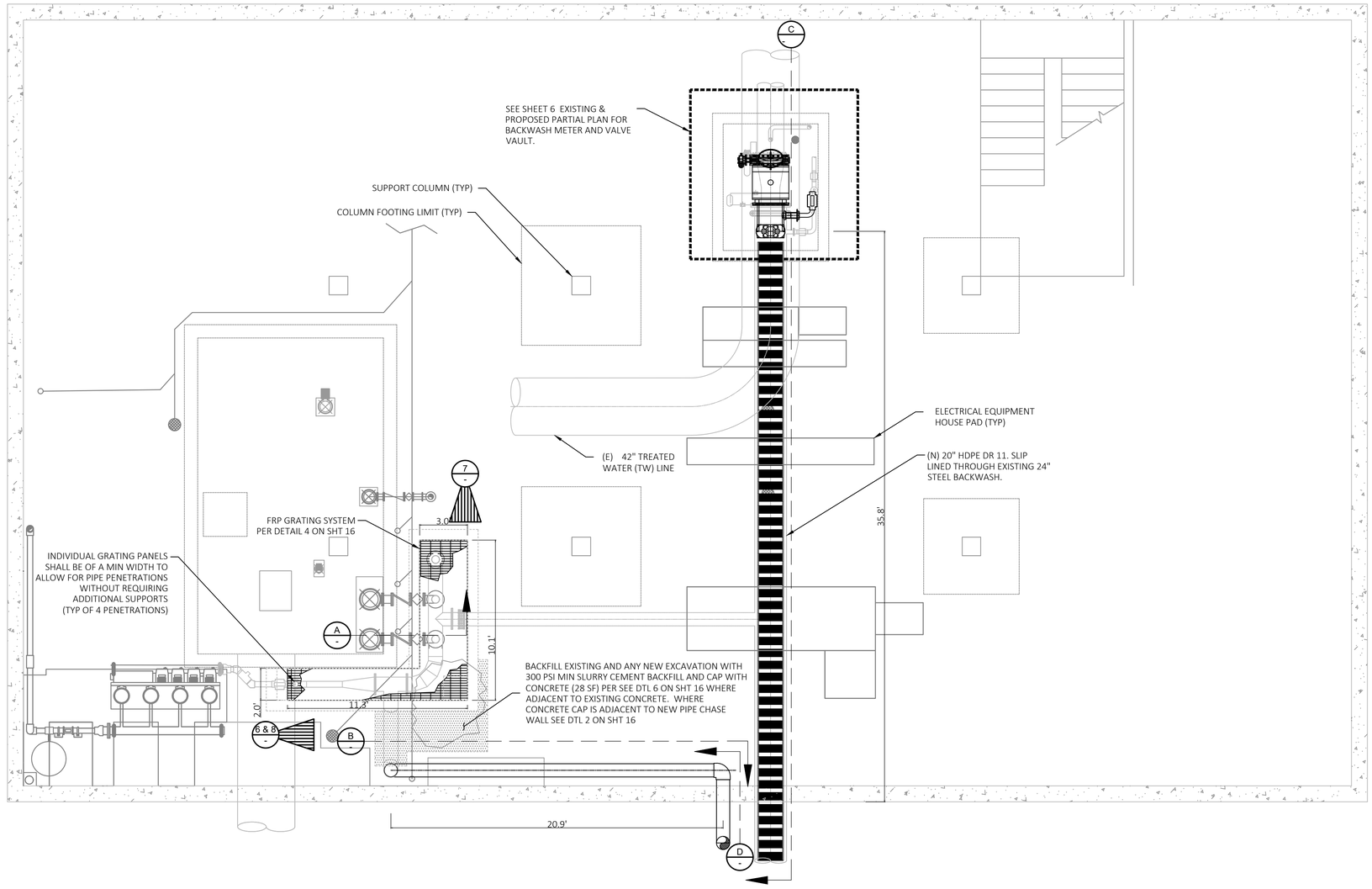
DRAWING DATE
3/12/24

SHEET NUMBER
4 OF 17

ORIGINAL PLOT DATE:

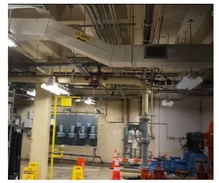
FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES

0 1 2 3



6 (E) PIPE & ACCESSORIES SOUTH WALL

NOT TO SCALE

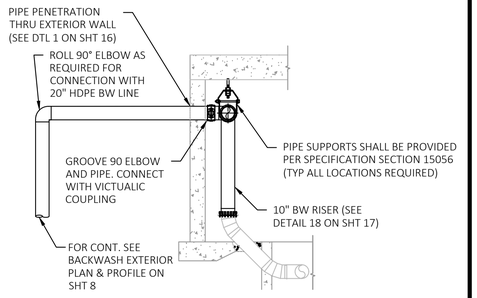


7 (E) PIPE & ACCESSORIES SOUTH WALL

NOT TO SCALE

8 (E) PIPE & ACCESSORIES SOUTH WALL

NOT TO SCALE

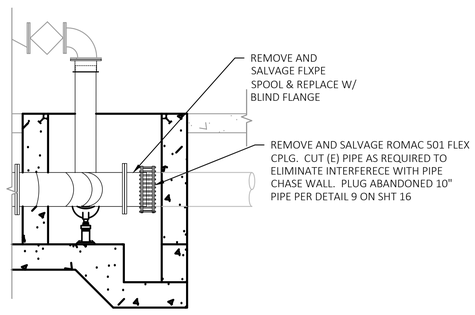


D 10" BW ABOVE GRADE ROUTING

SCALE: 1/2"=1'-0"

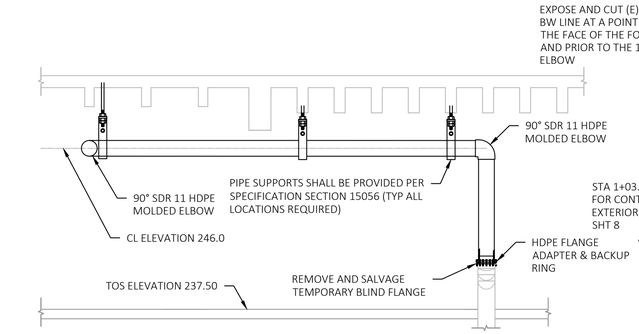
BACKWASH AND UTILITY WATER LINE REPLACEMENT - PHASE II

SCALE: 1/4"=1'



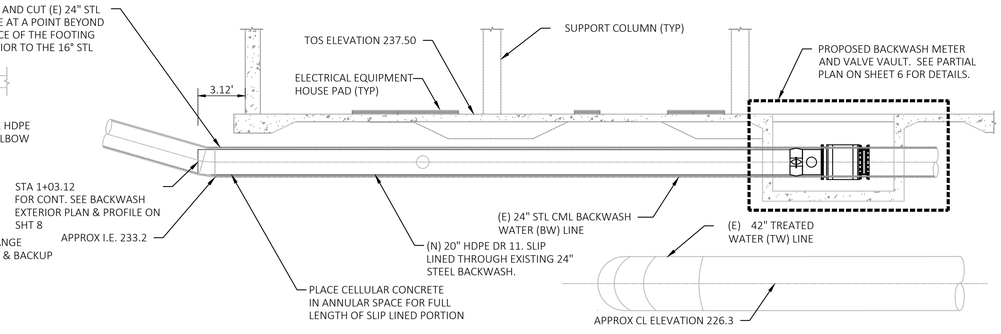
A 10" BW CUT AND CAP LOCATION

SCALE: 1/2"=1'-0"



B 10" BW ABOVE GRADE ROUTING

SCALE: 1/4"=1'



C 20" BW LINE

SCALE: 1/2"=1'-0"

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH AND UTILITY WATER - PHASE II

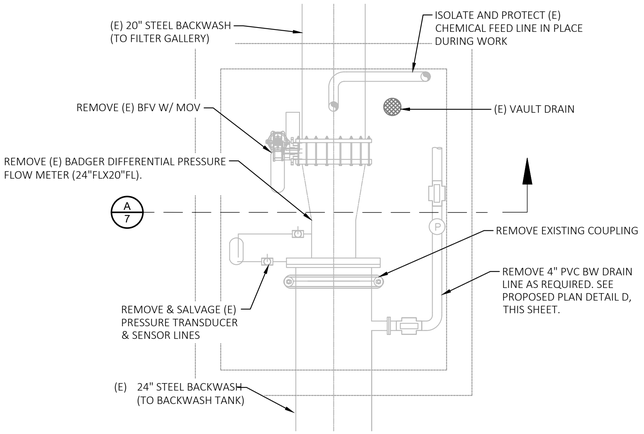
PROJECT NUMBER 22-09

DRAWING DATE 3/12/24

SHEET NUMBER 5 OF 17

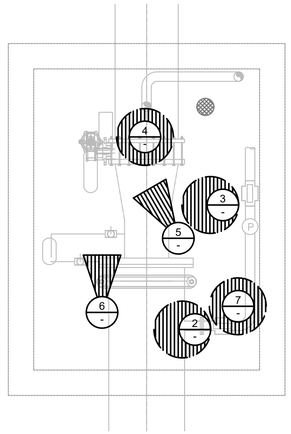
ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3



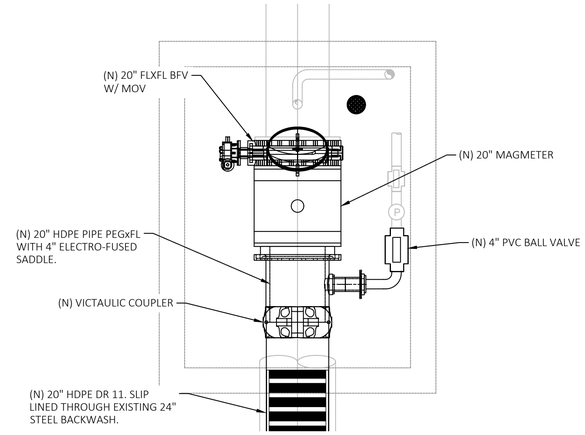
B - PARTIAL EXISTING AND DEMO PLAN - (E) BW FLOW METER & BFV VAULT

SCALE: 1/2"=1'-0"



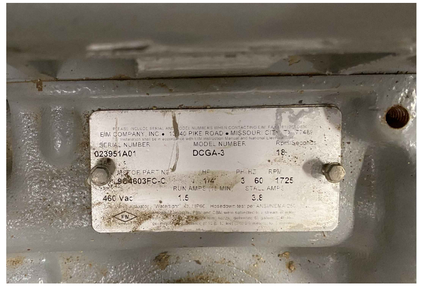
C - PHOTO DETAIL KEY - (E) BW FLOW METER & BFV VAULT

SCALE: 1/2"=1'-0"



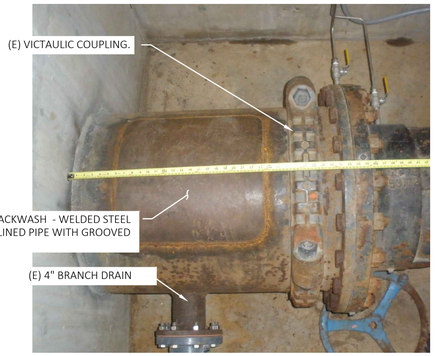
D - PARTIAL PROPOSED PLAN

SCALE: 1/2"=1'-0"



1 - (E) ELECTRIC MOTOR ACTUATOR NAMEPLATE

NTS



2 - (E) 24" DI TEE W/ 4" BRANCH

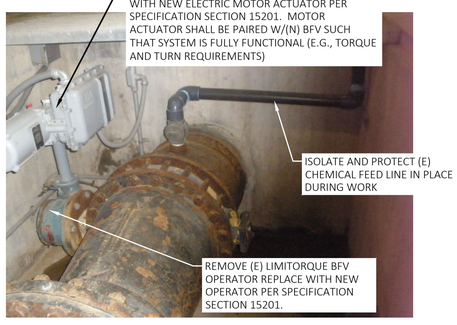
NTS

3 - (E) BADGER FLOW METER

NTS

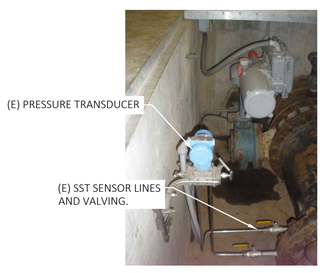
4 - (E) WAFER STYLE BUTTERFLY VALVE

NTS



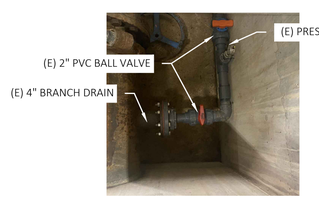
5 - (E) BFV MOTOR ACTUATOR

NTS



6 - (E) FLOW METER PRESSURE TRANSDUCER

NTS



7 - (E) FLOW METER PRESSURE TRANSDUCER

NTS

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH VALVE AND FLOW METER VAULT

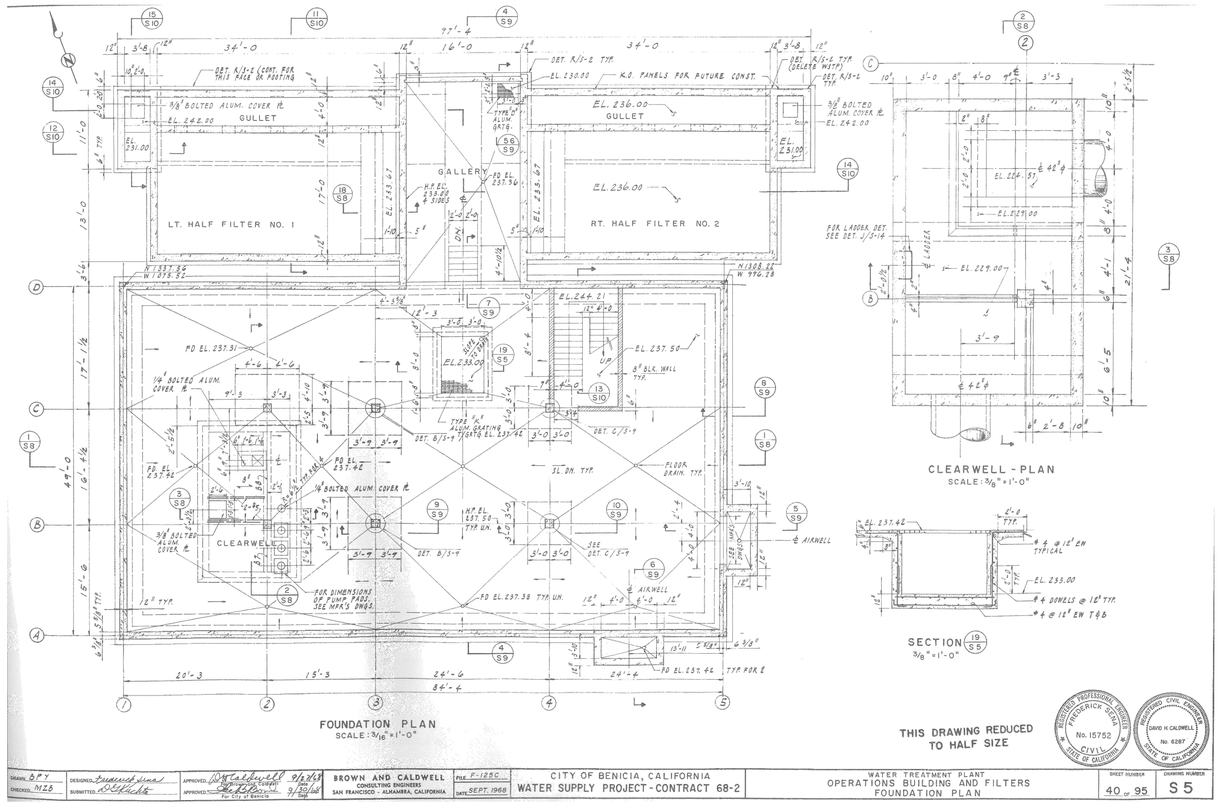
PROJECT NUMBER
22-09

DRAWING DATE
3/12/24

SHEET NUMBER
6 OF 17

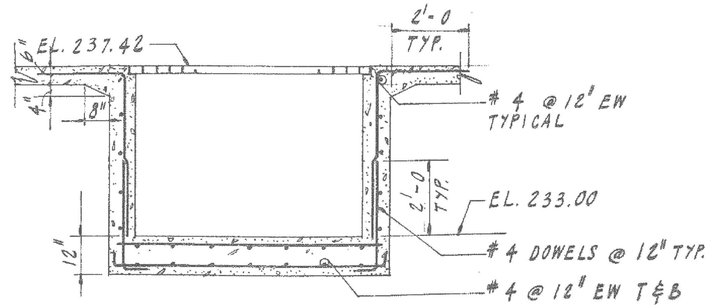
ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE 0 1 2 3
ORIGINAL SCALE IS IN INCHES



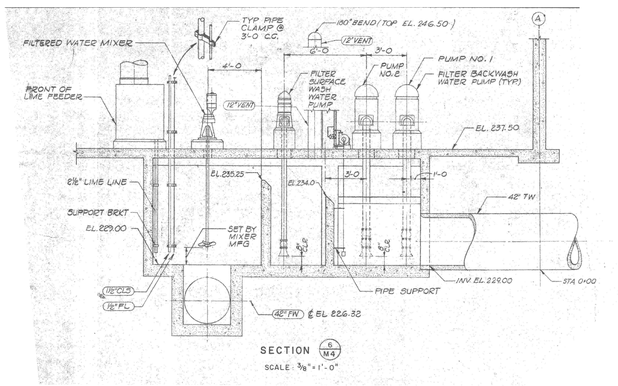
ORIGINAL DESIGN PLAN SHEET S5

NTS



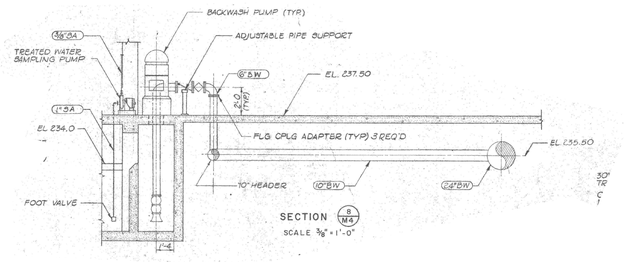
A ORIGINAL DESIGN SECTION 19/S5

NTS



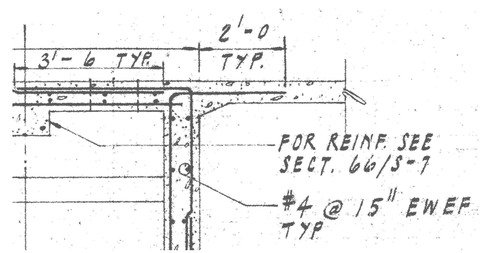
B 3 ORIGINAL DESIGN SECTION 6/M4

NTS



C 3 ORIGINAL DESIGN SECTION 8/M4

NTS



F 3 ORIGINAL DESIGN SECTION 8/M4

NTS

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH AND UTILITY WATER ORIGINAL DESIGN DRAWINGS

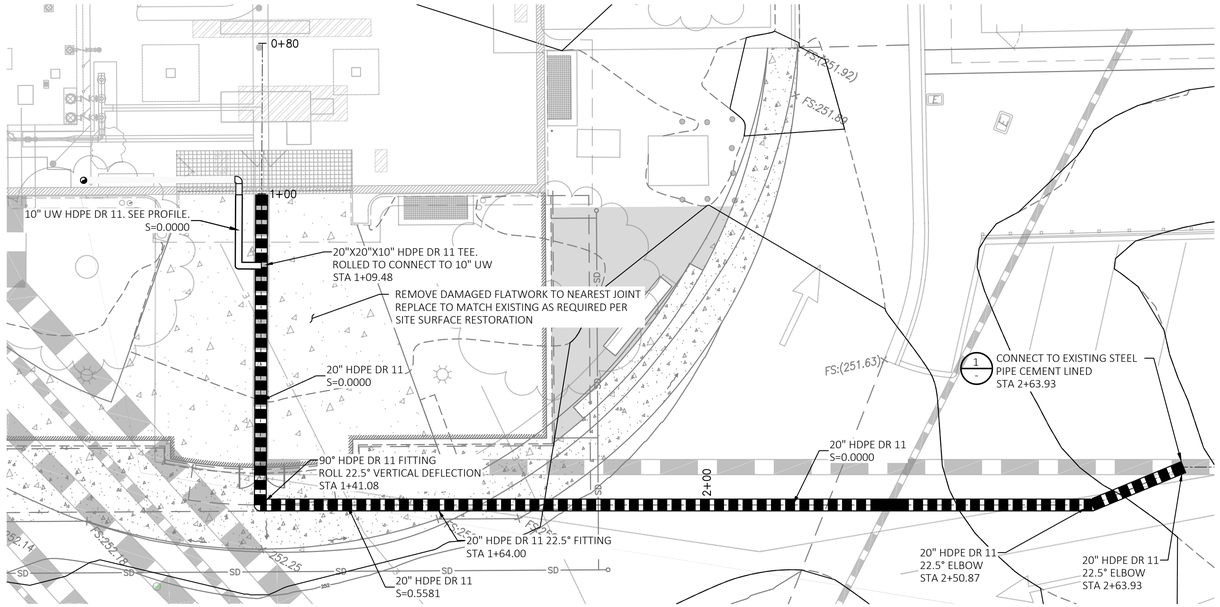
PROJECT NUMBER
22-09

DRAWING DATE
3/12/24

SHEET NUMBER
7 OF 17

ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3



EXTERIOR BACKWASH CONVEYANCE LINE - PLAN

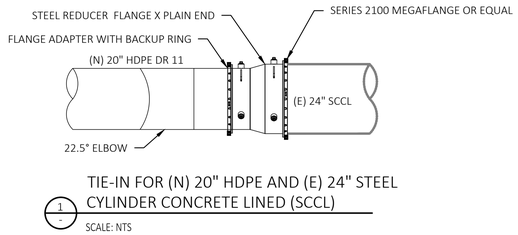
SCALE: 1" = 10'

EXCAVATION AND BACKFILL NOTES:

1. SEE DETAILS 14, 15 & 16 ON SHEET 17 FOR ADDITIONAL REQUIREMENTS INCLUDING TRENCH BACKFILL, BACKFILL NEAR STRUCTURES AND PIPE ENCASEMENT.
2. 20" HDPE BW LINE SHALL BE ENCASED BETWEEN STA 1+00 & STA 1+81 PER DETAIL 16 ON SHT 17
3. 10" HDPE BW LINE SHALL BE ENCASED PER DETAIL 16 ON SHT 17 ROM THE POINT IT EXITS THE WALL TO THE POINT OF CONNECTION TO THE 20" BW LINE
4. 20" HDPE BW LINE TRENCH BACKFILL SHALL BE PER DETAIL 14 ON SHT 17 BETWEEN STA 1+81 AND THE POINT OF CONNECTION TO THE EXISTING LINE AT STA 2+57.78

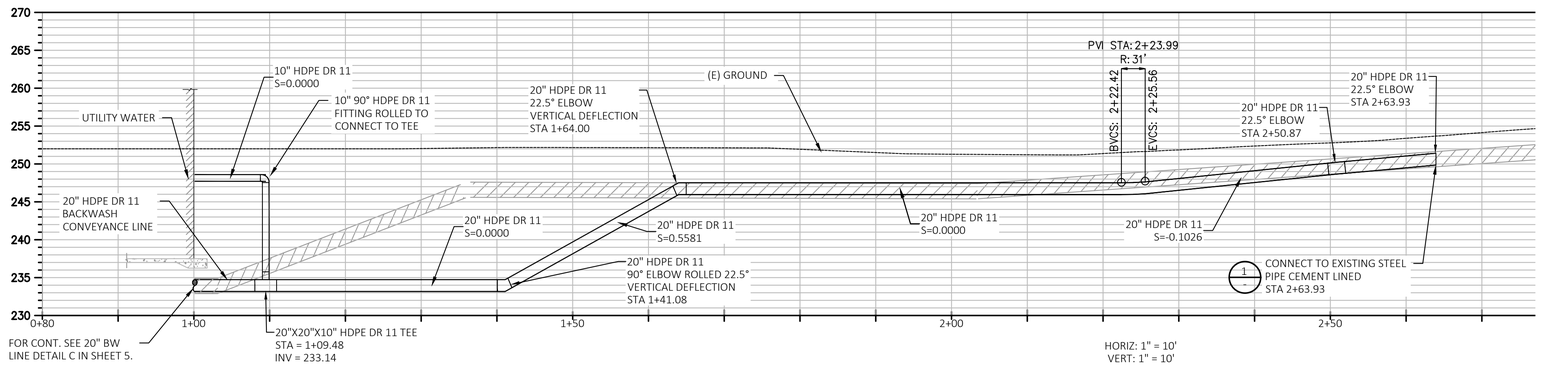
ACCESS NOTE:

CONTRACTOR SHALL PROVIDE FOR UNIMPEDED ACCESS FOR ALL DELIVERY VEHICLES TRANSPORTING MATERIALS, CHEMICALS AND EQUIPMENT TO THE FACILITY FOR THE OWNER'S OPERATIONS. CONTRACTOR SHALL COORDINATE THE WORK TO AVOID INTERFERENCE WITH VEHICULAR ACCESS TO THE EXISTING PLANT SITE AND NORMAL OPERATION OF PLANT EQUIPMENT AND PROCESSES.



1 TIE-IN FOR (N) 20" HDPE AND (E) 24" STEEL CYLINDER CONCRETE LINED (SCCL)

SCALE: NTS



EXTERIOR BACKWASH CONVEYANCE LINE - PROFILE

SCALE: 1" = 10'

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE

DESIGNED BY	DRAWN BY	REVIEWED BY

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

BACKWASH AND PLANT WATER EXTERIOR PLAN AND PROFILE

REVISIONS	
MARK	DESCRIPTION
1	PLAN COMMENT RESPONSE DATED 12/14/24

PROJECT NUMBER 22–09

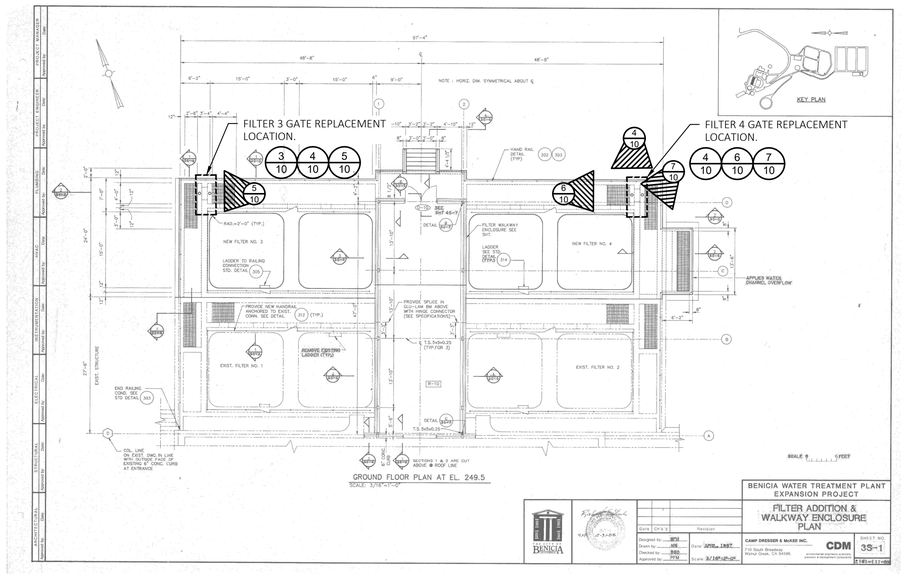
DRAWING DATE 3/12/24

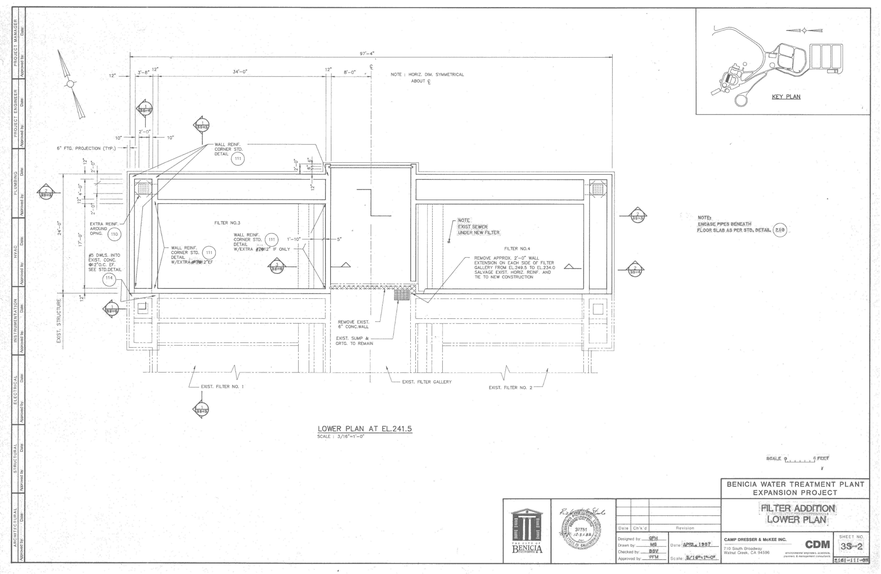
SHEET NUMBER 8 OF 17

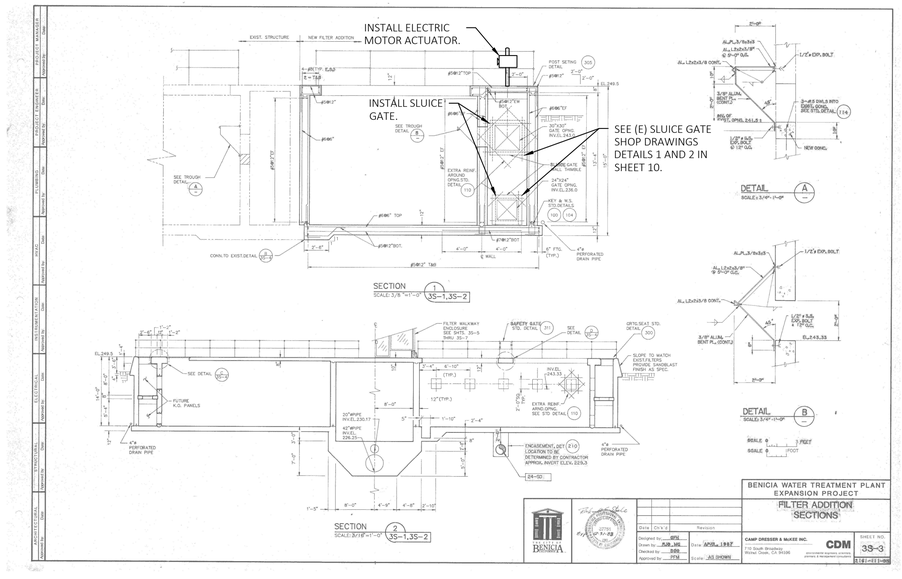
ORIGINAL PLOT DATE:

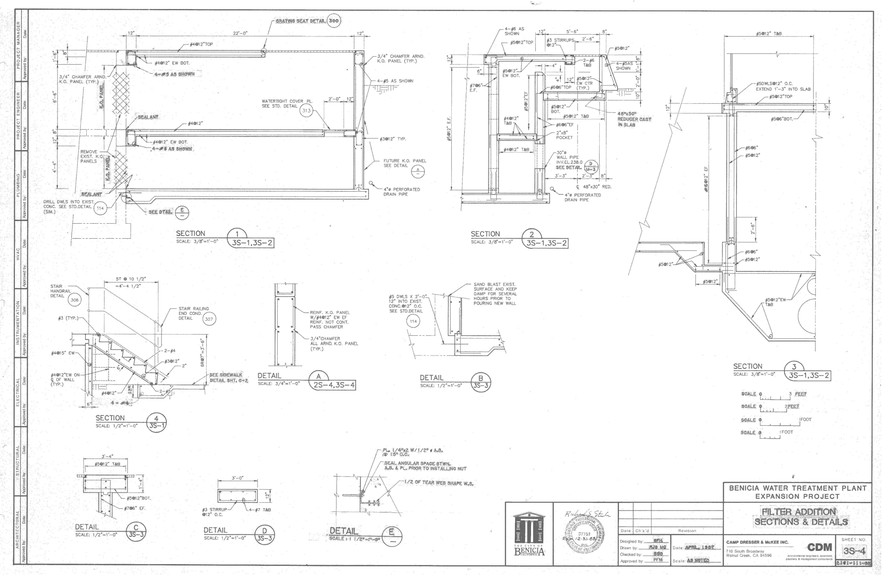
FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES

0 1 2 3









GENERAL NOTES:

1. ORIGINAL DESIGN CONSTRUCTION PLANS ARE DATED BACK IN APRIL 1987. TWO ADDITIONAL FILTER STRUCTURES HAVE SINCE BEEN ADDED AND ARE NOT SHOWN. THE ORIGINAL DESIGN PLANS SHOWN TO BE USED FOR REFERENCE ONLY. CONTRACTOR SHALL VERIFY ALL PERTINENT FIELD CONDITIONS, PRIOR TO GATE FABRICATION

PREPARED UNDER THE DIRECTION OF
Erik Weber
10/16/24
ERIK WEBER, RCE 62547 | DATE | REVIEWED BY | DRAWN BY | DESIGNED BY

REGISTERED PROFESSIONAL ENGINEER — No. 62547 — CIVIL — STATE OF CALIFORNIA

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

FILTERS 3 & 4 GATE REPLACEMENT ORIGINAL DESIGN DRAWING

PROJECT NUMBER 22-09

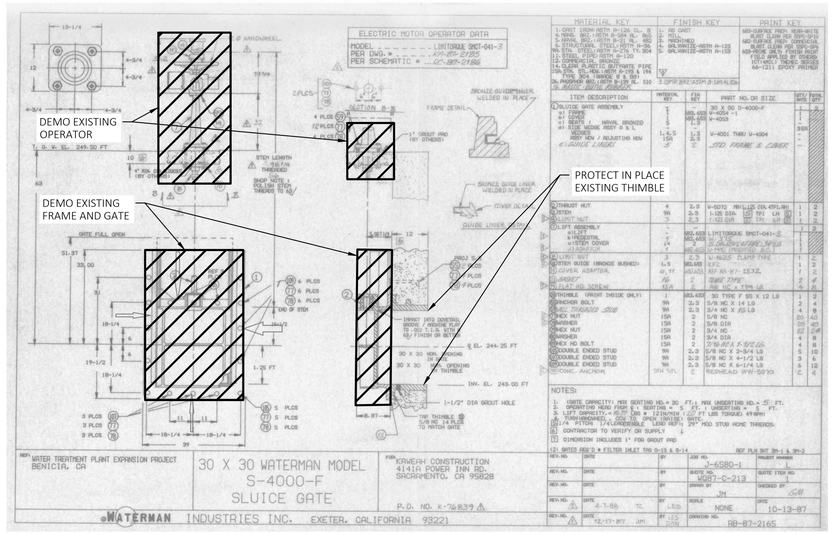
DRAWING DATE 3/12/24

SHEET NUMBER 9 OF 17

ORIGINAL PLOT DATE:

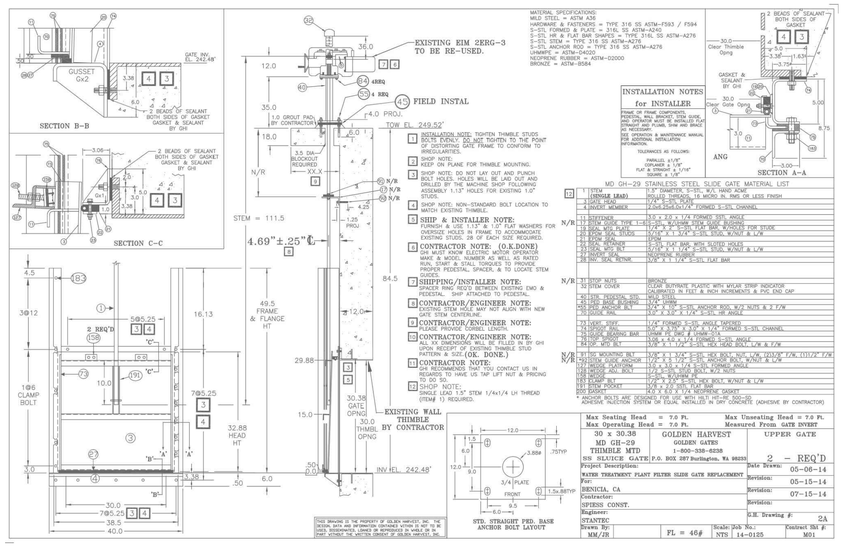
FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES

0 1 2 3



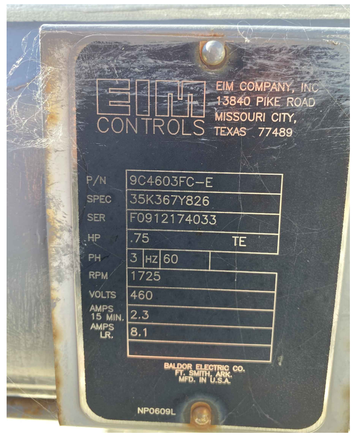
1 - (E) CAST IRON SLUICE GATE ORIGINAL DESIGN SHOP DRAWINGS 30"X30" OPENING. SIMILAR FOR 24"X24" OPENING.

NTS



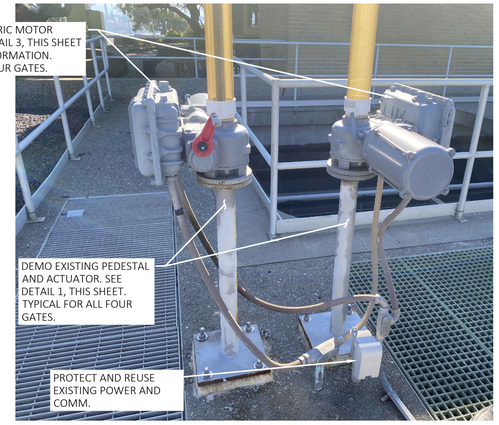
2 - (E) STAINLESS STEEL SLUICE GATE FILTERS 1 & 2 ORIGINAL SHOP DRAWING. 30"X30" OPENING. SIMILAR FOR 24"X24" OPENING. FOR REFERENCE ONLY.

NTS



3 - (E) EIM ACTUATOR PLATE DATA AT FILTER 4. TYPICAL FOR ALL GATES.

NTS



4 - (E) PEDESTAL & ACTUATOR AT FILTER 4. SIMILAR FOR FILTER 3.

NTS

5 - (E) CAST IRON SLUICE GATE FILTER 3 30"X30" OPENING

NTS

6 - (E) CAST IRON SLUICE GATE FILTER 4 30"X30" OPENING

NTS

FILTER GATE DATA				
	FILTER 3 (24x24)	FILTER 3 (30x30)	FILTER 4 (24x24)	FILTER 4 (30x30)
GATE TYPE	NON-SELF-CONTAINED	NON-SELF-CONTAINED	NON-SELF-CONTAINED	NON-SELF-CONTAINED
SIZE OF EXISTING THIMBLE	24" SQ.	30" SQ.	24" SQ.	30" SQ.
OPERATING FLOOR ELEVATION (FT)	249.50	249.50	249.50	249.50
INVERT ELEVATION (FT)	236.00	243.00	236.00	243.00
MAX SEATING HEAD (FT)	10	4	10	4
MAX UNSEATING HEAD (FT)	10	4	10	4
MAX OPERATING HEAD (FT)	13	7	13	7

7 - (E) CAST IRON SLUICE GATE FILTER 4 24"X24" OPENING. SIMILAR GATE AT FILTER 3.

NTS

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
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DRAWN BY
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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

FILTERS 3 & 4 GATE REPLACEMENT DETAIL

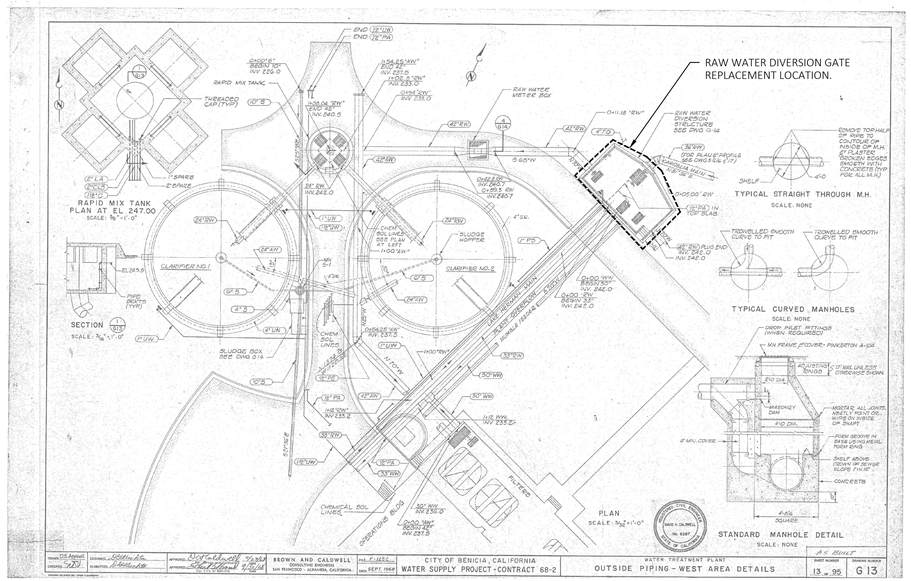
PROJECT NUMBER
22-09

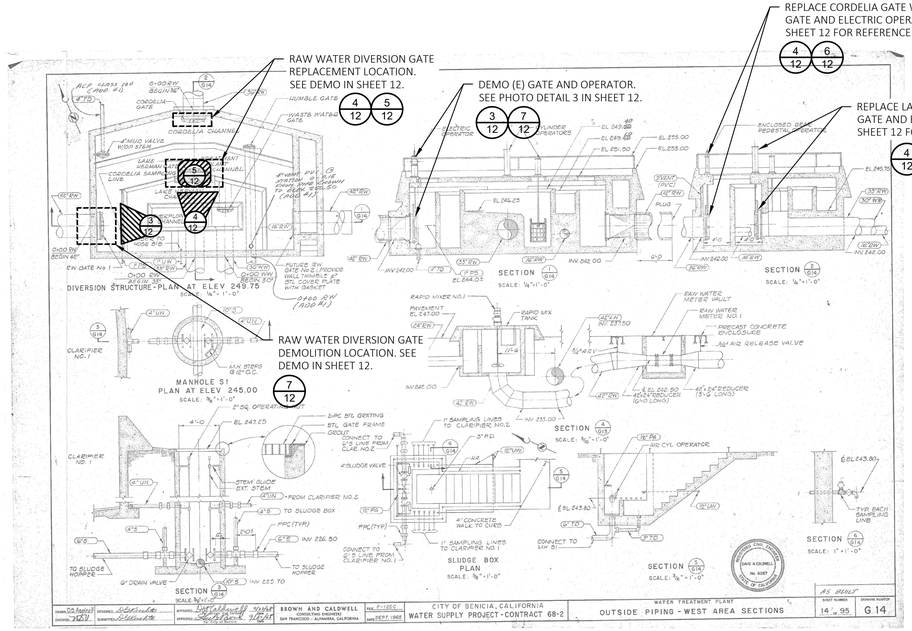
DRAWING DATE
3/12/24

SHEET NUMBER
10 OF 17

ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE 0 1 2 3
ORIGINAL SCALE IS IN INCHES





GENERAL NOTES:

1. ORIGINAL DESIGN CONSTRUCTION PLANS ARE DATED BACK IN 1968 AND ARE TO BE USED FOR REFERENCE ONLY.

REGISTERED PROFESSIONAL ENGINEER — No. 62547 — CIVIL — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
Erik Weber
10/16/24
ERIK WEBER, RCE 62547 — DATE

DESIGNED BY	DRAWN BY	REVIEWED BY

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

DIVERSION STRUCTURE ORIGINALDESIGN DRAWINGS

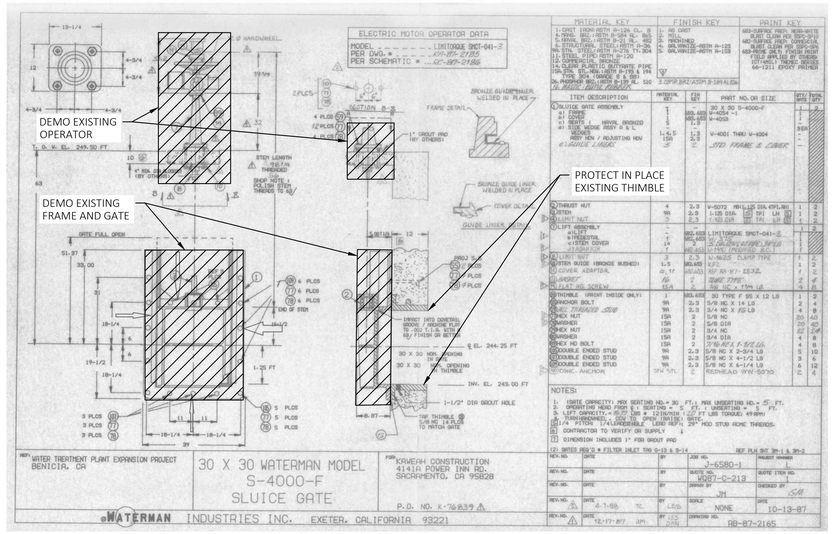
PROJECT NUMBER
22–09

DRAWING DATE
3/12/24

SHEET NUMBER
11 OF 17

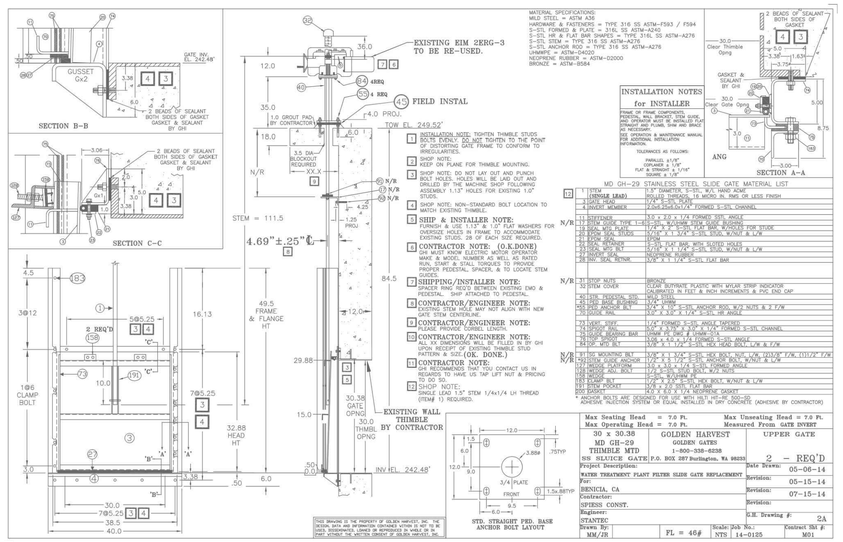
ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE 0 THE 1 THE 2 THE 3
ORIGINAL SCALE IS IN INCHES



1 - (E) CAST IRON SLUICE GATE ORIGINAL DESIGN SHOP DRAWINGS 30"X30" OPENING. SIMILAR FOR DIVERSION STRUCTURE. FOR REFERENCE ONLY.

NTS

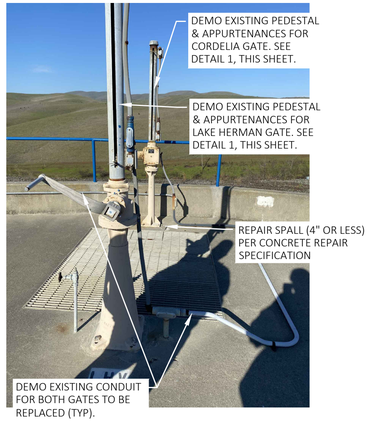


2 - (E) STAINLESS STEEL SLUICE GATE FILTERS 1 & 2 ORIGINAL SHOP DRAWING. 30"X30" OPENING. SIMILAR FOR 24"X24" OPENING. FOR REFERENCE ONLY.

NTS

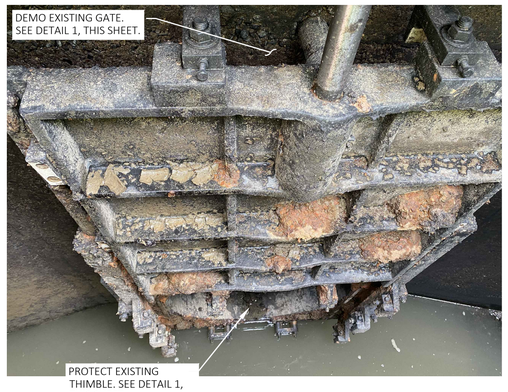
3 - (E) PEDESTAL, ACTUATOR, & GATE RAW WATER GATE 1

NTS



4 - (E) PEDESTAL FOR CORDELIA AND LAKE HERMAN RAW WATER DIVERSION GATES

NTS



5 - (E) CAST IRON RAW WATER DIVERSION GATE LAKE HERMAN; 42" Ø OPENING

NTS

RAW WATER DIVERSION EXISTING GATE DATA		
	CORDELIA	LAKE HERMAN
GATE TYPE	NON-SELF-CONTAINED	NON-SELF-CONTAINED
SIZE OF EXISTING THIMBLE	36"Ø	42"Ø
OPERATING FLOOR ELEVATION (FT)	251.50	251.50
INVERT ELEVATION (FT)	242.00	242.00
MAX SEATING HEAD (FT)	8	7
MAX UNSEATING HEAD (FT)	24	7

GENERAL NOTES:

1. SHOP DRAWINGS IN DETAIL 1 AND 2 ARE FOR GATES AT THE FILTERS. SIMILAR GATES WERE USED FOR THE RAW WATER DIVERSION STRUCTURE. THESE ORIGINAL SHOP DRAWINGS ARE TO BE USED FOR REFERENCE ONLY.

6 - (E) CAST IRON GATE - FILTER 4. SIMILAR TO CORDELIA RAW WATER DIVERSION GATE; 36" Ø OPENING. FOR REFERENCE ONLY.

NTS

7 - (E) CAST IRON GATE - FILTER 3. SIMILAR TO RAW WATER DIVERSION GATE - 1; 42"x42" OPENING. FOR REFERENCE ONLY.

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10/16/24
DATE
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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

DIVERSION STRUCTURE GATE REPLACEMENT

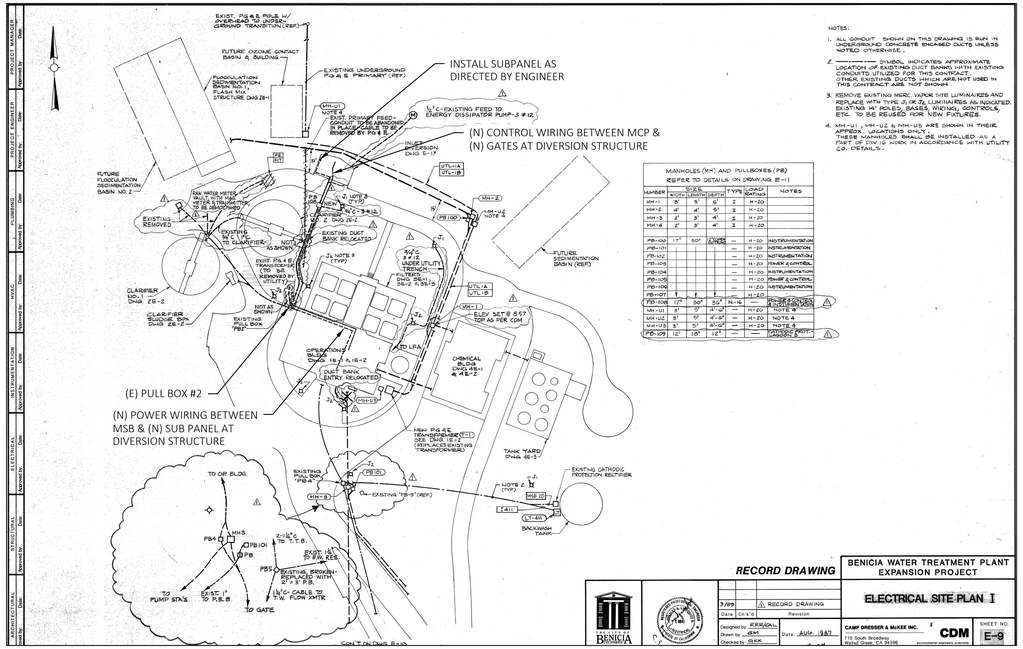
PROJECT NUMBER
22-09

DRAWING DATE
3/12/24

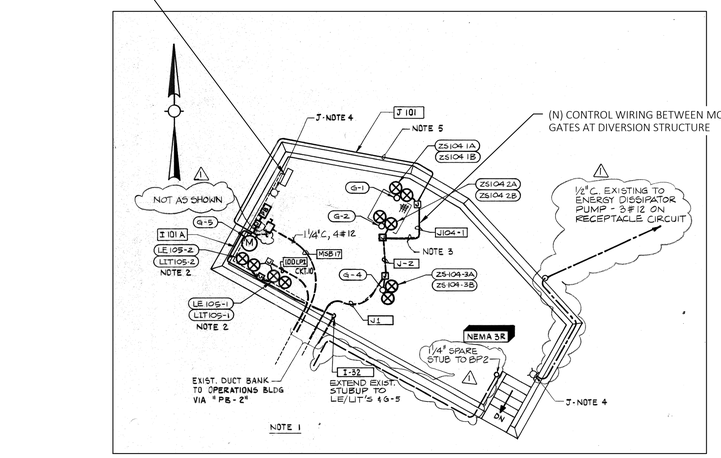
SHEET NUMBER
12 OF 17

ORIGINAL PLOT DATE:

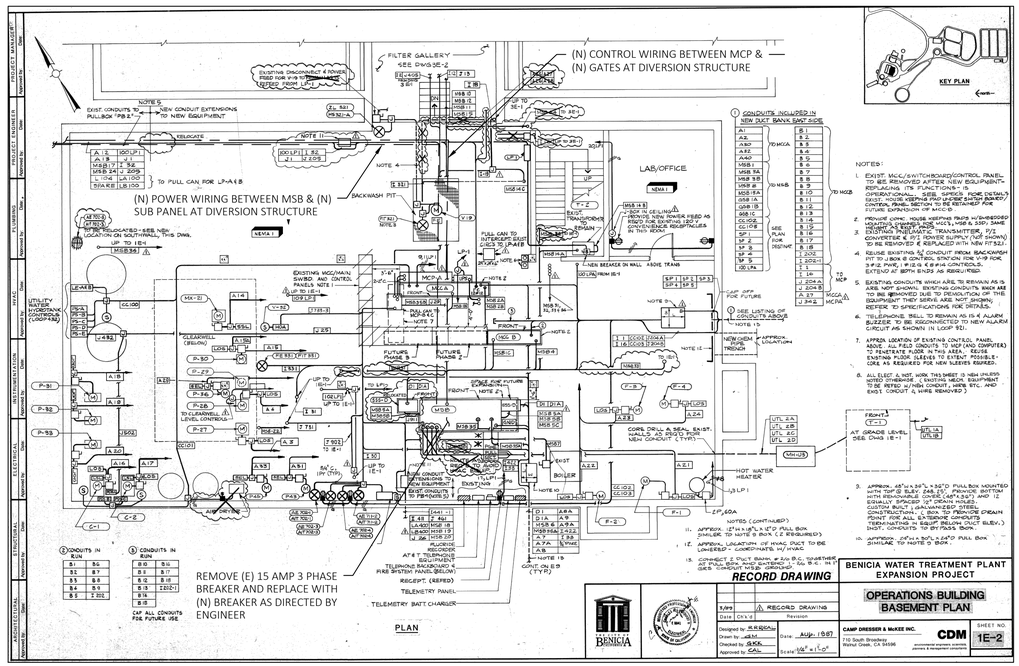
FOR REDUCED PLANS, THE 0 1 2 3
ORIGINAL SCALE IS IN INCHES



1 ORIGINAL DESIGN DRAWING - CONDUIT ROUTING
NTS



3 ORIGINAL DESIGN PARTIAL PLAN - DIVERSION STRUCTURE ELECTRICAL
NTS



2 ORIGINAL DESIGN DRAWING - OPERATIONS BLDG BASEMENT
NTS

GENERAL ELECTRICAL & INSTRUMENTATION NOTES:

1. ORIGINAL DESIGN DRAWINGS AND ARE TO BE USED FOR REFERENCE ONLY. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS PRIOR TO COMMENCING WORK.
2. THE WORK INDICATED ON THIS SHEET SHALL BE INCLUDED IN BID ITEM 17
3. ALL ABOVE GRADE CONDUIT RUNS AT THE DIVERSION STRUCTURE (POWER AND CONTROL WIRING) SHALL BE NEW
4. DIVERSION STRUCTURE AREA SHALL BE CONSIDERED A NEMA 4X EXPOSURE CLASS
5. OPERATIONS BASEMENT AREA SHALL BE CONSIDERED A NEMA 11 EXPOSURE CLASS
6. BID ITEM 17 EXCLUDES ALL COSTS ASSOCIATED WITH COORDINATION BETWEEN ELECTRICAL/INSTRUMENTATION WORK AND ALL OTHER WORK. THOSE COSTS SHALL BE INCLUDED IN THE VARIOUS BID ITEMS WHERE COORDINATION MAY BE REQUIRED

PROFESSIONAL ENGINEER — CIVIL — No. 62547 — STATE OF CALIFORNIA

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

DIVERSION STRUCTURE GATE ELECTRICAL

PROJECT NUMBER
22-09

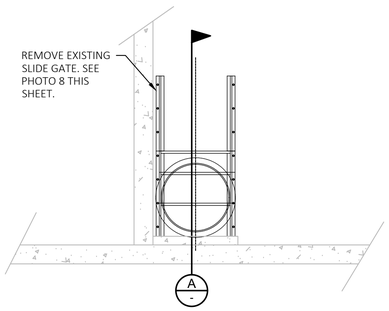
DRAWING DATE
3/12/24

SHEET NUMBER
13 OF 17

ORIGINAL PLOT DATE:

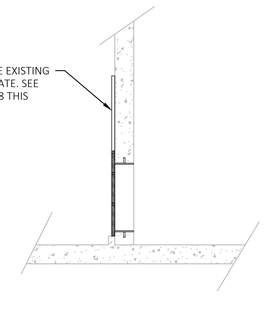
FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES

0 1 2 3



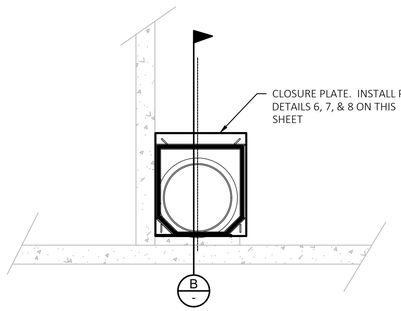
1 - (E) SED BASIN NO 1 GATE G9 -ELEVATION

SCALE: 1/2"=1'–0"



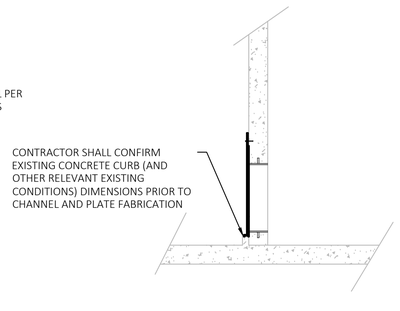
A - SECTION - GATE G9

SCALE: 1/2"=1'–0"



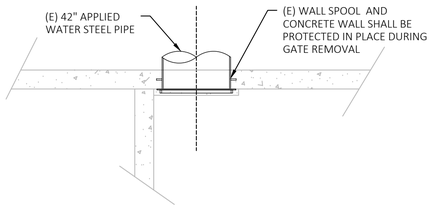
3 - (N) SED BASIN NO 1 GATE G9 -ELEVATION

SCALE: 1/2"=1'–0"



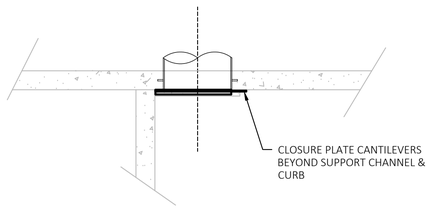
B - SECTION - GATE G9

SCALE: 1/2"=1'–0"



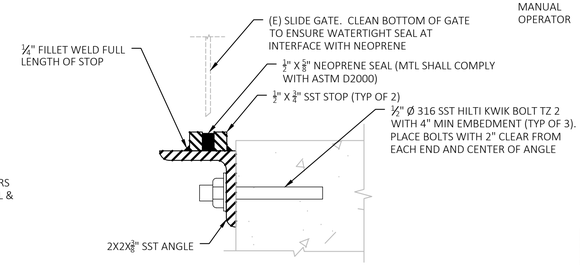
2 - (E) SED BASIN NO 1 GATE G9 -PLAN

SCALE: 1/2"=1'–0"



4 - (N) SED BASIN NO 1 GATE G9 -PLAN

SCALE: 1/2"=1'–0"



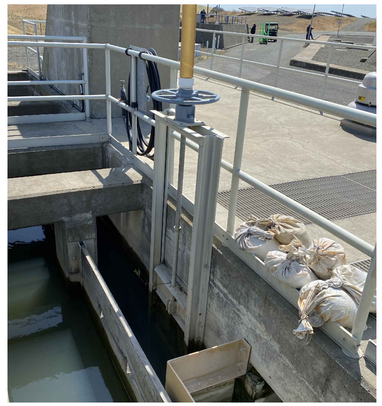
5 - (N) GATE G8 -BOTTOM SECTION

NTS

DEMO EXISTING GATE AND MANUAL OPERATOR

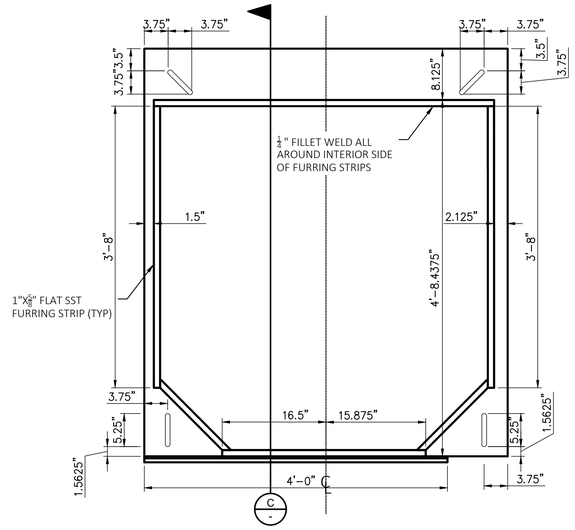
8/14 (E) SLIDE GATE (G-9)

NTS



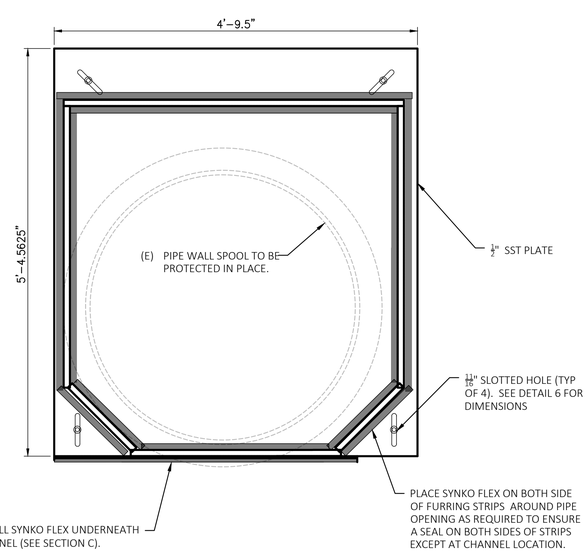
9/14 (E) SLIDE GATE (G-8)

NTS



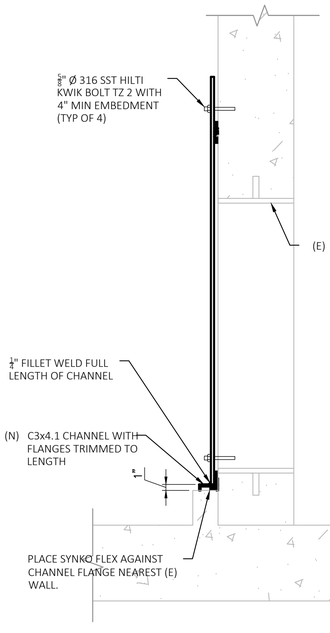
6 - CLOSURE PLATE FABRICATION DETAIL

SCALE: 1/2"=1'–0"



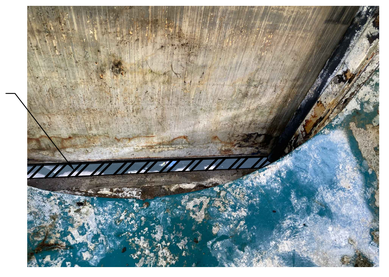
7 - CLOSURE PLATE INSTALLATION DETAIL

SCALE: 1/2"=1'–0"



C - SECTION - GATE G9

SCALE: 1/2"=1'–0"



10/14 (E) SLIDE GATE (G-8) - BOTTOM

NTS

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
DESIGNED BY | DRAWN BY | REVIEWED BY

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WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

SEDIMENTATION BASIN SLIDE GATE REPAIR

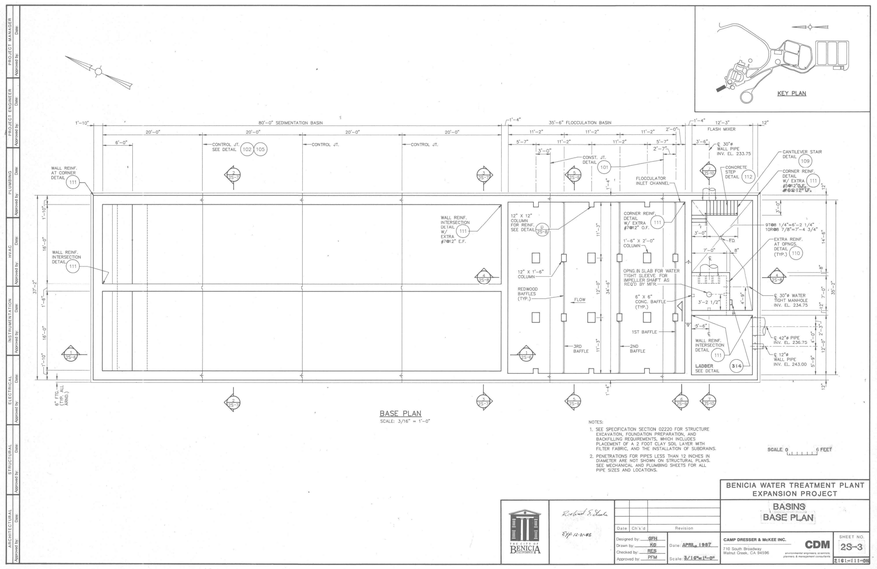
PROJECT NUMBER 22–09

DRAWING DATE 3/12/24

SHEET NUMBER 14 OF 17

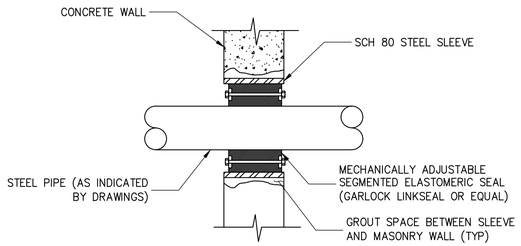
ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3

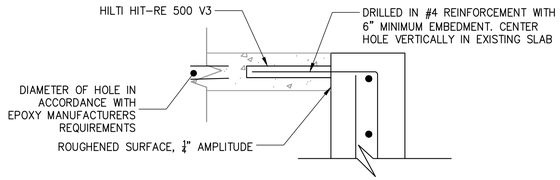

KEY PLAN
80'-0" SEDIMENTATION BASIN
35'-6" FLOCCULATION BASIN
CONTROL JT. SEE DETAIL 100 105
CONSTR. JT. DETAIL 101
FLOCCULATOR INLET CHANNEL
WALL REINF. AT CORNER DETAIL 111
WALL REINF. AT INTERSECTION DETAIL 111
CORNER REINF. DETAIL 111 EXTRA #7@12" EA.W.
CANTILEVER STAIR DETAIL 109
CONCRETE STEP DETAIL 112
12" X 12" OPNG. IN WALL FOR REINF. SEE DETAIL 111
12" X 12" OPNG. IN WALL FOR REINF. SEE DETAIL 111
#7@6" CONT. EA. WAY
#7@6" CONT. EA. WAY
#7 BARS @ 12" EA. WAY
#7@6" CONT. EA. WAY
#7@6" CONT. EA. WAY
#7@6" CONT.

ORIGINAL PLOT DATE:

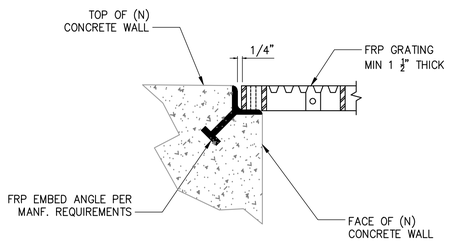
FOR REDUCED PLANS, THE 0 1 2 3
ORIGINAL SCALE IS IN INCHES



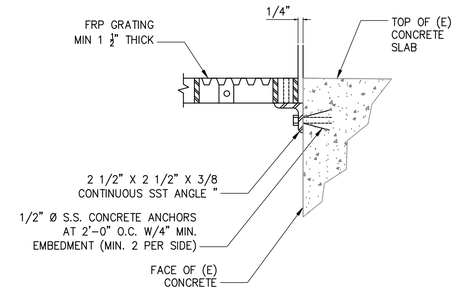
1 - EXTERIOR WALL OR FLOOR PIPE PENETRATION
NTS



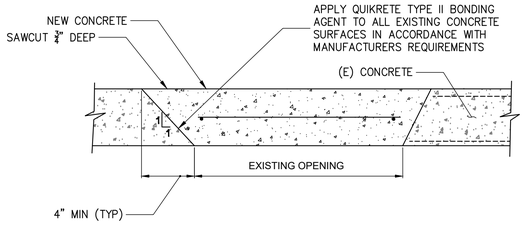
2 - DOWEL ANCHORAGE INTO (E) CONCRETE
NTS



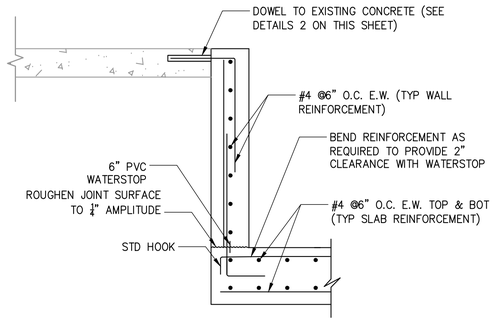
3 - FRP GRATING SUPPORT - NEW CONCRETE
NTS



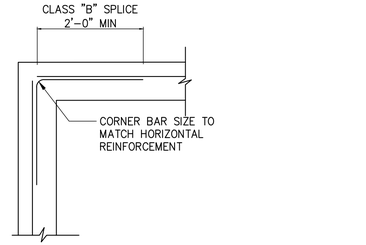
4 - FRP GRATING SUPPORT - EXISTING CONCRETE
NTS



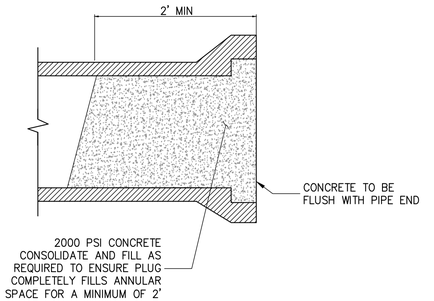
6 - FLOOR OPENING CLOSURE
NTS



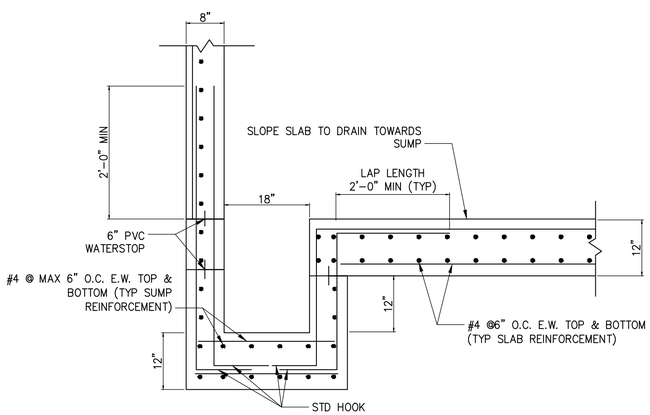
7 - REINFORCEMENT AT BASE OF WALL
NTS



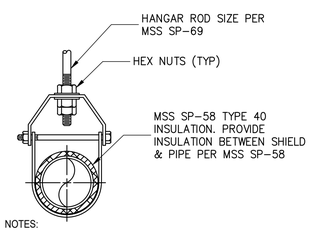
8 - REINFORCEMENT AT WALL CORNER
NTS



9 - PLUG FOR PIPES 18" & SMALLER
NTS

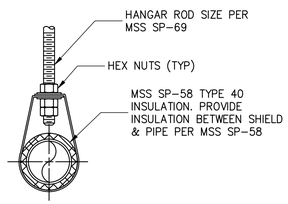


10 - REINFORCEMENT AT SUMP
NTS



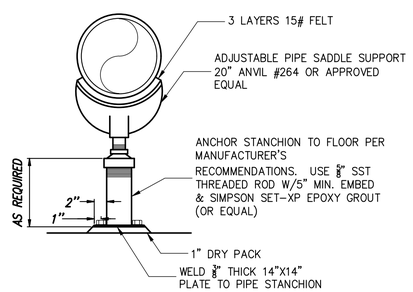
NOTES:
1. SEE SPECIFICATIONS SECTION 15056 FOR ADDITIONAL REQUIREMENTS
2. PAINT SUPPORTS SAME COLOR AS PIPING

11 - HANGING PIPE SUPPORT (PIPE 2" & LARGER)
NTS



NOTES:
1. SEE SPECIFICATIONS SECTION 15056 FOR ADDITIONAL REQUIREMENTS
2. PAINT SUPPORTS SAME COLOR AS PIPING

12 - HANGING PIPE SUPPORT (PIPE 1 1/2" & LESS)
NTS



NOTES:
1. SEE SPECIFICATIONS SECTION 15056 FOR ADDITIONAL REQUIREMENTS
2. PAINT SUPPORTS SAME COLOR AS PIPING

13 - STANCHION PIPE SUPPORT
NTS

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
REVIEWED BY
DRAWN BY
DESIGNED BY

COASTLAND | DCCM
COASTLAND | DCCM
324 Campus Lane, Suite A
Fairfield, CA 94534
707.702.1961 | coastlandcivil.com

WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

DETAILS - OPERATIONS BUILDING

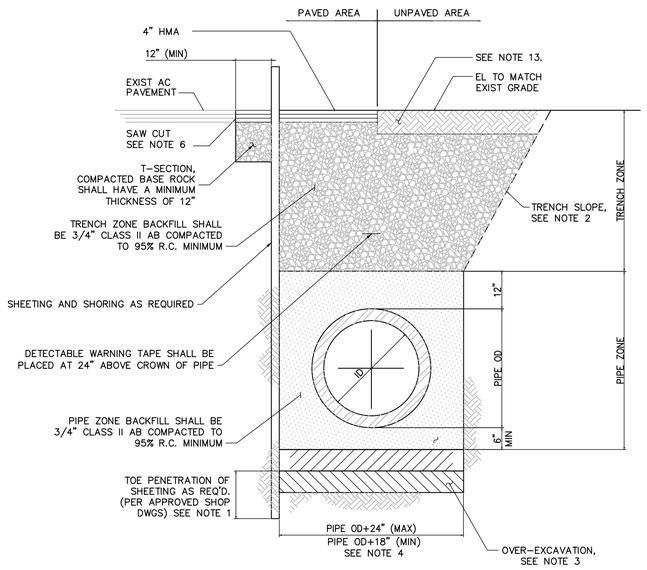
PROJECT NUMBER
22-09

DRAWING DATE
3/12/24

SHEET NUMBER
16 OF 17

ORIGINAL PLOT DATE:

FOR REDUCED PLANS, THE ORIGINAL SCALE IS IN INCHES 0 1 2 3

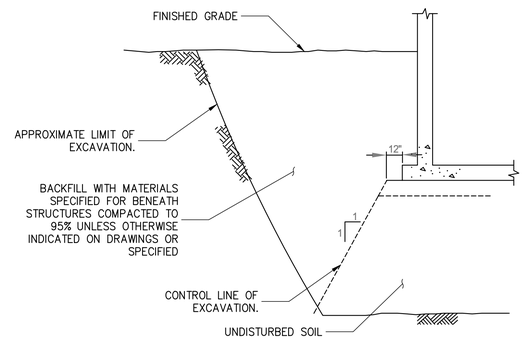


14 - TRENCH BACKFILL

NTS

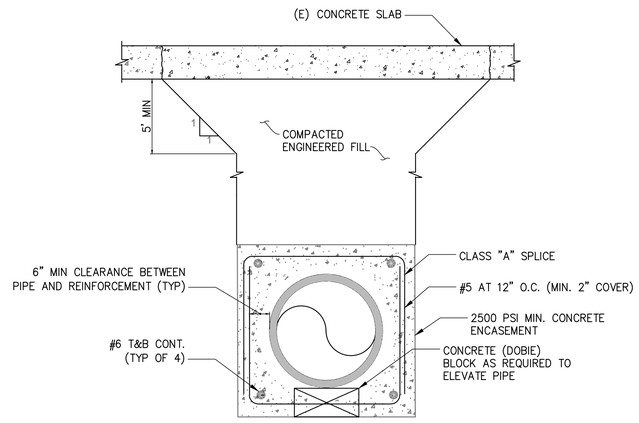
NOTES:

1. VOID CREATED WHEN SHEETING IS REMOVED SHALL BE BACKFILLED WITH TRENCH MATERIAL AS SHEETING IS REMOVED.
2. IF FULL TRENCH SHEETING IS NOT USED, SLOPE TRENCH IN ACCORDANCE WITH OSHA. SLOPED EXCAVATIONS SHALL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER. SLOPED EXCAVATIONS WILL ONLY BE CONSIDERED IN NON-PAVED AREAS.
3. EXCAVATE UNSUITABLE SUBGRADE MATERIAL BELOW EXCAVATION GRADE TO OBTAIN A FIRM AND STABLE BASE. MAINTAIN WATER LEVEL BELOW PIPE LAYING OPERATIONS. THE OVER-EXCAVATED AREA SHALL BE BACKFILLED WITH COARSE BEDDING AND SHALL BE WRAPPED TOGETHER WITH THE TRENCH COARSE BEDDING MATERIAL IN GEOTEXTILE FABRIC.
4. TYPICAL TRENCH DIMENSIONS:
   ID = PIPE INSIDE DIAMETER; I.E., NOMINAL PIPE SIZE, INCHES
   OD = PIPE OUTSIDE DIAMETER, INCHES
5. PROTECT ALL EXISTING PIPES IN VICINITY OF TRENCH.
6. ALL AC EDGES SHALL BE NEATLY SAWCUT. WHERE EDGE OF GUTTER IS WITHIN 3 FEET OF SAWCUT, REMOVE REMAINING EXISTING AC PAVING AND REPLACE WITH NEW AC PAVING.
7. NO JETTING OF TRENCH MATERIALS SHALL BE PERMITTED.
8. PIPE BEDDING OR AGG BASE MATERIAL SHALL NOT BE PLACED IN LIFTS GREATER THAN 8". CONTRACTOR SHALL DEMONSTRATE THAT SPECIFIED COMPACTION CAN BE ACHIEVED WITH 8" LIFTS THROUGH DENSITY TESTS.
9. IF THE MAXIMUM TRENCH WIDTH IS EXCEEDED DURING CONSTRUCTION, CONTACT THE DISTRICT IMMEDIATELY FOR ADDITIONAL REQUIREMENTS TO BE IMPLEMENTED BY THE CONTRACTOR.
10. WHERE ADEQUATE COMPACTION CANNOT BE ACHIEVED ABOVE CROWN OF PIPE DUE TO OBSTRUCTION OR OTHER CONDITIONS. REPLACE PIPE ZONE BACKFILL AND/OR TRENCH ZONE BACKFILL WITH CDF AS DIRECTED BY THE ENGINEER.
11. PRIOR TO TRENCHING, CONTACT USA NORTH BY CALLING 811.
12. BLASTING OF EXCAVATION MATERIALS IS NOT PERMITTED.
13. IN UNPAVED AREAS RESTORE UPPER 1 FOOT OF TRENCH TO ITS ORIGINAL CONDITION AS REQUIRED BY SURFACE RESTORATION SPECIFICATION



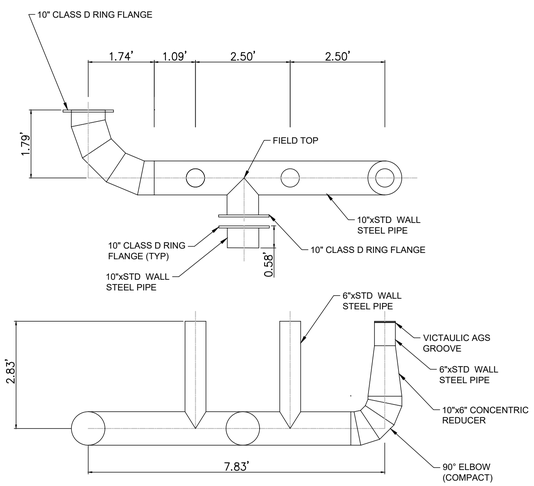
15 - BACKFILL NEAR AND AROUND STRUCTURES

NTS



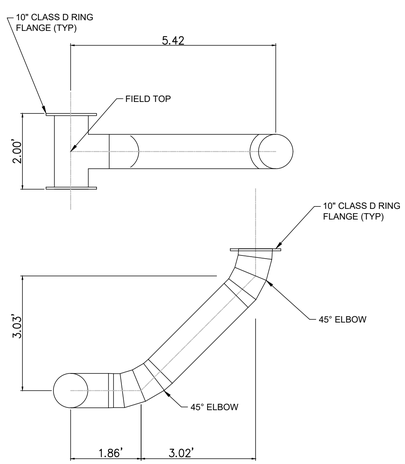
16 - PIPE ENCASEMENT UNDER STRUCTURES

NTS



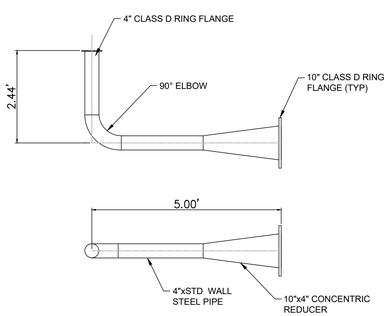
17 - BACKWASH PUMP MANIFOLD - STEEL SPECIAL

NTS



18 - 10" BW RISER - STEEL SPECIAL

NTS



19 - 4" UW RISER - STEEL SPECIAL

NTS

STEEL PIPE FABRICATION NOTES:

1. STEEL SPECIALS AND FITTINGS SHALL MEET REQUIREMENTS OF SECTION 4 OF AWWA C200-17.
2. FABRICATION VERIFICATION OF STEEL SPECIALS AND FITTINGS SHALL BE PER SECTION 5 OF AWWA C200-17.
3. DELIVERY OF STEEL SPECIALS AND FITTINGS SHALL BE PER SECTION 6 OF AWWA C200-17.
4. ALL PIPES SHALL BE ELECTRICALLY WELDED PIPE FABRICATED FROM STEEL PLATE IN CONFORMACE TO ASTM A-283, GRADE C OR D.
5. THE PIPE SHALL BE FABRICATED TO THE CONFIGURATION SHOWN IN DRAWINGS.
6. AUTOMATIC OR MANUAL WELDING OPERATORS SHALL BE QUALIFIED UNDER SECTION IX OF THE ASME BOILER AND PRESSURE VESSEL CODE, UNDER AWS B2.1 OR AWS D1.1.
7. THE WALL THICKNESS SHALL BE STANDARD WALL UNLESS OTHERWISE SHOWN IN DRAWINGS.
8. FLANGES SHALL CONFORM TO AWWA C-207. ALL FLANGES SHALL BE CLASS D, UNO ON DRAWINGS. ALL NUTS AND BOLTS SHALL BE GALVANIZED AS SPECIFIED IN ASTM DESIGNATION A-153. FLANGE GASKET SHALL BE AS SPECIFIED IN AWWA STANDARD C-207.ALL FLANGE SHALL BE MARKED IN ACCORDANCE WITH SETION 1.4 OF AWWA C-207. BOLTING SHALL BE DRAWN EVENLY AROUND THE PERIPHERY OF THE FLANGE.
9. FIELD WELDING OF PIPE JOINTS AND ATTACHMENTS SHALL CONFORM TO AWWA C-206.
10. INTERIOR AND EXTERIOR OF STEEL SPECIALS AND FITTINGS SHALL BE PROPERLY CLEANED, PREPARED, AND COATED WITH:
    A. FIELD APPLICATION – DEVOE "BAR-RUST 233H", BUFF COLOR (#233H1642) OR APPROVED EQUAL, PER THE MANUFACTURER'S RECOMMENDATIONS.
    B. FACTORY APPLICATION – SHALL BE EITHER COAL TAR EPOXY PER AWWA C210 OR FUSION BONDED EPOXY SYSTEMS PER AWWA C213, OR APPROVED EQUAL. THE MINIMUM THICKNESS SHALL BE 20 MILS.
    C. THE USE OF FUSION BONDED EPOXY FITTINGS REQUIRES THE ADDITION OF TWO (2) WASHERS FOR EACH BOLT AND NUT PAIR. THE WASHERS ARE TO BE PLACED AGAINST THE EPOXY COATING IN ORDER TO DISTRIBUTE THE BOLT AND NUT FORCE THEREBY MINIMIZING EPOXY CRACKING. IF CRACKING DOES OCCUR, THE SPECIAL OR FITTING SHALL BE REMOVED, PROPERLY PREPARED AND REPAIRED WITH SCOTCHKOTE 312, OR AS RECOMMENDED BY THE POWDER EPOXY MANUFACTURER.
    D. TESTING OF PIPE SHALL COMPLY WITH SECTION 5.21 OF AWWA C200-17

PREPARED UNDER THE DIRECTION OF
ERIK WEBER, RCE 62547
10/16/24
DATE
REVIEWED BY
DRAWN BY
DESIGNED BY

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324 Campus Lane, Suite A
Fairfield, CA 94534
707.702.1961 | coastlandcivil.com

WATER TREATMENT PLANT MISCELLANEOUS MECHANICAL IMPROVEMENTS
BENICIA CALIFORNIA

DETAILS - STEEL PIPE & EXCAVATION

PROJECT NUMBER
22-09

DRAWING DATE
3/12/24

SHEET NUMBER
17 OF 17

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Solano
675 Texas Street, Suite 6500
Fairfield, CA 94533

From: (Public Agency): City of Benicia, Public Works
250 East L Street
Benicia, CA 94510
(Address)

Project Title: Water Treatment Plant Miscellaneous Mechanical Improvements Project

Project Applicant: City of Benicia

Project Location - Specific:

Benicia Water Treatment Plant - 100 Water Way, Benicia CA 94510

Project Location - City: Benicia Project Location - County: Solano

Description of Nature, Purpose and Beneficiaries of Project:
Proposed project consists of replacement of failed piping underneath the operations building, backwash valve and meter replacement, sedimentation basin isolation from direct filtration process, sedimentation basin slide gate repair, filter slide gate replacement, filter slide gate replacement, DS slide gate modification/replacement.

Name of Public Agency Approving Project: City of Benicia

Name of Person or Agency Carrying Out Project: City of Benicia

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 2 (Cal. Code Regs. tit. 14 § 15302)
- ☐ Statutory Exemptions. State code number: _____

Reasons why project is exempt:
This project is categorically exempt from the California Environmental Quality Act (CEQA) per Section 15302 (c), replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

Lead Agency Contact Person: Tony Fisher Area Code/Telephone/Extension: 707-746-4376

If filed by applicant:

1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☐ Yes ☐ No

Signature: _____ Date: 1/28/25 Title: Project Manager

☒ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

Contract ID # 22-005T13

CITY OF BENICIA

250 East L Street, Benicia, CA 94510

TASK ORDER NO. 13

MASTER AGREEMENT FOR PROFESSIONAL SERVICES

Stantec

Stantec Master Agreement

Task: Construction Management and Inspection Services for the Water Treatment Plant Miscellaneous Mechanical Improvements Project

1. Task Order

1.1. Purpose

The purpose of this TASK ORDER is to authorize and direct CONTRACTOR to proceed with the work specified in Attachment A of this TASK ORDER, in accordance with the provisions of the AGREEMENT identified as Contract #22-005 between the parties hereto dated February 15, 2022.

1.2. Scope of Work

The work authorized by this TASK ORDER is outlined in the "Scope of Services" attached hereto as Attachment A.

1.3. Time of Performance

The work authorized by this TASK ORDER shall commence upon execution by both parties and shall be prosecuted diligently to completion.

Commencement Date: February 18, 2025

Completion Date: June 30, 2026

1.4. Compensation And Payment

Compensation shall be on a specific rate of compensation basis as provided in the AGREEMENT identified as Contract #22-005 between the parties hereto dated February 15, 2022. The cost of the work authorized by this TASK ORDER is not to exceed $222,164. Payment shall be in accordance with the aforementioned AGREEMENT.

1.5. Effective Date

This TASK ORDER shall become effective immediately upon its execution by both parties.

1.6. Items and Conditions

All items and conditions contained in the AGREEMENT identified as Contract #22-005 dated February 15, 2022, between the City of Benicia and Stantec are incorporated herein by reference.

EXECUTED February 18, 2025

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day first mentioned above.

"Stantec" By: Stephen Chavez

Its: Principal Civil Engineer

"City" By: _____

Its: _____

"Department" By: _____

Its: _____

"City Attorney" By: _____

Its: City Attorney

Stantec

SCOPE OF SERVICES

Construction Management and Inspection Services for the

City of Benicia Water Treatment Plant Miscellaneous Mechanical Improvements Project

Task Order #13 of Contract #22-005

1.0 PROJECT OVERVIEW

The CLIENT (CITY) owns and operates a water treatment plant (WTP) facility that serves the local residential, business and industrial community. The WTP receives raw water from a 36" Cordelia RW Pipeline and a 42" Lake Hermann RW Pipeline.

The City is planning a construction Project to address a wide range of facility issues which include replacement of failed piping underneath the operations building, backwash valve and meter replacement, sedimentation basin isolation from direct filtration process, sedimentation basin slide gate repair, filter slide gate replacement, minor structural repairs to the Raw Diversion Structure, slide gate modifications and replacement at the Raw Water Diversion Structure.

The CITY requests Stantec Consulting Services Inc. (CONSULTANT) provide a scope and estimate of costs to perform construction management and inspection services for the Project through a Task Order under the 2022 On Call Master Agreement for Design, CM and PM Engineering Services (contract #22-005, dated February 16, 2022).

The scope of services consists of the following tasks per **Section 3.0 Scope of Services**:

- Task 1 – Project Management
- Task 2 – Construction Management Services
- Task 3 – Field Observation Services

2.0 PROJECT SCHEDULE

The task and services are based on the following project schedule:

- CITY's authorization of CONSULTANT's task order amendment and notice to proceed is provided by March 2025.
- Construction Period duration anticipated for six consecutive months starting March 2025 through September 2025.

3.0 SCOPE OF SERVICES

Task 1 – Project Management

Subtask 1.1 – Project Setup/Monthly Cost Controls

Stantec Document Classification: Stantec Internal

Upon authorization and notice to proceed provided by the CITY, CONSULTANT will establish internal project budgets and controls.

Subtask 1.2 – Invoicing and Monthly Reports

CONSULTANT will maintain communication with the CITY to review project status and identify and solve issues as they arise. CONSULTANT will set up internal project budgets, manage and monitor the total budget and schedule for tasks within this Scope of Services, prepare and submit monthly reports and invoices,

Task 1 Assumptions:

- One subconsultant agreements will be processed
- CONSULTANT will prepare and submit monthly invoices covering the periods of March 2025 to September 2025.
- CONSULTANT will prepare and submit Weekly Reports consisting of a two-page summary of work performed, work anticipated, potential issues and decisions needed by CITY, and a task budget table showing original budget, prior billed amounts, current billed amount, total billed amount to date and remaining budget amounts

Task 1 Deliverables:

- Monthly invoices and reports

Task 2.8 – Additional Services, Supplemental Budget for Construction Management Services

CONSULTANT will provide Construction Management services consisting of tracking and managing project submittals and clarifications, reviewing of project schedules, logging, tracking and managing project cost changes (PCOs) and change orders, attending and facilitating project meetings, preparing reports and project punchlists.

Subtask 2.8.1 – Conduct Weekly Progress and Schedule Meetings

CONSULTANT will cover the project status at weekly progress meetings with the CITY and construction contractor by covering a variety of topics and issues related to project safety, CITY operations and maintenance concerns, specific current issues, status of key RFIs and submittals, and other items for third party quality control testing, and closeout issues.

Subtask 2.8.2 – Prepare and Distribute Meeting Minutes

CONSULTANT will provide agenda topics to the CITY for preparation of the weekly progress meeting agendas. City will prepare and issue meeting minutes.

Stantec Document Classification: Stantec Internal

Subtask 2.8.3 – Process Contractor's Submittals

CONSULTANT will review general conformance of project submittals and submit to the Project's Design Engineer and/or CITY for technical review. CONTRACTOR will manage, prepare and issue comments by the Design Engineer and CITY, including resubmittals, submitted by the construction Contractor. CONSULTANT will manage and track the review and approval status.

Subtask 2.8.4 – Process Contractor's RFIs

CONSULTANT will process, manage and issue responses to Requests for Information (RFI) submitted by the construction Contractor. CONSULTANT will review RFIs and coordinate with the CITY and design team disciplines and coordinate the final response to the construction Contractor.

Subtask 2.8.5 – Review Contractor's Monthly Pay Requests

CONSULTANT will review payment applications submitted by the construction Contractor to verify the requested amount reflects the progress of the work and the required project monthly schedule update CONTRACTOR will review up to three monthly progress payments.

Subtask 2.8.6 – Review Contract Change Order Requests

CONSULTANT will manage project potential change orders (PCO) for the Project and establish a change order control system, identifying each PCO item to a unique tracking number. CONTRACTOR will review change order requests submitted by the construction Contractor for merit, entitlement and general conformance to the contract documents. CONTRACTOR will review change order quotes submitted by the construction Contractor for accuracy. CONTRACTOR will prepare contract change orders (CCOs) for the CITY to review and process. CONTRACTOR will maintain and update a log of PCO items consisting of cost, schedule impacts, status and total change order amounts for the Project.

Subtask 2.8.7 – Coordinate Change Orders with City and Contractor

CONSULTANT will prepare draft change orders and review and coordinate versions with the CITY and the construction Contractor.

Subtask 2.8.8 – Project Closeout Services

Prior to the completion and acceptance of the project and before final payment to the construction Contractor, CONSULTANT will provide project closeout services during the post-construction phase. CONSULTANT will review the final requirements of the contract documents and prepare a written Notice of Completion for the CITY. CONSULTANT will review the final payment requested by the construction Contractor, verify completion of the work, and make a recommendation to the CITY as a condition for final payment.

Stantec Document Classification: Stantec Internal

Subtask 2.8.9 – Preconstruction Services

CONSULTANT will prepare an agenda and conduct a preconstruction meeting with the CITY and construction contractor. CONSULTANT will prepare meeting minutes to document the key discussions at the preconstruction meeting.

Task 3 – Field Observation Services

Subtask 3.1 – Inspection of Contractor's Work

CONSULTANT will provide a **part-time** Field Inspector for routine daily field observation to verify the construction contractor's progress and compliance with contract documents.

Subtask 3.2 – Travel Time

CONSULTANT is required to reimburse staff for travel time beyond the local office (2999 Oak Road, Suite 800 Walnut Creek, California) beyond 50 miles, per the CA Prevailing Wage Travel and Subsistence policies.

Subtask 3.3 – Daily Report Preparation

Field Inspection staff will prepare daily a report depicting a general overview of construction activities, construction equipment and labor, work performed, materials used, observed delays, and deficiencies.

Subtask 3.4 – Maintain Digital Photo Records of Work in Progress: CONSULTANT will use iPhone electronic devices to take digital photos of the work and save files daily.

Subtask 3.5 – Archive Daily Report and Photo Document to City ftp website: CONSULTANT upload daily report files and photograph files for the Project, to the City's ftp website upon completion of the Project.

Subtask 3.6 – Quality Control Test Results Review: CONSULTANT will review reports provided by the City's independent on-call materials testing firm and review test results for concrete, soils and asphalt paving for conformance with the contract requirements.

CONSULTANT will retain Terracon Consultant's, Inc. (SUBCONSULTANT) to perform periodic field and lab testing of materials.

Earthwork

SUBCONSULTANT will obtain samples of in-situ soil for laboratory tests, perform in-place field density testing and during the subgrade preparation of pavement repair and backfilling of trenches for water pipe replacement.

Aggregate Base Course

SUBCONSULTANT will obtain samples of the aggregate base for laboratory tests, perform inplace field density testing and perform periodic observations during the subgrade

Stantec Document Classification: Stantec Internal

preparation of pavement repair and backfilling of trenches for water pipe replacement.

Concrete Testing

During concrete placements, SUBCONSULTANT will perform observation, sampling and testing for the concrete used for base of the wall, concrete sump, floor opening closure repair project. The concrete will be sampled and tested for slump and temperature at the time of placement. Additional services related to concrete include:

- Verification of approved design mix
- Observations of placement procedures, consolidation, and curing and protection
- Casting 1 set of 5 (4-inch by 8-inch) cylinders for each 150 cubic yards or per day (whichever is smaller)

Hot Mix Asphalt (HMA) Pavement Testing

SUBCONSULTANT will collect HMA samples for Theoretical Maximum Specific Gravity (Rice). During asphalt placements, observation, field density testing will be performed by Terracon for the new asphalt pavement.

Subtask 3.7 – Final Punchlist and Tracking: CONSULTANT prepare a final Project punchlist of deficient work and track the status of completion of the punchlist items.

Task 3 Assumptions:

- Construction inspection duration is six months (April 2025 through September 2025)
- Field observation services based on part-time inspection, up to 3 site visits per week.
- Field observation services will be based on workdays, Monday through Friday, excluding recognized holidays
- Daily report deliverables will be made available to the CITY via email
- Photographs will be made available to the CITY via file transfer protocol (ftp) upload to the City ftp site at Project Closeout
- CITY will make available to the CONSULTANT copies of approved construction permit, drawings and specifications
- The following inspections/testing for the project are assumed:
    - Field Density Testing (Compaction), 3 Site Visits – 2 Modified Proctor tests
    - Asphalt Density Testing, 1 Site Visit – 1 Asphalt Rice Density Test and 4 Core Density and Thickness tests
    - Concrete Sampling, 5 Site Visits – 25 4" x 8" cylinder tests

Stantec Document Classification: Stantec Internal

- Rebar Inspection, 1 Site Visits
- Field Welding Inspection, 2 Site Visits

Task 3 Deliverables:

- Daily Field Reports in .pdf format, provided within 24 hours of the date of inspection
- Photographs in .jpg format, provided on a periodic weekly or monthly basis

4.0 SERVICES BY OTHERS

CITY will provide the following services and responsibilities, among others:

- Labor Compliance. Services related to the review of the construction Contractor's monthly certified payroll, including employee interviews.
- Legal Services. Services related to contract review, bidding irregularities, protests, claims, and related items.
- Project Administration. Responsibility and authority related to the approval of any changes to the specifications, plans, or other contractual obligations of CITY.
- Permits. All permit applications, fees, agency approvals, and coordination thereof.
- Control Systems Programming. Coordination of PLC/HMI Plant Process Control System programming and operational testing work to determine compliance with CITY requirements and CITY needs.
- Factory Visits. CITY will attend selected factory visits and testing programs at the factory to witness compliance with the Contract Documents and CITY requirements.
- Provide CM Field Office, Furnishings, and internet connection (through the construction Contractor), if required.
- Provide CM Field Office Supplies and Equipment (through the construction Contractor), if required (CITY does not require nor will provide for this project).
- Services for bid disputes or rebidding the project.
- Reports to Public Agencies such as funding agencies or permitting agencies.

Stantec Document Classification: Stantec Internal

Construction Management and Inspection Services for the WTP Miscellaneous Mechanical Improvements Project
City of Benicia
Proposal Fee Estimate

		TASK	Stantec [1] Project Manager	Project Controls	Project Engineer	Project Accountant	Construction Inspector PW	Construction Inspector Non-PW	Labor Hours	Flat Rate Disbursement [2]	Labor Costs	Subconsultant Fees	Expenses [3,4]	Total Costs
			S. Chavez	G. Roundy	L. Diaz	T. Hay	H. Khadaam	H. Khadaam				Terracon		
			$297	$246	$170	$206	$185	$165		$12.50		Mat. Test'g		
1		**Project Coordination and Management**	12	28	2	6			48	$600	$12,628	$1,650		$14,443
2		**CM Services**												
	2.1	Submittals/RFIs/Cos/Meetings/Site Visits (8 hrs per week/12 weeks, 6 hrs per week/6 weeks, 4hrs per week, 6 weeks)	108						108	$1,350	$33,426		$200	$33,646
	2.2	Contract Administration - Pay Requests, Change Orders (4 hrs per week/24 weeks)	48		96				144	$1,800	$32,376		$200	$32,596
3		**Inspection Services**												
	3.1	Site Inspection (24 hrs per week/16 weeks, 16 hrs per week/6 weeks) - Prevailing Wage					528		528	$6,600	$104,280		$4,574	$109,311
	3.2	Site Inspection (3 hrs per week/18 weeks, 2 hrs per week/6 weeks) - Non-Prevailing Wage	8					66	74	$925	$14,191		$528	$14,772
	3.3	Materials Testing (Terracon)							0	$0	$0	$15,815		$17,397
TOTAL			**176**	**28**	**98**	**6**	**528**	**66**	**902**	**$11,275**	**$196,901**	**$17,465**	**$5,502**	**$222,164**

1. Task rates escalate 3% for 2026 by 1/1/26
2. Flat Rate Disbursement $12.50 per Stantec labor hour
3. Travel expenses include mileage charged at IRS rate

CONTRACT # 22 - 005

AGREEMENT FOR MASTER PROFESSIONAL ENGINEERING SERVICES

THIS AGREEMENT ("Agreement") is made and entered into this 16th day of February 2022 between the City of Benicia, a municipal corporation in Solano County, California, (hereinafter "CITY") and Stantec Consulting Services Inc. with its primary office located at 3301 C Street Suite 1900, Sacramento, CA, 95816 (hereinafter "CONSULTANT") (collectively, "the Parties").

THE PARTIES ENTER THIS AGREEMENT based upon the following facts, understandings and intentions:

WHEREAS, CITY's staff does not have the expertise or capacity to perform this work in-house. The CONSULTANT has the expertise necessary for this specialized project; and

WHEREAS, CITY desires to contract with CONSULTANT and CONSULTANT to contract with CITY for provision by CONSULTANT to CITY for professional services as further described herein, upon the terms and conditions hereinafter set forth.

NOW, THEREFORE, IN CONSIDERATION of the mutual covenants and promises of the parties herein contained, the parties hereto agree as follows:

1. SERVICES TO BE PROVIDED

CONSULTANT shall provide services for specific projects as may be requested by CITY; such services shall be defined, scheduled and authorized in subsequent Task Orders. Services may include, but not be limited to:

A. **General Engineering:**

Tasks including, but not limited to, the following:

- Ad-hoc engineering analysis/technical memoranda.
- Management of small to medium maintenance projects including preparation of engineering studies, project planning, and coordination with other agencies and utilities.
- Preparation of environmental documents and implementation of mitigation measures in project design.
- Preparation of permit applications from appropriate agencies.
- Perform project design at the 35%, 65%, 95% and 100% levels including plans, specifications, estimate, and schedule as required by the City.
- Provide design support services during construction and prepare final record drawings based on as-built drawings provided by the City.
- Development and capital improvement plan checking for conformance with City of Benicia Engineering Design Standards and Standard Plans (City Standards), Regional Water Quality Control Board requirements, State of

California Standards and industry standards as applicable.

B. Construction Management and Inspection Services

Tasks including, but not limited to, the following:

1. Construction Management:

- Construction Management Services during Pre-Construction
  - Review contract documents including plans and specifications
  - Review Traffic Control Plans
  - Facilitate the Pre-Construction Conference

- Construction Management Services during Construction
  - Project coordination and correspondence
  - Schedule management, progress meetings and reports
  - Monitor project funding. Review "schedule of values" and contract item payments, material quantities, and change order payments.
  - Labor compliance assurance
  - Public relations
  - Site safety monitoring
  - Monthly payment review and recommendation
  - Submittal review and management
  - Requests for Information (RFI)
  - Contract Change Orders (CCO)
  - Construction observation services and project documentation
  - Preliminary claim mitigation and resolution

- Construction Management Services during Post-Construction
  - Perform final observation/walkthrough
  - Review construction contractor's "As-Built" drawings
  - Prepare Project completion report
  - Provide Record drawings input, review, O&Ms
  - Review construction contractor's Final pay application

2. Construction Inspection:

- Construction inspection of various water and wastewater projects.

- Field visits for each assigned project as directed by the City. During each site visit, the inspector shall observe and make a written report of relevant items, including the date and time of visit (arrival and departure), the weather conditions at the site, a list of all persons present at the site including employees, subcontractors, and others; a description of the site conditions regarding status of construction and other relevant conditions; a description of all materials stored on site; a description of all major equipment on site; a

description of activity at the site including work being performed, materials being installed, equipment active versus idle, laborers active versus idle; monitoring of traffic control and safety operations, etc. The inspector's daily report for each project shall be submitted to the City no later than 24 hours following the date and time of the inspector's visit.

- Comparison of the material quality of the work to the requirements of the contract (including all relevant plans, specifications, submittals and schedule). The inspector's comparisons shall include checking grades, sizes, elevations and locations of structures, field measurements, and traffic control. The inspector shall note any deficiencies or deviations in the contractor's work (including: contractor behind schedule, areas of work which do not conform to the plans and specifications, materials which do not conform to the plans and specifications, and areas of work which were performed without obtaining an inspection required).

- Notification of any deficiencies or deviations in the contractor's work. Inspector shall immediately notify the City and provide a draft report of deficient work.

- Immediate notification to the authorized contractor representative, and the City, in the event that the inspector observes, or otherwise learns of, an issue at the construction site which involves a risk of imminent harm to person or property. The inspector shall take such action which, under the circumstances and the professional opinion of the inspector, will lead to a timely resolution of the risk of harm. The inspector shall follow up with a written report to the City.

- Take pre-project photographs of active project site(s) and progress photographs on a daily basis, sufficient in number to depict the pre-project conditions and the scope of major activities being performed by the contractor.

- Preparation of punch lists summarizing the items not completed by the contractor in accordance with project plans, specifications and/or contract documents, as directed by the City.

- Tracking and documenting changes to the project and submittal of a "red-line" markup of the project plans to the City.

C. <u>Project Management</u>

Tasks including, but not limited to, the following:

- Develop projects scope of work, coordinates and monitors project development teams, project schedules and budgets.

- Serve as liaison between City personnel, contractors, consultants and the public for assigned projects.
- Prepare, disseminate, and oversee project budgets, requests for proposals, agreements, contracts, invitation for bids, and purchase orders.
- Manage various consultant agreements through the planning, design, construction, testing, operations and maintenance phases of a project.
- Evaluate project bids and proposals and make recommendations for award of contracts and execution of agreements.
- Ensure that project plans, specifications, and estimate are reviewed and approved for construction.
  Monitor project progress, attend project meetings, and prepare and submit status reports.
- Oversee project construction, ensures that the projects are constructed in accordance with the project's approved plans and specifications, and close out project documentation and archives appropriate records.
- Prepare, negotiate, substantiate and maintain control of all potential project construction change orders, tracks all project costs and reviews and approves progress payments.
- Develop and update project schedules.
- Apply for permits and utility services necessary for the project.
- Compose and prepare reports, resolutions and agreements for the City Council seeking approval of contracts or acceptance of projects.
- Interface with other City departments, outside agencies and consulting firms as necessary to complete assignments.

CONSULTANT shall be an independent contractor and shall have responsibilities for and control over the details and means of providing its services under this Agreement. CONSULTANT agrees that its services shall be performed with due diligence and in accordance with generally accepted **engineering** practices.

CONSULTANT shall use reasonable efforts to perform and coordinate all activities in a manner so that the projects will be completed according to the established project schedules.

CONSULTANT's services are rendered for the benefit of the City and not for the benefit of the construction contractors or any other party. CONSULTANT does not guarantee or have responsibility for the performance or quality assurance of the work performed by construction contractors or other parties and is not responsible for the means, methods, techniques, sequences, procedures and use of equipment whatsoever which are employed by the construction contractor or any other party, or for placing into operation any plant or equipment or for safety precautions and programs incidental thereto, whether or not reviewed, accepted, inspected, certified or approved by CONSULTANT. Any acceptance, inspection, approval, certification or review by CONSULTANT of any work performed by others, whether express or implied, shall not relieve such other parties from their responsibilities for the proper performance of their work nor create a legal duty in favor of such other party.

2. AUTHORIZED REPRESENTATIVES

Authorized representatives shall represent CITY and CONSULTANT in all matters pertaining to the services to be ordered by CITY or rendered by CONSULTANT under this Agreement except where approval for the CITY is specifically required by City Council. The CITY's authorized representative shall be **the City Engineer**. Said **authorized representative** is authorized to execute Task Orders on behalf of CITY, including providing for CONSULTANT to be compensated not more than **$300,000** for each project. Task Orders providing for more than **$200,000** compensation for one project shall be presented to the City Council (or City Manager) for its consideration. CONSULTANT's authorized representative shall be **Stephen Chavez, Principal Civil Engineer**.

3. REQUIRED LICENSES, CERTIFICATES AND PERMITS

Any licenses, certificates or permits required by the federal, state, CITY or municipal governments for CONSULTANT to provide the services and work in any Task Order must be procured by CONSULTANT and be valid at the time CONSULTANT enters into this Agreement. Further, during the term of this Agreement, CONSULTANT must maintain such licenses, certificates and permits in full force and effect. Licenses, certificates and permits may include but are not limited to driver's licenses, professional licenses or certificates and business licenses. Such licenses, certificates and permits will be procured and maintained in force by CONSULTANT at no expense to the CITY.

4. COMPENSATION

CONSULTANT shall be compensated, not to exceed **$300,000** per fiscal year for basic services rendered under Section 1, as more particularly described in authorized Task Orders and/or Rate Schedule attached as Exhibit A, in accordance with the terms and conditions included therein. CONSULTANT may update its Rate Schedule on an annual basis.

CONSULTANT may submit monthly statements for services rendered; all statements shall include adequate documentation demonstrating work performed during the billing period and shall conform to Federal Funding invoicing requirements, if applicable. It is intended that payments to CONSULTANT will be made by CITY within thirty (30) days of receipt of invoice. CONSULTANT's failure to secure CITY's written authorization for additional compensation or changes to the Scope of Work shall constitute a waiver of any and all right to adjustment in the price or time due, whether by way of compensation, restitution, quantum merit, or similar relief.

5. EMPLOYEE WAGES; RECORDS; APPRENTICES

CONSULTANT shall pay prevailing wages to its employees on any agreement in excess of $1,000.00. Copies of the general prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the Agreement, as determined by the Director of the State of California Department of Industrial Relations, are on file at the County's Capital Projects Office and may be obtained from the California Department of Industrial Relations website [http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm]. CONSULTANT shall comply with the 8-hours per day/40 hours per week/overtime/working hours restrictions for all employees, pursuant to the California Labor Code. CONSULTANT and all Subconsultants shall keep and maintain accurate employee payroll records for Work performed under the

Agreement. The payroll records shall be certified and submitted as required by law, including Labor Code Sections 1771.4 (if applicable) and 1776, including to the Labor Commissioner no less frequently than monthly. CONSULTANT shall comply fully with Labor Code Section 1777.5 in the hiring of apprentices for work relating to the Agreement. If the Agreement exceeds $2,000 and is funded with federal funds, then CONSULTANT shall pay federal Davis Bacon wages and comply with applicable federal requirements.

6. INDEMNIFICATION

(a) Defense, Indemnity and Hold Harmless: To the fullest extent allowed by law (including without limitation California Civil Code Sections 2782 and 2782.8), CONSULTANT shall defend, indemnify, and hold harmless CITY, its officers, directors, officials, and employees (collectively, **"Indemnitees"**) from and against any and all claims, suits, expenses, liability, cause of action, loss, cost, damage, injury (including, without limitation, injury to or death of any person, including an employee of CONSULTANT or its Subconsultants), at law or equity, (including without limitation, court costs, reasonable attorneys' fees, litigation expenses and fees of expert consultants or expert witnesses incurred in connection therewith and costs of investigation) (collectively **"Liabilities"**), that arise out of, pertain to, or relate to any negligence, or willful misconduct of CONSULTANT, any Subconsultant, anyone directly employed or retained by them, or anyone that they control. CONSULTANT's obligations to indemnify, defend and hold harmless the Indemnitees shall not apply to the extent that such Liabilities are caused by the sole-negligence, or willful misconduct of such Indemnitee but shall apply to all other Liabilities.

(b) Intellectual Property Indemnification: CONSULTANT represents that the professional services provided by CONSULTANT pursuant to this Agreement do- not infringe on any other copyrighted work or intellectual property owned by others. CONSULTANT shall defend, indemnify and hold harmless the CITY from all Liabilities, that may at any time arise for any infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark or any other proprietary right of any person or persons in arising from or relating to CONSULTANT's services provided to the CITY under this Agreement.

(c) Subconsultant Agreements: CONSULTANT shall place in its agreements with Subconsultants and cause its Subconsultants to agree to the indemnification and insurance provisions in this Agreement in favor of the CITY and the Indemnitees in the exact form and substance as those contained in this Agreement.

(d) Duty to Cooperate: CONSULTANT shall notify CITY immediately in writing of any claim or damage related to activities or services performed under this Agreement. CONSULTANT shall cooperate with CITY in the investigation and disposition of all Liabilities arising out of the activities or services under this Agreement. Without limiting the foregoing, CONSULTANT shall take all steps necessary to assist the CITY in the defense of any and all Liabilities brought by a contractor hired to construct the Project regarding any errors, flaws, and/or omissions in the plans or specifications of the Project. Any additional services or work under this paragraph shall be compensated as Additional Services.

7. STANDARD OF PERFORMANCE

CONSULTANT represents to CITY that the services shall be performed in an expeditious manner, and with the degree of skill and care that is required by current, accepted engineering procedures and practices. CONSULTANT further agrees that the services shall be in conformance with generally accepted professional standards prevailing at the time the work is performed.

8. OWNERSHIP AND MAINTENANCE OF DOCUMENTS

All documents furnished by CONSULTANT pursuant to this Agreement are instruments of CONSULTANT's services in respect to this project. They are not intended nor represented to be suitable for reuse by others on extensions of this project or on any other project. Any reuse without specific written verification and adoption by CONSULTANT for the specific purposes intended will be at user's sole risk and without liability or legal exposure and expenses to CONSULTANT, including attorney's fees arising out of such unauthorized reuse.

CONSULTANT's records, documents, calculations, and all other instruments of service pertaining to actual project shall be given to CITY at the completion of the project upon full payment of all monies owed to the Consultant. The CITY reserves the right to specify the file format that electronic document deliverables are presented to the CITY. Title to all plans, specifications, maps, estimates, reports, manuscripts, drawings, descriptions and other final work products compiled by CONSULTANT under the Agreement shall be vested in the CITY, none of which shall be used in any manner whatsoever, by any person, firm, corporation or agency without the expressed written consent of the CITY. Basic survey notes and sketches, charts, computations, and other data prepared or obtained under the Agreement shall be made available, upon request, to the CITY without restriction or limitations on their use. CONSULTANT may retain copies of the above-described information but agrees not to disclose or discuss any information gathered, discussed or generated in any way through this Agreement without the written permission of CITY during the term of this Agreement, unless required by law.

9. INSURANCE

CONSULTANT shall, at its own expense, procure and maintain in full force at all times during the term of this Agreement the following insurance:

(a) Required Coverage. CONSULTANT, at its sole cost and expense, shall obtain and maintain in full force and effect throughout the entire term of this Agreement the following described insurance coverage. This coverage shall insure not only CONSULTANT, but also, with the exception of workers' compensation and professional liability insurance, shall name as additional insureds CITY, its officers, and employees on each of them:

Policy	Minimum Limits of Coverage
(i) Workers' Compensation	Statutory
(ii) Comprehensive Automobile Insurance Services Office, form #CA 0001 (Ed 1/87 covering auto liability code 1 (any auto)	Bodily Injury/Property Damage At least $2,000,000 each occurrence

(iii) General Liability Insurance Services Office Commercial General Liability coverage on an occurrence basis (occurrence form CG 0001)	At least $2,000,000 per occurrence and $4,000,000 aggregate
(iv) Errors and Omissions/ Professional's Liability, errors and omissions liability insurance appropriate to the CONSULTANT's profession.	Generally at least $1,000,000 per claim and $2,000,000 aggregate

(b) Required Provisions. The general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

(i) For any claims related to this Project, the Additional Insured coverage under CONSULTANT's insurance policy shall be primary and non-contributory as respects CITY, its officers, officials, and employees. Any insurance or self-insurance maintained by CITY, its officers, officials, employees, or volunteers shall be in excess of the CONSULTANT's insurance and shall not contribute with it and shall be at least as broad as CG 20 01 04 13;

(ii) Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to CITY, its officers, officials, or employees;

(iii) The CONSULTANT's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability;

(iv) Each insurance policy required by this Section shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after giving CITY 30 days' prior written notice by certified mail, return receipt requested.

(v) The limits of insurance required in the contract may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the City before the CITY's own insurance or self-insurance shall be called upon to protect it as a named insured.

(c) Acceptability of Insurers. CONSULTANT shall place insurance with insurers with a current A.M. Best's rating of no less than [A: VII] unless CONSULTANT requests and obtains CITY's express written consent to the contrary.

(d) Verification of Coverage. CONSULTANT must provide certificates of insurance for all required insurance policies, including original endorsements affecting the coverage required by these specifications. The endorsements are to be signed by a person authorized by CONSULTANT's insurer to bind coverage on its behalf. All endorsements are to be received and approved by CITY before work commences.

(e) Deductibles and Self-Insured Retentions. All self-insured retentions (SIR) must be disclosed to the CITY's Risk Management for approval and shall not reduce the limits of liability. At the option of CITY, either: the insurer shall reduce or eliminate such deductibles or self-insurance retention as respects the CITY, its officers, officials, agents, employees and volunteers; or CONSULTANT shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Policies containing any self-insured (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured or the CITY. The CITY reserves the right to obtain a full certified copy of any insurance policy and endorsements. Failure to exercise this right shall not constitute a waiver of the right to exercise later.

(f) Covenant to Provide Workers' Compensation Insurance. CONSULTANT warrants that it is aware of the provisions of the California Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code. CONSULTANT further agrees that it will comply with such provisions before commencing the performance of the work under this Agreement.

(g) Waiver of Subrogation. CONSULTANT and CONSULTANT's insurance company agree to waive all rights of subrogation against CITY, its elected or appointed officials, and employees for losses paid under CONSULTANT's workers' compensation insurance policy which arise from the work performed by CONSULTANT for CITY.

10. SUSPENSION OF WORK

CITY may, at any time, by ten (10) days' written notice, suspend further performance by CONSULTANT. All suspensions shall extend the time schedule for performance in a mutually satisfactory manner, and CONSULTANT shall be paid for services performed and reimbursable expenses incurred prior to the suspension date. During the period of suspension, CONSULTANT shall not receive any payment for services, or expenses, except for reasonable administration expenses, incurred by CONSULTANT by reason of such suspension.

11. TERMINATION

CITY may terminate this Agreement for any reason upon ten (10) days' written notice to the other party. CITY may terminate the Agreement upon five (5) days' written notice if CONSULTANT breaches this Agreement. In the event of any termination, CONSULTANT shall promptly deliver to the CITY any and all finished and unfinished reports or other written, recorded, photographic, or visual materials, documents, data and other deliverables ("Work Materials") prepared for the CITY prior to the effective date of such termination, all of which shall become CITY's sole property. After receipt of the Work Materials, CITY will pay CONSULTANT for the services performed as of the effective date of the termination.

12. NONDISCRIMINATION

(a) During performance of this Agreement, CONSULTANT and its officers, employees, agents, representatives or subcontractors shall not unlawfully discriminate in violation of any federal, state or local law, rule or regulation against any employee, applicant for

employment or person receiving services under this Agreement because of race, religion, color, national origin, ancestry, physical or mental handicap, medical condition (including genetic characteristics), marital status, age, political affiliation, sexual orientation, or sex. Consultant and its officers, employees, agents, representatives or subcontractors shall comply with all applicable Federal, State and local laws and regulations related to non-discrimination and equal opportunity, including without limitation the CITY's nondiscrimination policy; the Fair Employment and Housing Act (Government Code sections 12900 et seq.); California Labor Code sections 1101, 1102 and 1102.1; the Federal Civil Rights Act of 1964 (P.L. 88-352), as amended; and all applicable regulations promulgated in the California Code of Regulations or the Code of Federal Regulations. CONSULTANT agrees that any and all violation of this provision shall constitute a material breach of the Agreement.

13. CONFLICT OF INTEREST

(a) CONSULTANT covenants and represents that neither it, nor any officer or principal of its firm, has, or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of CITY or which would in any way hinder CONSULTANT's performance of services under this Agreement. CONSULTANT further covenants that in the performance of the Agreement, no person having any such interest shall be employed by it as an officer, employee, agent or subcontractor without the express written consent of the CITY. CONSULTANT agrees to at all times avoid conflicts of interest, or the appearance of any conflicts of interest, with the interests of the CITY in the performance of this Agreement.

(b) CONSULTANT is not a designated employee within the meaning of the Political Reform Act because CONSULTANT:

(i) Will conduct research and arrive at conclusions with respect to its rendition of information, advice, recommendation or counsel independent of the control and direction of the CITY or of any CITY official, other than normal contract monitoring; and

(ii) Possesses no authority with respect to any CITY decision beyond the rendition of information, advice, recommendation or counsel. (2Cal. Code Regs. § 18700(a) (2)).

14. INDEPENDENT CONTRACTOR

In assuming and performing the services, CONSULTANT is an independent contractor and shall not be eligible for any benefits, which the CITY may provide its employees, except as expressly provided for in the Agreement. All persons, if any, hired by CONSULTANT, shall be employees or subcontractors of CONSULTANT and shall not be construed as employees or agents of the CITY in any respect. CONSULTANT shall have responsibility for and control over the means of providing services under this Agreement.

15. COMPLIANCE WITH LAWS

CONSULTANT shall comply with all applicable federal, State of California, and local laws, rules, and regulations and shall obtain all applicable licenses and permits for the conduct of its business and the performance of the services.

16. CHOICE OF LAW

This Agreement shall be administered and interpreted under California law as if written by both parties. If any provision in this Agreement is held by any court to be invalid, void, or unenforceable, the remaining provisions shall nevertheless continue in full force. **If any action is brought to interpret or enforce any term of this Agreement, the action shall be brought in a state court situated in the County of Solano, State of California or, if necessary, in a federal court situated in the City and County of Sacramento, California.**

17. ENFORCEABILITY; INTERPRETATION

In the event that any of the provisions or portions of application of any of the provisions of the Agreement are held to be illegal or invalid by a court of competent jurisdiction, CITY and CONSULTANT shall negotiate an equitable adjustment in the provisions of the Agreement with a view toward affecting the purpose of the Agreement. The illegality or invalidity of any of the provisions or portions of application of any of the provisions of the Agreement shall not affect the legality or enforceability of the remaining provisions or portions of application of any of the provisions of the Agreement. This Agreement shall be interpreted as though it was a product of a joint drafting effort and no provisions shall be interpreted against a party on the ground that said party was solely or primarily responsible for drafting the language to be interpreted.

18. INTEGRATION

The Agreement contains the entire Agreement and understanding between the parties as to the subject matter of this Agreement. It merges and supersedes all prior or contemporaneous agreements, commitments, representation, writings, and discussions between CONSULTANT and CITY, whether oral or written.

19. SUCCESSORS AND ASSIGNS: NO THIRD PARTY BENEFICIARIES; NO JOINT VENTURE

CITY and CONSULTANT respectively, bind themselves, their successors, assigns, and legal representatives to the terms and obligations of this Agreement. CONSULTANT shall not assign or transfer any interest in the Agreement without the CITY's prior written consent, which consent shall be in the CITY's sole discretion. Any attempted assignment or transfer in breach of this provision shall be void. This Agreement is not intended and shall not be construed to create any third party benefit the event. This Agreement is not intended and shall not be construed to create a joint venture or partnership between the parties. CONSULTANT, its officers, employees and agents shall not have any power to bind or commit the CITY to any decision.

20. FINANCIAL RECORDS

Records of CONSULTANT's direct labor costs, payroll costs, and reimbursable expenses pertaining to this project covered by this Agreement will be kept on a generally recognized accounting basis and made available to CITY if and when required.

21. NON-WAIVER

The waiver by either party of any breach of any term, covenant, or condition contained in the Agreement, or any default in their performance of any obligations under the Agreement shall not be deemed a waiver of any other breach or default of the same or any other term, covenant, condition, or obligation, nor shall any waiver of any incident of breach of default constitute a continuing waiver of same.

22. NOTICES

All notices required hereunder shall be in writing and mailed postage prepaid by Certified or Registered mail, return receipt requested, or by personal delivery to CITY's address as shown below, or such other places as CITY or CONSULTANT may, from time to time, respectively, designate in a written notice given to the other. Notice shall be deemed received three (3) days after the date of mailing thereof or upon personal delivery.

To City: Kyle Ochenduszko, Interim Public Works Director
City of Benicia
250 East L Street
Benicia, CA 94510

To Consultant: Stephen Chavez, Principal Civil Engineer
Stantec Consulting Services Inc.
3301 C Street Suite 1900
Sacramento, CA 95816

23. TERM

The term of this Agreement shall be from the date executed above through **three years ending June 30, 2025**, with the option of one **two-year** extension upon mutual agreement by both CITY and CONSULTANT for a total of up to **five years**. The City Manager is authorized to approve the extension.

24. NON-LIABILITY

No member of the CITY and no other officer, employee or agent of the CITY shall be personally liable to CONSULTANT or otherwise in the event of any default or breach of the CITY, or for any amount which may become due to CONSULTANT or any successor in interest, or for any obligations directly or indirectly incurred under the terms of this Agreement.

25. EXECUTION

Each individual or entity executing this Agreement on behalf of CONSULTANT represents and warrants that he or she or it is duly authorized to execute and deliver this Agreement on behalf of CONSULTANT and that such execution is binding upon CONSULTANT.

This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by both parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

[SIGNATURES ON THE FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties have executed this Agreement in three (3) copies as of the date and year first written above.

CONSULTANT

BY: Stephen Chavez

Title: Principal Civil Engineer

CITY OF BENICIA
A Municipal Corporation

Erik Upson
CITY MANAGER

RECOMMENDED BY:

Kyle Ochenduszko
DEPARTMENT HEAD

APPROVED AS TO FORM:

Benjamin L. Stock
CITY ATTORNEY

ATTACHMENT:
-EXHIBIT A: TASK ORDER/RATE SCHEDULE

EXHIBIT A
Task Order/Rate Schedule

EXHIBIT A

2022 BILLING RATE SCHEDULE

Below are typical rates for the proposed staff. Rates are adjusted annually as allowed by the City.

TABLE 1

Name	Classification	Role	Rate
Steven Beck	Vice President	Principal-In-Charge/ QA-QC	$295.00
Gabe Aronow	Principal Professional I	Design Lead	$279.00
Stephen Chavez	Principal Professional I	Construction Management Lead	$279.00
Beth Cohen	Principal Professional II	Project Management Lead	$250.00
Conan Monson	Supervising Professional I	Construction Manager	$235.00
Darin Bailey	Senior Professional I	Senior Inspector[1]	$193.00
Mitchell Padilla	Associate Professional	Inspector[1]	$155.00
Aleksandr Vakulchik	Associate Professional	Inspector[1]	$155.00
Habib Khadaam	Associate Professional	Inspector[1]	$155.00
Bill Whalen, CTS	CTS Subconsultant	NACE Coatings Special Inspector[2]	$155.00
Robert Rucker	Senior Professional I	Civil	$193.00
Cameron Ripple	Professional II	Civil	$141.00
Steve Stoll	Senior Professional I	Structural	$279.00
Sean Neprud	Senior Professional I	Mechanical	$193.00
Josh Dela Cruz	Senior Professional II	Electrical	$188.00
Phil Atkinson	Supervising Professional II	I&C/SCADA	$224.00
Jim Loucks	Senior Estimator	Cost Estimating Lead	$259.00
Rupeet Malholtra	Professional I	SWPPP	$175.00
Bernadette Bezy	Professional I	Environmental	$206.00
Patrick Herrmann	Professional I	Safety	$175.00
Keith Rutherfurd	Principal Professional II	Traffic Plan Reviewer	$250.00
Rich Stowell	Senior Professional I	WW Permitting Assistance	$193.00
Craig Moyle	Professional I	Public Outreach	$175.00
Honey George	Professional I	Scheduling	$175.00

[1] non-prevailing wage rate

[2] not including other subconsultant markups and fees

Flat Rate Disbursement	$12.50 per hour
ODC Markup - Other Direct Costs/Reimbursable Expenses (excluding Flat Rate Disbursement)	10%
Subcontract Markup - Labor and Reimbursable Expenses	5%
Vehicle Mileage - Reimbursable Expense	IRS Rate
Annual Rate escalation, adjusted January 1st each year	3%

PREVAILING WAGE INSPECTION RATES

Below are typical rates for the staff performing field inspection of public works construction projects. Rates are proposed for each year running from July 1st through June 30th for straight time, overtime and double time hours.

TABLE 2	
Inspector Prevailing Wage Rates	**Hourly Rates (ST/OT/DT)**
CONTRACTOR billing rate for straight time (ST) prevailing wage rate work from 7/1/21-6/30/22	$182.00
CONTRACTOR billing rate for overtime (OT) prevailing wage rate work is from 7/1/21-6/30/22	$245.00
CONTRACTOR billing rate for double time (DT) prevailing wage rate work is from 7/1/21-6/30/22	$308.00
CONTRACTOR billing rate for straight time (ST) prevailing wage rate work from 7/1/22-6/30/23	$192.00
CONTRACTOR billing rate for overtime (OT) prevailing wage rate work is from 7/1/22-6/30/23	$259.00
CONTRACTOR billing rate for double time (DT) prevailing wage rate work is from 7/1/22-6/30/23	$326.00
CONTRACTOR billing rate for straight time (ST) prevailing wage rate work from 7/1/23-6/30/24	$204.00
CONTRACTOR billing rate for overtime (OT) prevailing wage rate work is from 7/1/23-6/30/24	$275.00
CONTRACTOR billing rate for double time (DT) prevailing wage rate work is from 7/1/23-6/30/24	$346.00

2022 STANTEC STANDARD RATES

Below are typical rates for the staff based on billing level and type of position, intended to be used for staff not already provided in Table 1 and Table 2. Rates are adjusted annually as allowed by the City.

Stantec

SCHEDULE OF BILLING RATES – 2022

Billing Level	Hourly Rate	Description
2 4 5	$116 $122 $137	**Junior Level position** ▫ Independently carries out assignments of limited scope using standard procedures, methods and techniques ▫ Assists senior staff in carrying out more advanced procedures ▫ Completed work is reviewed for feasibility and soundness of judgment ▫ Graduate from an appropriate post-secondary program or equivalent ▫ Generally, one to three years' experience
6 7 8	$142 $155 $160	**Fully Qualified Professional Position** ▫ Carries out assignments requiring general familiarity within a broad field of the respective profession ▫ Makes decisions by using a combination of standard methods and techniques ▫ Actively participates in planning to ensure the achievement of objectives ▫ Works independently to interpret information and resolve difficulties ▫ Graduate from an appropriate post-secondary program, with credentials or equivalent ▫ Generally, three to six years' experience
9 10 11	$171 $177 $190	**First Level Supervisor or first complete Level of Specialization** ▫ Provides applied professional knowledge and initiative in planning and coordinating work programs ▫ Adapts established guidelines as necessary to address unusual issues ▫ Decisions accepted as technically accurate, however may on occasion be reviewed for soundness of judgment ▫ Graduate from an appropriate post-secondary program, with credentials or equivalent ▫ Generally, five to nine years' experience
12 13 14	$200 $209 $226	**Highly Specialized Technical Professional or Supervisor of groups of professionals** ▫ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ▫ Participates in short and long range planning to ensure the achievement of objectives ▫ Makes responsible decisions on all matters, including policy recommendations, work methods, and financial controls associated with large expenditures ▫ Reviews and evaluates technical work ▫ Graduate from an appropriate post-secondary program, with credentials or equivalent ▫ Generally, ten to fifteen years' experience with extensive, broad experience
15 16 17	$237 $252 $261	**Senior Level Consultant or Management** ▫ Recognized as an authority in a specific field with qualifications of significant value ▫ Provides multi-discipline knowledge to deliver innovative solutions in related field of expertise ▫ Independently conceives programs and problems for investigation ▫ Participates in discussions to ensure the achievement of program and/or project objectives ▫ Makes responsible decisions on expenditures, including large sums or implementation of major programs and/or projects ▫ Graduate from an appropriate post-secondary program, with credentials or equivalent ▫ Generally, more than twelve years' experience with extensive experience
18 19 20 21	$262 $271 $281 $295	**Senior Level Management under review by Vice President or higher** ▫ Recognized as an authority in a specific field with qualifications of significant value ▫ Responsible for long range planning within a specific area of practice or region ▫ Makes decisions which are far reaching and limited only by objectives and policies of the organization ▫ Plans/approves projects requiring significant human resources or capital investment ▫ Graduate from an appropriate post-secondary program, with credentials or equivalent ▫ Generally, fifteen years' experience with extensive professional and management experience

T-2 2022

SUBCONSULTANT STANDARD RATES

Below are typical rates for subconsultant, Construction Testing Services (CTS) for 2022. Rates are adjusted annually as allowed by the City.

CONSTRUCTION TESTING SERVICES
www.cts-1.com

inspecting
testing
engineering

2022 FEE SCHEDULE - *P206275 01/14/2022*
PERSONNEL FEES AND BASIS OF CHARGES
INSPECTIONS, ENGINEERING & SPECIAL SERVICES

		Standard Rate/Hour	Discounted Rate/Hour
* FIELD INSPECTION AND LABORATORY SERVICE			
Steel Welds		~~$230.00~~	$138.00
Nondestructive - UT, MT, PT		~~$230.00~~	$138.00
Steel Welds/UT Combination		~~$230.00~~	$138.00
Concrete ACI		~~$230.00~~	$138.00
Concrete ICC		~~$230.00~~	$138.00
Masonry		~~$230.00~~	$138.00
Fireproofing		~~$230.00~~	$138.00
Sheet Wall Nailing/Framing/Hold Downs		~~$230.00~~	$138.00
Soil Technician w/Nuclear Gauge and/or Sand Cone (portal-to-portal)		~~$230.00~~	$138.00
Asphalt Technician (portal-to-portal)		~~$230.00~~	$138.00
Shoring/Solider Piers		$230.00	
Roofing & Waterproofing		$230.00	
Multi-Disciplined Inspector		~~$230.00~~	$138.00
Inspector Requiring Q1 Pay Grade		$250.00	
Specialty Inspector or Where Formal Certification is Required - NACE Coating Level 3		~~$550.00~~	$158.00
Field Inspector with Special Enhancement		$230.00	
Safety Manager/Safety Inspector/Onsite Safety Accountability Supervisor (OSAS)		$500.00	
Laboratory Technician		$230.00	
Additional Sample Preparation Time		$230.00	
Technician Typist		$230.00	
**PROFESSIONAL ENGINEERING SERVICES			
Principal Engineer (Civil/Structural)		$365.00	
Geotechnical Engineer		$320.00	
Professional Geologist		$305.00	
Consulting Engineer (Civil/Structural)		$300.00	
Associate Engineer, Licensed		$250.00	
Project Manager		~~$230.00~~	$153.00
Staff Engineer		~~$230.00~~	$153.00
Field Supervision		~~$230.00~~	$153.00
ASNT Level III		$250.00	
Drafting		$165.00	
Quality Control Manager		QOR	
SPECIAL SERVICES			
Portable and Mobile Laboratories, NDT and Soils		QOR	
* Epoxy Bolt/Expansion Anchor - Installation Observation		$230.00	
* Epoxy Bolt/Expansion Anchor Proof Load Testing (portal-to-portal)		$230.00	
* Coring, 1 Person (excluding equipment) (portal-to-portal)		$305.00	
* Coring, 2 Persons (including equipment) (portal-to-portal)		$460.00	
* Asphalt Coring (portal-to-portal)		$330.00	
Project Research		QOR	
Ultrasonic Testing for Non-Metallic Materials		QOR	
Pavement Rehabilitation Analysis Using Deflectons		QOR	
Roof Moisture Survey		QOR	
Soil Drilling Equipment		QOR	
Geotechnical Site Investigations/Foundation Reports		QOR	
Estimating Concrete Strength by the Maturity Method - Equipment Fee $10/Slab	ASTM C1074	QOR	
Gamma-Gamma Logging of CIDH Piles (Daily Rate)	CT293	$3,500.00	
FCIA/AAMA Window and Skylight Testing (Daily Rate)	ASTM E1105, AAMA 501.2, 502.503	$3,500.00	
Pachometer, Schmidt Hammer, Windsor Probe, Slichmore - Equipment Fee $115/Day (portal-to-portal)		$305.00	
Ultrasonic Pulse Velocity Testing - Equipment Fee $250/Day (portal-to-portal)	ASTM C597	$650.00	
Impact Echo Testing - Equipment Fee $250/Day (portal-to-portal)	ASTM C1383	$305.00	
Floor Flatness Testing FF/FL - Equipment Fee $115/Day (portal-to-portal)	ASTM E1155	$305.00	
Surface Frictional Properties Using Pendulum Tester - Equipment Fee $115/Day (portal-to-portal)	ASTM E303	$305.00	
Measuring Moisture Vapor Emission Rate (Calcium Chloride) - $65/Kit (portal-to-portal)	ASTM F1869	$305.00	
Relative Humidity Testing - $75/Kit (portal-to-portal)	ASTM F2170	$305.00	
Ferroscan - Equipment Fee $115/day (portal-to-portal)		$305.00	
GPR - Equipment Fee $115/day (portal-to-portal)		$380.00	
Administration, Secretarial, Special Projects, Notary, Certified Payroll		~~$150.00~~	$100.00
Concrete/Grout/Mortar Mix Design Review (less than 48 hours notice - $500)		~~$455.00~~	$300.00
Welding Procedure Review (less than 48 hours notice - $500)		~~$455.00~~	$300.00
Procedure Qualification Record (PQR) - Standard Procedure (document fee)		$500.00	
Welding Procedure Specification (WPS) - Standard Procedure (document fee)		$500.00	
Welder Qualification Test Record (WQTR) - Standard Procedure (document fee)		$500.00	
DSA Interim Reports		$100.00	
Geotechnical Pad Letter (less than 48 hours notice - $550)		$355.00	
Final Letter (less than 48 hours notice - $550)		~~$455.00~~	$300.00
EXPERT WITNESS TESTIMONY			
Court appearance, per day		$2,550.00	
Court appearance, per half day		$1,550.00	

* Field inspection and laboratory technician services will be billed in accordance with increments shown on Basis of Charges.
**Professional engineering services will be billed in two hour increments.

CONSTRUCTION TESTING SERVICES
www.CTS-T.com

inspecting
testing
engineering

BASIS OF CHARGES

GENERAL

Fees for tests and inspection include cost of technician, normal equipment and regular reports. Engineering services will be charged at applicable rates and will include travel and mileage charges for equipment transport and storage per code (portal to portal) from the nearest CTS laboratory. Tests testing with nuclear gauge and/or sand cone equipment and inspections requiring equipment will include applicable travel and mileage charges for equipment transport and storage per code (portal-to-portal) from the nearest CTS laboratory. Fees for special projects, services overseas, or elsewhere in the United States, will be quoted on request. With prior notification to Client, charges are subject to change at any time. Construction Testing Services reserves the right to adjust the rates quoted in this contract based upon any Union or prevailing wage increases and/or changes in any industry requirements.

MINIMUM HOURLY CHARGES – INSPECTION

Technician personnel and the following minimum charges are contractual commitment:

One-half day or less	4 hours
Over one-half day	8 hours
Show-up time (less than 2 hours notice – 4 hour charge)	2 hours

WORKING HOURS AND PREMIUM TIME

Regular workday is the first 8 hours between 6:00 am and 6:00 pm Monday through Friday. Premium time is as follows:

Overtime Weekdays and Saturdays (first 8 hours)	1.5 x quoted hourly rate
Overtime Saturdays (over 8 hours) and Sundays (first 8 hours)	2 x quoted hourly rate
Overtime Sundays (over 8 hours) and holidays	3 x quoted hourly rate
Shift differential, swing and graveyard -	
(Work performed between 2:00 pm and 4:00 am)	12.5%/hour additional to base or quoted rate

MISCELLANEOUS CHARGES - *Only Where Applicable*

Notary Services Fee	$40.00/each	
Facsimile Charges - Plus $1.00/page (n/c for cover page)	$7.00/minimum	
Wireless Router/Data Card for outside labs net	$125.00/day	
iPad Monthly Rental Fee	$100.00/month	
Electronic Reporting Fees/Subscriptions (PlanGrid, BIM), etc.)	At Cost	
Parking Fees	At Cost	
Air Travel	Cost Plus 10%	
Outside Services	Cost Plus 20%	
Subsistence (per Union contract)	$130.00/day	
Subsistence Premium: Area Allowance (over 100 miles one way) (per Union cont act)	$90.00/day	
Subsistence Premium: Area Allowance (over 150 miles one way) (per Union cont act)	$85.00/day	
Mileage	Standard Federal Rate	
Sample Pickup	~~$30.00/each~~	$15.00/each
Sample Pickup Trip Charge	QCR	
Weekend Sample Pickup	$110.00/each	
Project Administration	~~10% of Monthly Invoice~~	10% of Monthly Invoice
Samples Made by Others: Concrete Cylinders	$130 + Test	
Samples Made by Others: All Other Tests	$65.00 + Test	
Laboratory Sample Witness Fee	$130.00	
Laboratory Sample Storage Fee (per sample)	$120.00	
E2 Cure Boxes (Thermostatically Controlled Curing Boxes)	QCR	
Returned Check Fee	$150.00	
Additional Sample Retention	QCR	

TESTS

Testing fees shown include normal time for performing test. Samples requiring special preparation will be charged at the laboratory technician rate. Fees for tests not listed will be quoted upon request. There will be a minimum charge of $100.00 for any engineering report. Please note some tests may be tested by subcontractors. Samples delivered to the laboratory after 3:00pm or samples needing results within 24 hours will incur a 50% mark-up.

INSURANCE

The liability of Construction Testing Services (CTS) is limited to CTS's contract value.

PAYMENT

Invoices will be submitted monthly or bimonthly for services performed during the preceding month and are payable on receipt. Interest of 1.5% per month (but not exceeding the maximum rate allowable by law) will be payable on any amounts not paid within 30 days, payment thereafter to be applied first to accrued interest and then to the principle unpaid amount. Attorney's fees or other costs incurred in collecting any delinquent amount shall be paid by client. Visa, MasterCard and American Express payments are accepted however fees will apply. Visa and MasterCard payments require an additional 3% on top of the amount of the invoice being paid. American Express payments require an additional 4% on top of the amount of the invoice being paid.

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Public Works Director

SUBJECT : **APPROVAL OF AMENDMENT NO. 3 TO THE 1962 VALLEJO/BENICIA WATER AGREEMENT**

EXECUTIVE SUMMARY:

The City of Benicia's long-term water agreement with the City of Vallejo expires on February 28, 2025. Both parties came to a mutual agreement to extend the agreement by one year for the same quantity of water and cost of Lake Berryessa water.

RECOMMENDATION:

Adopt a resolution (Attachment 1) approving Amendment No. 3 (Attachment 2) to the 1962 Vallejo/Benicia Water Agreement (Attachment 3) for up to 1,100 acre-feet at a cost of $25.58 per acre foot plus any retroactive new negotiated market rate price as determined by any future negotiations ending February 28, 2026.

BUDGET INFORMATION:

Sufficient funds are available in Account No. 7508020-7160 (Water Purchases) to cover the cost of $28,138 plus any retroactive new negotiated market rate price as determined by any future negotiations.

BACKGROUND:

On February 5, 1962, the City of Vallejo and the City of Benicia entered into an Agreement for Water Service for Solano Project water (i.e. Lake Berryessa). Two amendments to the agreement have been entered into on April 9, 1962 and April 28, 1989 respectively to amend the terms of the agreement. The current agreement provides for up to 1,100 acre-feet of Lake Berryessa water at a cost of $25.58 per acre-foot. The current agreement expires on February 28, 2025.

The City needs to continue to purchase a supply of Solano Project water from the City of Vallejo to meet projected demand. City staff and the City of Vallejo came to a mutual agreement for a one-year extension for the same quantity of water. Amendment No. 3 would provide for up to 1,100 acre feet at the existing price of $25.58 for a one-year period ending February 28, 2026. Amendment 3 includes recognition of the fact that the price under the existing Agreement is potentially below market rate, and that to determine market rate for a specific water sale is impacted by multiple factors

including regional water availability, timeframe of the sale (multi-year vs. one-time), water prices in other recent water sales in the region, and source water (Delta water vs. Berryessa water), among other factors. To ensure market rate pricing despite the complex endeavor requiring staff to research and negotiate said price, Amendment 3 includes a provision in which Benicia will retroactively pay Vallejo the difference between the current price ($25.58 per acre-foot) and the new negotiated market rate price as determined by any future negotiations.

NEXT STEPS:
If approved, Amendment No. 3 will be routed for signatures.

ALTERNATIVE ACTIONS:
City Council could choose to not approve Amendment No. 3, which may put the City's water supply portfolio at risk. City Council may choose to direct staff to seek additional water purchases from other entities, which may cost the City more money and time.

CEQA Analysis	The proposed amendments are exempt from the California Environmental Quality Act (CEQA) Guidelines Section 15061(b)(3), the "general rule" exemption that states that where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is exempt from CEQA.

ATTACHMENTS:
1. Resolution – Amendment No. 3 to the 1962 Vallejo/Benicia Water Agreement
2. Amendment No. 3 to the 1962 Vallejo/Benicia Water Agreement
3. 1962 Vallejo/Benicia Water Agreement

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: PW@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING AMENDMENT NO. 3 TO THE 1962 VALLEJO/BENICIA WATER AGREEMENT

WHEREAS, on February 5, 1962, the City of Vallejo and the City of Benicia entered into an Agreement for Water Service for Solano Project water (i.e. Lake Berryessa); and

WHEREAS, two amendments to the Agreement for Water Service were entered into on April 9, 1962 and April 28, 1989 respectively to amend the terms of the agreement; and

WHEREAS, the current agreement provides for up to 1,100 acre-feet of Lake Berryessa water at a cost of $25.58 per acre-foot; and

WHEREAS, the current agreement expires on February 28, 2025; and

WHEREAS, the City needs to continue to purchase a supply of Solano Project water from the City of Vallejo to meet projected demand; and

WHEREAS, the City of Vallejo and City staff came to a mutual agreement for a one-year extension for the same quantity of water.

WHEREAS, the new negotiated market rate price as determined by any future negotiations will be paid retroactively for the term of Amendment 3 to ensure market rate pricing is in place for Amendment 3.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia hereby approves Amendment No. 3 to the 1962 Vallejo/Benicia Water Agreement for up to 1,100-acre feet at a cost of $28,138 (up to 1,100 acre feet @ $25.58 per acre foot) plus the new negotiated market rate price as determined by any future negotiations for a one-year period ending February 28, 2026.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

Amendment No. 3
To the 1962 Vallejo/Benicia Water Agreement

1. On February 5, 1962, the City of Vallejo ("Vallejo") and the City of Benicia ("Benicia") (collectively "Parties") entered an "Agreement for Water Service." On April 9, 1962 and again on April 28, 1989, the Parties amended the Agreement for Water Service to address outstanding issues. Together the Agreement for Water Service and the two amendments are collectively identified as the "Agreement" in this Amendment 3.

2. The Agreement requires Vallejo to deliver to Benicia no more than 1,100 acre-feet of water per year from Lake Berryessa. Benicia agrees to pay Vallejo $25.58 per each acre foot delivered. The Agreement expires on February 28, 2025. The Parties wish to extend the term of the Agreement through this Amendment 3. Article 18 of the Agreement allows for the proposed modification.

3. Accordingly, Paragraph No. 18 of the Agreement is amended to read as follows:

18. Modification and Termination. Vallejo's obligation to provide water and Benicia's obligation to pay for same under the terms of this Agreement shall commence not sooner than 1 March 1989, and shall continue in effect until 28 February 2026; provided, however, that this Agreement may be modified or terminated by mutual agreement at any time; and provided further, that it may be unilaterally terminated upon (1) year's notice by Benicia when Benicia has provided facilities for an adequate new water supply.

4. The parties also agree that the current price of water sold to Benicia under the Agreement (the "Current Price") is below current market rates. Benicia shall pay the Current Price for the term of this Amendment 3. However, the parties agree that Benicia shall pay the difference between the Current Price and any new price negotiated in a new agreement retroactive to the date of execution of this Amendment 3, said amount to be paid upon the date of execution of any new agreement. In the event the parties do not execute a new agreement by February 28, 2026, the parties agree that Benicia will pay to Vallejo the difference between the Current Price and the negotiated market rate on February 28, 2026 retroactive to the date of execution of this Amendment No. 3, said amount to be paid by March 1, 2026.

Except as specifically amended herein, the Agreement shall be and remain in full force and effect.

Dated this _____ day of _____, 2025.

_____	_____
City of Vallejo	City of Benicia
_____	_____
Date	Date
Attest:	Attest:
_____	_____
City of Vallejo	City of Benicia
_____	_____
Date	Date

FILE COPY

Original - Agreements 108
Res. #399

213-620-9297

AGREEMENT FOR WATER SERVICE

THIS AGREEMENT, made and entered into this 5th day of FEBRUARY, 1962, by and between the CITY OF VALLEJO, a Municipal Corporation, hereinafter called "Vallejo", and the CITY OF BENICIA, a Municipal Corporation, hereinafter called "Benicia";

W I T N E S S E T H

WHEREAS, Vallejo owns and controls water, water rights, rights to water, pipelines for the transmission and distribution of water and treatment and storage facilities and has commenced construction of facilities for transmission of water from Monticello terminal reservoir and now has certain surplus water available for sale outside the territory presently served by the Vallejo Municipal Water System and,

WHEREAS, Benicia has contracted to purchase the water storage, treatment, transmission and distribution system now serving Benicia, has authorized revenue bonds in the total principal amount of One Million Two Hundred Thousand Dollars ($1,200,000) to finance said purchase, and is in need of a firm supply of water in order to take over said system and the responsibility for serving water to its inhabitants.

NOW, THEREFORE, in consideration of the premises and covenants, conditions and agreements hereinafter set forth to be kept and performed by the parties hereto, it is agreed as follows:

1. Point of Water Delivery. Vallejo shall furnish and Benicia shall accept the water at the point of delivery on Benicia's twelve-inch pipeline, southeasterly of the Vallejo-Benicia Township Line, where said pipe joins two six-inch pipes.

Vallejo shall meter water delivered through said point.

2. Computation on fiscal year basis. The year for reckoning minimum and maximum delivery begins on July 1st and ends of June 30th, annually.

3. Rate of Delivery. After completion of the construction of necessary transmission and pumping facilities hereinafter described, Vallejo shall deliver water at a rate not exceeding one million (1,000,000) gallons per day or the capacity of a 75-horsepower pump, whichever is less, and Benicia shall accept not less than 225 million gallons per year or a prorated amount thereof in relation to a period less than one year. If Benicia's demand exceeds the capacity of the 75-horsepower pump herein referred to, and if Vallejo agrees to supply such additional quantity any additional horsepower required must be provided by Benicia, unless the additional requirement results from Vallejo's distribution of water to areas adjoining the twelve-inch line referred to in Paragraph 1, in which event Vallejo shall provide the additional horsepower at its own expense. Such additional horsepower jointly required shall be jointly financed.

4. Vallejo Liability. Vallejo agrees to exercise reasonable diligence and care to effect the delivery of such quantities of water requested by Benicia within the limits of this Agreement out of any water surplus to Vallejo's requirements, but Vallejo shall not be liable for interruption or shortages caused by insufficiency of supply, rights of other users, or for any loss or damage occasioned thereby, nor delay or interruption caused by accident, Act of God, fires, strikes, riots or other causes beyond the control of Vallejo.

5. Benicia's Estimates. Benicia shall deliver to Vallejo an estimate of the quantity of water it will require and a schedule of drafts thereof during the following calendar month, at least fifteen (15) days before the beginning of each month; and, further, whenever the rate, time or quantity of draft is

expected to vary from said schedule, Benicia shall notify Vallejo of its revised requirement at least seventy-two (72) hours in advance of each such anticipated variance.

6. Meter. Vallejo shall furnish, install and maintain a six-inch meter at the point of delivery and record the readings of the same each month. Said meter's record shall be conclusive as to quantities of water furnished except as hereinafter provided. Said meter shall be checked for accuracy by representatives of Benicia and Vallejo within five (5) days after date of written requests of either; provided, however, that no two (2) such consecutive checks shall be separated by an interval of less than thirty (30) days. If the meter is found to be registering inaccurately by two (2) percent or more, charges for water shall be adjusted accordingly for the period, not exceeding thirty (30) days, the meter was in error.

7. Pump and Appurtenances. Not less than sixty (60) days prior to the date Benicia specifies for commencement of said water delivery, Benicia shall furnish to Vallejo at Lake Chabot Pump Station the seventy-five (75) horsepower pump, together with the hardware, fittings and valves, electrical switches and other appurtenances thereto, from Benicia's pump station in southern Napa County. Vallejo shall install said pump and equipment in said pump station and construct the pipelines and tie-ins necessary to deliver water through the existing twelve (12) inch pipe to the above-mentioned delivery and metering point. Benicia warrants said pump and materials to be furnished as being in good and servicable condition and any failure or failures thereof occurring within twelve (12) months after installation not attributable to faulty installation or neglect shall be repaired and/or replaced at Benicia's expense.

8. Connection Charge. Benicia shall pay to Vallejo, simultaneously with the execution of this Agreement, the sum

of Four Thousand Five Hundred and Seventy Five Dollars ($4,575.00) as a connection charge.

9. Use of 12 Inch Line. In consideration of authority to use said twelve (12) inch pipeline for delivery of water to areas adjoining it, Vallejo hereby transfers to Benicia permission to occupy, with said line, property owned by Vallejo upon which property the line is now located. Vallejo shall maintain and operate the pump, pipelines and meter at its cost and expense during the term of this Agreement. However, Vallejo's obligation for maintenance shall be limited to the repair and/or replacement of those parts of the facility requiring attention due to normal wear only. Any relocation, replacement and/or major improvement or rehabilitation shall be the responsibility of Benicia.

Deleted by Amendment #2

10. Option and Election to Buy Treated or Untreated Water. Benicia may purchase at its option either treated water as the same is customarily produced in Vallejo's water treatment plant, or untreated water in the following manner. For a period of one year from the date of commencement of water deliveries, the water supplied shall be treated. Benicia may at any time after one year from the date of commencement of service under this Agreement elect to receive untreated water in lieu of treated water; but may not change again without Vallejo's consent. Such election shall be made by written notice served on Vallejo at least twelve (12) months prior to the date the change is desired. In the event such election is made, all provisions of this Agreement, except those expressly limited to one type of water or the other, shall apply to both types.

Amendment #1 Attached

11. Treated Water - Rates. Vallejo shall sell and Benicia shall pay for all treated water delivered at the rate of Twenty Four and One Tenth Cents ($0.241) per one thousand (1,000) gallons, subject, however, to the provisions of Paragraph 16. Commencing with the first day of the month following

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the completion of the pumping and transmission facilities referred to in Paragraph 7 hereof, and continuing for the period of this Agreement, or until the commencement date for the taking by Benicia of untreated water under Paragraph 10, whichever occurs first, Benicia shall pay monthly to Vallejo the sum of Four Thousand Five Hundred Seventeen and 08/100 Dollars ($4,517.08), and Vallejo shall credit said payments to Benicia's account for water delivered as provided herein. In any event, Benicia shall pay for the amount of water delivered as of the current billing date. All treated water provided by Vallejo under this Agreement shall be suitable for all domestic use, and shall meet the standards of the State Department of Public Health and the Solano County Department of Public Health, and Vallejo assumes full responsibility for providing and maintaining its quality to such standards.

12. Untreated Water - Rates. Vallejo shall sell and Benicia shall pay for all untreated water delivered pursuant to any Benicia election to take untreated water under Paragraph 10, at the rate of Twelve and One-Half Cents ($0.12 1/2) per one thousand (1,000) gallons, subject, however, to the provisions of Paragraphs 16 and 17. Commencing with the date of commencement for the taking by Benicia of untreated water, Benicia shall pay monthly to Vallejo Two Thousand Three Hundred Forty Three and 75/100 Dollars ($2,343.75), and Vallejo shall credit said payments to Benicia's account for water delivered, as provided herein. In any event, Benicia shall pay for the amount of water delivered as of the current billing date.

13. Untreated Water - Quality. It is expressly understood and agreed by Benicia that any untreated water furnished hereunder is not fit for human consumption, and Benicia hereby indemnifies and holds Vallejo harmless for any damage or claim for injury or illness to any person, livestock or other living thing which may in any way arise from the use of said untreated

water. This Agreement, insofar as it relates to untreated water, shall terminate if the State Department of Public Health or the Solano County Department of Public Health at any time demands that Vallejo cease the delivery of untreated water to Benicia. If required by the State or County Departments of Public Health, Benicia shall, at its own expense, install an approved backflow prevention device or any other additional facility required by those two agencies as a condition to continuance of the delivery of untreated water by Vallejo. The termination of this Agreement insofar as untreated water is concerned shall in no way affect the supply of treated water hereunder.

14. Billing and Payment. Vallejo shall bill Benicia before the tenth (10th) day of each month, and Benicia shall pay the amount billed within fifteen (15) days thereafter.

15. Suspension of Service in Case of Default. Should Benicia default payment of any sum due as provided herein, Vallejo may suspend the delivery of water to Benicia during the period of such default.

16. Review of Costs. Vallejo will periodically review the cost of furnishing water as provided herein and is hereby empowered to notify Benicia of any increase or decrease of the price for water not later than the last day of March in any year. Such review and adjustment shall be made in the manner now followed by Vallejo and the United States Navy in establishing costs and price adjustments under their agreement for service to Mare Island Navy Yard. Any price change so determined shall become effective during the July following such notice and continue for not less than the succeeding two (2) contract years, and Benicia shall be obligated to pay the same.

Revised - Per Amendment #2

17. Monticello Water. Both Vallejo and Benicia have rights and commitments to purchase water from the Monticello project. In the event Vallejo constructs pipeline facilities

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to obtain water from this source, the cost of water delivered to Benicia under this Agreement may be increased or decreased on the basis of a cost analysis made as described in Paragraph 16. However, it is recognized that Benicia has commitments to purchase certain amounts of Monticello water and to pay for the same whether or not used. Accordingly, if and when Vallejo has facilities for taking water from this source, Vallejo will, if requested by Benicia, accept Benicia's allotment of water at Monticello terminal Reservoir within quantity limits of this Agreement and transport to Benicia a like quantity of water as satisfaction of Vallejo's commitments under this Agreement. Rate for such water shall be determined as the then calculated cost of treating and transporting said water to Benicia, if treated water is taken by Benicia, or transporting only if untreated water is taken by Benicia. Vallejo reserves the right to prescribe the times and rates of flow at which said water shall be accepted from Monticello terminal reservoir.

18. Modification and Termination. Vallejo's obligation to provide water and Benicia's obligation to pay for same under the terms of this Agreement shall commence not sooner than November 1, 1962, and upon completion of the construction of the necessary transmission and pumping facilities described in Paragraph 7, and shall continue in effect until November 1, 1997; provided, however, that this Agreement may be modified or terminated by mutual agreement at any time; and provided, further, that it may be unilaterally terminated upon one year's notice by Benicia when Benicia has provided facilities for an adequate new water supply.

Amendment attached

19. Notices. Any notice required under this agreement to either party shall be deemed to have been given when deposited in the United States mail in a sealed envelope, postage prepaid, and addressed as follows:

To the City of Vallejo
Office of the City Manager
City Hall
Vallejo, California

To the City of Benicia
Office of the City Clerk
City Hall
Benicia, California

Either party may change its address by giving the other party written notice of its new address.

20. Successors and Assigns. This agreement shall inure to the benefit of and be binding upon each of the parties and their successors in interest.

21. Councilmen of Each Party Have Read Agreement. The members of the city council of each city assert that they have read and understand this Agreement.

IN WITNESS WHEREOF the parties hereto have hereunto affixed their names by their representatives thereunto duly authorized, all in the day and year first above written.

CITY OF VALLEJO, a municipal corporation,

BY _____
City Manager

ATTEST:

_____
City Clerk

CITY OF BENICIA, a municipal corporation,

BY _____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM: _____
City Attorney

APPROVED AS TO CONTENTS: _____
Public Works Director

APPROVED AS TO CONTENTS: _____
Water Superintendent

FUNDS AVAILABLE: _____
Finance Director

AMENDMENT

That certain AGREEMENT FOR WATER SERVICE dated February 5, 1962, by and between the CITY OF VALLEJO, a Municipal Corporation, and the CITY OF BENICIA, a Municipal Corporation, is hereby amended as follows.

Paragraph 10 of said AGREEMENT FOR WATER SERVICE is hereby amended to read:

10. Option and Election to Buy Treated or Untreated Water. Benicia may purchase at its option either treated water as the same is customarily produced in Vallejo's water treatment plant, or untreated water in the following manner. For a period of one year from the date of commencement of water deliveries, the water supplied shall be untreated. Benicia may at any time after one year from the date of commencement of service under this Agreement elect to receive treated water in lieu of untreated water; but may not change again without Vallejo's consent. Such election shall be made by written notice served on Vallejo at least twelve (12) months prior to the date the change is desired. In the event such election is made, all provisions of this Agreement, except those expressly limited to one type of water or the other, shall apply to both types.

Paragraph 18 of said AGREEMENT FOR WATER SERVICE is hereby amended to read:

18. Modification and Termination. Vallejo's obligation to provide water and Benicia's obligation to pay for same under the terms of this Agreement shall commence not sooner than November 1, 1962, and upon completion of the construction of the necessary transmission and pumping facilities described in Paragraph 7, and shall continue in effect until June 30th, 2003; provided, however, that this Agreement may be modified or terminated by mutual agreement at any time; and provided, further, that it may be unilaterally terminated

upon one year's notice by Benicia when Benicia has provided facilities for an adequate new water supply.

DATED this 9 day of April, 1962.

CITY OF VALLEJO, a Municipal Corporation

By _____
City Manager

ATTEST:
_____
City Clerk

CITY OF BENICIA, a Municipal Corporation

By _____
Mayor

ATTEST:
_____
City Clerk

APPROVED AS TO FORM: _____
CITY ATTORNEY

APPROVED AS TO CONTENTS: _____
PUBLIC WORKS DIRECTOR

APPROVED AS TO CONTENTS: _____
WATER SUPERINTENDENT

FILE COPY

AMENDMENT NO. 2
TO THE 1962 VALLEJO/BENICIA WATER AGREEMENT

That certain Agreement for Water Service dated 5 February 1962, and as amended on 9 April 1962, by and between the CITY OF VALLEJO, a Municipal Corporation, and the CITY OF BENICIA, a Municipal Corporation, is hereby amended to read:

Paragraph No. 1 of said Agreement for Water Service is hereby amended to read as follows:

1. Point of Water Delivery. Vallejo shall furnish and Benicia shall accept the water at the Monticello Terminal Reservoir and/or at the southern boundary of the Sky Valley Project when that Project is constructed and Tentative Map 88-10 is met, or at any combination of points of delivery. Benicia will be responsible for maintenance and operation of all facilities at Terminal Reservoir, and at any other points of diversion where facilities are owned and operated by Benicia, necessary to pump water into Benicia. Benicia shall provide a mechanism acceptable to Vallejo for measuring the volume of water taken at any point.

Paragraph No. 2 of said Agreement for Water Service is hereby amended to read as follows:

2. Computation on Yearly Basis. The year for reckoning minimum and maximum delivery begins on March 1st and ends on February 28th, annually.

Paragraph No. 3 of said Agreement for Water Service is hereby deleted and a new Paragraph No. 3 is added to read as follows:

3. Rate of Delivery. Vallejo shall deliver water to the City of Benicia in a quantity not to exceed 1,100 acre feet per year from all connection points. Depending upon point of delivery of Benicia's choosing, Vallejo shall not be required to deliver water at a rate which exceeds the normal capacity of its water system. Vallejo shall maintain a capacity to furnish up to 3 million gallons per day for service to Benicia at the southern boundary of that certain point in Sky Valley, known as the "Sky Valley Project", when said project is constructed.

Paragraph No. 6 of said Agreement for Water Service is hereby amended to read as follows:

6. Meter. Benicia shall provide a mechanism acceptable to the City of Vallejo at Terminal Reservoir for measuring the consumption of water. Should Benicia elect to take service from any other point in the City of Vallejo's system, Benicia will be responsible for furnishing and installing a meter acceptable to the City of Vallejo. If Benicia takes service from Vallejo's treated water system for fifty (50) days, or less, in any one year, Benicia will not be subject to the water service charges normally assessed for service in Vallejo. Should Benicia's usage

exceed fifty (50) days in any one year, Benicia will be subject to Vallejo's water service charge. Said meter's record shall be conclusive as to quantities of water furnished except as hereinafter provided. Said meter shall be checked for accuracy by representatives of Benicia and Vallejo within five (5) days after date of written requests of either; provided, however, that no two (2) such consecutive checks shall be separated by an interval of less than thirty (30) days. If the meter is found to be registering inaccurately by two percent (2%) or more, charges for water shall be adjusted accordingly for the period the meter was in error, not exceeding thirty (30) days.

Paragraph No. 7, Pump and Appurtenances, of said Agreement for Water Service is hereby deleted in its entirety.

Paragraph No. 8 of said Agreement for Water Service is hereby amended to read as follows:

8. Connection Charge. Benicia shall pay to Vallejo for any connection to the City of Vallejo's system, other than the connection at Terminal Reservoir, all charges imposed by the City of Vallejo for similar service within Vallejo.

Paragraph No. 9, Use of 12 Inch Line, of said Agreement for Water Service is hereby deleted in its entirety.

Paragraph No. 11 of said Agreement for Water Service is hereby amended to read as follows:

11. Treated Water - Rates. Vallejo shall sell and Benicia shall pay for all treated water delivered at the "Outside City Limits Rates" in effect when the water is taken. All treated water provided by Vallejo under this Agreement shall be suitable for all domestic use, and shall meet the standards of the State Department of Public Health and the Solano County Department of Public Health, and Vallejo assumes full responsibility for providing and maintaining the quality to such standards at the point of intertie with Benicia's water system.

Paragraph No. 12 of said Agreement for Water Service is hereby amended to read as follows:

12. Untreated Water - Rates. Vallejo shall sell and Benicia shall pay for all untreated water delivered at Terminal Reservoir an amount equal to Vallejo's cost for the following items. These costs shall be reviewed yearly.

Paragraph No. 16 of said Agreement for Water Service is hereby amended to read as follows:

1.	Cost of water	$15.00/AF
2.	Estimated screen maintenance	0.35/AF
3.	Estimated access maintenance	0.08/AF
4.	Additional cost by using permit water:	
	(a) Sludge Management	4.54/AF
	(b) Chemical cost (additional)	3.28/AF
5.	Out of City Limits fee at 10%	2.33/AF
	TOTAL COST UNTREATED BERRYESSA WATER	$25.58/AF

16. Review of Costs. Vallejo will periodically review the cost of furnishing untreated water as provided herein and is hereby empowered to notify Benicia of any increase or decrease of the price for water not later than the last day of January in any year. Any price change as determined shall become effective during the July following such notice and continue for not less than the succeeding one (1) contract year, and Benicia shall be obligated to pay the same

Paragraph No. 18 of said Agreement for Water Service is hereby amended to read as follows:

18. Modification and Termination. Vallejo's obligation to provide water and Benicia's obligation to pay for same under the terms of this Agreement shall commence not sooner than 1 March 1989, and shall continue in effect until 28 February 2025; provided, however, that this Agreement may be modified or terminated by mutual agreement at any time; and provided, further, that it may be unilaterally terminated upon one (1) year's notice by Benicia when Benicia has provided facilities for an adequate new water supply.

Except as specifically amended herein, said Agreement shall be and remain in full force and effect.

Dated this 28th day of April, 1988.

(Signatures on Page 4)

CITY OF VALLEJO,
A Municipal Corporation

By Edward G Wohlenberg
EDWARD G. WOHLENBERG
City Manager

ATTEST:

By Mildred R Watson
MILDRED R. WATSON
City Clerk

APPROVED AS TO FORM:

John M. Powers
JOHN M. POWERS,
City Attorney

CITY OF BENICIA,
A Municipal Corporation

By Marilyn Bloomer
Mayor

ATTEST:

By Frances D. Greco
City Clerk

BENWTR

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Public Works Director

SUBJECT : **APPROVAL OF A FIRST AMENDMENT TO AGREEMENT WITH DC ELECTRIC GROUP, INC. TO INCREASE PAYMENT LIMITS AND APPROVAL OF A BUDGET AMENDMENT**

EXECUTIVE SUMMARY:
The City has a multi-year Agreement (Agreement) with DC Electric Group, Inc. for Streetlight and Facility Light Maintenance and Repair Services. An amendment to the agreement is being requested along with a budget amendment. The not-to-exceed amount for the Agreement has nearly been reached and needs to be increased to allow for future maintenance and repairs to be completed.

RECOMMENDATION:
Move to adopt a resolution (Attachment 1) approving an Amendment to Agreement with DC Electric Group, Inc. for Streetlight and Facility Light Maintenance and Repair Services (Attachment 2) and increasing the not-to-exceed amount from $200,000 to $400,000, authorizing the Finance Director to make the necessary budget amendment and authorizing the City Manager to execute the amendment on behalf of the City.

BUDGET INFORMATION:
The current year cost is $125,000, and $50,000 has been budgeted in Fund 310 Gas Tax. Therefore, a budget amendment of $75,000 is necessary to increase the budget appropriation in Fund 310 Gas Tax for Contract Services (org/obj. 3108050-7008), funded from the Gas Tax Fund Balance, which has sufficient fund balance. The remaining cost in FY26 of $75,000 will be included as part of budget development and included in the proposed budget for FY26. The maximum amount of this agreement is $400,000, which concludes on June 30, 2026. City Council approval is required when contracts for services exceeds $200,000 for the Public Works Department (Benicia Municipal Code: 3.10.030 Procurement of Services).

BACKGROUND:
On July 1, 2023, the City entered into Agreement #23-141 for Streetlight and Facility Light Maintenance and Repair Services with DC Electric Group, Inc. The multi-year

Agreement has a payment limit of $200,000 and services have reached the limit requiring the limit to be increased.

On May 8, 2023, a Request for Proposals (RFP) was posted using the OpenGov procurement platform in compliance with the City's purchasing policy. On May 30, 2023, four responses were received and evaluated by Maintenance and Parks Division staff. DC Electric Group, Inc. was the selected vendor based on several factors outlined in the RFP, but experience, expertise, and cost were the top factors.

NEXT STEPS:
If approved, the Amendment to Agreement will be executed.

ALTERNATIVE ACTIONS:
If Council does not approve the Amendment to Agreement, street light repair and maintenance will stop as the current contract is nearly exhausted. Alternatively, Council may direct staff to issue a Request for Proposals process for a new contract which may cause some delays

CEQA Analysis	This project is categorically exempt from the California Environmental Quality Act (CEQA) per Section 15301 (c), which exempts the operation, repair, maintenance of existing roadways, permitting, licensing, or minor alteration of existing facilities involving negligible or no expansion of use beyond that existing at the time of the lead agency's determination.

ATTACHMENTS:
1. Resolution – Amendment to Agreement with DC Electric
2. Amendment to Agreement – DC Electric

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: PW@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING A FIRST AMENDMENT TO AGREEMENT WITH DC ELECTRIC GROUP, INC. TO INCREASE PAYMENT LIMITS AND APPROVAL OF A BUDGET AMENDMENT

WHEREAS, the City has a multi-year Agreement (Agreement) with DC Electric Group, Inc. for Streetlight and Facility Light Maintenance and Repair Services; and

WHEREAS, the not-to-exceed amount of the Agreement has nearly been reached and needs to be increased to allow for future maintenance and repairs to be completed; and

WHEREAS, sufficient funds are not available in the current budget year and a budget amendment of $75,000 is necessary to increase the budget appropriation in Fund 310 Gas Tax for Contract Services (org/obj. 3108050-7008), funded from the Gas Tax Fund Balance, which has sufficient fund balance; and

WHEREAS, the maximum amount of this agreement is $400,000, which concludes on June 30, 2026.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia does hereby adopt a resolution approving an Amendment to Agreement with DC Electric Group, Inc. for Streetlight and Facility Light Maintenance and Repair Services and increasing the limits from $200,000 to $400,000, authorizing the Finance Director to make the necessary budget amendment and authorizing the City Manager to execute the amendment on behalf of the City.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

Docusign Envelope ID: F1B5471F-B7B4-4E2E-84DC-5941AE5750D8

Contract ID #23-141A1

FIRST AMENDMENT TO AGREEMENT

This FIRST Amendment of the Agreement, entered into February 19, 2025, by and between the City of Benicia, a municipal corporation (hereinafter "CITY") and DC Electric Group Inc, a Corporation , with its primary office located at 605 West Sierra Ave., Cotati CA 94931, (hereinafter "CONTRACTOR"), is made with reference to the following:

1. Recitals

A. On July 1, 2023, an agreement identified as Contract ID # 23-141 was entered into by and between CITY and CONTRACTOR, ("Agreement"); and

B. CITY and CONTRACTOR desire to modify the Agreement on the terms and conditions set forth herein.

NOW, THEREFORE, it is mutually agreed by and between and undersigned parties as follows:

2. Amendments

2.1. Compensation

Compensation paragraph of the Agreement is modified to: This contract is being increased in the amount of $200,000, for a new total amount not to exceed $400,000.

2.2. End of Amendments

Except as expressly modified herein, all other terms and covenants set forth in the Agreement shall remain the same and shall be in full force and effect.

IN WITNESS WHEREOF, the parties hereto have caused the modification of Agreement to be executed on February 19, 2025.

[SIGNATURES ON THE FOLLOWING PAGE]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day first mentioned above.

"DC Electric Group Inc" By: Signed by: 1F1BF4B2A391405... 1/24/2025

Its:_____

"City" By:_____

Its:_____

"City Attorney" By:_____

Its: City Attorney

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Public Works Director

SUBJECT : **FIRST AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF FAIRFIELD AND CITY OF BENICIA FOR COST SHARING OF THE LOPES ROAD PIPELINE RECONSTRUCTION PROJECT**

EXECUTIVE SUMMARY:

The City of Benicia's (City) Raw Water Transmission Line (RWTL) on Lopes Road in the City of Fairfield (Fairfield), that delivers all drinking water to the City, was damaged on March 29, 2023 by rainstorms and subsequent landslide. A temporary, above-ground bypass pipeline was engineered, and construction was completed on April 7, 2023. Permanent reconstruction is the next step to ensure the safety, functionality and well-being of the community. The City will collaborate with the City of Fairfield on the Lopes Road Pipeline Reconstruction Project (Project) as both cities experienced water pipeline damage in the same area and have a shared need for repair of the hillside slope and Lopes Road, and reconstruction of both City's water pipelines. A Memorandum of Understanding (MOU) was approved by City Council on December 19, 2023 that provides for sharing costs and resources. A First Amendment to the MOU is being recommended to amend the cost sharing. The cost sharing for soft costs (design, environmental clearance/permitting, and construction, engineering/inspection) are allocated 75% to be paid by Fairfield and 25% to be paid by the City of Benicia.

RECOMMENDATION:

Move to adopt a resolution (Attachment 1) approving a First Amendment to the Memorandum of Understanding between the City of Benicia and the City of Fairfield for cost sharing of the Lopes Road Pipeline Reconstruction Project (Attachment 2), authorizing the City Manager to sign the First Amendment on behalf of the City, and authorizing the necessary budget amendment.

BUDGET INFORMATION:

It is estimated that the City's cost will be $3.6 million prior to Federal Emergency Management Agency (FEMA) reimbursement. It is expected that FEMA reimbursement will cover 75% or $2.7 million. The State provides additional reimbursement of up to 18.75% or $675,000 and the City would be responsible for the remaining 6.25% or $225,000. However, the City would need to pay the full estimated City cost share of the project, $3.6 million prior to reimbursement from FEMA and the State.

The Water Enterprise has sufficient fund balances for the project expenses, and budget requests for the federal and state reimbursements and expenditures will be brought to Council when grant award letters are received and when actual project costs are known.

The MOU will provide for collaboration in sharing costs and resources, in accordance with California law and leveraging Federal Emergency Management Agency (FEMA) and State grant opportunities to enhance funding.

Fairfield will be the lead and will pay for design and construction costs along with other costs such as permitting, environmental and geotechnical. Fairfield will submit invoices to the City for reimbursement based upon the cost share ratio, generally set at 75% to be paid by Fairfield and 25% to be paid by City of Benicia unless specifically modified as provided in the First Amendment to the MOU (Attachment 1).

Both Cities declared local emergencies in order to seek assistance from the State and Federal government. In late March 2023, Governor Newsom announced that the White House approved the State's request for federal assistance to support local response and recovery efforts. On June 9, 2023, Solano County was added to the list of counties eligible for disaster related assistance from the State and FEMA.

The City of Benicia and the City of Fairfield will submit for FEMA reimbursement for their respective items, as outlined in the MOU. A federal funding freeze was put into place on January 26, 2025 by the Office of Management and Budget directing a pause on payments for federal grants and programs. It is uncertain at this time how it will impact the projected reimbursements.

The City has incurred approximately $1.33M in costs associated with the temporary above-ground bypass, as further detailed in City Resolution No. 23-54 approved by this Council on June 6, 2023. The City has since submitted to FEMA for reimbursement of costs associated with the temporary bypass.

BACKGROUND:
The City's Raw Water Transmission Line, which delivers all drinking water to the City, was damaged on March 29, 2023. The damage occurred when a hillside collapsed near I-680 and Gold Hill Road, just outside Benicia city limits. The slope failure caused a brief closure of I-680 on March 29, 2023.

City staff alerted the public that all residents and businesses should immediately reduce water use by 40% until further notice. In light of the emergency, the Interim City Manager/Emergency Services Director issued a Proclamation of Existence of a Local Emergency (Proclamation) on March 30, 2023, effective March 28, 2023. The City Council ratified the Proclamation within seven days, as required by law, on April 4, 2023 (Ratifying Resolution). Staff installed a temporary water bypass through the slope collapse, and Stage 2 water conservation (reduce water use by up to 20%) was declared on April 20, 2023. On June 6, 2023, the City announced the successful expansion of the temporary water bypass line to meet summer demand, and a reduction in water conservation measures to 10% voluntary water conservation (Stage 1 water

conservation). The bypass waterlines are a temporary solution that will provide the community with water until the primary pipeline can be repaired.

In addition to the City's RWTL suffering damage in March 2023 due to the hillside slope failure, Fairfield's 30-inch potable water line, other underground utilities, the hillside slope and a portion of Lopes Road also suffered damage. As a result, Lopes Road was closed to traffic.

The City will collaborate with Fairfield on the Lopes Road Pipeline Reconstruction Project as both cities experienced water pipeline damage in the same area and have a shared need for repair of the hillside slope and Lopes Road, and reconstruction of both cities' water pipelines.

Fairfield is taking the lead on the restoration project and has secured and is actively managing a consultant team that is performing design, geotechnical and environmental clearance/permitting work. The same consultant team will conduct the work for both cities. Fairfield will also prepare a grant deed and issue an easement to Benicia for the reconstructed RWTL within Fairfield's Lopes Road right of way.

The City of Benicia will be responsible for timely review of project design, geotechnical and environmental submittals along with reimbursement of cost share. The City will pay Fairfield for Benicia's share of the engineering costs including environmental clearance and permitting, grant deed and easement documents, and construction costs as defined in the MOU and First Amendment to the MOU.

NEXT STEPS:
The team continues to work on this restoration project and is committed to delivering safe water to the community. If the resolution is approved, the MOU will be routed for signature and collaboration with the City of Fairfield can continue on the permanent reconstruction.

ALTERNATIVE ACTIONS:
If Council does not adopt the attached resolution, the City of Benicia would conduct these project management tasks on its own without any cost sharing, thereby increasing the total project cost.

CEQA Analysis	Pursuant to Title 14, the California Code of Regulations, Section 15378(b)(5) of the California Environmental Quality Act ("CEQA") guidelines, the proposed action is an administrative activity of the City that will not result in direct or indirect physical changes to the environment.

ATTACHMENTS:
1. Resolution – Amendment to MOU - Cost Sharing of Lopes Rd. Pipeline Reconstruction Project
2. Amendment to MOU - Cost Sharing of Lopes Rd. Pipeline Reconstruction Project

3. MOU – Cost Sharing of Lopes Rd Pipeline Reconstruction Project

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: DBonham@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING A FIRST AMENDMENT TO THE MEMORANDUM OF UNDERSTANDING BETWEEN THE CITY OF FAIRFIELD AND CITY OF BENICIA FOR COST SHARING OF THE LOPES ROAD PIPELINE RECONSTRUCTION PROJECT, AUTHORIZING THE CITY MANAGER TO SIGN THE MEMORANDUM OF UNDERSTANDING ON BEHALF OF THE CITY

WHEREAS, the City of Benicia's (City) 36-inch Raw Water Transmission Line (RWTL) on Lopes Road in the City of Fairfield (Fairfield), that delivers all drinking water to the City, was damaged on March 29, 2023 by rainstorms and subsequent landslide; and

WHEREAS, on March 30, 2023, when Council was not in session, the Interim City Manager/Director of Emergency Services by authority of California Government Code Sections 8630, 8550, et. seq., and Benicia Municipal Code Section 2.36.050, issued a Proclamation of Existence of a Local Emergency after finding that conditions of extreme peril to the safety of persons and property have arisen in the City, caused by severe hillside slope failure along Lopes Road caused by storm event flooding and stormwater runoff which damaged the City's Raw Water Transmission Line and other structures including roadways, which require actions to procure adequate water supply until the damage is repaired, and potentially other damage unknown at this time; and

WHEREAS, a temporary, above-ground bypass pipeline was engineered, and construction was completed on April 7, 2023 (Phase 1) and on May 26, 2023 (Phase 2); and

WHEREAS, permanent reconstruction of the RWTL is the next step to ensure the safety, functionality and well-being of the community; and

WHEREAS, the City will collaborate with Fairfield on the Lopes Road Pipeline Reconstruction Project as both cities experienced water pipeline damage in the same area and have a shared need for repair of the hillside slope and Lopes Road, and reconstruction of both cities' water pipelines; and

WHEREAS, on December 19, 2023, City Council approved a Memorandum of Understanding (MOU) between the Cities of Fairfield and Benicia will provide for collaboration in sharing costs and resources, in accordance with California law and leveraging Federal Emergency Management Agency (FEMA) grant opportunities to enhance funding; and

WHEREAS, a First Amendment to the MOU is being recommended to amend the cost sharing. The cost sharing for soft costs (design, environmental clearance/permitting, and construction, engineering/inspection) are allocated 75% to be paid by Fairfield and 25% to be paid by the City of Benicia; and

WHEREAS, Fairfield will be the lead agency and will pay for design and construction costs along with other costs such as permitting, environmental and geotechnical; and

WHEREAS, Fairfield will submit invoices to the City for reimbursement based upon the cost share ratio, generally set at 75% to be paid by Fairfield and 25% to be paid by City of Benicia unless specifically modified as provided in the First Amendment to the MOU; and

WHEREAS, The City of Benicia and the City of Fairfield will submit for FEMA reimbursement for their respective items, as outlined in the MOU; and

WHEREAS, the City Council of the City of Benicia approved Resolution No. 23-54 June 6, 2023, setting a not-to-exceed budget of $2,000,000.00 (water funds, account no. 7508021-7087) to install temporary measures to address the emergency situation; and

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Benicia does hereby approve the First Amendment to the MOU between City of Benicia and City of Fairfield for cost sharing of the Lopes Road Reconstruction Project and authorizes the City Manager to sign the MOU on behalf of the City.

* * * * *

On motion of Council Member, seconded by Council Member, the above resolution was introduced and passed by the Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February, 2025 and adopted by the following vote:

Ayes:

Noes:

Absent:

Abstain:

Steve Young, Mayor

Attest:

Lisa Wolfe, City Clerk

FIRST AMENDMENT TO MEMORANDUM OF UNDERSTANDING BETWEEN CITY OF FAIRFIELD AND CITY OF BENICIA FOR COST SHARING FOR THE LOPES ROAD AND WATER PIPELINE RECONSTRUCTION PROJECT (FEMA DR-4699-CA)

This First Amendment to Memorandum of Understanding ("First Amendment") is effective as of _____, 2025 ("Effective Date"), and is between the City of Fairfield, a California municipal corporation ("Fairfield"), and the City of Benicia, a California municipal corporation ("Benicia"). Fairfield and Benicia are referred to individually as "Party" and collectively as the "Parties."

RECITALS

A. Effective December 19, 2023, Fairfield and Benicia entered into a Memorandum of Understanding ("MOU") regarding cost sharing for the Lopes Road Pipeline Reconstruction Project ("Project") related to a failure in Lopes Road that broke Benicia's 36-inch raw water transmission line and Fairfield's 30-inch potable water line, in addition to other underground utilities and other issues. A copy of the MOU is attached hereto as Exhibit A.

B. Section 4 of the MOU provides for the basis of Cost Sharing under the MOU, providing, in part, that at the time of the MOU the details and the costs of the Project were unknown; and that the Parties may "include this information once determined in a future amendment to the MOU."

C. Section 12 of the MOU also provides that the "MOU may be amended by written agreement by both Parties, subject to applicable laws and regulations.

D. As of the time of this First Amendment, the details and costs of the Project are better known, and the Parties have agreed to cost sharing ratios for the Project. The purpose of this First Amendment is to adopt this further cost sharing agreement.

AGREEMENT

Amendment to Section 4a of the MOU. Section 4a of the MOU is amended and restated as follows:

"a. The Parties have agreed to share project costs as described in Exhibit B to this First Amendment, subject to further written amendments to this Agreement, if any. Among other costs as set out in Exhibit B, the cost sharing ratio for soft costs (including but not limited to design, geotechnical investigations, environmental clearance/permitting, and construction engineering/inspection) are allocated 75% to be paid by Fairfield and 25% to be paid by Benicia."

Remainder of the MOU's Terms Unchanged. Subject to the foregoing amendment, the remainder of the terms in the MOU will remain the same and are hereby ratified by the Parties.

Authority to Execute. Each Party represents and warrants that all necessary action has been taken by such Party to authorize the undersigned to execute this First Amendment and to bind the Parties to the performance of its obligations.

Counterparts, Facsimile or other Electronic Signatures. This First Amendment may be executed in several counterparts, each of which will be deemed an original, and all of which,

when taken together, constitute one and the same instrument. The First Amendment will be considered executed when the signature of a party is delivered by facsimile or other electronic transmission. Such facsimile or other electronic signature will have the same effect as an original signature.

[Signatures on the following page.]

CITY OF FAIRFIELD

David Gassaway, City Manager

Approved as to form:

City of Fairfield, City Attorney

CITY OF BENICIA

Mario Giuliani, City Manager

Approved as to form:

City of Benicia, City Attorney

Exhibit A
FIRST AMENDMENT TO LOPES ROAD MOU WITH FAIRFIELD
[see next page]

MEMORANDUM OF UNDERSTANDING BETWEEN CITY OF FAIRFIELD AND CITY OF BENICIA FOR COST SHARING OF LOPES ROAD PIPELINE RECONSTRUCTION PROJECT

This Memorandum of Understanding for Cost Sharing ("MOU") is entered into on this 19th day of December, 2023, ("Effective Date") by and between the CITY OF FAIRFIELD, a municipal corporation ("Fairfield"), and the CITY OF BENICIA, a municipal corporation ("Benicia"), collectively referred to as the "Parties."

RECITALS

WHEREAS, in mid-March 2023, the hillside west of Lopes Road along Interstate 680 in Fairfield became saturated from a series of winter rainstorms, causing a failure in Lopes Road that broke Benicia's 36-inch raw water transmission line and Fairfield's 30-inch potable water line, in addition to other underground utilities;

WHEREAS, Fairfield's Public Works crews responded to remove mud and debris, and both Fairfield and Benicia declared local emergencies in order to seek assistance from the State and Federal government;

WHEREAS, in late March 2023, Governor Newsom announced that the White House approved the State's request for federal assistance to support local response and recovery efforts;

WHEREAS, on June 9, 2023, Solano County was added to the list of counties eligible for disaster related assistance from the State and the Federal Emergency Management Agency ("FEMA");

WHEREAS, both Fairfield and Benicia recognize the importance of maintaining and repairing critical infrastructure, including pipelines, to ensure the safety, functionality, and well-being of their respective communities;

WHEREAS, Fairfield and Benicia have identified a shared need for repair of the slope and Lopes Road, and reconstruction of Benicia's raw water transmission line and Fairfield's potable water line, including design and construction, within their jurisdictions, to address existing and potential hazards and to improve infrastructure resilience (collectively, the "Work" or the "Project");

WHEREAS, Fairfield assisted Benicia in reestablishing Benicia's water supply which has since been mostly restored through multiple temporary bypass water lines, which will remain in place until permanent repairs can be made to the hillside, roadway, and underground utilities, and which is intended to remain in continuous operation throughout the Project duration;

WHEREAS, Benicia paid directly for design and installation of the temporary bypass water lines and such costs are not included in this MOU;

WHEREAS, design for all permanent repairs is dependent on existing soil conditions and is currently being studied;

WHEREAS, the Parties wish to collaborate on this infrastructure project, sharing costs and resources, in accordance with California law and leveraging FEMA grant opportunities to enhance funding;

WHEREAS, the Parties recognize that cost sharing the project is mutually beneficial to both parties;

WHEREAS, the Parties intend that the Project will be designed to minimize any impact to Benicia's temporary bypass water lines; and

WHEREAS, the Parties intend to complete the Project by October 31, 2024, avoiding Benicia's exposure of temporary water lines to a second winter season.

WHEREAS, the Parties have agreed to a Term Sheet for cost sharing for the Project, attached hereto as **Exhibit A.**

NOW, THEREFORE, in consideration of the premises and covenants contained herein, Fairfield and Benicia agree as follows:

1) Recitals. The Parties acknowledge that the Recitals above are true and correct and are hereby incorporated into this MOU as if fully set forth below.

2) Fairfield Obligations. Fairfield shall be responsible for the following:

a. Secure and manage the design consultant through a selection process mutually agreed upon by the Parties. Design services will include the design of Benicia's reconstructed 36-inch raw water transmission line (approximately 800 linear feet), the design of Fairfield's reconstructed 30-inch potable water line, and the design of Lopes Road reconstruction and slope stabilization.

b. Timely review of design submittals.

c. Construction bid advertisement, award, contract administration and management, and construction inspection.

d. Facilitate inspection coordination between the Parties.

e. Secure and manage geotechnical and geological investigation consultant.

f. Secure and manage environmental consultant.

g. Secure permits for the Work.

h. Seek maximum reimbursement from FEMA and the State, and claim all consultant preliminary engineering and construction costs for FEMA reimbursement with the exception of City of Benicia Construction Bid Items, defined below.

i. Prepare a grant deed including the plat and legal description and issue an easement to Benicia for the reconstructed 36-inch raw water transmission line within Fairfield's Lopes Road right of way.

j. Pay **"City of Fairfield Construction Bid Items,"** defined as including but not limited to the following:

i. Retaining wall and appurtenant items
ii. Roadway excavation
iii. Class 2 aggregate base
iv. Hot mix asphalt
v. Embankment and related items
vi. Subdrains
vii. Roadway drainage
viii. Guard railing
viv. Signing and striping
vv. 30" potable water line

The City of Fairfield will pay for these items directly and will seek maximum reimbursement from FEMA and the State. Such items will not be included in the cost sharing between the Parties.

3) Benicia Obligations. Benicia shall be responsible for the following:

a. Timely review of Project design, geotechnical, and environmental submittals.

b. Timely review and reimbursement of cost share.

c. Claim City of Benicia Construction Bid Items for FEMA reimbursement.

d. Pay City of Fairfield for City of Benicia's share of the **"Shared Construction Bid Items,"** defined as including but not limited to the following:

i. Mobilization
ii. Construction staking
iii. Construction area signs
iv. Traffic control system
v. Water pollution control
vi. Preparation of water pollution control
vii. Temporary wildlife exclusion fence
viii. Temporary erosion control measures
viv. Hydroseed
vv. Permanent erosion control
vvi. Four-strand barbed wire fence

e. Pay City of Fairfield for **"City of Benicia Construction Bid Items,"** defined as including but not limited to the following:

i. Removal of temporary bypass water lines and manifolds (portion)
ii. Purchase and installation of 36" raw water main
iii. Removal of fill for temporary bypass water lines

iv. Relocation of temporary bypass water lines as needed to accommodate the Project

f. Pay City of Fairfield for City of Benicia's share of the preliminary engineering costs including permitting.

g. Pay City of Fairfield for the cost to prepare the grant deed and easement documents for the 36" raw water line realignment in City of Fairfield right of way.

h. Provide existing grant deed easements for the City of Benicia's raw water transmission lines to the City of Fairfield for the purpose of preparing the new easement documents.

4) Basis of Cost Sharing.

a. At the time of this MOU, the details and costs of the Project are unknown. The Parties' respective costs for Shared Construction Bid Items shall be shared based on the percentage of work performed on behalf of each Party in comparison to the total Shared Construction Bid Items. The Parties may include this information once determined in a future amendment to this MOU.

b. Design and construction costs for the Project will be billed to Fairfield, and Fairfield will submit invoices to Benicia for reimbursement based upon the cost share ratio to be determined once the total details and costs of the Project are completed.

c. Any changes to the means of calculating cost sharing for Shared Construction Bid Items may be modified in writing with the Parties' mutual consent.

d. The Parties shall cost share any design contract amendments and construction contract change orders provided that such changes are mutually beneficial to the Parties.

e. The Parties shall cost share all fees for geotechnical and geological investigation, environmental clearance and permitting.

5) Legal and Regulatory Compliance. The Parties shall ensure that all aspects of the Project, including design and construction, comply with California law and regulations, as well as any applicable federal requirements.

6) Notice. Any notices which any party may desire to give to another party under this MOU must be in writing and may be given either by (i) personal service, (ii) delivery by a reputable document delivery service, such as but not limited to Federal Express, that provides a receipt showing date and time of delivery; or (iii) mailing in the United States Mail, certified mail, postage prepaid, return receipt requested, addressed to the address of the party as set forth below or at any other address as that party may later designate by Notice:

To Fairfield: City of Fairfield
1000 Webster Street
Fairfield, California 94533
Attention: City Manager

To Benicia: City of Benicia
250 E L Street
Benicia, California 94510
Attention: City Manager

7) Enforcement. If any party fails to comply with any of the covenants herein and does not cure such failure upon twenty (20) days' written notice from another party, it shall be lawful for the other party to prosecute any proceedings at law or equity against the party breaching such covenants.

8) Entire Agreement. This MOU contains the entire understanding between the Parties relating to the obligations of the Parties relating to the subject matter hereof.

9) Applicable Law/Venue. The laws of the State of California shall govern the rights, obligations, duties and liabilities of the parties to this MOU and also govern the interpretation of this MOU. Any litigation concerning this MOU shall take place in the superior court of the County of Solano.

10) Attorneys' Fees and Costs. In the event litigation is filed with respect to this MOU, the prevailing party shall be entitled to reasonable attorneys' fees and litigation expenses and the court may determine.

11) Modification. No modification, waiver or discharge of this MOU shall be valid unless the same is in writing and signed by the party against which the enforcement of such modification, waiver or discharge is or may be sought.

12) Amendments: This MOU may be amended by written agreement of both Parties, subject to applicable laws and regulations.

13) Further Assurances. Each party shall take all actions reasonably necessary to implement the terms of this MOU.

14) Assignment. No party shall have the right to assign this MOU, without the prior written consent of the other party.

15) Counterparts. This MOU may be executed in two or more fully or partially executed counterparts, each of which will be deemed an original binding the signer thereof against the other signing party, but all counterparts together will constitute one and the same instrument.

16) Time of Essence. Time is of the essence of this MOU.

17) No Waiver. No waiver of any of the provisions of this MOU shall be deemed, or shall constitute, a waiver of any other provision, whether or not similar, nor shall any waiver constitute a continuing waiver, nor shall a waiver in any instance constitute a waiver in any subsequent instance. No waive shall be binding unless executed in writing by the party making the waiver.

18) Authority. The parties each represent and warrant to the other party that the execution and delivery of this MOU and the performance of their respective obligations hereunder have been duly authorized by all necessary action and this MOU constitutes legal, valid and binding obligations, subject to equitable principles and principles governing creditors' rights generally.

19) Duration: This MOU shall remain in effect until the completion of the Project, including any post-construction activities, or until terminated by written agreement of both Parties.

[*Signature page to follow.*]

DocuSign Envelope ID: 56D43390-E32C-4754-BF83-EC87619587FE

IN WITNESS WHEREOF, the parties hereto, acting by and through their duly authorized representatives, have caused this MOU to be executed as of the day and year first written above.

CITY OF FAIRFIELD,
a municipal corporation

David Gassaway
City Manager

2/9/2024
Date

CITY OF BENICIA,
a municipal corporation

DocuSigned by:
Mario Giuliani
9FA31784A98E490...
Mario Giuliani
City Manager

1/12/2024
Date

Approved as to form:

David G. Lim

City of Fairfield, City Attorney

Approved as to form:

DocuSigned by:
Ben Stock
3294F30F0AD74E3...
City of Benicia, City Attorney

EXHIBIT A

Term Sheet

Fairfield Obligations

- Secure and manage design consultant through a selection process mutually agreed upon by Fairfield and Benicia. Design services will include design of the reconstructed 36" City of Benicia raw water transmission line (approximately 800 linear feet) and design of the reconstructed 30" City of Fairfield potable water line, design of Lopes Road reconstruction and slope stabilization.
- Timely review of design submittals
- Construction bid advertisement, award, contract administration & management, and construction inspection.
- Facilitate inspection coordination between agencies
- Secure and manage geotechnical & geological investigation consultant
- Secure and manage environmental consultant
- Secure permits for the work
- Claim all consultant preliminary engineering and construction costs for FEMA reimbursement with exception of City of Benicia Construction Bid Items (listed below)
- Prepare grant deed including plat and legal description and issue an easement to City of Benicia for reconstructed 36" raw water transmission line within City of Fairfield's Lopes Road right of way.
- Seek maximum reimbursement from FEMA and State for consultant preliminary engineering and construction costs.

Benicia Obligations

- Timely review of Project design, geotechnical, and environmental submittals
- Timely review and reimbursement of cost share
- Claim City of Benicia Construction Bid Items for FEMA reimbursement
- Pay City of Fairfield for City of Benicia's share of the Shared Construction Bid Items
- Pay City of Fairfield for City of Benicia Construction Bid Items
- Pay City of Fairfield for City of Benicia's share of the preliminary engineering costs including permitting
- Pay City of Fairfield for cost to prepare grant deed and easement documents for 36" raw water line realignment in City of Fairfield right of way.
- Provide existing grant deed easements for the City of Benicia's raw water transmission lines to City of Fairfield for purpose of preparing the new easement documents.

Basis of Cost Sharing

- Changes to the means of calculating cost-sharing can be modified with both parties' mutual consent
- Agency costs will be calculated based upon the local agency FEMA grant match amounts required for the project

- Cost share mitigation work mutually beneficial to both agencies
- Construction costs for shared bid items (i.e. mobilization... see below for list) will be shared based on the percentages of work items for each agency compared to the total construction costs exclusive of the shared bid items
- Cost share design contract amendments and construction contract change orders mutually beneficial to both agencies
- Cost share geotechnical & geological investigation, environmental clearance and permitting
- Design and construction costs will be billed to Fairfield. Fairfield will submit invoices to Benicia for reimbursement based on cost share

Project Goals:

- Complete construction by October 31, 2024 avoiding City of Benicia's exposure of temporary waterlines to a second winter season.
- Ensure continuous operation of the City of Benicia's waterline bypass through the project area throughout the Project duration. Design of Project shall value minimizing impacts to the City of Benicia's temporary waterline bypass.

At the time of this MOU, the details of the project to repair the slide, Lopes Road and the impacted utilities including the City of Benicia raw water transmission line is unknown. The following is a guide for the respective agency's responsibility for potential construction contract items associated with the Project.

Example Shared Construction Bid Items:

- Mobilization
- Construction staking
- Construction area signs
- Traffic control system
- Water pollution control
- Prepare water pollution control
- Temporary wildlife exclusion fence
- Temporary erosion control measures
- Hydroseed
- Permanent erosion control
- 4 strand barbed wire fence

Example City of Fairfield Construction Bid Items

- Retaining wall and appurtenant items
- Roadway excavation
- Class 2 aggregate base
- Hot mix asphalt
- Embankment and related items
- Subdrains

- Roadway Drainage
- Guard railing
- Signing and striping
- 30" potable water line

Example City of Benicia Construction Bid Items

- Remove temporary bypass waterlines and manifolds (portion)
- Purchase and installation of 36" raw water main
- Remove fill for temporary bypass waterlines
- Relocation of temporary bypass waterlines as needed to accommodate Project

Exhibit B
COST ESTIMATES AT 35%
[see next page]

LOPES ROAD AND WATER PIPELINE RECONSTRUCTION PROJECT (FEMA DR-4699-CA)
CITY OF FAIRFIELD DEPARTMENT OF PUBLIC WORKS
35% CONSTRUCTION COST ESTIMATE - DEEP SOIL MIXING
COF/COB Revised 1/8/25

				FHWA - ROADWAY COSTS						FEMA - WATER LINE COSTS						FEMA - MITIGATION COSTS						
				FAIRFIELD			BENICIA			FAIRFIELD			BENICIA			FAIRFIELD			BENICIA			
No.	BID ITEM No.	BID ITEM DESCRIPTION	UNIT OF MEASURE	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	ESTIMATED QUANTITY	UNIT PRICE	AMOUNT	COMBINED AMOUNT
1	066013A	CONSTRUCTION STAKING	LS	1	$ 7,500	$ 7,500	0	$ 7,500	$ 0.00	1	$ 8,500	$ 8,500	1	$ 8,500	$ 8,500	1	$ 1,500	$ 1,500	1	$ 1,500	$ 1,500	$ 27,500
2	070030	LEAD COMPLIANCE	LS	1	$ 6,000	$ 6,000	0	$ 6,000	$ 0.00	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 6,000
3	120090	CONSTRUCTION AREA SIGNS	LS	1	$ 1,650	$ 1,650	0	$ 1,650	$ 0.00	1	$ 1,650	$ 1,650	1	$ 2,200	$ 2,200	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 5,500
4	120100	TRAFFIC CONTROL SYSTEM	LS	1	$ 7,000	$ 7,000	0	$ 7,000	$ 0.00	1	$ 7,000	$ 7,000	1	$ 6,000	$ 6,000	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 20,000
5	130100	JOB SITE MANAGEMENT	LS	1	$ 5,000	$ 5,000	0	$ 13,500	$ 0.00	1	$ 6,500	$ 6,500	1	$ 6,500	$ 6,500	1	$ 2,000	$ 2,000	1	$ 2,000	$ 2,000	$ 22,000
6	130300	PREPARE STORM WATER POLLUTION PREVENTION PLAN	LS	1	$ 2,500	$ 2,500	0	$ 5,250	$ 0.00	1	$ 2,750	$ 2,750	1	$ 2,750	$ 2,750	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 8,000
7	130xxx	IMPLEMENT STORM WATER POLLUTION PREVENTION PLAN	LS	1	$ 5,000	$ 5,000	0	$ 10,750	$ 0.00	1	$ 5,750	$ 5,750	1	$ 5,750	$ 5,750	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 16,500
8	146002	CONTRACTOR-SUPPLIED BIOLOGIST (LS)	LS	0	$ 0.00	$ 0.00	0	$ 10,000	$ 0.00	1	$ 8,000	$ 8,000	1	$ 8,000	$ 8,000	1	$ 2,000	$ 2,000	1	$ 2,000	$ 2,000	$ 20,000
9	160110	TEMPORARY HIGH-VISIBILITY FENCE	LF	0	$ 10	$ 0.00	0	$ 10	$ 0.00	675	$ 10	$ 6,750	675	$ 10	$ 6,750	0	$ 10	$ 0.00	0	$ 10	$ 0.00	$ 13,500
10	170103	CLEARING AND GRUBBING	LS	0	$ 60,000	$ 0.00	0	$ 60,000	$ 0.00	1	$ 60,000	$ 60,000	1	$ 105,000	$ 105,000	0	$ 0.00	$ 0.00	0	$ 0.00	$ 0.00	$ 165,000
11	170xxx	DEEP EXCAVATION	CY	0	$ 30	$ 0.00	0	$ 30	$ 0.00	0	$ 30	$ 0.00	0	$ 30	$ 0.00	0	$ 30	$ 0.00	0	$ 30	$ 0.00	$ -
12	170xxx	TEMPORARY EXCAVATION (BENCH FOR SOIL MIXING)	CY	0	$ 50	$ 0.00	0	$ 50	$ 0.00	0	$ 50	$ 0.00	0	$ 50	$ 0.00	975	$ 50	$ 48,750	325	$ 50	$ 16,250	$ 65,000
13	190101	ROADWAY EXCAVATION	CY	1836	$ 120	$ 220,320	0	$ 120	$ 0.00	0	$ 120	$ 0.00	0	$ 120	$ 0.00	0	$ 120	$ 0.00	0	$ 120	$ 0.00	$ 220,320
14	208688	PVC PIPE CONDUIT	LF	0	$ 150	$ 0.00	0	$ 150	$ 0.00	3400	$ 150	$ 510,000	0	$ 150	$ 0.00	0	$ 150	$ 0.00	0	$ 150	$ 0.00	$ 510,000
15	210350	FIBER ROLLS	LF	900	$ 5.00	$ 4,500	0	$ 5.00	$ 0.00	3150	$ 5.00	$ 15,750	3150	$ 5.00	$ 15,750	0	$ 5.00	$ 0.00	0	$ 5.00	$ 0.00	$ 36,000
16	210430	HYDROSEED	SF	0	$ 0.20	$ 0.00	0	$ 0.20	$ 0.00	51525	$ 0.20	$ 10,305	51525	$ 0.20	$ 10,305	0	$ 0.20	$ 0.00	0	$ 0.20	$ 0.00	$ 20,610
17	260203	CLASS 2 AGGREGATE BASE	CY	1500	$ 190	$ 285,000	0	$ 190	$ 0.00	0	$ 190	$ 0.00	0	$ 190	$ 0.00	0	$ 190	$ 0.00	0	$ 190	$ 0.00	$ 285,000
18	390132	HOT MIX ASPHALT (TYPE A)	TON	800	$ 350	$ 280,000	0	$ 350	$ 0.00	0	$ 350	$ 0.00	0	$ 350	$ 0.00	0	$ 350	$ 0.00	0	$ 350	$ 0.00	$ 280,000
19	394075	PLACE HOT MIX ASPHALT DIKE (TYPE D)	LF	400	$ 25	$ 10,000	0	$ 25	$ 0.00	0	$ 25	$ 0.00	0	$ 25	$ 0.00	0	$ 25	$ 0.00	0	$ 25	$ 0.00	$ 10,000
20	398200	COLD PLANE ASPHALT CONCRETE PAVEMENT	SQYD	65	$ 275	$ 17,875	0	$ 275	$ 0.00	0	$ 275	$ 0.00	0	$ 275	$ 0.00	0	$ 275	$ 0.00	0	$ 275	$ 0.00	$ 17,875
21	650018	24" REINFORCED CONCRETE PIPE	LF	400	$ 330	$ 132,000	0	$ 330	$ 0.00	0	$ 330	$ 0.00	0	$ 330	$ 0.00	0	$ 330	$ 0.00	0	$ 330	$ 0.00	$ 132,000
22	681501	FURNISH AND INSTALL DRAIN PIPE (HORIZONTAL DRAIN)(DEEP EXCAV)	LF	0	$ 40	$ 0.00	0	$ 40	$ 0.00	0	$ 40	$ 0.00	0	$ 40	$ 0.00	0	$ 40	$ 0.00	0	$ 40	$ 0.00	$ -
23	681501	FURNISH AND INSTALL DRAIN PIPE (HORIZONTAL DRAIN)(SOIL MIXING)	LF	0	$ 120	$ 0.00	0	$ 120	$ 0.00	0	$ 120	$ 0.00	0	$ 120	$ 0.00	1125	$ 120	$ 135,000	375	$ 120	$ 45,000	$ 180,000
24	703575	24" WELDED STEEL PIPE (.250" THICK)	LF	0	$ 835	$ 0.00	0	$ 835	$ 0.00	0	$ 835	$ 0.00	60	$ 835	$ 50,100	0	$ 835	$ 0.00	0	$ 835	$ 0.00	$ 50,100
25	703598	30" WELDED STEEL PIPE (.250" THICK)	LF	0	$ 900	$ 0.00	0	$ 900	$ 0.00	800	$ 900	$ 720,000	0	$ 900	$ 0.00	0	$ 900	$ 0.00	0	$ 900	$ 0.00	$ 720,000
26	703618	36" WELDED STEEL PIPE (.250" THICK)	LF	0	$ 990	$ 0.00	0	$ 990	$ 0.00	0	$ 990	$ 0.00	1000	$ 990	$ 990,000	0	$ 990	$ 0.00	0	$ 990	$ 0.00	$ 990,000
27	705206	24" CONCRETE FLARED END SECTION	EA	2	$ 4,000	$ 8,000	0	$ 4,000	$ 0.00	0	$ 4,000	$ 0.00	0	$ 4,000	$ 0.00	0	$ 4,000	$ 0.00	0	$ 4,000	$ 0.00	$ 8,000
28	710136	REMOVE PIPE (LF)	LF	0	$ 60	$ 0.00	0	$ 60	$ 0.00	785	$ 60	$ 47,100	1,355	$ 60	$ 81,300	0	$ 60	$ 0.00	0	$ 60	$ 0.00	$ 128,400
29	721420	CONCRETE (DITCH LINING)	CY	40	$ 2,500	$ 100,000	0	$ 2,500	$ 0.00	0	$ 2,500	$ 0.00	0	$ 2,500	$ 0.00	0	$ 2,500	$ 0.00	0	$ 2,500	$ 0.00	$ 100,000
30	77xxxx	36" FLANGED BUTTERFLY VALVE	EA	0	$ 37,500	$ 0.00	0	$ 37,500	$ 0.00	0	$ 37,500	$ 0.00	1	$ 37,500	$ 37,500	0	$ 37,500	$ 0.00	0	$ 37,500	$ 0.00	$ 37,500
31	77xxxx	24" FLANGED BUTTERFLY VALVE	EA	0	$ 25,000	$ 0.00	0	$ 25,000	$ 0.00	0	$ 25,000	$ 0.00	4	$ 25,000	$ 100,000	0	$ 25,000	$ 0.00	0	$ 25,000	$ 0.00	$ 100,000
32	77xxxx	CONNECT TO EXISTING 30" WATERMAIN	LS	0	$ 200,000	$ 0.00	0	$ 200,000	$ 0.00	1	$ 200,000	$ 200,000	0	$ 200,000	$ 0.00	0	$ 200,000	$ 0.00	0	$ 200,000	$ 0.00	$ 200,000
33	77xxxx	CONNECT TO EXISTING 36" WATERMAIN	LS	0	$ 100,000	$ 0.00	0	$ 100,000	$ 0.00	0	$ 100,000	$ 0.00	1	$ 100,000	$ 100,000	0	$ 100,000	$ 0.00	0	$ 100,000	$ 0.00	$ 100,000
34	77xxxx	30" FORCED BALANCED FLEX EXPANSION COUPLING WATERLINE	EA	0	$ 250,000	$ 0.00	0	$ 250,000	$ 0.00	0	$ 250,000	$ 0.00	0	$ 250,000	$ 0.00	2	$ 250,000	$ 500,000	0	$ 250,000	$ 0.00	$ 500,000
35	77xxxx	36" FORCED BALANCED FLEX EXPANSION COUPLING WATERLINE	EA	0	$ 300,000	$ 0.00	0	$ 300,000	$ 0.00	0	$ 300,000	$ 0.00	0	$ 300,000	$ 0.00	0	$ 300,000	$ 0.00	2	$ 300,000	$ 600,000	$ 600,000
36	77xxxx	CATHODIC PROTECTION	LS	0	$ 100,000	$ 0.00	0	$ 100,000	$ 0.00	1	$ 100,000	$ 100,000	1	$ 100,000	$ 100,000	0	$ 100,000	$ 0.00	0	$ 100,000	$ 0.00	$ 200,000
37	810230	PAVEMENT MARKER (RETROREFLECTIVE)	EA	54	$ 10	$ 540	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	$ 540
38	832006	MIDWEST GUARDRAIL SYSTEM (STEEL POST)	LF	260	$ 100	$ 26,000	0	$ 100	$ 0.00	0	$ 100	$ 0.00	0	$ 100	$ 0.00	0	$ 100	$ 0.00	0	$ 100	$ 0.00	$ 26,000
39	846007	6" THERMOPLASTIC TRAFFIC STRIPE (ENHANCED WET NIGHT VISIBILITY)	LF	3480	$ 10	$ 34,800	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	$ 34,800
40	xxxxxx	UTILITY VAULT (11x9)	EA	0	$ 10,000	$ 0.00	0	$ 10,000	$ 0.00	0	$ 10,000	$ 0.00	0	$ 10,000	$ 0.00	0	$ 10,000	$ 0.00	1	$ 10,000	$ 10,000	$ 10,000
41	xxxxxx	UTILITY VAULT (23x22)	EA	0	$ 50,000	$ 0.00	0	$ 50,000	$ 0.00	0	$ 50,000	$ 0.00	0	$ 50,000	$ 0.00	0	$ 50,000	$ 0.00	2	$ 50,000	$ 100,000	$ 100,000
42	xxxxxx	SLOPE GRADING (LANDSLIDE - SOIL MIXING)	CY	0	$ 50	$ 0.00	0	$ 50	$ 0.00	0	$ 50	$ 0.00	0	$ 50	$ 0.00	15,000	$ 50	$ 750,000	5,000	$ 50	$ 250,000	$ 1,000,000
43	xxxxxx	CEMENT DEEP SOIL MIXING	CY	0	$ 150	$ 0.00	0	$ 150	$ 0.00	0	$ 150	$ 0.00	0	$ 150	$ 0.00	6,000	$ 150	$ 900,000	2,000	$ 150	$ 300,000	$ 1,200,000
44	xxxxxx	DISPOSAL OF DRILLING WASTE (ON-SITE)	CY	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	0	$ 10	$ 0.00	2400	$ 10	$ 24,000	800	$ 10	$ 8,000	$ 32,000
45	999990	MOBILIZATION	LS	1	$ 128,187	$ 128,187	0	$ 0.00	$ 0.00	1	$ 426,331	$ 426,331	1	$ 315,298	$ 315,298	1	$ 26,258	$ 26,258	1	$ 14,831	$ 14,831	$ 910,905
		SUBTOTAL				$ 1,281,872			$ -			$ 2,136,386			$ 1,951,703			$ 2,389,508			$ 1,349,581	$ 9,109,050
		INDIVIDUAL CONSTRUCTION COST				**$ 1,282,000**			**$ -**			**$ 2,137,000**			**$ 1,952,000**			**$ 2,390,000**			**$ 1,350,000**	**$ 9,110,000**
		COMBINED CONSTRUCTION COST						**$**	**1,282,000**					**$**	**4,089,000**					**$**	**3,740,000**	**$ 9,111,000**

	FAIRFIELD	BENICIA	TOTAL
ROADWAY REPAIRS (FHWA)	**$ 1,282,000**	**$ -**	**$ 1,282,000**
WATERLINE REPAIRS (FEMA)	**$ 2,137,000**	**$ 1,952,000**	**$ 4,089,000**
FUTURE MITIGATION	**$ 2,390,000**	**$ 1,350,000**	**$ 3,740,000**
TOTAL	**$ 5,809,000**	**$ 3,302,000**	**$ 9,111,000**

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
CONSENT CALENDAR

TO : City Manager

FROM : Public Works Director

SUBJECT : **APPROVAL OF AGREEMENT TO VACATE WATERLINE EASEMENT AT ROBERT SEMPLE ELEMENTARY SCHOOL**

EXECUTIVE SUMMARY:
This action approves the vacating of a waterline easement at Robert Semple Elementary School. The waterline that is the subject of the waterline easement has been relocated and is now a private owner line.

RECOMMENDATION:
Adopt a resolution (Attachment 1) approving an Agreement to Vacate Easement (Attachment 2) for the waterline easement at Robert Semple Elementary School and authorizing the City Manager to execute the Agreement on behalf of the City.

BUDGET INFORMATION:
There is no impact on the City's budget associated with this action.

BACKGROUND:
The City and the Benicia Unified School District (BUSD) entered into a Grant Deed of Easement on September 1, 1995 where the BUSD granted the City an easement for a water main at Robert Semple Elementary School. During BUSD construction in 2023, and under City Encroachment Permit no. 23-126, the water main and fire hydrant were relocated on school district property and are now private facilities as they only serve the property and will be maintained by BUSD in perpetuity. The encroachment permit work included the installation of a backflow preventer to isolate the waterline from the City's water system. The entire project was done at the school district's cost.

It is therefore recommended to vacate the waterline easement as outlined in the attached Agreement to Vacate Easement.

NEXT STEPS:
The Agreement to Vacate Easement will be routed for signature.

ALTERNATIVE ACTIONS:
None.

CEQA Analysis	The proposed amendments are exempt from the California Environmental Quality Act (CEQA) Guidelines Section 15061(b)(3), the "general rule" exemption that states that where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is exempt from CEQA.

ATTACHMENTS:

1. Resolution – Vacate Waterline Easement at Robert Semple
2. Agreement to Vacate Waterline

For more information contact: Danielle Bonham, Public Works Director
Phone: 707-746-4240
E-mail: PW@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING THE VACATION OF A WATERLINE EASEMENT AT ROBERT SEMPLE ELEMENTARY SCHOOL AND AUTHORIZING THE CITY MANAGER TO EXECUTE THE AGREEMENT TO VACATE EASEMENT ON BEHALF OF THE CITY

WHEREAS, on September 1, 1995, the City and the Benicia Unified School District (BUSD) entered into a Grant Deed of Easement where the BUSD granted the City an easement for a water main at Robert Semple Elementary School; and

WHEREAS, during BUSD construction in 2023 and under City Encroachment Permit no. 23-126, the water main and fire hydrant were relocated and are now private facilities as they only serve the District property; and

WHEREAS, it is therefore recommended to vacate the waterline easement as outlined in the Agreement to Vacate Easement; and

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia hereby approves the Agreement to Vacate Easement at Robert Semple Elementary School and authorizes the City Manager to execute the Agreement on behalf of the City.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

RECORDING REQUESTED BY AND WHEN RECORDED MAIL TO:

City of Benicia
250 East L Street
Benicia, CA 94510

WITH COPY TO:

Benicia Unified School District
Superintendent's Office
350 East K Street
Benicia, CA 94510

(*THIS SPACE FOR RECORDER'S USE ONLY)*

AGREEMENT TO VACATE EASEMENT

This Agreement to Vacate Easement ("**Agreement**") is entered into as of February 18, 2025 ("**Effective Date**"), by and between the City of Benicia, a California municipal corporation, ("**City**") and Benicia Unified School District, a California unified school district, ("**Owner**"). City and Owner, each a "**Party**" and collectively, the "**Parties**."

RECITALS

A. Owner owns certain real property commonly known as Robert Semple Elementary School, as more particularly described in Exhibit A-1 and Exhibit A-2 attached hereto and incorporated herein ("**Property**").

B. Owner and City entered into a "Grant Deed of Easement" dated September 1, 1995, whereby Owner granted to City, and City accepted, an easement for waterline purposes ("**Easement**").

C. As part of Owner's Summer 2023 construction, the water main that was the subject of the Easement was relocated, and is now a private Owner line, as it only serves the Property.

D. On February 18, 2025, the City Council of the City of Benicia summarily vacated the Easement.

E. The Parties now desire for City to vacate, release and abandon the Easement in its entirety as set forth herein.

AGREEMENT

NOW THEREFORE, the Parties agree as follows:

1. Vacation of Easement. City hereby agrees to vacate, release, and abandon the Easement for the Property in its entirety. As a result, the Easement is hereby forever terminated and extinguished.

2. Miscellaneous Provisions.

   a. Entire Agreement. This Agreement contains the entire understanding and agreement of the Parties hereto relating to the rights herein granted and the obligations set forth herein. Any prior, contemporaneous, or subsequent written or oral representations and modifications concerning this Agreement shall be of no force or effect.

   b. Counterparts. This Agreement may be executed in one or more counterparts, each of which shall, for all purposes, be deemed an original and all such counterparts, taken together, shall constitute one and the same instrument.

   c. Recitals; Exhibits. The recitals above and the following exhibits attached to this Agreement are hereby incorporated herein by this reference for all purposes as if set forth herein in full:

      Exhibit A-1 Legal Description of the Easement Area
      Exhibit A-2 Plat of Easement Area

   d. Binding on Successors and Assigns. All provisions of this Agreement shall run with the land and be binding upon all parties having or acquiring any right, title, or interest in the Property, and shall be binding upon and inure to the benefit of the Parties and their successors and assigns.

   e. Governing Law and Venue. This Agreement shall be governed by and interpreted under the laws of the State of California, and venue for any action with respect to its enforcement shall lie in the Superior Court for the County of Solano.

   f. Authority. Each Party by placement of their signature below, affirmatively represents and affirms that they are authorized to execute this Agreement on behalf of such Party and that such Party is the owner of the rights being considered in this Agreement, and that they have not assigned or otherwise disposed of the rights considered in this Agreement.

[SIGNATURES APPEAR ON FOLLOWING PAGE AND MUST BE NOTARIZED]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be duly executed as of the Effective Date.

CITY: CITY OF BENICIA, a municipal corporation

By:_____
Name: Mario Giuliani
Title: City Manager
(signature must be notarized)

OWNER: BENICIA UNIFIED SCHOOL DISTRICT, a California Public School District

_____
Damon J. Wright, Ed.D., Superintendent

Dated: _____

NOTE: SEE NEXT PAGE FOR ACKNOWLEDGMENT
NOTARY ACKNOWLEDGMENT MUST BE ATTACHED, PER CIVIL CODE SEC. 1180 ET. SEQ.

California All-Purpose Certificate of Acknowledgment

A notary public or other officer completing this certificate verifies only the identity of the

individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
) ss.
COUNTY OF SOLANO)

On _____, 202_, before me, _____, Notary Public, personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

Witness my hand and official seal.

_____
Signature of Notary Public

EXHIBIT "A-1"
EASEMENT FOR WATER LINE PURPOSES TO BE VACATED;
LANDS OF BENICIA UNIFIED SCHOOL DISTRICT OF SOLANO COUNTY,
[IN THE] STATE OF CALIFORNIA

LEGAL DESCRIPTION:

All that certain real property situate in the City of Benicia, County of Solano, State of California, being described as follows:

Those lands subject to an Easement for Waterline Purposes as described in the Grant Deed of Easement recorded September 8, 1995 as Document 1995-00054961, described as follows:

Portions of Lots 7 and 8, and a portion of the southerly half of "U" Street, each lying in Block 153 as shown on the Official Map of the City of Benicia, made by Benjamin W. Barlow, C.E., and filed in the office of the County Recorder of Solano County, California in Book 1 of Maps at Page 124, more particularly described as follows:

A strip of land ten feet wide lying equally on both sides of the following described center line:

Commencing at the most westerly corner of Lot 1 in Block 1 as shown on the Map entitled "The Highlands Subdivision No. 1, Benicia, Solano County California" filed in the office of the County Recorder of Solano County in Book 10 at Page 16, said Point of Commencement also being a point on the center line of said "U" Street; thence from said Point of Commencement, along said "U" Street center line and the northwesterly projection of the southwesterly line of said Block 1, North 60°06' West 5 feet, more or less, to the Point of Beginning;

Thence from said Point of Beginning, South 29°54' West 90 feet, more or less;

Thence South 60°06' East 152 feet, more or less;

Thence North 29°54' East 43 feet, more or less.

Containing an area of 2,850 square feet, more or less;

The corresponding plat entitled "Exhibit A-2: Plat to Accompany Legal Description – Easement for Water Line Purposes to be Vacated" to be recorded concurrently with this exhibit.

End of description.

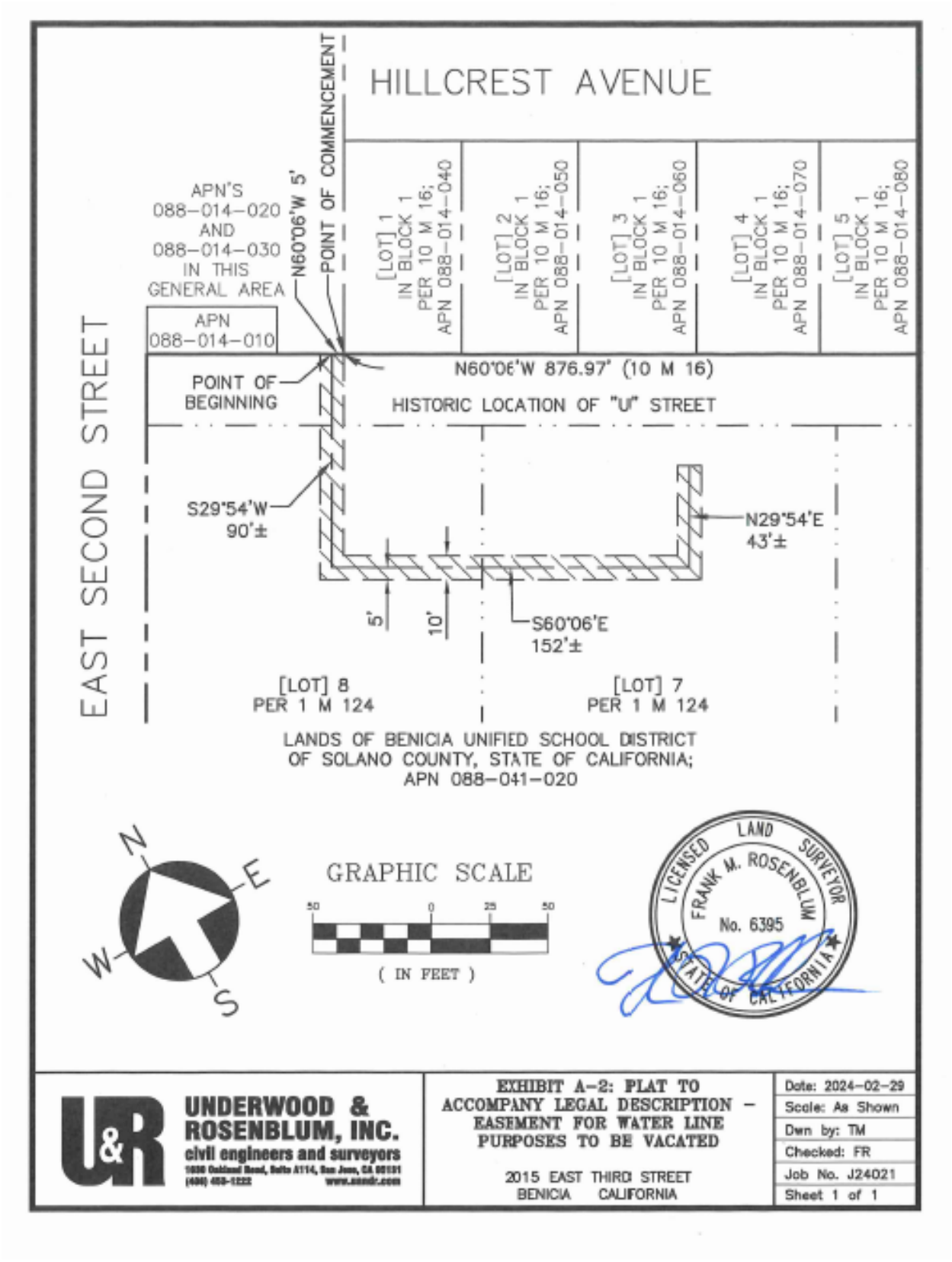
APN 088-041-020, portion.

LICENSED LAND SURVEYOR
FRANK M. ROSENBLUM
No. 6395
STATE OF CALIFORNIA

SIGNATURE

2/29/2024
DATE

EXHIBIT A-2
PLAT OF EASEMENT AREA



AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
BUSINESS ITEM

TO : City Council

FROM : Assistant City Manager

SUBJECT : **INTRODUCTION AND FIRST READING OF AN ORDINANCE AMENDING SECTIONS 17.12.030 (DEFINITIONS) AND SECTION 17.70.060 (ACCESSORY DWELLING UNITS); AND ADDING A NEW SECTION 17.70.470 (HOUSING FOR RELIGIOUS & COMMUNITY INSTITUTIONAL USES) TO TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE**

EXECUTIVE SUMMARY:

The proposed amendments to Title 17 (Zoning) of the Benicia Municipal Code (BMC) would implement the Housing Element (Program 2.05) by expanding housing opportunities on sites owned by religious and community institutional uses, inclusive of up to four multifamily units and up to four accessory dwelling units (total of eight units).

RECOMMENDATION:

Conduct a public hearing, move to waive the first reading, read by title only, and introduce an Ordinance of the City Council of the City of Benicia (Attachment 1) amending existing Section of Title 17 (Zoning) of the Benicia Municipal Code (BMC).

BUDGET INFORMATION:

There are no fiscal impacts in connection with the adoption of the proposed amendment. There are potential future fiscal impacts to the City which cannot be quantified at this time related to the development of additional housing units within the City.

BACKGROUND:

The 2023-2031 Housing Element includes goals and policies to support the maintenance, improvement, and development of housing[1]. These goals and policies advance the City's objective of providing a wide range of housing choices affordable to all segments of the community. To implement the goals and policies, the Housing Element identifies programs (actions), to be completed over the duration of the Housing Element cycle through 2031. Each program identifies specific actions, timelines and outcomes.

[1] The Housing Element can be viewed at www.ci.benicia.ca.us/housingelement

Senate Bill (“SB”) 4, also known as the “Affordable Housing on Faith and Higher Education Lands Act of 2023,” went into effect January 1, 2024. SB 4 added Section 65913.16 to the Government Code, which limits the ability of cities and counties to regulate the development of new housing on property owned by religious institutions and colleges. An SB 4 project is permitted as a “use by right” and is exempt from the California Environmental Quality Act if it meets SB 4’s criteria for:

- affordability requirements (100% affordable);
- locational requirements;
- development requirements; and
- labor requirements.

In order to comply with the requirement to Affirmatively Further Fair Housing (AFFH) and to facilitate housing mobility, Housing Element Program 2.05 requires the City to expand upon SB 4 and make changes to the Zoning Ordinance related to housing on property with religious and community institutional uses. Housing Element Program 2.05, requires that by March 2025 the will City amend the Zoning Ordinance to expand the provisions of Government Code Section 65913.16 to other types of institutional uses; and allow religious and institutional uses to construct up to a total of four multifamily units, and up to a total of four accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs) (for a total of eight units) onsite when an affordable housing development may not be feasible.

Community Engagement
In July and October 2024, the Community Development Department (CDD) conducted outreach meetings for local religious organizations to provide information and seek feedback on the proposed zoning amendment, as well as to inform them of the provisions of SB 4. The outreach meetings were also an opportunity for local clergy, pastors, religious institutional board members and staff to provide feedback on housing challenges that their religious facility is currently facing, as well as any prospective projects that they are currently seeing throughout the Bay Area or the state.

A virtual public outreach meeting was held on July 29, 2024 with two attendees present for the meeting. One attendee expressed that she was not interested in church-owned property housing development and expressed that she attended for informational purposes only, whereas another attendee expressed that the City charged an expensive application fee for a previous housing development proposal and exited the meeting.

An in-person public outreach meeting was held at the Benicia Library Dona Benicia Room on October 28, 2024, with three attendees present for the meeting. One attendee expressed that although this is a great opportunity for church-owned property development in the City, they were concerned about high fees that would hinder submittal of a housing development proposal. Another meeting attendee expressed that this would be helpful in enhancing their existing church’s program for the provision of showers and services for the homeless.

Planning Commission
The Planning Commission (Commission) conducted a public hearing to consider the proposed project on January 16, 2025. Prior to the meeting, the City received no written public comments. The Commission considered the information provided in the agenda packet, including the staff report.[2] Following a presentation by staff, during the public hearing, the Commission considered the proposed amendments to Title 17. The Commission opened the public hearing, and one public comment was received from Ms. Monica Brown, regarding infrastructure, rent, potential builders and property tax structure.

Commissioners discussed qualifying sites, as well as concerns regarding the Downtown Mixed Use Master Plan, and development standards. After the close of the public hearing, the Commission adopted Resolution No. 25-1 (Approved 5-0; Commissioners Gilpin-Hayes and Lyle absent) (Attachment 2) recommending that the Council adopt the proposed amendments. Draft Planning Commission Meeting Minutes, January 16, 2025 are included as Attachment 3.

Solano Airport Land Use Commission
Pursuant to the Public Utilities Code (PUC) Section 21676, any local agency whose general plan includes areas covered by an airport land use compatibility plan shall refer a proposed zoning ordinance or building regulation to the airport land use commission for review. The airport land use commission shall determine whether the proposal is consistent with the adopted airport land use compatibility plan. Benicia falls within the jurisdiction of the Travis Air Force Base Airport Land Use Compatibility Plan; therefore, proposed zoning amendments must be reviewed and approved by the Solano County Airport Land Use Commission (ALUC). The proposed zoning amendments will be considered by the ALUC at their regular meeting on February 13, 2025.

Proposed Zoning Amendments
The proposed zoning amendments are attached hereto as Attachment 1 – additions are shown as underlined, and deletions are ~~as strike through~~. A new Section 17.70.470 is proposed to be added to the BMC to permit multifamily and accessory dwelling units in association with religious and community institutional uses, where such uses exist as of January 1, 2024 and are permitted or conditionally permitted in the following districts or zones:

- Residential (R) Districts. Single-Family Residential (RS), Medium-Density Residential (RM), and High-Density (RH).
- Commercial (C) Districts. Community Commercial (CC) and Office Commercial (CO), and General Commercial (CG).
- Public and Semipublic (PS) District.
- Downtown Mixed Use Master Plan (DMUMP): Neighborhood General-Open (NG-O) and Town Core-Open (TC-O) Zones.

For purposes of BMC Section 17.70.470, religious and community institutional uses include: religious assembly uses, convalescent facilities, and emergency shelters. The

[2] Agendas and Minutes - Benicia, California

proposed amendment would expand opportunities for housing development, enable efficient use and development of available land resources, and provide appropriate standards and criteria for reviewing proposals for new construction and other development on properties with the applicable religious and institutional uses.

Expanded Provisions of Government Code Section 65913.16
The proposed amendments expand upon provisions of Government Code Section 65913.16 by:

1. Allowing for housing development on sites owned by convalescent facilities and emergency shelters outside of a residential zone. SB 4 only applies to religious institutions and independent institutions of higher education.
2. Allowing for the development of housing when the development of affordable housing is infeasible. SB 4 requires that developments be 100% affordable.
3. There is no expiration date on the proposed amendments to the BMC – SB 4 expires January 1, 2036.

Applicable Development Standards
The proposed ordinance establishes certain development standards that incentivize construction of housing units on eligible property.

With regard to parking, the proposed ordinance does not require the replacement of parking spaces removed to facilitate housing development. This is consistent with the City's existing ADU regulations in BMC Section 17.70.060(K) Parking, which state that no additional off-street parking stalls shall be required for an ADU and that when a garage, carport, or covered parking structure is demolished in conjunction with the construction of an ADU or converted to an ADU, replacement parking stalls are not required.

Additionally, the proposed amendments also allow for a height limited of one story above the maximum height applicable to the parcel, on accessory dwelling units constructed on church-owned or community-institution owned properties in zones that allow residential uses, including single-family residential zones. Under Government Code Section 65913.16(j)(1)(A), if the development project is located in a zone that allows residential uses, including in single-family residential zones, the development project shall be allowed an appropriate density to accommodate housing for lower income households.

Design Review and Approval Process
Benicia's Zoning Ordinance (Chapter 17.108) establishes a design review exemption for ADUs and requires objective design review for multifamily housing of up to four units outside of a historic district. Objective design review is an administrative process by which the project is reviewed for consistency with objective planning and design standards of the City.

For ADUs and multifamily housing, objective standards are established by the Zoning Ordinance (Sections 17.70.060(J) and 17.70.430, respectively). Implementation of the ordinance would adhere to the established procedures and objective standards.

NEXT STEPS:
At the meeting of March 4, 2025, the City Council will conduct the second reading and consider adoption of the proposed ordinance. The amendments would become effective 30 days after adoption.

ALTERNATIVE ACTIONS:
The Council may provide further direction, which could result in the need for an additional public hearing and delay implementation of the Housing Element.

If the City Council decides not to adopt the proposed ordinance, the program identified above from the 2023 – 2031 Housing Element would not be implemented.

CEQA Analysis	This project is covered by the Housing Element EIR (certified January 24, 2023; State Clearinghouse Number 2022060021). The proposed amendment would allow for the construction of accessory dwelling and multifamily units on religious institution-owned and certain community institution-owned properties, and these revisions additionally clarify and align existing Code. The proposed amendments would not alter the physical environment in any manner that would result in a significant effect on the environment. Additionally, this project is categorically exempt pursuant to Section 15303(a), New Construction or Conversion of Small Structures Class 3, of the California Environmental Quality Act (CEQA) Guidelines, which allows for a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. This project is also categorically exempt pursuant to Section 15303(b), New Construction or Conversion of Small Structures Class 3, for multi-family structures, this exemption allows for a duplex or similar multi-family residential structure totaling no more than four dwelling units. In urbanized areas, this exemption applies to apartments, duplexes, and similar structures designed for not more than six dwelling units.

ATTACHMENTS:
1. Draft Ordinance - Amending Ch. 17.70 - Benicia Zoning Ordinance (Title 17)
2. Planning Commission Resolution with Exhibit A - Zoning Text Amendments
3. Draft Planning Commission Meeting Minutes, January 16, 2025

For more information contact: Suzanne Thorsen, AICP, Assistant City Manager
Phone: 707-746-4280
E-mail: sthorsen@ci.benicia.ca.us

CITY OF BENICIA

ORDINANCE NO. 25 -____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BENICIA AMENDING CHAPTER 17.70 (GENERAL REGULATIONS) OF TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE BY ADDING A NEW SECTION 17.70.470 (HOUSING FOR RELIGIOUS & COMMUNITY INSTITUTIONAL USES) AND AMENDING SECTION 17.70.060 (ACCESSORY DWELLING UNITS) AND AMENDING CHAPTER 17.12 (DEFINITIONS) SECTION 17.12.030

WHEREAS, the City of Benicia 2023-2031 Housing Element was certified by the Department of Housing and Community Development (HCD) in April 2024; and

WHEREAS, Program 2.05 of the Housing Element aims to advance housing mobility by establishing a Religious and Institutional Facility Housing Overlay or similar zoning text amendment with the following potential provisions: expanding the provisions of Section 65913.16 to other institutional uses including property under the ownership of institutional uses; allowing religious and institutional uses to construct up to a total of four multifamily units, and up to a total of four ADUs and JADUs (for a total of eight units) onsite when an affordable housing development may not be feasible; and;

WHEREAS, this ordinance would include amendments to General Regulations (BMC Chapter 17.70), Definitions (BMC section 17.12.030), and Accessory Dwelling Units (BMC section 17.70.060); and

WHEREAS, the City Council finds that amendments to the aforementioned zoning regulations are necessary to facilitate the implementation of programs outlined in the 2023-2031 Housing Element; and

WHEREAS, the Planning Commission, at its regular meeting on January 16, 2025, conducted a duly noticed public hearing, considered public comment, reviewed the proposed project, and adopted Resolution No. 25-1 unanimously recommending that the Council adopt the proposed amendment; and

WHEREAS, pursuant to BMC Section 17.120.040 (Public hearing scope and notice) and California Government Code Section 65091 (Notification Procedures), notice of the public hearing for the proposed zoning amendments was duly published in the Benicia Herald, a newspaper of general circulation, and posted at City Hall on Friday, January 31, 2025; and

WHEREAS, this project is covered by the Housing Element EIR (certified January 24, 2023; State Clearinghouse Number 2022060021). The proposed amendment would allow for the construction of accessory dwelling and multifamily units on religious institution-owned and certain community institution-owned properties, and these revisions additionally clarify and align existing Code. The proposed amendments would not alter

the physical environment in any manner that would result in a significant effect on the environment. Additionally, this project is categorically exempt pursuant to Section 15303(a), New Construction or Conversion of Small Structures Class 3, of the California Environmental Quality Act (CEQA) Guidelines, which allows for a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. This project is also categorically exempt pursuant to Section 15303(b), New Construction or Conversion of Small Structures Class 3, for multi-family structures, this exemption allows for a duplex or similar multi-family residential structure totaling no more than four dwelling units. In urbanized areas, this exemption applies to apartments, duplexes, and similar structures designed for not more than six dwelling units; and

WHEREAS, the City Council of the City of Benicia conducted a duly and properly noticed public hearing to take public testimony and consider this Ordinance; and

WHEREAS, the City Council of the City of Benicia does hereby find that the proposed zoning text amendments are consistent with the purposes of Title 17, and the following goals and programs of the Benicia General Plan and Housing Element:

- Community Development and Sustainability, Goal 2.1: Preserve Benicia as a small-sized city.
  - Policy 2.1.7: The City shall promote compact urban development within the Urban Growth Boundary (UGB) and shall encourage development of public, semipublic, active recreational, and all other uses deemed desirable for the community inside the UGB.

- Community Development and Sustainability, Program 2.12.G: Review and modify the zoning ordinance, as needed, to accommodate a mix of uses in the blocks immediately east and west of First Street.

- Public and Quasi-Public Goals, Policies, and Programs, Goal 2.29: Provide for churches to locate where conflicts with adjacent land uses will be minimized.
  - Policy 2.29.3: In any future developments, consider earmarking land for quasi-public uses.

- Community Health and Safety, Goal 4.10: Support improved regional air quality.
  - Policy 4.10.2: Encourage designs and land use strategies that reduce automobile use and promote mixed use, jobs/housing balance, telecommuting, bicycle, and pedestrian facilities, and transit.

- Housing Element Goal 2: Have an adequate supply and mix of housing types to meet existing and future housing needs. Future development in the city will adhere to efficient land use patterns placing housing near transit and services.

- Housing Element Program 2.05: To facilitate housing mobility, the City will establish a Religious and Institutional Facility Housing Overlay or similar zoning text amendment with the following potential provisions:

- Expanding the provisions of Section 65913.6 to other institutional uses including property under the ownership of institutional uses, such as schools and hospitals.

- Allowing religious and institutional uses to construct up to four multifamily units, and up to four ADUs and JADUs (total of eight units) onsite when an affordable housing development may not be feasible.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BENICIA DOES ORDAIN AS FOLLOWS:

Section 1.

Section 17.12.030 (Definitions) of Chapter 17.12 (Definitions) of Title 17 (Zoning) of the Benicia Municipal Code is amended to define "Place of Worship" by amending Section 17.12.030 (Definitions) to insert the following definition in alphabetical order, to read as follows:

"Place of worship" means a property owned or operated by a religious assembly use, as such use is classified in Section 17.216.040, that is used for the purpose of regular assembly by members of the institution.

Section 2.

Subsection E of Section 17.70.060 (Accessory Dwelling Units) of Chapter 17.70 (General Regulations) of Title 17 (Zoning) of the Benicia Municipal Code is amended to allow accessory dwelling units pursuant to the provisions of new section 17.70.470 (Housing for Religious & Community Institutional Uses) by amending subsection E to read as follows:

E. Maximum Number Per Lot. Not more than one accessory dwelling unit is allowed per lot except as ~~allowed by subsections (G)(2), Detached Accessory Dwelling Units, (G)(3), Non-Livable Multifamily Space) and (G)(4), Detached Accessory Dwelling Units on Multifamily Lots, of this section.~~ follows:

1. Where allowed by subsections (G)(2), Detached Accessory Dwelling Units, (G)(3), Non-Livable Multifamily Space), (G)(4), Detached Accessory Dwelling Units on Multifamily Lots of this section; and

2. Where allowed pursuant to the provisions of section 17.70.470 of this title.

Section 3.

Chapter 17.70 (General Regulations) of Title 17 (Zoning) of the Benicia Municipal Code is amended to adding a new section 17.70.470 (Housing for Religious & Community Institutional Uses) to read as follows:

17.70.470. Housing for Religious & Community Institutional Uses.

A. Purpose and Intent. This section is supplementary to California Government Code Section 65913.16, and establishes regulations to permit housing development, inclusive of affordable housing, on properties owned, operated, and developed by religious and certain community institutional uses, in order to expand upon the provisions of California Government Code Section 65913.16 by:

1. Accommodating housing consistent with 2023-2031 Housing Element, and any amendments thereto;

2. Expanding opportunities for housing, including affordable housing, in association with religious and community institutions;

3. Enabling efficient use and development of land resources;

4. Providing appropriate standards and criteria for reviewing proposals for new construction and other development subject to the provisions of this section; and

5. California Government Code Section 65913.16 regulations shall apply to the use classifications outlined in this section.

B. Applicability.

1. This section permits multifamily and accessory dwelling units in association with religious and community institutional uses, where such uses exist as of January 1, 2024 and are permitted or conditionally permitted in the following districts or zones:

   a. Residential (R) Districts. Single-Family Residential (RS), Medium-Density Residential (RM), and High-Density (RH).

   b. Commercial (C) Districts. Community Commercial (CC) and Office Commercial (CO), and General Commercial (CG).

   c. Public and Semipublic (PS) District.

d. Downtown Mixed Use Master Plan (DMUMP). Neighborhood General-Open (NG-O) and Town Core-Open (TC-O).

2. For the purposes of this section, religious and community institutional uses include the following use classifications only:

a. Religious assembly uses;

b. Convalescent facilities; and

c. Emergency shelters.

3. Accessory Use. Housing units permitted pursuant to this section shall be considered accessory to the main use of the site and shall not be considered to exceed the allowable density for the lot or parcel upon which they are located.

a. Limited Application. This section shall apply only to a religious and a community institution use for the purposes specified in subsection B.2 above.

b. This section shall be applied in combination with the requirements of Government Code 65913.16 as they currently exist or may hereinafter be amended.

C. Use Regulations.

1. ADUs. Up to four (4) accessory dwelling units and up to four (4) junior accessory dwelling units shall be permitted if compliant with the provisions of this section, qualifies and meets criteria of Government Code 65913.16 and in accordance with the procedures and standards of section 17.70.060 when affordable housing development may not be feasible.

2. Multifamily. Up to four multifamily units shall be permitted, when compliant with the provisions of this section, as well as qualifies and meets criteria of Government Code section 65913.16.

3. Notwithstanding the foregoing subsections C.1 and C.2, up to a total of eight (8) dwelling units (inclusive of accessory dwelling units and multifamily units) may be permitted on an eligible site.

D. Parking. Parking shall be required for residential uses pursuant to chapter 17.74 of this title; except as otherwise provided in Government Code 65913.16.

E. Design Standards.

1. Accessory Dwelling Units and Junior Accessory Dwelling Units shall comply with all standards of section 17.70.060.

2. Multifamily units shall comply with the Objective Planning and Design Standards pursuant to section 17.70.430. In addition, the following standards shall be applicable in a R, C or PS district:

a. Upper Story Massing. A third story must be stepped back from the primary street at least 10 feet for a minimum of 35 percent of the facade length. Recessed area may be used as a balcony, terrace, or other usable open space.

b. Balconies. A balcony above the ground floor shall not project more than three feet from any exterior building wall that faces the side yard of an adjacent residential use.

F. Development Plan Review.

1. Accessory dwelling units and junior accessory dwelling units provided pursuant to this section are exempt from design review pursuant to section 17.108.020 BMC. Development plans shall be reviewed in accordance with the permitting process identified in section 17.70.060 BMC.

2. Multifamily housing provided pursuant to this section shall be reviewed in accordance with Chapter 17.108.020.C Objective Ministerial Review.

Section 4.

Severability. If any section, subsection, phrase or clause of this ordinance is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

The City Council hereby declares that it would have passed this and each section, subsection, phrase or clause thereof irrespective of the fact that any one or more sections, subsections, phrase or clauses be declared unconstitutional on their face or as applied.

Section 5.

Publication. The City Clerk is hereby ordered and directed to certify the passage of this Ordinance by the City Council of the City of Benicia, California and cause the same to be published in accordance with State law.

Section 6.

Effective Date. This Ordinance shall be in full force and effective thirty (30) days after its adoption and shall be published and posted as required by law.

*****

On motion of Council Member , seconded by Council Member , the foregoing ordinance was introduced at a regular meeting of the City Council on the ___ day of _____ 2025, and adopted at a regular meeting of the Council held on the ___day of _____ 2025, by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

RESOLUTION NO. 25 - 1 (PC)

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF BENICIA RECOMMENDING AMENDMENTS TO TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE PERTAINING TO REGULATIONS FOR HOUSING DEVELOPMENT FOR RELIGIOUS & COMMUNITY INSTITUTIONAL USES TO IMPLEMENT HOUSING ELEMENT PROGRAM 2.05

WHEREAS, the City of Benicia 2023-2031 Housing Element was certified by the Department of Housing and Community Development (HCD) in April 2024; and

WHEREAS, Program 2.05 of the Housing Element aims to advance housing mobility by establishing a Religious and Institutional Facility Housing Overlay or similar zoning text amendment with the following potential provisions: expanding the provisions of Section 65913.16 to other institutional uses including property under the ownership of institutional uses, such as schools and hospitals; allowing religious and institutional uses to construct up to a total of four multifamily units, and up to a total of four ADUs and JADUs (for a total of eight units) onsite when an affordable housing development may not be feasible; and;

WHEREAS, the City reached out to local religious organizations to provide updates and information on available housing development opportunities on church-owned and community institution-owned properties, as well as provided an update on California state laws that have been enacted to allow affordable housing development on religious and community institution-owned properties; and

WHEREAS, the City conducted one virtual public outreach meeting on July 29, 2024, and one in-person public outreach meeting at the Benicia Library Dona Benicia Room on October 28, 2024; and

WHEREAS, the proposed project includes an amendment to Title 17 (Zoning) of the Benicia Municipal Code to add Section 17.70.470 Housing for Religious & Community Institutional Uses; and

WHEREAS, this ordinance would include amendments to General Regulations (BMC Chapter 17.70), Definitions (BMC section 17.12.030), and Accessory Dwelling Units (BMC section 17.70.060); and

WHEREAS, notice of public hearing was posted at Benicia City Hall on December 18, 2024, as well as published in the Benicia Herald on December 20, 2024; and

WHEREAS, the Planning Commission, at its regular meeting on January 16, 2025, conducted the public hearing, considered public comment and reviewed the proposed project; and

NOW, THEREFORE, BE IT RESOLVED that the Planning Commission does hereby find that the amendments to the City of Benicia Zoning Ordinance Title 17, (Zoning) of the Benicia Municipal Code is covered by the Housing Element EIR (certified January 24, 2023; State Clearinghouse Number 2022060021). The proposed amendment would allow for the construction of accessory dwelling and multifamily units on religious institution-owned and certain community institution-owned properties, and these revisions additionally clarify and align existing Code. The proposed amendments would not alter the physical environment in any manner that would result in a significant effect on the environment. Additionally, this project is categorically exempt pursuant to Section 15303(a), New Construction or Conversion of Small Structures Class 3, of the California Environmental Quality Act (CEQA) Guidelines, which allows for a second dwelling unit in a residential zone; in urbanized areas, up to three single-family residences may be constructed or converted under this exemption. This project is also categorically exempt pursuant to Section 15303(b), New Construction or Conversion of Small Structures Class 3, for multi-family structures, this exemption allows for a duplex or similar multi-family residential structure totaling no more than four dwelling units. In urbanized areas, this exemption applies to apartments, duplexes, and similar structures designed for not more than six dwelling units.

BE IT FURTHER RESOLVED that the Planning Commission of the City of Benicia finds that the project adheres to the spirit and intent of the General Plan to ensure that urban development occurs within the City's urban growth boundary while preserving and protecting open spaces.

BE IT FURTHER RESOLVED that the Planning Commission of the City of Benicia does hereby recommend that the City Council find that the project is consistent with the General Plan including the following specific goals, policies and objectives:

- Community Development and Sustainability, Goal 2.1: Preserve Benicia as a small-sized city.
    - Policy 2.1.7: The City shall promote compact urban development within the Urban Growth Boundary (UGB) and shall encourage development of public, semipublic, active recreational, and all other uses deemed desirable for the community inside the UGB.

- Community Development and Sustainability, Program 2.12.G: Review and modify the zoning ordinance, as needed, to accommodate a mix of uses in the blocks immediately east and west of First Street.

- Public and Quasi-Public Goals, Policies, and Programs, Goal 2.29: Provide for churches to locate where conflicts with adjacent land uses will be minimized.
    - Policy 2.29.3: In any future developments, consider earmarking land for quasi-public uses.

- Community Health and Safety, Goal 4.10: Support improved regional air quality.
  - Policy 4.10.2: Encourage designs and land use strategies that reduce automobile use and promote mixed use, jobs/housing balance, telecommuting, bicycle, and pedestrian facilities, and transit.

- Housing Element Goal 2: Have an adequate supply and mix of housing types to meet existing and future housing needs. Future development in the city will adhere to efficient land use patterns placing housing near transit and services.

- Housing Element Program 2.05: To facilitate housing mobility, the City will establish a Religious and Institutional Facility Housing Overlay or similar zoning text amendment with the following potential provisions:

  - Expanding the provisions of Section 65913.6 to other institutional uses including property under the ownership of institutional uses, such as schools and hospitals.

  - Allowing religious and institutional uses to construct up to four multifamily units, and up to four ADUs and JADUs (total of eight units) onsite when an affordable housing development may not be feasible.

BE IT FURTHER RESOLVED that the Planning Commission of the City of Benicia does hereby recommend that the City Council of Benicia adopt an amendment to Title 17 (Zoning), General Regulations, of the Benicia Municipal Code, to add section 17.70.470, Housing for Religious & Community Institutional Uses, as well as corresponding amendments to Definitions (BMC section 17.12.030), and Accessory Dwelling Units (BMC section 17.70.060) (Exhibit A).

*****

On motion of Commissioner Gorman and seconded by Commissioner Slate, the above Resolution is introduced and adopted by the Planning Commission of the City of Benicia at its regular meeting of the Commission held on the 16th day of January 2025 and adopted by the following vote:

Ayes: Commissioners Catton, Gorman, Marshall, Slate, and Chair Mollica

Noes: None

Absent: Commissioners Gilpin-Hayes and Lyle

Abstain: None

Signed by:
Terry Mollica
BA25BCEDBDD746D...

Terry Mollica, Chair

1/21/2025

Date

Exhibit A

Amendments to BMC Chapter 17

17.12.030 Definitions.

"Place of worship" means a property owned or operated by a religious assembly use, as such use is classified in Section 17.216.040, that is used for the purpose of regular assembly by members of the institution.

17.70.060 Accessory Dwelling Units

E. Maximum Number Per Lot. Not more than one accessory dwelling unit is allowed per lot except as follows:

1. Where allowed by subsections (G)(2), Detached Accessory Dwelling Units, (G)(3), Non-Livable Multifamily Space) and (G)(4), Detached Accessory Dwelling Units on Multifamily Lots, of this section~~.~~; and

2. Where allowed pursuant to the provisions of section 17.70.470 of this title.

17.70.470 –Housing for Religious & Community Institutional Uses

A. Purpose and Intent. This section is supplementary to California Government Code Section 65913.16, and establishes regulations to permit housing development, inclusive of affordable housing, on properties owned, operated, and developed by religious and certain community institutional uses, in order to expand upon the provisions of California Government Code Section 65913.16 by:

1. Accommodating housing consistent with 2023-2031 Housing Element, and any amendments thereto;

2. Expanding opportunities for housing, including affordable housing, in association with religious and community institutions;

3. Enabling efficient use and development of land resources;

4. Providing appropriate standards and criteria for reviewing proposals for new construction and other development subject to the provisions of this section; and

5. California Government Code Section 65913.16 regulations shall apply to the use classifications outlined in this section.

B. Applicability.

1. This section permits multifamily and accessory dwelling units in association with religious and community institutional uses, where such uses exist as of January 1, 2024 and are permitted or conditionally permitted in the following districts or zones:

   a. Residential (R) Districts. Single-Family Residential (RS), Medium-Density Residential (RM), and High-Density (RH).

   b. Commercial (C) Districts. Community Commercial (CC) and Office Commercial (CO), and General Commercial (CG).

   c. Public and Semipublic (PS) District.

   d. Downtown Mixed Use Master Plan (DMUMP). Neighborhood General-Open (NG-O) and Town Core-Open (TC-O).

2. For the purposes of this section, religious and community institutional uses include the following use classifications only:

   a. Religious assembly uses;

   b. Convalescent facilities; and

   c. Emergency shelters.

3. Accessory Use. Housing units permitted pursuant to this section shall be considered accessory to the main use of the site and shall not be considered to exceed the allowable density for the lot or parcel upon which they are located.

   a. Limited Application. This section shall apply only to a religious and a community institution use for the purposes specified in subsection B.2 above.

   b. This section shall be applied in combination with the requirements of Government Code 65913.16 as they currently exist or may hereinafter be amended.

C. Use Regulations

1. ADUs. Up to four (4) accessory dwelling units and up to four (4) junior accessory dwelling units shall be permitted if compliant with the provisions of this section, qualifies and meets criteria of Government Code 65913.16 and in accordance with the procedures and standards of section 17.70.060 when affordable housing development may not be feasible.

2. Multifamily. Up to four multifamily units shall be permitted, when compliant with the provisions of this section, as well as qualifies and meets criteria of Government Code section 65913.16.

3. Notwithstanding the foregoing subsections C.1 and C.2, up to a total of eight (8) dwelling units (inclusive of accessory dwelling units and multifamily units) may be permitted on an eligible site.

D. Parking. Parking shall be required for residential uses pursuant to chapter 17.74 of this title; except as otherwise provided in Government Code 65913.16.

E. Design Standards.

1. Accessory Dwelling Units and Junior Accessory Dwelling Units shall comply with all standards of section 17.70.060.

2. Multifamily units shall comply with the Objective Planning and Design Standards pursuant to section 17.70.430. In addition, the following standards shall be applicable in a R, C or PS district:

a. Upper Story Massing. A third story must be stepped back from the primary street at least 10 feet for a minimum of 35 percent of the facade length. Recessed area may be used as a balcony, terrace, or other usable open space.

b. Balconies. A balcony above the ground floor shall not project more than three feet from any exterior building wall that faces the side yard of an adjacent residential use.

F. Development Plan Review

1. Accessory dwelling units and junior accessory dwelling units provided pursuant to this section are exempt from design review pursuant to section 17.108.020 BMC. Development plans shall be reviewed in accordance with the permitting process identified in section 17.70.060 BMC.

2. Multifamily housing provided pursuant to this section shall be reviewed in accordance with Chapter 17.108.020.C Objective Ministerial Review.

DRAFT

MINUTES OF THE BENICIA PLANNING COMMISSION

Benicia City Hall, Council Chamber
250 East L Street, Benicia, CA 94510

January 16, 2025
6:00 PM

Complete proceedings are recorded. These are action minutes; a full video is available online at
www.ci.benicia.ca.us/agendas.

Accessing The Meeting

1. Call To Order

Chair Mollica called the meeting to order at 6:01 p.m.

2. Roll Call Of Commissioners

Present: Commissioner Catton, Commissioner Gorman, Commissioner Marshall, Commissioner Slate, and Chair Mollica

Absent: Commissioner Gilpin-Hayes and Commissioner Lyle

Staff: Jason Hade, Planning Manager
Vivien Togonon, Associate Planner
Terri Asano, Community Development Coordinator
Mary Wagner, Assistant City Attorney

3. Pledge Of Allegiance

4. Reference To Fundamental Rights Of Public

5. Adoption Of Agenda

On a motion of Commissioner Marshall, seconded by Commissioner Catton, the Commission approved the Adoption of the Agenda, as presented, by the following vote:

Ayes: Commissioner Catton, Commissioner Gorman, Commissioner Marshall, Commissioner Slate, and Chair Mollica

Noes: (None)

DRAFT

6. Opportunities For Public Comments

7. Written Comment

8. Public Comment

9. Consent Calendar

9.A APPROVAL OF MINUTES FROM DECEMBER 19, 2024

12-19-24 DRAFT MINUTES

On a motion of Commissioner Catton, seconded by Commissioner Gorman, the Commission approved the adoption of the consent calendar, as presented, by the following vote:

Ayes: Commissioner Catton, Commissioner Gorman, Commissioner Marshall, Commissioner Slate, and Chair Mollica

Noes: (None)

10. Regular Agenda Items

10.A AMENDMENTS TO TITLE 17 (ZONING) OF THE BENICIA MUNICIPAL CODE

RECOMMENDED ACTION: Move to adopt a resolution, after a public hearing and determination that the project is exempt from environmental review pursuant to the California Environmental Quality Act (CEQA), recommending that the City Council of the City of Benicia adopt an ordinance that amends Title 17 (Zoning) of Benicia's Municipal Code (BMC) to establish regulations to allow for the construction of housing development, inclusive of affordable housing units on sites that are zoned to allow for Religious & Community Institutional Uses. This ordinance would include amendments to General Regulations (BMC Chapter 17.70), Definitions (BMC section 17.12.030), and Accessory Dwelling Units (BMC section 17.70.060).

Staff Report - Religious & Institutional Uses Zoning Text Amendments
Attachment 1 - Draft Resolution with Exhibit A

Vivien Togonon, Associate Planner, gave a presentation.

Commissioners asked clarifying questions regarding parking requirements, the definition of a “place of worship”, the burden of proof when affordable housing is deemed infeasible, the definition of ADU and JADU, the process of ministerial approval, and the allowable size of structures.

Staff clarified.

DRAFT

PUBLIC COMMENTS

1. Monica Brown – Ms. Brown asked questions regarding infrastructure, rent, potential builders and property tax structure.

Chair Mollica and staff answered.

DELIBERATIONS

Commissioners commended staff for their work and discussed qualifying sites, concerns regarding the Downtown Mixed Use Master Plan, and development standards.

On a motion of Commissioner Gorman, seconded by Commissioner Slate, the Commission approved Item 10.A, as presented, by the following vote:

Ayes: Commissioner Catton, Commissioner Gorman, Commissioner Marshall, Commissioner Slate, and Chair Mollica

Noes: (None)

11. **Communication From Staff**

None

12. **Communication From Commissioners**

Chair Mollica announced his retirement from the Planning Commission and thanked the staff and Commissioners, past and present. He also voiced concerns over streamlining the process.

Jason Hade, Planning Manager, thanked the Chair for his service and leadership.

13. **Adjournment**

Chair Mollica adjourned the meeting at 6:56 p.m.

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
BUSINESS ITEM

TO : City Manager

FROM : Economic Development Manager

SUBJECT : **TEMPORARY SUSPENSION OF BUSINESS LICENSE TAX COLLECTION, PAYMENT OF HOME OCCUPATION PERMIT FEES, AND THE CITY'S BUSINESS LICENSE PROCESSING FEE FOR BUSINESSES WITH $3,000 OR LESS IN ANNUAL GROSS RECEIPTS**

EXECUTIVE SUMMARY:

Following City Council's direction, the City has identified challenges businesses, contractors, and individuals face in complying with certain business license tax requirements. Temporarily pausing collection of business license taxes, payment of home occupation fees, and the City's business license processing fee for businesses earning $3,000 or less in annual gross receipts will provide relief for these small businesses and support economic activity while allowing staff to evaluate the existing framework and recommendations for a Business License Tax Update.

RECOMMENDATION:

Adopt a Resolution (Attachment 1) to temporarily pause collection of business license taxes, home occupation permit fees, and the City's business license processing fee for businesses in Benicia with annual gross receipts of $3,000 or less, while continuing to collect the SB-1186 Certified Access Specialist (CASp) fee.

BUDGET INFORMATION:

Business License Tax revenue goes to the City's General Fund. The potential revenue loss to the General Fund based on the proposed annual gross receipts threshold and home occupation fee is detailed below:

Suspension Activity	Annual General Fund Revenue Loss
Option 1: Businesses and activity that generates $1,000 or less in gross receipts	• Business License Fee: $30,000 annual revenue loss • HdL Processing Fee: $5,000 to be absorbed by the General Fund
Option 2: Businesses and activity that generates $3,000 or less in gross receipts	• Business License Fee: $40,000 annual revenue loss

	• HdL Processing Fee: $6,000 to be absorbed by the General Fund
Home Occupation Fee	Unknown total fiscal impact. Estimated less than $10,000 annual revenue loss.

BACKGROUND:
Every person who engages in business within the City of Benicia is required to obtain a business license in accordance with Benicia Municipal Code (BMC) Chapter 5.04 and pay a business license tax in an amount calculated pursuant to BMC Chapter 5.06. A home occupation permit (HOP) is required for any business conducted in a dwelling unit, garage or accessory dwelling unit (BMC Section 17.70.070). The HOP fee is a one-time fee of $191.36, as outlined in the Master Fee Schedule.

BMC Section 5.04.040.A. currently includes a list of four scenarios that are exempt from the requirement to pay a business license tax:

1. Any person transacting or carrying on any business exempted by the Constitution or laws of the United States or of the state of California from the license tax, but such exemption shall only extend to such exempt business and not to any other business in which such person may engage;

2. Any disabled veteran holding an honorable discharge from a branch of the military service of the United States, if he or she is physically unable to earn a livelihood by manual labor;

3. Any organization certified by the Internal Revenue Service as an exempt organization pursuant to Section 501(c)(3) of the United States Internal Revenue Code, except with respect to business activities for which the organization is required to pay federal income taxes;

4. Any individual under 18 years of age and whose gross receipts do not exceed $1,000 per year.

All other business activities not specified as an exemption are required to pay a business license tax.[1]

Benicia's business license tax has three components:

- **Personnel Tax**: a tax based on the number of persons employed or compensated by a business (BMC Section 5.06.030). This tax is currently $10.80 for each employee or person compensated. This amount goes up to $11.10 on April 1, 2025.

[1] "Business" includes professions, trades, and occupations and all and every kind of calling whether or not carried on for profit. BMC Section 5.04.020B.

- **Multifamily Tax**: this tax applies to the renting or leasing of multifamily property in the city for 30 days or more (BMC Section 5.06.040).[2] This tax is currently $51.90 for each rental unit. This amount goes up to $53.20 on April 1, 2025.

- **Gross Receipts Tax**: businesses engaging in professional services pay a tax equal to $0.75/$1,000 in gross receipts; retailers, hotels and motels, and businesses providing other services pay a tax equal to $0.65/$1,000 in gross receipts; and other types of businesses pay a tax equal to $0.55/$1,000 in gross receipts. BMC Section 5.06.050. There is a maximum gross receipts tax which is currently $649.20. The maximum gross receipts tax increases to $664.80 on April 1, 2025.

There is an Alternate Tax for solicitors, farmer's market vendors, and street fair participants. (BMC Section 5.06.060). The alternative tax is currently $21.00/day and increases on April 1, 2025 to $21.60.

There are also annual fees which are applicable to business licenses. Currently those fees are: an $18.00 processing fee which is designed to offset the City's costs in issuing the business license (the "City's Business License Processing Fee"); and a $4.00 "SB-1186" fee. The majority of the SB-1186 fee is retained by the City and used for increased Certified Access Specialist (CASp) training and certification within the City and to facilitate compliance with construction-related accessibility requirements, to include providing financial assistance to small businesses for construction of physical accessibility improvements. Government Code Section 4467 (b)(1). The remainder of the SB-1186 Fee is transmitted on a quarterly basis to the Division of the State Architect for deposit in the Disability Access and Education Revolving Fund.

State law provides that a vote of the people is required to increase the business license tax, however, the City Council does have discretion to modify a tax rate or rules that would result in lower costs.

In the interest of encouraging certain business activities within the City and in recognition that some business activities which are minor in nature may be unduly burdened with the requirement to pay a business license tax, the potential for additional exemptions was requested to be reviewed. On November 15, 2022, City Council asked that the Economic Development Board (EDB) offer feedback on those business activities that are subject to a business license tax.

On February 20, 2024, City Council reviewed the EDB recommendations and approved the timeline to finalize analysis on recommended code changes (Attachment 3).

Since then, the City has received feedback from several businesses and individuals that have faced economic hardship resulting in barriers for businesses.

[2] People who pay to multifamily tax do not pay the personnel tax or the gross receipts tax. BMC Section 5.06.040A.

At the Council's request, EDB evaluated the City's business license tax requirements (BMC Chapters 5.04 and 5.06) at their January 22, 2025, meeting (Attachment 2) and the activities associated with challenges for businesses. EDB recommended the following temporary suspension of business license taxes and home occupation permit fees:

a) Any individual or business whose gross receipts do not exceed $3,000 per year are not required to pay a business license tax or home occupation permit fee.

Although EDB offered feedback on other activities as noted in Attachment 2, staff identified several administrative complexities, and a more thorough analysis is required to assess the financial impact of those suggestions. Staff recommends that the other recommendations from EDB be evaluated as part of the business license tax code analysis in early 2026.

The draft resolution (Attachment 1) allows for the temporary suspension of the collection of all categories of business license tax (Personnel Tax, Multifamily Tax, Gross Receipts Tax, and the Alternate Tax); the City's Business License Processing Fee; and the home occupation permit fee for any business with annual gross receipts of $3,000 or less. This suspension is temporary in nature and is not, and is not intended to be, a permanent reduction in the business license tax. The draft resolution includes that the suspension would go into effect on April 1, 2025 and remain in effect until January 31, 2027. However, the Council can take action to extend or shorten that time period for any reason and can reinstate collection of the business license tax at any time. Businesses subject to the suspension of the tax would still be required to obtain a business license, pay the $4.00 SB-1186 fee, and comply with all the other applicable requirements of BMC Chapters 5.04 and 5.06. Businesses that are required to have a home occupation permit are still required to obtain the permit and comply with all other applicable requirements. Any suspension of collection of the business license tax would not apply to the Business Improvement District (BID) fee.

NEXT STEPS:
If Council approves the adoption of the Resolution (Attachment 1), temporary suspension of the collection of all categories of business license tax (Personnel Tax, Multifamily Tax, Gross Receipts Tax, and the Alternate Tax); the City's Business License Processing Fee; and the home occupation permit fee for any business with annual gross receipts of $3,000 or less will commence on April 1, 2025 and end on January 31, 2027, unless otherwise modified. Throughout the suspension period, staff will analyze the impacts of the temporary measure on compliance and economic activity as well as gather stakeholder feedback to identify areas for improvement.

ALTERNATIVE ACTIONS:
If Council chooses not to adopt the Resolution (Attachment 1), then temporary suspension of collection of business license taxes, home occupation fees, and the City's Business License Processing Fee for businesses with $3,000 or less in annual gross receipts would not go into effect and staff will proceed with the timeline approved by Council at the February 20, 2024 meeting (Attachment 3).

CEQA Analysis	This activity does not meet the definition of a project as described in Title 14 of the California Code of Regulations, §15378(a).

ATTACHMENTS:

1. Resolution - Temporary Suspension - Collection of Business License Taxes, Business License Processing Fees; and Home Occupation Permit Fees
2. Draft Economic Development Board Meeting Minutes, January 22, 2025
3. City Council Meeting Minutes from February 20, 2024

For more information contact: Colette Schow, Economic Development Manager
Phone: 707-746-4202
E-mail: cschow@ci.benicia.ca.us

RESOLUTION NO. 25-

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING THE TEMPORARY SUSPENSION OF THE COLLECTION OF BUSINESS LICENSE TAXES, THE CITY'S BUSINESS LICENSE PROCESSING FEE, AND HOME OCCUPATION PERMIT FEES FOR BUSINESSES WITH LESS THAN $3000 IN ANNUAL GROSS RECEIPTS

WHEREAS, the City of Benicia requires every person who engages in business within the City to obtain a business license in accordance with Benicia Municipal Code (BMC) Chapter 5.04 and pay a business license tax in an amount calculated pursuant to BMC Chapter 5.06; and

WHEREAS, a home occupation permit is required for any for business conducted in a dwelling unit, garage or accessory dwelling unit pursuant to BMC Section 17.70.070 and a home occupation permit fee in an amount established by the City Council is required to be paid (the "Home Occupation Permit Fee"); and

WHEREAS, Benicia's Business License Tax includes the following components: 1) a tax based on the number of persons employed or compensated by a business (BMC Section 5.06.030) (the "Personnel Tax"); 2) a tax on renting or leasing of multifamily property in the city for 30 days or more (BMC Section 5.06.040) (the "Multifamily Tax"); 3) a tax on the annual gross receipts generated by businesses (BMC Section 5.06.050) (the "Gross Receipts Tax"); and 4) an alternate tax for solicitors, farmer's market vendors, and street fair participants (BMC Section 5.06.060); and

WHEREAS, annual fees apply to obtaining a business license these include an $18.00 processing fee (the "City's Business License Processing Fee"); and a $4.00 "SB-1186" fee; and

WHEREAS, the City's Business License Processing Fee is designed to offset the City's costs in issuing the business license; and

WHEREAS, the majority of the SB-1186 fee is retained by the City and used for increased Certified Access Specialist (CASp) training and certification within the City and to facilitate compliance with construction-related accessibility requirements, to include providing financial assistance to small businesses for construction of physical accessibility improvements; the remainder to the SB-1186 Fee is transmitted on a quarterly basis to the Division of the State Architect for deposit in the Disability Access and Education Revolving Fund; and

WHEREAS, recent challenges, including economic hardships, have created barriers for businesses and individuals in meeting these license tax and home occupation requirements; and

WHEREAS, the City Council recognizes the need to provide temporary relief to support economic activity, arts and culture, and entrepreneurial ambitions, and allow for a review of the City's business license tax code; and

WHEREAS, State law provides that a vote of the people is required to increase the business license tax, however, the City Council does have discretion to modify a tax rate or rules that would result in lower costs; and

WHEREAS, the temporary suspension of certain business license tax requirements and home occupation permit fees will not waive the responsibility of businesses, contractors, and individuals to comply with other applicable laws and regulations.

NOW, THEREFORE, BE IT RESOLVED THAT the City Council of the City of Benicia does hereby: approve the temporary suspension of enforcement of the following business license tax requirements within the City of Benicia, effective April 1, 2025 and ending on January 31, 2027, unless otherwise modified:

a) Collection of the following taxes and fees for any business with annual gross receipts of $3,000 or less is suspended for the period of time set forth in this resolution:
   - Personnel Tax, Multifamily Tax, Gross Receipts Tax, and Alternate Tax;
   - Home Occupation Permit Fee; and
   - The City's Business License Processing Fee.
b) Businesses are still required to comply with all other provisions of BMC Chapters 5.04, 5.06, and 17.70; including without limitation, obtaining a business license, paying the SB-1186 fee, and if applicable, obtaining a home occupation permit. In addition, business subject to the Business Improvement District fee are still required to pay that fee.
c) The suspension of collection of the taxes and fees identified in subsection a) above will go into effect on April 1, 2025 and remain in effect until January 31, 2027 unless earlier terminated or extended by the City Council.
d) The Council does not intend for the suspension of the collection of the business license taxes identified in this resolution to be or be interpreted to be a permanent reduction in the amount of any business license tax. The Council retains the authority to reinstate collection of the tax at any time.

*****

On motion of Council Member , seconded by Council Member , the above Resolution was adopted by the City Council of the City of Benicia at a regular meeting of said Council held on the 18th day of February, 2025 by the following vote:

Ayes:

Noes:

Absent:

Abstain:

_____
Steve Young, Mayor

Attest:

_____
Lisa Wolfe, City Clerk

_____
Date

BENICIA ECONOMIC DEVELOPMENT BOARD
MEETING AGENDA
DRAFT MINUTES

January 22, 2025 **Benicia City Hall, 250 East L Street, Council Chamber**
5:30 PM **Benicia, CA 94510**

1. CALL TO ORDER

Chair Perez called the meeting to order at 5:31 p.m.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

Present: Members Dahliwal, Kerz, Lum, Noble, Rice, and Chair Perez
Absent: Member Stell
Staff: Colette Schow, Economic Development Manager

4. FUNDAMENTAL RIGHTS STATEMENT

Chair Perez read the Fundamental Rights Statement into the record.

5. PUBLIC COMMENTS

None

6. APPROVAL OF MINUTES

6.A DRAFT MINUTES FROM NOVEMBER 13, 2024

11-13-24 Draft Minutes

Motion by: Kerz
Second by: Dahliwal
Ayes: Dahliwal, Kerz, Lum, Noble, Rice, and Chair Perez
Noes: None

7. PRESENTATIONS

None

8. DISCUSSION AND POSSIBLE ACTION ITEMS

8.A PRESENTATION AND DISCUSSION ON DOWNTOWN PLACEMAKING

The Board made comments on the downtown waterfront area being underutilized and a great asset to be assessed with placemaking. The Board asked for more information about the downtown mix percentages. Next steps

include staff community, business, and visitor outreach and a report back on additional findings.

Notes: Some recommendations from the Board included broker tours to gain developer interest in Benicia and researching ways to get sporting tournaments in town.

8.B BUSINESS LICENSE UPDATE DISCUSSION

Staff Report - Business License Discussion
1. City Council Minutes 2-20-24
2. EDB Business License Prospective Exemptions

Business License Temporary Exemptions

Ms. Schow informed the Board of challenges that business owners, artists, and individuals have had around the cost of business licenses in relation to the activity being performed as business. For example, an artist who sells greeting cards and makes a profit of approximately $20 a year is required to pay the business license fee. This has stifled some business activity.

In addition, there has been confusion and frustration for business owners regarding the requirement for multiple business licenses for multiple locations. This has caused issues with businesses wanting to continue to do business in the City.

Ms. Schow asked the Board for recommendations regarding potential temporary exemptions to requirements that could be made to City Council.

The Board recommended the following:

- Exemption for requirement of a business license for annual gross receipts of $3,000 or less
- Exemption for multiple business licenses required for multiple locations under one DBA. All gross receipts and personnel information for fee assessment would still be collected
- Exemption for multiple rental properties to have a separate business license for each location but one business license for all locations
- Exemption for Peddler's Permit fee if the business has an active business license

Business License Code Research

Ms. Schow asked the Board to pick one city to do in-depth research on business tax code for 2025 recommendations to City Council and provide examples to be discussed at a future meeting.

9. INFORMATIONAL UPDATES

(Item listed under Informational Updates are considered routine and will not be discussed unless requested by EDB member, staff or a member of the public.)

9.A NEW BUSINESS LICENSES

New Business Licenses_November 2024
New Business Licenses_December 2024

9.B NEW COMMERCIAL/INDUSTRIAL VACANCIES

For Lease
For Sale

10. BOARD MEMBER COMMENTS AND STAFF ANNOUNCEMENTS

Ms. Schow informed the Board of upcoming City Council meetings and State of the City events.

11. NEXT MEETINGS

February 19 - Business Walk
March 26 - Board Meeting

12. ADJOURNMENT

Chair Perez adjourned the meeting at 7:31 p.m.

MINUTES OF THE
REGULAR MEETING – CITY COUNCIL
FEBRUARY 20, 2024
6:00 P.M.

City Council Chambers, City Hall, 250 East L Street, complete proceedings of which are recorded. These are action minutes; a full video is available online at www.ci.benicia.ca.us/agendas.

ACCESSING THE MEETING

1) CALL SPECIAL MEETING TO ORDER (5:00 P.M.)

Mayor Young called the Special Meeting to order at 5:00 p.m.

2) CONVENE OPEN SESSION

3) ROLL CALL

All Council Members were present.

4) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

5) PUBLIC COMMENT FOR CLOSED SESSION

None

6) ADJOURN TO CLOSED SESSION

6.A - CONFERENCE WITH LABOR NEGOTIATORS
Pursuant to Government Code Section 54957.6
Agency designated representatives: City Manager, Human Resources Manager
Employee Organization: Benicia Police Officers Association, Benicia Public Service Employees Association, Benicia Fire Fighters Association, Benicia Dispatchers Association, Benicia Supervisor and Professional Association, Middle Management Employees, Police Management Employees, Senior Management Employees, and Unrepresented Employees.

6.B - CONFERENCE WITH REAL PROPERTY NEGOTIATORS
Property: 472 East N. Street, Benicia, CA
Agency negotiator: City Manager and Assistant City Attorney
Negotiating parties: SafeQuest Solano
Under negotiation: Price and terms of payment

Mayor Young adjourned the meeting to Closed Session at 5:01 p.m.

7) RECONVENE OPEN SESSION

Mayor Young reconvened the Open Session at 6:00 p.m.

8) ANNOUNCEMENT FROM CLOSED SESSION, IF ANY

Mary Wagner, Assistant City Attorney, stated there were no reportable actions taken during Closed Session.

9) ADJOURNMENT OF SPECIAL MEETING AND CALL REGULAR MEETING TO ORDER (6:00 P.M.)

Mayor Young adjourned the Special Meeting and called the Regular Meeting to order at 6:01 p.m.

10) ROLL CALL

All Council Members were present.

11) PLEDGE OF ALLEGIANCE

12) REFERENCE TO THE FUNDAMENTAL RIGHTS OF THE PUBLIC

13) ANNOUNCEMENTS

13.A - MAYOR'S OFFICE HOURS

13.B - OPENINGS ON BOARDS AND COMMISSIONS

Current and Upcoming Openings - Boards and Commissions

14) PROCLAMATIONS

14.A - PROCLAMATION - CHIEF MIKE GREENE'S RETIREMENT (City Manager's Office)

Proclamation - Chief Mike Greene's Retirement

14.B - PROCLAMATION - BLACK HISTORY MONTH FEBRUARY 2024 (City Manager's Office)

Proclamation - Black History Month February 2024

14.C - PROCLAMATION - BLACK CHILDREN'S BOOK WEEK (Library)

Proclamation - Black Children's Book Week

15) APPOINTMENTS

15.A - MAYOR'S APPOINTMENT OF DR. GETHSEMANE MOSS, ED.D TO THE SOLANO COMMISSION FOR WOMEN AND GIRLS FOR A FULL TERM ENDING FEBRUARY 28, 2027

On motion of Mayor Young, Council approved the Mayor's appointment of Dr. Gethsemane Moss to the Solano Commission for Women and Girls for a full-term ending February 28, 2027, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Campbell, Council Member Macenski, Vice Mayor Scott, Mayor Young
Noes: (None)

16) PRESENTATIONS

16.A - SOLANO RESOURCE CONSERVATION DISTRICTS EDUCATION PROGRAMS AND SERVICES (Marianne Butler, Environmental Education Director, Solano Resource Conservation District)

16.B - ELECTRIC VEHICLE CHARGING OVERVIEW (Christopher Poulsen, Rivien)

17) ADOPTION OF THE AGENDA

On motion of Council Member Macenski, seconded by Council Member Birdseye, Council approved 17) ADOPTION OF THE AGENDA, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Campbell, Council Member Macenski, Vice Mayor Scott, Mayor Young
Noes: (None)

18) OPPORTUNITY FOR PUBLIC COMMENTS

19) WRITTEN COMMENT

20) PUBLIC COMMENT

1. Nimat Shakur Grantham - Ms. Shakur Grantham spoke in support of Chief Green and the job he has done for the City.
2. Andre Stewart - Mr. Stewart spoke in support of Chief Green and the job he has done for the City.
3. Sherry Leigh - Ms. Leigh spoke in support of Chief Green and the job he has done for the City.

4. Ric Small - Mr. Small spoke in support of Chief Green and the job he has done for the City.
5. Council Member Macenski - Council Member Macenski spoke in support of Chief Green and the job he has done for the City.

21) CONSENT CALENDAR

21.A - MINUTES FROM THE FEBRUARY 6, 2024, REGULAR MEETING (City Clerk)

February 6, 2024, City Council Meeting Minutes

21.B - APPROVAL OF PROPOSED SECOND AMENDMENT WITH CLEAR CHANNEL OUTDOOR, LLC FOR THE STATIC BILLBOARD LOCATED AT 3300 PARK ROAD (Economic Development Manager)

Staff Report - Second Amendment to Lease Agreement - Clear Channel Outdoor LLC
1. Resolution – Second Amendment to Lease Agreement, Clear Channel Outdoor
2. Second Amendment to Lease Agreement – Clear Channel Outdoor
3. Lease Agreement - Clear Channel Outdoor
4. First Amendment to Lease Agreement - Clear Channel Outdoor

RESOLUTION NO. 24- 12 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING A SECOND AMENDMENT TO THE LEASE AGREEMENT BETWEEN THE CITY OF BENICIA AND CLEAR CHANNEL OUTDOOR, LLC AND AUTHORIZING THE CITY MANAGER TO SIGN THE AMENDMENT ON BEHALF OF THE CITY

Public Comment:

1. Lori Grundman - Ms. Grundman asked for a brief background on this item with respect to the budgetary constraints.

On motion of Council Member Macenski, seconded by Council Member Birdseye, Council approved the adoption of Resolution 24-12, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Campbell, Council Member Macenski, Vice Mayor Scott, Mayor Young
Noes: (None)

21.C - AUTHORIZE USE OF COMMITMENT FOR CAPITAL/MAINTENANCE PROJECTS (Finance Director)

Staff Report - Release of Capital-Maintenance Designation - Arbitration Award
1. Resolution - Release of the Capital-Maintenance Designation

RESOLUTION NO. 24- 10 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA AUTHORIZING RELEASE OF THE COMMITMENT FOR CAPITAL/MAINTENANCE PROJECTS AND APPROVING A BUDGET AMENDMENT

21.D - APPROVAL OF HIGHWAY SAFETY IMPROVEMENT PROGRAM HSIPL-5003(037) PEDESTRIAN CROSSING IMPROVEMENT PROJECT LOCATED AT ROSE DRIVE AND PANORAMA DRIVE AND A NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES (Public Works Director)

Staff Report - Approval of HSIP Ped Crossing Project_Rose and Panorama
Resolution - Approval of HSIP Ped Crossing Project Rose and Panorama

RESOLUTION NO. 24- 13 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA APPROVING THE HIGHWAY SAFETY IMPROVEMENT PROGRAM HSIPL-5003(037) PEDESTRIAN CROSSING IMPROVEMENT PROJECT LOCATED AT ROSE DRIVE AND PANORAMA DRIVE AND A NOTICE OF EXEMPTION UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT GUIDELINES

Council and Staff discussed the issue of bulb-outs and CEQA.

Public Comment:
None

On motion of Council Member Macenski, seconded by Council Member Birdseye, Council approved the adoption of Resolution 24-13, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Campbell, Council Member Macenski, Vice Mayor Scott, Mayor Young
Noes: (None)

21.E - RESOLUTION CONTINUING THE DECLARATION OF A LOCAL EMERGENCY FOR RAW WATER TRANSMISSION LINE INCIDENT (City Manager)

Staff Report - Continuation of Existence of a Local Emergency
1. Resolution - Continuation of Declaration of Local Emergency

RESOLUTION NO. 24-11 - A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF BENICIA CONTINUING THE DECLARATION OF A LOCAL EMERGENCY

21.F - APPROVAL TO WAIVE THE READING OF ALL ORDINANCES INTRODUCED OR ADOPTED PURSUANT TO THIS AGENDA (City Attorney)

Council pulled items 21.B and 21.D for discussion.

On motion of Council Member Macenski, seconded by Council Member Birdseye, Council approved the adoption of the Consent Calendar, as amended, on a roll call by the following vote:

Ayes: Council Member Birdseye, Council Member Campbell, Council Member Macenski, Vice Mayor Scott, Mayor Young
Noes: (None)

22) BUSINESS ITEMS

22.A - ECONOMIC DEVELOPMENT BOARD BUSINESS LICENSE RECOMMENDATIONS (Economic Development Manager)

Staff Report - Economic Development Board Business License Recommendations

1. EDB Business License Prospective Exemptions

Colette Schow, Economic Development Manager, reviewed the staff report.

Council and Staff discussed the issue of the impact on the artist community, the issue of business licenses for artists and galleries, how the process would be managed, who should be exempt (baby sitters, dog walkers, pet sitters, etc.), not waiting two years to increase fees, concern regarding hiring consultants and stretching it out over two years, having the EDB work on the issue rather than a consultant, having the EDB look at a reasonable scaling revenue/cap for businesses, possible grant opportunities, and the amnesty program (generated approximately $250,000).

Public Comment:

1. Michael Hayes - Mr. Hayes discussed the issue of business licenses.

Council and Staff discussed the issue of business licenses for rental properties, ADU's, not having additional requirements on artists and musicians, support for having the EDB look into the issues and not use the consultant unless we need to, the need to have the support of the consultant to bring this plan together, setting a limit on income that would trigger a business license, peddler permits, concern regarding building a bureaucracy for some of our businesses (artists and musicians), penalties, and the issue of compliance.

22.B - SECOND STEP OF TWO STEP REQUEST TO BEGIN PROCESS TO CHANGE BANKING SERVICES (Finance Director)

Staff Report - Two Step Banking Services

Mayor Young withdrew his request for the two-step process, as the problems with Wells Fargo have improved.

23) COUNCIL MEMBER COMMITTEE REPORTS:

23.A - COUNCIL MEMBER COMMITTEE REPORTS

Council Member Committee Reports

24) ADJOURNMENT OF REGULAR MEETING

Mayor Young adjourned the meeting at 8:29 p.m.

City Clerk

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
BUSINESS ITEM

TO : City Manager

FROM : Deputy City Manager

SUBJECT : **FY25-26 CITY COUNCIL ANNUAL GOAL SETTING WORKSHOP**

EXECUTIVE SUMMARY:

The Goal Setting Workshop is an annual opportunity for Council to discuss and set its priorities for the next fiscal year, July 1, 2025 – June 30, 2026 (FY 25-26).

This year's Annual Goal Setting Workshop is separated into two sections. The February 18th item is designed for review of the Current Work Plan. Staff will provide an overview and status updates on the current Work Plan. The February 21st half-day workshop is designed for City Council to have discussion around ideas for future projects.

RECOMMENDATION:

Hold an annual goal-setting workshop opportunity for Council and the Executive Management Team (composed of the City Manager, department directors, selected division managers, and the City Attorney) to discuss and set its priorities for the next fiscal year July 1, 2025 – June 30, 2026. Attached is the City of Benicia Work Plan for FY 24-25 with all status updates in red (Attachment 1).

BUDGET INFORMATION:

There is no impact on the budget at this time. Any budget impact associated with the projects and initiatives included in the work plan will be described at the March 25, 2025 Council Priority Goal Setting Study Session, and the direction that Council provides at that time will be incorporated into the two-year budget planning process for Council adoption in June.

BACKGROUND:

The Annual Work Plan is comprised of unique projects that City staff will work on, and invest additional resources in, that are outside of normal business operations, and do not occur on a routine or yearly basis.

This year's Annual Goal Setting Workshop is separated into two sections. The February 18th item is designed for review of the Current Work Plan. Staff will provide an overview and status updates on the current Work Plan. The February 21st half-day workshop is designed for City Council to have discussion around ideas for future projects.

Strategic Plan

On June 18, 2024 the City Council adopted the City's Strategic Plan 2024-2028 (Attachment 2) which is the anchor document for how to evaluate and determine priority projects. This document includes the City's vision, mission, values, goals, as well as the City's Resiliency Plan. Annex A articulates the process for the annual goal setting process, which we are adhering to in in full for the first time since its adoption.

As a reminder, the City's 5 Goals identified in the Strategic Plan are:

Goal 1: Achieve Financial Stability
Ensure the City has adequate and sustainable financial funding to deliver effective services to residents.

Goal 2: Promote Community Health and Safety
Protect residents' quality of life in a safe, clean, and well-maintained community.

Goal 3: Expand Economic Development
Strengthen the local economy by supporting local businesses, providing opportunities for new businesses and job seekers, and facilitating housing.

Goal 4: Maintain Community Infrastructure
Strengthen investment in public infrastructure, including City roads, buildings, facilities, and water systems.

Goal 5: Provide Effective Government Services
Sustain the efficiency and effectiveness of the City's services aligned with available resources.

Annual Goal Setting Workshop Agenda

Tuesday, February 18, 2025

- **Review of Current Work Plan and Priority Projects**: Staff will review the current work plan and note ongoing work and accomplishments of current Priority Projects.

Friday, February 21, 2025

This day is limited to a half-day workshop and must conclude by 12:30 as one council member needs to leave. The purpose of this workshop is for the mayor and city council members to have an informal discussion with each other, and with city staff. There will be an opportunity for each council member to provide feedback and ask questions.

- **Discuss Potential Projects for FY 25-26 Work Plan**
    a. Review the items in the "parking lot" developed at the 2024 Goal Setting Workshop
    b. Review outstanding Two-Step requests
    c. Review staff-identified projects
    d. City Council discussion of new items and/or organizational comments, feedback and questions

TIMELINE & NEXT STEPS:

- **Tuesday, February 18, 2025** - City Council reviews strategic priorities and Annual Work Plan and Management provides progress report of the current Annual Work Plan to City Council.
- **Friday, February 21, 2025** – Half-day informal workshop for City Council and staff to discuss the Annual Work Plan for the following fiscal year.
- **Friday, March 7, 2025** – Executive Management Team Planning Session to review Council feedback and draft the Proposed Annual Work Plan for the following fiscal year.
- **Tuesday, March 25, 2025** – City Council study session to review Proposed Annual Work Plan with budget information.
- **June 17, 2025** – City Council adopts Annual Work Plan and any necessary budget amendments.

CEQA Analysis	This report is exempt from CEQA under Section 15061(b)(3) the "general rule" exemption, which states that where it can be seen with certainty that there is no environment, the activity is exempt from CEQA.

ATTACHMENTS:

1. Work Plan – FY 2024-2025 with Status Updates
2. Strategic Plan 2024-2028

For more information contact: Sarah Shawky, Deputy City Manager
Phone: 707.746.4200
E-mail: sshawky@ci.benicia.ca.us

CITY OF BENICIA WORK PLAN FY 2024-25

The Annual Work Plan is comprised of unique projects that City staff will work on, and invest additional resources in, that are outside of normal business operations, and do not occur on a routine or yearly basis. The Annual Work Plan Review Workshop was held on February 23, 2024.

Below, in red text is the status of each project, as well as a recommendation of either closing out a project because it is complete ("close"), or continuing the project onto the next year's work plan because it is in progress ("continue").

Goal 1: Achieve Financial Stability

Ensure the City has adequate and sustainable financial funding to deliver effective services to residents.

Priority Project	Description	Dept.
1.1 Resiliency Plan	Complete the City's Resiliency Plan including an updated service delivery model based on the results from the March 5th Statewide Primary Election and therefore the level of cuts needed to achieve a sustainably balanced budget. In progress. City Council adopted the City's 5-Year Strategic Plan and Resiliency Plan on June 18, 2024. Over the next two years, the City will implement a budget tool similar to Priority Based Budgeting which will help inform the remainder of cuts needed to achieve a sustainably balanced budget.	CMO Continue
1.2 Strategic Plan	As part of the Resiliency Plan process, complete the 5-Year Strategic Plan, including mission, vision, values and goals for Council adoption in 2024. Complete. City Council adopted the City's 5-Year Strategic Plan and Resiliency Plan on June 18, 2024.	CMO Close
1.3 Charter & Property Transfer Tax	Bring a ballot measure to voters in November 2024 (general election) to consider if the City should adopt charter city powers, or "skinny charter", to allow for an increase to the Property Transfer Tax. Complete. City Council placed Measure G (City Charter) and Measure H (real property transfer tax) on the November 5, 2024 General Election Ballot. Both measures failed.	CMO Close

1.4 Landscape & Lighting District and Parcel Tax	Evaluate and determine which funding mechanism is best for funding the city's park maintenance and improvements: update the Landscape and Lighting Districts (LLD) to be citywide with the 218 Ballot process in spring 2025 or bring a parcel tax to voters in 2025. In progress. The City re-engaged its contract with SCI Consulting, the consultant selected to lead the Citywide Parks, Landscape and Lighting District project. The project is currently at the data gathering and data analysis phase. Staff aim to carry out the 218 Ballot process in fall 2025.	PW/CMO Continue
1.5 BUSD Facilities Partnership	Task Mayor and City Manager with meeting with the Benicia Unified School District (BUSD) to discuss potential access and use of school fields. Meet between 2-3 times and provide feedback to City Council by summer 2024. In progress. Staff has worked with BUSD to terminate the 99-year Lease Agreement at Benicia Middle School, replacing it with a modified agreement which will make clearer the maintenance responsibilities of the City. This new agreement will continue until December 31, 2026. Beginning in 2027 the BUSD should have completed upgrades to the Middle School field at which point BUSD will assume complete control and operation of the field. Additionally, the City has committed to opening the James Lemos Swim Center in February and March for the next 5 years to accommodate the Benicia High School Swim Program.	CMO Continue

Goal 2: Promote Community Health and Safety *Protect residents' quality of life in a safe, clean, and well-maintained community.*		
2.1 Industrial Safety Ordinance	The local Industrial Safety Ordinance (ISO) City Council Subcommittee, consisting of Fire Chief Josh Chadwick and City Councilmembers Kari Birdseye and Vice Mayor Terry Scott, will continue to draft a safety ordinance for industrial facilities in Benicia and gather public input to ensure that the resulting ordinance reflects the needs of the community. In progress. Staff anticipate completion before June 30, 2025. A third draft of the ISO is complete, and it is scheduled to present to City Council on February 4, 2025.	FIRE Continue
2.2 Duck Hunting Regulations	The City Council unanimously adopted a resolution on May 23, 2023 requesting the Fish and Game Commission to agendize an action item to consider the merits of Petition No. 2022-01 to prohibit duck hunting adjacent to residential neighborhoods in Benicia. City staff to continue to work with Commission Staff on regulations for Fish and Game Commission to consider at a meeting later this year. Complete. At its September 2024 meeting, the Wildlife Resource Committee recommended two regulatory changes to waterfowl hunting in Southhampton Bay specifically: (1) waterfowl hunting shooting hours that begin at 7:00 a.m. and (2) use of a shotgun with a maximum gauge of 12 for waterfowl hunting on, over and adjacent to the waters of Southampton Bay. The expectation that these changes would be included in future rulemaking no earlier than next year.	CMO Close
2.3 Solid Waste and Recycling Franchise Agreement	The City's Solid Waste and Recycling Franchise Agreement expires June 30, 2027. Staff will be working on a Request for Proposal (RFP) to hire a consultant to lead us through the public engagement process with residents and businesses for waste hauling services. In progress. Staff will be releasing the Request for Proposals (RFP) for consultant expertise in Spring 2025.	PW/CAO Continue

2.4 Climate Action Plan	Continue assessment of the achievements and remaining goals in the Climate Action Plan. The City is pursuing a grant opportunity to comply with current regulatory requirements related to the Solano Bayshore Resiliency Roundtable Plan and sea level rise. Appointment of Carrie Wenslawski as permanent staff for the Community Sustainability Commission. Based on these status updates, staff will continue to work toward the Climate Action Plan as part of our day-to day operations and thus recommend removing it from the work plan.	Close

Goal 3: Expand Economic Development *Strengthen the local economy by supporting local businesses, providing opportunities for new businesses and job seekers, and facilitating housing.*		
3.1 Housing Element	Implement Housing Element Update through 2031, including ordinances, programs, communications, tracking and review. Some implementation items will include public hearings before Planning Commission (PC), Solano County Airport Land Use Commission (ALUC), and City Council. In progress. The Planning Division has completed implementation of 18 programs; 8 programs are underway and expected to be completed in first quarter of 2025. In 2025, the City must complete 9 programs. Various programs require annual implementation which remains ongoing.	CDD Continue
3.2 Surplus Land Act	Adhere to the Surplus Land Act process as part of the Housing Element Implementation through December 2028. Issue the first three Request For Proposals (RFP) by December 2024. In progress. Three sites will be offered for disposition in January 2025 (two RFP; one Notice of Availability).	CDD Continue
3.3 Eastern Gateway PDA	Complete the Infrastructure Master Plan for the Eastern Gateway Priority Development Area (PDA) by December 2026 based on the grant funding awarded from Association of Bay Area Government/Metropolitan Transportation Commission. In progress. The City Council accepted a planning grant from ABAG/MTC and awarded the contract to Precision Engineering in October 2024 for the Eastern Gateway Master Plan.	CDD Continue
3.4 Renegotiate Port Lease	Complete renegotiation of the Port lease by December 2029. Staff will manage the $750,000 planning grant from Association of Bay Area Government/Metropolitan Transportation Commission for port enhancement. In progress. The City has a contract with WSP for port lease review and analysis. In October 2024, City Council approved a contract agreement to award the scope of the planning grant to the firm GHD.	CMO Continue

Goal 4: Maintain Community Infrastructure

Strengthen investment in public infrastructure, including City roads, buildings, facilities, and water systems.

4.1 Parks Master Plan	Present the Parks Master Plan for adoption by Council in June 2024. Complete. The City Council adopted the Benicia Parks, Trails and Open Space Master Plan on June 18, 2024.	COMMUNITY SERVICES Close
4.2 Pedestrian Bridge Project	As a result of a Republic Services garbage truck hitting the pedestrian bridge located on Military West near Mary Farmar Elementary School the bridge had to be demolished. A prefabricated bridge has been ordered and design is in progress. In progress. Construction for the support columns and bridge installation will bid in Spring 2025 with construction scheduled in Summer/Fall of 2025.	PW Continue
4.3 EV Charging	California's zero-emission rules will cut smog-causing pollution from light-duty vehicles by 25% by 2037. The rules mandate 35% of the new cars sold be plug-in hybrid electric (PHEV), EVs or hydrogen fuel cell by 2026. That proportion will rise to 68% by 2030 and 100% by 2035. In light of these State mandates, staff will be pursuing grants and any opportunities to install EV chargers at City facilities to accommodate the City's fleet vehicles and equipment as well as needed electrical upgrades to support the EV chargers. In progress. Jan 21, 2025, Staff presented on EV Charging Strategies and is in process of updating the City's vehicle purchasing policy. Staff is currently taking a three-pronged approach on EV Charging. The first is being led by our Economic Development Manager to encourage more EV charging stations on public and private locations for community use. The second prong, led by our Public Works staff, is to solicit help from a third party to seek grant funds to purchase and install EV Chargers and infrastructure. The third prong, also led by our Public Works Department, is to develop a Request For Proposals (RFP) for a qualified firm to do an infrastructure assessment on City facilities (Corporation Yard, City Hall, Fire Station 11, Fire Sation 12, Wastewater Treatment Plant and Water Treatment Plan) to identify what is needed to upgrade those facilities to accommodate the installations of appropriate EV Chargers.	PW Continue. Propose new goal language for FY25-26.

4.4 Raw Water Transmission Line	The City's Raw Water Transmission Line on Lopes Road in Fairfield, that delivers all drinking water to the City, was damaged on March 29, 2023 by rainstorms and subsequent landslide. A temporary, above-ground bypass pipeline was engineered, and construction was completed on April 7, 2023. Permanent reconstruction is the next step to ensure the safety, functionality and well-being of the community. The City will collaborate with Fairfield on the Lopes Road Pipeline Reconstruction Project as both cities experienced water pipeline damage in the same area and have a shared need for repair of the hillside slope and Lopes Road, and reconstruction of both cities water pipelines. A Memorandum of Understanding (MOU) providing for sharing costs and resources was approved by Council on December 19, 2023. As of March 2024, design work is underway. In progress. Staff is working on a cost share agreement with the City of Fairfield, and engineering design is currently at the 35% stage.	PW Continue

Goal 5: Provide Effective Government Services *Sustain the efficiency and effectiveness of the City's services aligned with available resources.*		
5.1 Online Utility Billing Platform	Identify and implement alternative solutions for Citizen Self Service, the online bill payment platform for utility billing, to improve the overall experience for both customers and staff. In progress. Currently in process of contracting with Tyler Technologies for procurement of Tyler Payments and Resident Access, Tyler's new bill payment and merchant services offering. Implementation is planned for spring of 2025.	FINANCE Continue

THE CITY OF BENICIA
CALIFORNIA

THE CITY OF BENICIA

Strategic Plan

2024 – 2028

WELCOME

We are pleased to present the City of Benicia's Strategic Plan 2024-2028. As the City faces ongoing budget challenges, it is crucial that we chart a course toward fiscal resilience and long-term sustainability. Our strategic plan is more than just a document; it is our commitment to fiscal responsibility, transparency, and accountability. It is a roadmap that will guide us as we make tough choices and prioritize investments that will yield the greatest return for our community. By aligning our resources with our values, we can lay the foundation for a stronger future for our community.

Central to our strategic plan are a set of strategic goals that reflect our aspirations for the future. These goals encompass a wide range of areas, including financial sustainability, community health and safety, economic development, infrastructure, and effective government services. The strategic plan is organized as follows:

- Strategic Framework
  - Vision, Mission, Values
- Strategic Goals
  - Goal 1: Achieve Financial Stability
  - Goal 2: Promote Community Health and Safety
  - Goal 3: Expand Economic Development
  - Goal 4: Maintain Community Infrastructure
  - Goal 5: Provide Effective Government Services
- Appendix A: Annual Planning Cycle
- Appendix B: Resiliency Framework

Finally, we would like to thank all of the community members who helped to shape this plan by providing public comment, responding to surveys, attending town halls, and beyond. Our city is a vibrant community made up of diverse individuals, businesses, organizations, and institutions. Each one of us plays a vital role in shaping the character and direction of our city, and we thank you for your commitment to our community.

Steve Young
Mayor

Terry Scott
Vice Mayor

Tom Campbell
Council Member

Trevor Macenski
Council Member

Kari Birdseye
Council Member

Mario Giuliani
City Manager

STRATEGIC FRAMEWORK

OUR VISION

Benicia is a vibrant city that celebrates our rich culture, beautiful waterfront, welcoming community, and small-town feel.

OUR MISSION

Our mission is to provide sustainable city services to help our residents thrive. We strive to encourage economic opportunities, maintain sound infrastructure, and foster a safe and healthy community.

CITY VALUES

Accountable

We are honest, transparent, and committed to doing what's right.

Community-focused

We listen to our community members, adapt to changing circumstances, and communicate openly to meet our residents' needs today and in the future.

Inclusive

We foster an environment where all individuals feel welcome, respected, and empowered.

Teamwork

We work together to achieve common goals and collaborate to create the best possible services for our community.

Respectful

We act professionally, value others' perspectives, and create a supportive environment where all contributions are appreciated.

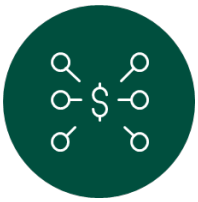
STRATEGIC GOALS

Goal 1: Achieve Financial Stability

Ensure the City has adequate and sustainable financial funding to deliver effective services to residents.

Goal 2: Promote Community Health and Safety

Protect residents' quality of life in a safe, clean, and well-maintained community.



Goal 3: Expand Economic Development

Strengthen the local economy by supporting local businesses, providing opportunities for new businesses and job seekers, and facilitating housing.

Goal 4: Maintain Community Infrastructure

Strengthen investment in public infrastructure, including City roads, buildings, facilities, and water systems.

Goal 5: Provide Effective Government Services

Sustain the efficiency and effectiveness of the City's services aligned with available resources.

Goal 1: Achieve Financial Stability

Ensure the City has adequate and sustainable financial funding to deliver effective services to residents.

- Grow near-term City revenue by proposing appropriate tax measures
- Grow long-term City revenue through a combination of the following activities:
  - Expand housing development with a focus on workforce and senior housing and in-fill development to meet the needs identified in the City's Housing Element
  - Increase grant revenue and ensure sufficient staffing resources to manage grants
  - Routinely evaluate the City's fee structure to ensure it is meeting the City's cost-recovery needs
  - Pursue economic development activities (see Economic Development goal for more details)
- Decrease City expenses through service reductions, which may include the following activities:
  - Reduce non-mandated services
  - Assess financial benefits to regionalizing/consolidating Dispatch and/or other functions
  - Assess financial benefits of creating special districts (ex: parks, port, etc.)
  - Inventory and review current City infrastructure/assets to identify opportunities to sell and/or otherwise reduce related City expenses
- Identify funding sources to support infrastructure and deferred maintenance needs (see Infrastructure goal for more details)
- Strive to implement a priority-based budgeting approach to ensure that City resources are being used in alignment with established goals

GOAL 1 PERFORMANCE MEASURES

- City revenues that support expenses
- Diversity of revenue sources
- Operating reserve fund balance
- Credit rating
- Unfunded pension liability as a percentage of General Fund revenue

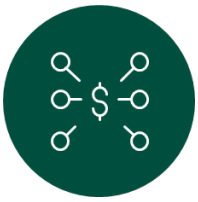
Goal 2: Promote Community Health and Safety

Protect residents' quality of life in a safe, clean, and well-maintained community.

- Strive to maintain current Police and Fire service levels
- Invest additional resources in emergency preparedness, with a focus on staff training, seismic safety, flood, extreme heat, and fire
- Pursue opportunities to increase the environmental sustainability of the City and protections for our community, with a focus on leveraging outside funds to finance projects
- Continue current efforts to provide clean and well-maintained City parks
- Strive to provide services that improve residents' quality of life, such as Recreation and Library programming

GOAL 2 PERFORMANCE MEASURES

- Maintain police and fire response times
- Property crimes per 1,000 people / Clearance rate
- Violent crimes per 1,000 people / Clearance rate
- Funding secured to support environmental sustainability projects
- Resident participation in Library and Recreation activities, programs, and services
- Resident satisfaction survey results



Goal 3: Expand Economic Development

Strengthen the local economy by supporting local businesses, providing opportunities for new businesses and job seekers, and facilitating housing.

- Expand tourism activity within the City guided by the 2023 Strategic Tourism Marketing Plan
- Attract commercial and industrial businesses that can increase employment opportunities and City revenue
- Develop a long-range strategy for use of the Port that supports the City's financial and environmental sustainability goals
- Streamline and prioritize permitting processes to ensure the City is a strong partner for businesses and development
- Improve online access to zoning, licensing, and permitting information
- Continue current efforts to provide job search assistance through Library programs and services
- Continue current efforts to maintain and implement the City's Housing Element

GOAL 3 PERFORMANCE MEASURES

- Retail sales tax revenue
- Transient Occupancy Taxes revenue
- New business licenses
- Business license renewal rates
- Number of Housing Element programs completed or in progress

Goal 4: Maintain Community Infrastructure

Strengthen investment in public infrastructure, including City roads, buildings, facilities, and water systems.

- Conduct a facilities conditions assessment to accurately capture and prioritize deferred maintenance needs
- Update the City's Capital Improvement Plan on at least a biennial basis
- Continue efforts to maintain City infrastructure by identifying funding sources and/or implementing the priorities identified in plans and policies adopted by City Council (ex: Capital Improvement Plan, Parks Master Plan, etc.)
- Identify opportunities to fund street maintenance at a level that will improve the City's Pavement Conditions Index (PCI) ratings

GOAL 4 PERFORMANCE MEASURES

- Facility conditions assessment results
- Net investment in capital assets
- Total deferred maintenance costs
- Pavement Conditions Index ratings

Goal 5: Provide Effective Government Services

Sustain the efficiency and effectiveness of the City's services aligned with available resources.

- Recruit and retain high-quality employees
- Strengthen City-wide IT governance and strategy to ensure cohesive investment in IT infrastructure
- Assess, streamline, and reduce the use of commissions and committees to ensure that these groups provide the highest possible value to the City and community
- Continue efforts to incorporate diversity, equity, and inclusion practices across City services and operations, including the work of the City's Core Equity Team
- Develop a unified customer experience strategy that accounts for both in-person and digital services
- Focus the City's community engagement and communication efforts on high-priority initiatives to increase transparency and trust
- Continue to collaborate with the Benicia Unified School District (BUSD) to support quality education

GOAL 5 PERFORMANCE MEASURES

- Employee engagement survey results
- Employee turnover rates
- Employee vacancy rates
- Resident satisfaction survey results

APPENDIX A: ANNUAL PLANNING PROCESS

Each year, the City's management team will review the Strategic Plan and select specific objectives and actions that they believe will be critical to focus on for the upcoming year. These priorities will then be reviewed and approved by City Council. Once priorities have been established, the management team will develop an Annual Work Plan. In addition, the priorities will inform the budget development process. The general timeline is included below.

OCTOBER/NOVEMBER

- Management selects objectives/actions to incorporate into the Annual Work Plan for the following fiscal year

JANUARY

- City Manager collects concepts from City Council to review for potential inclusion in the Annual Work Plan for the following fiscal year

FEBRUARY

- City Council reviews strategic priorities and Annual Work Plan on the 3rd or 4th Friday in February, whichever City Hall is open
- Management provides progress report of the current Annual Work Plan to City Council
- City Council discusses the Annual Work Plan for the following fiscal year

MARCH

- Executive Management Team retreat to review Council feedback and draft the Proposed Annual Work Plan for the following fiscal year

APRIL/MAY/JUNE

- City Council acknowledges success of current Work Plan
- City Council study session to review Proposed Annual Work Plan with budget information
- City Council adopts Annual Work Plan and any necessary budget amendments

JULY

- Based on budget allocations and emergent needs, management develops a high-level implementation plan that describes actions, related timelines, and responsible parties

OCTOBER

- The planning cycle begins again

APPENDIX B: RESILIENCY FRAMEWORK

GUIDING PRINCIPLES

As the City continues its efforts to resolve its structural budget deficit, it is likely that additional budget reductions will be necessary and new initiatives will need to be carefully considered before the City invests current resources. To support these challenging conversations, the City has developed the following guiding principles:

- **Take a Multi-Pronged Approach.** To resolve the structural budget deficit, the City has established a multi-pronged approach to grow revenue, reduce expenses, and increase sustainable development. We recognize that the long-term solution to this issue relies on employing many tactics.
- **Do the Most Important Things Well. Cut Back on the Rest.** In a time of revenue shortfalls, we recognize that the City must offer services that provide the highest value to our community, while reducing service levels, divesting, or eliminating lower value services.
- **Be Transparent and Responsive to Community Input.** Community priorities are foundational to budget decisions. Especially when faced with challenging budget reductions, we will solicit and incorporate community input in the decision-making process.

DECISION-MAKING CRITERIA

When evaluating current or potential services, programs, or projects (collectively referred to as "initiatives"), the following questions can be used to guide the decision-making. Alternatively, these questions can form the basis to quantitatively score programs—as is done within a priority-based budgeting approach.

Incorporating these questions into decision-making processes ensures a thorough and strategic approach to resource allocation, ultimately enhancing the efficiency and effectiveness of City initiatives.

- **Mandated Services:** Is the initiative mandated?
- **Strategic Alignment:** Is the initiative aligned with the City's strategic goals?
- **Mission Alignment:** Is the initiative aligned with our mission and within the City's scope/authority or General Plan? Is there another organization that is better situated to take the lead on this initiative?
- **Revenue Generation:** Does the initiative generate revenue? If so, does the generated revenue meet or exceed the expense to provide the initiative?
- **Service Reduction:** Could we provide less of the initiative and still meet baseline mandates or community expectations?
- **Outsourcing Option:** Could this service be provided more cost-effectively by outsourcing this function to be delivered by a third-party?
- **Regionalization or Partnership Option:** Could this service be provided more cost-effectively through a partnership with other governmental agencies or nonprofit organizations?

ACKNOWLEDGEMENTS

Thank you to all the people who dedicated time and provided valuable input during the development of this strategic plan, including:

- City of Benicia Community Members
- City of Benicia Council Members
- City of Benicia Management and Staff

PREPARED BY MOSS ADAMS LLP

AGENDA ITEM
CITY COUNCIL MEETING DATE – FEBRUARY 18, 2025
COUNCIL MEMBER COMMITTEE REPORT

TO : City Council

FROM : City Manager

SUBJECT : **COUNCIL MEMBER COMMITTEE REPORTS**

The outside agency committees on which City of Benicia Council Members serve, are listed below. Please click on the links to view current and past agendas and minutes for all Council Member Committee Reports.

Association of Bay Area Governments (ABAG)
https://abag.ca.gov/meetings

Community Action Partnership Solano Joint Powers Authority (CAP Solano JPA)
http://www.capsolanojpa.org/agendas---minutes.html

Green Empowerment Zone Board of Directors
https://www.contracosta.ca.gov/9963/Governing-Board-of-the-Green-Empowerment

Marin Clean Energy (MCE)
https://www.mcecleanenergy.org/meeting-archive/

Solano County Water Agency (SCWA)
https://www.scwa2.com/governance/board-meetings-agendas-minutes/

SolTrans Joint Powers Authority
https://soltrans.org/resources/meetings/

Solano Transportation Authority (STA)
https://sta.ca.gov/meetings-agendas/

Valero Citizens Advisory Committee (CAP)
https://www.beniciacap.com/

February 3, 2025

Della Olm
Benicia Fire Dept Management Analyst
Lisa Wolfe, City Clerk
City of Benicia
250 East L Street
Benicia, CA 94510

Re: Public comments of Valero Refining Company – California
Draft #3 Benicia Industrial Health and Safety Ordinance

Dear Ms. Olm and Ms. Wolfe,

Valero Refining Company – California ("Valero") appreciates the opportunity to provide comments, enclosed, on the City of Benicia's ("City's") proposed third draft of the Benicia Industrial Health and Safety Ordinance (the "revised Draft Ordinance" or "Revised Ordinance").

While we appreciate that this version of the Revised Ordinance does address some of the concerns outlined in our initial and second public comment letters, we continue to have significant concerns about many of the provisions that remain in the revised Draft Ordinance and the associated draft Hazardous Materials Incident Notification Policy and draft Industrial Safety Citizen Oversight Commission Policy (collectively, the "Policies"). We incorporate by reference each of the legal, technical, and practical concerns raised in our earlier public comments submitted on August 16, 2024 and December 6, 2024, and we reiterate a number of these concerns below and in Attachment A to this letter.

Valero continues to believe that the provisions of the revised Draft Ordinance are at odds with its stated aim of protecting the "safety, health, and well-being" of the citizens of Benicia and will instead establish an additional layer of vague, contradictory, and confusing requirements that will unnecessarily divert refinery resources and potentially hinder incident response capabilities, with no corresponding benefit to the public. We also remain concerned about the lack of clarity on how the Revised Ordinance will be funded, particularly given the broad scope of the authority granted to both the City of Benicia Fire Department ("Department") and the Industrial Safety Citizen Oversight Commission ("Commission") to develop and maintain an extensive new air monitoring program, conduct any number of independent audits and inspections, and retain outside experts, with no clear parameters around how these experts would be deployed. It is our understanding that, as proposed, the entire cost of implementing the Revised Ordinance will be shouldered by a small number of affected facilities. The City's continued push to enact the Revised Ordinance without providing any of the High-Hazard Facilities with information or estimates on the expected level of fees needed to implement the new requirements is troubling from both a legal and practical perspective.

In addition to the above issues, Valero continues to have the following concerns with the Revised Ordinance:

Benicia Refinery • Valero Refining Company – California
3400 East Second Street, Benicia, California 94510-1097 • Telephone (707) 745-7011 • Facsimile (707) 745-7339 Direct Dial: (707) 745-7724 • lauren.bird@valero.com

- Contains "incident" reporting, inspection, audit, summary, and investigation obligations that are overreaching, ambiguous, and incompatible with existing regulatory requirements. The "incidents" defined in the Policies and Revised Ordinance would encompass events that have no impact on community health and safety or the environment. These incident "types" continue to be so overly broad and divorced from the Revised Ordinance's stated purpose that, if implemented, they would represent an abuse of authority and would undermine Valero's efforts to comply with existing state and federal regulations. *See* revised Draft Ordinance §§ 8.55.120, .070(L–N).

- Requires a public hearing related to any Incident Investigation Report prepared by a High-Hazard Facility or prepared by the Department, during which the Commission will consider testimony regarding the Incident Investigation Report and/or root cause analysis. The purpose of the hearings is not defined and the role of the Commission at the hearings is ambiguous, particularly with respect to any actions the Commission or the Department may take in response to testimony provided. Additionally, while the Revised Ordinance would allow High-Hazard Facilities to present testimony or provide other feedback or additional information, it is unlikely that refinery personnel would be in a position to provide any information beyond what is included in the Incident Investigation Report, especially if there is any potential for regulatory enforcement or litigation related to the incident. We also want to remind the Council that refinery personnel already discuss all Level 3 incidents at the Valero Benicia Refinery Community Advisory Panel (the "CAP") meetings, which are open to the public. The CAP also typically hosts a separate public hearing / meeting following a Level 3 incident where the public can offer comments and ask questions.

- Interferes with the refinery's ability to effectively implement California Accidental Release Prevention ("CalARP") Program 4 and the California Refinery Process Safety Management ("PSM") rule (collectively, "CalPSM" requirements), including existing requirements that relate to the refinery's compliance obligations.

- Continues to impose requirements that would cause a violation of, or conflict with, state and federal laws and regulations. The revised Draft Ordinance asserts deference to existing regulatory programs but continues to simultaneously mandate requirements that conflict with those programs (e.g., additional investigation and reporting requirements discussed below). Additional revisions in the most recent draft still do not resolve the conflict issues we previously raised.

- Assesses illegal and unnecessary fees and penalties on High-Hazard Facilities in order to fund the expansive new requirements under the Revised Ordinance.

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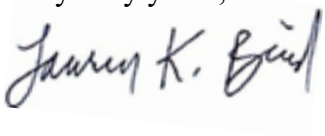
- Goes beyond the City's authority established under California Health and Safety Code ("HSC") Section 25500, which is intended to narrowly address inventorying of hazardous materials and the preparation of hazardous materials response plans.

Despite improvements in the most recent draft, Valero remains concerned that many of the requirements in the Revised Ordinance and the Policies are sufficiently vague that Valero and other High-Hazard Facilities would not have a clear path to compliance. The Revised Ordinance continues to cast uncertainty on Valero's ongoing right to operate by authorizing the City to potentially abate refinery operations that are already permitted by the proper regulatory authorities, or to fine or otherwise penalize High-Hazard Facilities for permitted activities that could meet the exceptionally broad definition of a public nuisance in Chapter 8.04 of the Municipal Code. The Municipal Code does not provide a sufficiently clear description of how the abatement process would work at a facility like the Benicia refinery, or what the potential scope of an abatement could be.

Valero continues to request that the City consider moving forward with the renewal of the City's Cooperation Agreement and other successful agreements with Valero. We understand that the City has concerns about the term, termination, and enforcement provisions in the current Cooperation Agreement, and we hope that we have the opportunity to address those concerns during future efforts to renew the existing Cooperation Agreement. Unfortunately, we remain unable to support the Revised Ordinance as currently drafted and reiterate our concerns about the impacts to both the health and safety of the community, and the continued safe and reliable operation of the refinery should the City move forward with adopting and attempting to enforce the Ordinance.

Again, we appreciate the opportunity to provide these comments. If you have any questions, please let me know. I can be reached at (707) 745-7724, or by email at lauren.bird@valero.com.

Very truly yours,



Lauren Bird
V.P. & General Manager
Valero Refining Company – California

cc: Ben Stock, City Attorney, Benicia
Parker Wilson, Vice President, Regulatory Law, Valero

Enclosure

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Attachment A

Attachment A

Valero Refining Company - California
Technical, Practical, and Legal Comments

While we appreciate that revisions were made that address some of the prior comments included in Valero's August 16, 2024 and December 6, 2024 comment letters, the revised Draft Ordinance and the associated Policies continue to contain reporting, monitoring, and other mandates unique to the City of Benicia, which, despite recent revisions, continue to duplicate or conflict with existing federal and California regulatory programs. Many requirements remain impractical or infeasible to implement and continue to raise significant legal issues. This Attachment outlines Valero's key concerns with the proposed requirements.

I. Technical Comments and Practical Concerns

The revised Draft Ordinance and the associated documents contain many different provisions that require significant clarification and remain infeasible to implement. Additionally, the revised Draft Ordinance contains numerous provisions that conflict with or are duplicative of existing regulations propounded by local, state, and federal authorities including Solano County, the California Department of Industrial Relations ("DIR") Division of Occupational Safety and Health ("Cal/OSHA"), the federal Occupational Safety and Health Administration ("OSHA"), the Bay Area Air Quality Management District ("BAAQMD"), the California Air Resources Board ("CARB"), the California Environmental Protection Agency ("CalEPA"), or the U.S. Environmental Protection Agency ("EPA"). Valero has both technical and practical concerns with many of these provisions, including, but not limited to, the following items.

A. Air Quality Monitoring Program ("AQMP")

The revised Draft Ordinance creates a new and "comprehensive" AQMP that would, among other things, "evaluate air pollution levels in the City and consider additional monitoring resources." Revised Draft Ordinance § 8.55.170(A)(1). Among its provisions, the AQMP would involve citizen oversight and require each High-Hazard Facility to copy the Department on all reports provided to various agencies with regards to air quality incidents or violations of air quality standards. § 8.55.170(B)(3). It is unclear what would constitute an "air quality incident" and how facilities would copy the Department on certain types of reports that are currently submitted through online systems managed by various regulatory agencies. The Revised Ordinance gives no sense of how many monitors will be installed or what type of technology will be utilized, nor does it speak to how the City will ensure that the AQMP does not conflict with or duplicate the refinery's existing fence line monitoring program required under BAAQMD Regulation 12-15. Air quality in Benicia is already extensively monitored by an air monitoring network that is routinely evaluated and updated to respond to changes in monitoring requirements, shifts in population, and

other needs—and on July 18, 2024, BAAQMD announced a new air monitoring station in Benicia to ensure that the District is adequately monitoring air quality in Benicia. BAAQMD, "Air District Launches New Air Monitoring Station in Benicia," July 18, 2024, https://www.baaqmd.gov/en/news-and-events/page-resources/2024-news/071824-benicia-monitoring. Additionally, on December 4, 2024, the BAAQMD Board of Directors approved funding for three new Full Time Employees ("FTEs") in the Meteorology & Measurement Division who will be tasked with accelerating the installation of regulatory-grade monitors in refinery communities and improving the quality and usability of data from refinery-owned fence line monitors. BAAQMD, "Authorization of Fiscal Year Ending 2025 Mid-Year Budget and Staffing Adjustments," December 4, 2024, https://www.baaqmd.gov/~/media/files/board-of-directors/2024/bod_presentations_120424_op-pdf.pdf?rev=e0f50c03b5ec48d285f70f97baf485b5&sc_lang=en. The addition of these FTEs makes the City's proposed AQMP even more duplicative and unnecessary and would lead to Valero paying for the newly created BAAQMD positions through increased permitting fees while also being forced to pay a fee to the City for expenses associated with establishing, implementing and maintaining the AQMP. While the explicit language requiring the payment of an annual fee to fund the costs and expenses of establishing, implementing, and maintaining the AQMP has been removed from the latest draft of the Revised Ordinance, revised Section 8.55.030(K) states that the Ordinance will "[p]rovide authorization to adopt fees and monetary penalties to recover the City's costs and expenses associated with managing, implementing, and enforcing" the Ordinance, including the creation of the AQMP. It remains unclear how the AQMP will be funded, and how any potential costs for the management, implementation, and enforcement of the program will be allocated among the small number of existing High-Hazard Facilities.

The undefined scope of the proposed AQMP, including the constituents to be monitored, as well as the lack of detail on the expected implementation of the program raise additional significant concerns. While Valero believes the proposed AQMP is redundant of the extensive air monitoring efforts already underway in the City of Benicia, if the City continues to maintain that an AQMP must be established, it should set up the program outside of any ordinance and the program should be funded using funds from BAAQMD's Policy: Funding Community Benefits from Penalty Funds.

B. Annual Industrial Health and Safety Report Requirements

The revised Draft Ordinance requires that all High-Hazard Facilities submit an Annual Industrial Health and Safety Report ("Annual Report"). Revised Draft Ordinance § 8.55.090. The Annual Report is to include summaries of any and all Incident Investigation Reports, a summary and description of all Level 1, Level 2, and Level 3 incidents, a copy of the prior year's Emergency Response Training Curriculum, copies of any reports submitted to the Certified Unified Program Agency ("CUPA"), and payment of any outstanding fees and uncontested monetary and response costs. The Ordinance does not indicate what the City intends to do with such a report, other than

post it to the Public Information Bank. The requirement to create and submit the Annual Report is unnecessary and preparing the report will divert refinery personnel away from other responsibilities. The City will have already received all of the information required to be summarized in the Annual Report and will likely have already posted the information collected on the Public Information Bank. Forcing the refinery to prepare and submit an Annual Report is an additional burden on an already highly regulated facility that is subject to numerous existing reporting requirements that will not result in any improvements to public health and safety. Additionally, it is unclear why the payment of outstanding fees and costs is included as a reporting requirement.

C. Emergency Response Requirements

The revised Draft Ordinance continues to contain problematic requirements related to emergency response that could lead to confusion and complicate or even impede established emergency response procedures in the event of an actual emergency.

Specifically, Section 8.55.120 still contains conflicting and problematic mandates that the "Department emergency responders will "assume . . . control" or "participate" in an incident command under certain, poorly defined circumstances. Adding an option to "participate" does not address the confusion and impracticalities that stem from this section. For example, it is still not clear when the City's authority would supersede the authority of other responding governmental agencies during such an incident, and the conditions for responding remain unclear because "emergency incident" remains undefined.

As a result, the revised Draft Ordinance's emergency response requirements continue to conflict with the National Incident Management System ("NIMS") incident command best practices, which are the product of decades of incident response experience. Federal Emergency Management Administration, National Incident Management System 2 (3d ed. 2017).

As previously explained, NIMS emphasizes the importance of "unity of effort" and coordination to achieve a common objective. *Id.* at 3. NIMS sets forth a Command and Coordination section that describes standard incident command and coordination systems intended to allow efficient integration of outside resources and "enable assisting personnel from anywhere in the Nation to participate in the incident management structure." *Id.* at 19. NIMS envisions instances in which a Unified Command may be necessary. *See id.* at 22–23. In order to manage resources and provide for efficient response, the Unified Command directs participating organizations "to set aside issues such as overlapping and competing authorities, jurisdictional boundaries, and resource ownership to focus on setting clear priorities and objectives for the incident." *Id.* at 22. The Unified Command includes a specific chain of command that requires a single line of reporting to reduce the potential confusion that arises from multiple conflicting directives. *Id.* at 23. The incident reporting structure also envisions specific roles for the effective management of incidents along with specific bases of operation for participating individuals. *Id.* at 24–31. Finally, NIMS already envisions and

provides guidance regarding Emergency Operations Centers and information sharing during incident response for elected and appointed officials and specifically indicates that these Emergency Operations Centers should operate consistently with NIMs. *See, e.g., id.* at 26, 42–46.

Significantly, revised Draft Ordinance Section 8.55.130 continues to envision a City-centric Emergency Operations Center that mandates diversion of resources from the Incident Command, in direct conflict with NIMS. Specifically, demanding Valero's "immediate" assistance and coordination is very likely to conflict with Valero's obligations under a NIMS incident or Unified Command. Revised Draft Ordinance § 8.55.130(E). Further, the requirement in the revised Draft Ordinance's Emergency Operations Coordination section that "Department emergency responders" "assume incident command," is still problematic, as it is unclear when command would be assumed or participation would be pursued. As noted above, depending on the incident, different federal departments or agencies such as the EPA or U.S. Coast Guard ("USCG") are likely to assume the lead in coordination of the incident response, potentially creating conflict during the response. NIMS at 48. For these reasons, the revised Draft Ordinance is still likely to negatively impact future incident responses if they occur, as well as hinder Valero's ability to effectively and efficiently cooperate with other responding agencies during such responses.

D. Incident Reporting and Investigation Requirements

The revised Draft Ordinance's overbroad and divergent approach to incident investigation still puts the refinery, and even other agencies, in the untenable position of attempting to accommodate the revised Draft Ordinance while simultaneously complying with existing laws and regulations, including conflicting CalPSM requirements referenced throughout this comment letter. Revised Draft Ordinance § 8.55.120; 19 CCR § 5110.12. Simply deleting the word "major" and adding sweeping "level" incident types to various new requirements does not adequately address the concerns, including lack of authority and preemption, that we previously articulated and discuss further below. *See e.g.,* revised Draft Ordinance § 8.55.120.

The revised Draft Ordinance still imposes multiple, prescriptive incident investigation obligations that directly contradict the performance-oriented intent of the existing regulatory landscape and CalPSM investigation regulations. The ambiguous and overly convoluted revisions addressing the "types" of incidents triggering various City notification and investigation requirements in both the Revised Ordinance and the proposed draft Hazardous Materials Incident Notification Policy ("Notification Policy") did not cure the fact that the Revised Ordinance improperly occupies the space of other regulations. Having similar but competing reporting and investigation requirements will only detract from the existing regulatory frameworks' purpose of protecting health and safety.

For example, the Revised Ordinance still imposes specific incident reporting and investigation requirements that do not align with existing CalPSM investigation report requirements. *See* §§ 8.55.120, .070 and associated Notification Policy, discussed herein. The Revised Ordinance's confusing requirements will needlessly complicate incident notification and investigation practices

and will significantly detract from existing regulatory regimes designed to ensure timely submission of incident information to state and local agencies.

Indeed, the revisions to the "level" types of incidents described in the updated Notification Policy and definitions section of the Revised Ordinance remain so overly broad and divorced from the Revised Ordinance's stated purpose that, if implemented, they would represent an abuse of authority. §§ 8.55.120, .070(L–N). Valero is especially concerned by the onerous investigation summary and notification requirements imposed on incidents that have no off-site impact. Any incident that does not have off-site impacts should be considered a Level 1 incident, with no associated reporting requirements. Additionally, the fact that this Notification Policy can be arbitrarily amended and that penalties may ensue if one of the numerous obligations is not met remains another source of significant concern. § 8.55.070(L–N). Further, provisions trying to distinguish various obligations regarding level types of incidents, major incidents, incidents not being investigated by the CUPAs, and joint incident reporting to the CUPA and/or the City are so cumbersome and confusing that they will be infeasible to comply with. *See, e.g.,* § 8.55.120(D).

Finally, the revised Draft Ordinance grants the Department, Fire Chief, and Commission the ability to investigate incidents that have no off-site impact and convene public hearings related to any Incident Investigation Report prepared by a High-Hazard Facility or prepared by the Department, during which the Commission will consider testimony regarding the Incident Investigation Report and/or root cause analysis. As noted above, it is not clear what the City hopes to gain from these public hearings as the purpose of the hearings is not defined and the role of the Commission at the hearings is ambiguous, particularly with respect to any actions the Commission or the Department may take in response to testimony provided. Additionally, while High-Hazard Facilities will be allowed to present testimony or provide other feedback or additional information, it is unlikely that refinery personnel would be in a position to provide any information beyond what is included in the Incident Investigation Report, especially if there is any potential for regulatory enforcement or litigation. *See* § 8.55.120.

We understand that the City wants to be more actively involved in incident investigations. This can and is being accomplished in the absence of an overly burdensome Ordinance. Indeed, the City has been invited to participate in CUPA visits seven times in recent months. While the City has only accepted one such invitation to come on site, there is already a seat at the table for the City without the enactment of the Revised Ordinance.

E. New Notification and Reporting Mechanisms

As noted above, Valero has a number of concerns about the revised Notification Policy. At a high level, the revised Notification Policy would require reporting for numerous types of events, accidents, or incidents that have no offsite impacts. The City's attempts to require notifications for events that have no potential impact on public health and safety exceed the City's authority and needlessly impose additional burdensome reporting requirements on the refinery, with no

corresponding benefit to public health and safety. Additionally, the revised Notification Policy is vague and overly ambiguous and does not give regulated facilities a clear understanding of when reporting would be required. Valero has significant concerns about the requirements in the Notification Policy, including, but not limited to, the following items:

- Section IV. Policy
    - "Immediate" in Section IV.A needs to be defined so that facilities have a clear understanding of the timeline on which notification is required.
    - Section V.A requires immediate notification any time a facility employs a private emergency response team or emergency staff or mobilizes resources to a medical emergency. It is unclear what would qualify as a "private emergency response team," who would be considered "emergency staff," and what it means to "mobilize resources." Additionally, it is unclear whether notification is required in the case of all medical emergencies or only a medical emergency related to a release or threatened release of a hazardous chemical. Regardless, it is unclear how a medical emergency, which may be completely unrelated to refining operations (e.g., the personal medical health condition of a contractor or employee or a vehicular incident outside of the process area) would be at all relevant to the community or public health and safety.
    - Additional clarification is needed in Section IV.A.10 with respect to "equivalent personnel." Is this Valero's fire chief? Shift superintendent? Without further clarification, Valero will not know when this provision is potentially triggered.
    - With respect to Section IV.A.10, Valero has historically provided the City with two days' notice prior to a planned major unit start-up. Does the proposed requirement replace the need to provide advance notice and instead require "immediate" notice when there is a major unit start-up?
- Attachment B, Section I. Level 1 Incident
    - Item 3 – Recommend that this item reference "unplanned major unit start-ups," rather than "major unit start-ups." The refinery already provides notice of planned major unit start-ups two days in advance of the start-up. Additional clarification is also required on who is considered "equivalent personnel," as noted above.
- Attachment B, Section II. Level 2 Incident
    - Item 3 – Recommend that this item exempt the activation of emergency notification systems as part of a drill or other training exercise, consistent with the current notification policy.
- Attachment B, Section III. Level 3 Incident
    - Item 2 – This item should be removed as hospitalizations are governed by and regulated under California Code of Regulations Title 8, Section5189.1, not Program 4, and do not fall within the intent of the revised Draft Ordinance to protect public health and safety. If this item remains in the policy, it should contain an exception for hospitalizations unrelated to the release of highly hazardous

chemicals or process safety, e.g., hospitalizations due to motor vehicle incidents, electrical incidents, medical conditions unrelated to refinery operations, etc. Additionally, "immediate" notification following an incident will not be possible as the criteria for notification is based on hospitalization of more than 24 hours, and Valero would not know "immediately" following the incident if there were any hospitalizations of more than 24 hours. Valero also has additional concerns regarding the requirement to "immediately" report fatalities, as there are additional considerations in these scenarios, including notification of next-of-kin, that would make "immediate" notification infeasible.

F. Incident Investigation Requirements

The Revised Ordinance also requires submission of an Incident Investigation Report. As discussed above, Valero has significant concerns with this report becoming the subject of a Commission-led public hearing and the unknown implications of any recommendations or actions that may come out of such a hearing. The refinery already provides information on all Level 3 incidents to the public through Community Advisory Panel meetings, which are open for any member of the public to attend, and this method of disseminating information following a Level 3 incident has met the City's intent. In addition, the City already posts the 72-hour and 30-day reports required under the existing Cooperation Agreement to the Public Information Bank.

G. New Training Requirements

The revised Draft Ordinance requires that "[a]t least once per calendar year, each High-Hazard Facility shall host a facility training for Department staff. A representative from the High-Hazard Facility shall contact the Department Division Chief in January of each year to determine an appropriate date, time, and curriculum for each training." Revised Draft Ordinance § 8.55.140. The lack of specificity around the number of Department staff that the High-Hazard Facilities must train is concerning and could result in significant costs to regulated facilities without adequate notice as to what costs will be incurred. Valero would request that this section be limited to two Department personnel While Section 8.55.140 of the Revised Ordinance no longer contains the specific language requiring a High-Hazard Facility to pay a fee associated with emergency response training, Section 8.55.0220 of the Revised Ordinance still provides the City broad authorization to adopt a schedule of fees to be collected from High-Hazard Facilities to implement the requirements of this chapter. Accordingly, it remains likely that the High-Hazard Facilities will be responsible for paying any costs associated with the new emergency response training requirements. The City, despite public requests from other organizations, has not discussed the proposed fee amounts contemplated under the Revised Ordinance.

H. Emergency Response Plan ("ERP")

The revised Draft Ordinance requires that "[e]very High-Hazard Facility within the City shall develop and implement an Emergency Response Plan (ERP) that addresses potential risks and hazards associated with the materials stored, handled, or used at the facility." Revised Draft

Ordinance § 8.55.150(A). This requirement remains duplicative of and inconsistent with state and federally required Risk Management Plan ("RMP") submission requirements. Section 8.55.150(C) requires facilities to provide an updated copy of the ERP to the City in the event that undefined "significant changes" are made, which is not only ambiguous but also inconsistent with existing ERP requirements. Additionally, this section does not contain any provisions protecting confidential or sensitive security information that may be contained in the ERP. The refinery remains concerned that the duplicative and ambiguous revised Draft Ordinance ERP requirements will detract from the facility's existing emergency response plans and processes that are required under the RMP.

I. Protection of Sensitive and Confidential Information

In our prior comments, we expressed concerns regarding lack of protection for information obtained by the City in connection with the revised Draft Ordinance. The revisions to the revised Draft Ordinance begin to address these concerns but Valero remains concerned that the Ordinance is not sufficiently protective of Sensitive Security Information ("SSI"), Personal Identifying Information ("PII"), and Confidential Business Information ("CBI").

The Revised Ordinance continues to provide generic protection for Valero against public disclosure of protected information without describing the process or procedure that would allow Valero to review information for trade secrets, CBI, SSI, or PII prior to public release.

As noted previously, the Benicia refinery is a piece of critical infrastructure that is significant to national security. The revised Draft Ordinance is at odds with federal regulations intended to protect information that is of significance to the physical security of Valero's facility, or that may otherwise have national security implications. Pursuant to Section 114 of Title 49 of the United States Code, the Transportation Security Administration ("TSA") is authorized to issue regulations prohibiting the disclosure of SSI, which is defined in 49 C.F.R. § 1520.5. SSI is also exempted from disclosure under the Freedom of Information Act ("FOIA"). *See* 49 C.F.R. § 1520.15(a). The validity of SSI designations is at the sole determination of the TSA and the USCG. *Id.*

Additionally, and as acknowledged by the revised Draft Ordinance, CBI is protected under Section 3426.1(d) of the California Uniform Trade Secrets Act. When disclosed to the government, this information is exempt from public disclosure pursuant to Section 1060 of the California Evidence Code, which is incorporated into the California Public Records Act ("CPRA"). Cal. Gov't Code § 6254(k). Similarly, some information may qualify as CBI under the federal FOIA. 5 U.S.C. § 552(b)(4). The CPRA prohibits the release of records that are exempt from disclosure under state or federal law. Cal. Gov't Code § 6254(k).

Valero devotes considerable resources to the protection of confidential and sensitive security information, including using confidentiality agreements when appropriate, allowing employee and contractor access to confidential information only if necessary for current job assignments, and

requiring secure access to view confidential information. While revisions in the latest draft improved protections, the Revised Ordinance does not adequately describe the process for protecting such information and could undermine Valero's efforts to comply with existing state and federal laws.

If adopted, the Revised Ordinance must provide Valero and the City with clear procedures that describe the process of reviewing information prior to public release that is protective of Valero's information that is of significance to national security, the physical security of Valero's facility, Valero's business interests, and individuals' privacy.

J. Role of Commission and Fire Department

The Revised Ordinance continues to undermine the collaborative relationship that Valero has worked to maintain with the City. Over the last 25 years, Valero has reached a number of agreements with the City as the product of good-faith negotiations. In place of these agreements, which established a collaborative partnership between Valero and the City, the revised Draft Ordinance still imposes numerous new confusing and unnecessary obligations on Valero and gives substantial new authority to the Commission and the Department.

For example, the Revised Ordinance permits the Department to retain non-governmental entities to provide "technical assistance" at their discretion under completely undefined circumstances. Revised Draft Ordinance § 8.55.190(D). Additionally, the Revised Ordinance would permit the Department to initiate an audit and inspection at a High-Hazard Facility after even a Level 1 incident, which by its very definition under the City's proposed Notification Policy is an incident that has "no off-site health or environmental impacts." Accordingly, it is unclear why such an incident would ever necessitate an audit or inspection. It is not appropriate for the City to undertake such an audit or inspection for a Level 1 incident with no off-site impacts and then charge the regulated facility for the cost of the audit or inspection. The City's ability to conduct audits or inspections must be limited to incidents that have impacts outside of the refinery fence line. City audits or inspections of any incident that does not impact public health and safety would exceed the City's police powers and would have no public benefit. Cal. Const., art. XI, § 7; *Barry v. City of Oceanside,* 165 Cal. Rptr. 697, 699 (Ct. App. 1980); *see also Birkenfeld v. City of Berkeley,* 17 Cal.3d 129, 159 (Cal. 1976); *Consolidated Rock Products Co. v. City of Los Angeles,* 57 Cal.2d 515, 522 (Cal. 1962). The issue of police powers is discussed further below.

Finally, the role of the Commission remains unclear and problematic. Section 8.55.050 of the Revised Ordinance provides that the Commission "shall provide recommendations to the City Council regarding the administration and enforcement of the Chapter and shall convene public hearings as required by this chapter." The Commission's mandate to conduct public hearings following the receipt of an Incident Investigation Report, with no framework or guidelines on how testimony, recommendations, or other public comments made during the hearing will inform the actions of the Commission or the Department, does not give Valero or other High-Hazard Facilities

sufficient certainty with respect to the proposed public hearing process and the potential implications thereof. *See* Revised Draft Ordinance §§ 8.55.050, 8.55.120(F)-(H). These overbroad and ambiguous delegations of authority are of great concern to Valero.

K. Lack of Fair Notice

In addition to the specific examples provided above, numerous aspects of the revised Draft Ordinance lack clarity and, thus, are infeasible to implement and create significant regulatory uncertainty leading to a lack of fair notice as to the obligations imposed on Valero and other High-Hazard Facilities.

The Revised Ordinance's requirements related to emergency operations coordination and certain of the requirements within the Notification Policy are sufficiently unclear that Valero and other affected facilities would not know when those requirements are triggered. Given the potential for fines and penalties under the Revised Ordinance, the affected facilities must be able to clearly ascertain the applicability of, and means of compliance with, all requirements in the revised Draft Ordinance.

Additionally, the revised Draft Ordinance requires that the refinery submit the prior year's Emergency Response Training Curriculum as part of the Annual Report but does not define this term or specify what constitutes the Training Curriculum. Revised Draft Ordinance § 8.55.140. The refinery needs additional detail on what would be required to be submitted.

The Revised Ordinance also requires High-Hazard Facilities to provide the Department with copies of all reports provided to other regulators regarding "air quality incidents or violations of air quality regulations," but does not define these terms, leaving it unclear as to what reports must be submitted to the Department.

Further, the Revised Ordinance's passing references asserting deference to other agencies do not, in actual practice, achieve that deference. For example, revisions deleting the word "major" and re-defining incident levels and corresponding notification and reporting requirements serve only to make the obligations under the Revised Ordinance more confusing, not achieve actual deference to the existing regulatory regimes. These revisions do not actually address underlying concerns regarding how a High-Hazard Facility would actually comply with all of these competing requirements.

These are merely a few examples of areas of ambiguity found in the Revised Ordinance. Regulated facilities need much clearer drafting in order to have fair notice of any new obligations under the Revised Ordinance.

L. This Ordinance Could Complicate Energy Market and Contracts

Contracts are the backbone of the refinery's input and output. The refinery enters into binding agreements with suppliers of crude oil to supply the refinery's raw materials. In addition, the

refinery contracts with a wide variety of customers who purchase the refinery's outputs of liquid fuels and asphalt. Contracts for the refinery's output supply fuels and asphalts that:

- power vehicles in California and other states;
- are used by the U.S. military;
- include jet and aviation fuels used by commercial and civilian aviation;
- are used by commercial truck fleets and logistics companies;
- are used in a variety of paving operations; and
- are used by the nation's railroads.

In most instances, the performance of these contracts is time-sensitive and for many of the refinery's customers, on time delivery of fuels is mission critical.

The refinery is also a major source of gasoline that meets CARB's strict reformulated gasoline requirements. Ill-conceived actions by the City against the refinery could impact the supply of gasoline to California motorists. *See* Samantha Delouya, *Here's why gas always costs more in California,* KSBY Homepage Showcase (Jan. 27, 2024), https://www.ksby.com/homepage-showcase/heres-why-gas-always- costs-more-in-california.

Indeed, by infringing on these contracts, this Revised Ordinance will raise the question whether it violates the Contracts Clause of the Constitution. *See* U.S. Const. art. 1, § 10, cl. 1. The Supreme Court has emphasized that deference to police power is significantly qualified.

> "If the Contract Clause is to retain any meaning at all ... it must be understood to impose some limits upon the power of a State to abridge existing contractual relationships, even in the exercise of its otherwise legitimate police power."

Allied Structural Steel v. Spannaus, 438 U.S. 234, 242 (1978).

As noted above, the City's use and enforcement of the Revised Ordinance poses the risk of interfering with a number of contracts that serve vital public interests, particularly due to the expansive scope of what may constitute a public nuisance under the City's Municipal Code and the City's very broad abatement authority in Section 8.55.270 of the revised Draft Ordinance. Additionally, as discussed elsewhere in this letter, the Revised Ordinance is inappropriate and unreasonable for meeting its asserted ends. The Revised Ordinance is duplicative of existing, complex federal and state programs already regulating the same fields in their entirety; it is an unlawful attempt to exercise local police power; and it is shot through with deficiencies under a number of other constitutional, legal, and contractual bases.

II. Legal Comments

In addition to the practical and technical issues raised above, the revised Draft Ordinance suffers from a number of different legal issues. At the outset, we note that the revised Draft Ordinance,

unlike the Richmond and Contra Costa County Industrial Safety Ordinances, is still being proposed for adoption on top of the already existing CalARP Program 4. We further note that, despite additional revisions, the revised Draft Ordinance is not structured such that it would ensure that it does not violate or conflict with any state or federal laws or regulations or permits or orders issued by any state or federal agency. While some duplicative requirements were removed, merely asserting deference to CalARP Program 4 while simultaneously mandating conflicting or duplicative requirements with the CUPA's existing regime still does not resolve many of the conflict issues we raised previously.

Finally, we note the City of Richmond Industrial Safety Ordinance confers implementation and enforcement authority on the CUPA for Contra Costa County (i.e., Contra Costa Health Services). The City of Richmond does not assert a role for itself in enforcing the program. We have also identified a number of other legal issues with the revised Draft Ordinance, including, but not limited to, the concerns discussed below.

The revised Draft Ordinance is contrary to law in several respects. First, the City still lacks the authority to enact this duplicative, overly burdensome, and unnecessary Revised Ordinance. Second, state and federal law continue to preempt important aspects of the Revised Ordinance, even as revised. State hazardous chemical regulations and state and federal workplace safety regulations leave no room for the City to enact additional requirements. Coextensive and/or conflicting provisions of the Revised Ordinance remain barred. Third, the revised Draft Ordinance violates the U.S. and California Constitutions. Fourth, we have identified potential legal issues with respect to the California Environmental Quality Act ("CEQA") process. Finally, because of the ambiguous and conflicting provisions, the Revised Ordinance is subject to challenge as arbitrary and capricious.

A. Exceeding Benicia's Authority

The revised Draft Ordinance invokes two sources of authority for its proposed regulatory changes: provisions of the California Health and Safety Code, and the City's police power. However, neither provides Benicia the authority to promulgate this sweeping ordinance.

i. California Health and Safety Code

The revised Draft Ordinance expressly invokes California HSC Section 25500 as authority for the City to adopt the Benicia Industrial Health and Safety Ordinance.

Section 25500 relates to "establish[ing] business and area plans relating to the handling and release or threatened release of hazardous materials" and provides that the article "do[es] not occupy the whole area of regulating the inventorying of hazardous materials and the preparation of hazardous materials response plans by businesses . . . ." HSC § 25500(b). However, these provisions do not provide the City the authority to enact the Revised Ordinance, as the Ordinance does not relate to the inventorying of hazardous materials or the preparation of hazardous materials response plans.

The implementing regulations support this: "The provisions of this subchapter shall not, in any way, preempt more restrictive reporting requirements pursuant to other local, state, or federal ordinances, statutes, or regulations." *See* Cal. Code Regs., tit. 19 § 5010.4. The Revised Ordinance remains incredibly broad, well beyond "reporting," and the narrow scope of Section 25500 remains wholly inadequate to grant the City the authority to enact the sweeping provisions included within the Revised Ordinance. Many of the provisions in the Revised Ordinance go well beyond the narrow subjects covered under Section 25500. Moreover, Section 25500, and its implementing regulations, already contemplate local implementation and enforcement over its provisions through the CUPA. The Revised Ordinance, in addition to exceeding the City's authority, would create unnecessary administrative burden without offering a corollary benefit to the community.

Delegation of local authority is to be narrowly construed. The narrow and specific power reserved to states and local authorities to establish stricter standards "for the inventorying of hazardous materials and the preparation of hazardous materials response plans by businesses" found in California HSC § 25500 cannot be used to justify the far-reaching and overly broad requirements of the Revised Ordinance.

ii. Police Power

Because the cited statutes provide no relevant authority, this proposed Revised Ordinance must rest solely on the City's police power. It cannot.

A police power ordinance can be upheld only if it "is reasonably related to promoting the public health, safety, comfort, and welfare, and if the means adopted to accomplish that promotion are reasonably appropriate to the purpose." *Barry v. City of Oceanside,* 165 Cal. Rptr. 697, 699 (Ct. App. 1980); *see also Birkenfeld v. City of Berkeley,* 17 Cal.3d 129, 159 (Cal. 1976); *Consolidated Rock Products Co. v. City of Los Angeles,* 57 Cal.2d 515, 522 (Cal. 1962).

The revised Draft Ordinance exceeds the police power under this rubric, as it is an unnecessary and unreasonable restriction on the use of private property. This Revised Ordinance layers additional and duplicative reporting, inspections, audits, planning, summarization, and documentation requirements on top of extensive existing regulation at the state, federal, and county levels.

As previously noted, prior to this Revised Ordinance, California already had the strictest and most comprehensive regulatory programs regarding chemical accident prevention and refinery process safety in the United States. These programs are a direct result of a comprehensive effort in 2012. Pursuant to a directive from then-Governor Jerry Brown, CalEPA formed an Interagency Task Force on Refinery Safety in August 2013. The Interagency Task Force's recommendations resulted in significant regulatory changes, including the creation of the CalPSM requirements. More than a decade later, the revised Draft Ordinance cannot rely on City police power to redo what has already been done by state and regional authorities.

On its face, the Revised Ordinance still does not establish an adequate justification of why the provisions of the revised Draft Ordinance are necessary to carry out the described purpose, or why the City is the appropriate authority for implementing and enforcing its requirements. In fact, rather than justify its reasonableness or necessity, the substantive content of the revised Draft Ordinance itself still confirms that such an Ordinance is not necessary. The Background Section of the Revised Ordinance, for example, still concedes that there are already multiple existing regulatory regimes that serve the same purpose. Revised Draft Ordinance § 8.55.020. The revised Draft Ordinance also acknowledges that Solano County already has the responsibility of managing, regulating, and enforcing the CalARP Program and the Hazardous Material Inventory and Response Plan for High-Hazard Facilities within the City. § 8.55.020(H). Finally, despite recent revisions, the Revised Ordinance's purpose continues to be duplicative of CalARP Program 4 objectives relating to accidental releases of hazardous substances. § 8.55.030; 19 CCR § 5050.1.

The City's interests are also already well-served by the existing voluntary Cooperation Agreement between the City and Valero. Nothing in the record explains why requirements beyond those found in the present Cooperation Agreement are necessary. In fact, past City Cooperation reports acknowledge that "... both parties continue to meet each component of the City of Benicia – Valero Cooperation Agreement, as well as to provide updates on any additional action items completed to achieve its primary goals." Benicia Fire Department, *City of Benicia - Valero Cooperation Agreement Annual Report 2022,* https://www.ci.benicia.ca.us/vertical/sites/%7BF991A639-AAED-4E 1A-9735-86EA195E2C8D%7D/uploads/DRAFT_Valero_Safety_Agreement_-_FY21-22_Annual_Report_-_vl.pdf. Such statements demonstrate that the City is acting arbitrarily.

What is more, the revised Draft Ordinance is an unreasonable way to exercise police power. It still places the Department, the City's Fire Chief, and the Commission in a crucial regulatory enforcement role in highly technical areas that require specialist expertise and puts the Department and Commission at odds with Solano County, the entity designated by CalEPA to serve as the CUPA.

Because the existing state, federal, and county regulatory frameworks "do fully protect the public health and safety," and because creating additional and duplicative requirements, audits, inspections, and reporting processes has "no function to that end," and would instead disrupt the existing Unified Program managed by CalEPA while burdening City resources, the revised Draft Ordinance remains unnecessary and unreasonable. *State Bd. Of Dry Cleaners,* 40 Cal. 2d. at 441. It therefore exceeds the City's police power.

iii. Public Nuisance

The Revised Ordinance also still includes a concerning "public nuisance" provision. Revised Draft Ordinance § 8.55.270. Rather than spell out the definition of a "public nuisance" in the text of the revised Draft Ordinance, Section 8.55.270 now states that the City "may investigate and abate

public nuisances caused by, and impose monetary penalties on, any High-Hazard Facility that is managed, operated, or allowed to be managed or operated in a manner constituting a public nuisance in accordance with Chapter 8.04 of the Benicia Municipal Code." The Benicia Municipal Code defines a public nuisance, in part, to mean "anything which is, or is likely to become, injurious to health or safety, or is offensive to the senses . . . ." It is unclear what would be considered "offensive to the senses" or how the City would determine whether certain aspects of a High-Hazard Facility's operations are, or are likely to become, injurious to health or safety such that they could be abated. This is contrary to existing law and directly contradicts California law. The City's definitions of a public nuisance are inconsistent with HSC Section 41700 and BAAQMD's definition of Public Nuisance in Regulation 1-301, both of which are focused on air emissions and actual injury to the public.

Under the California Civil Code, "a public nuisance is one which affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal." Cal. Civil Code § 3480. The City's definition of "public nuisance" is contradictory to this definition. California law explicitly provides that a "city legislative body may declare what constitutes a nuisance." Cal. Gov't Code § 38771. But a city's "designation of a nuisance" under this section "does not necessarily make it so." *Flahive v. City of Dana Point*, 72 Cal. App. 4th 241, 244, n. 4 (1999). Rather, what a city can declare a public nuisance is circumscribed by the provisions of California law defining it and California Civil Code Section 3479, which focus on circumstances which are "injurious to health" and which affect an entire community or neighborhood at the same time. Importantly, the City's definition also fails to take into account Section 3482 of the California Civil Code, which states that "[n]othing which is done or maintained under the express authority of a statute can be deemed a nuisance." The City's overly broad and unbounded definition of a "public nuisance," exceeds the bounds of what California law permits by bringing within the compass of the term violations that would not rise to the standard state law gives to the term. Additionally, the Revised Ordinance no longer includes language stating that the Department "shall not take action to abate a public nuisance, or issue penalties and fines for a public nuisance, that is already being regulated by the CUPA pursuant to the CalARP Program." The removal of this language could result in High-Hazard Facilities being forced to comply with abatement-related orders from the City, while simultaneously being required to complete corrective actions required by the CUPA, potentially creating conflicts between the corrective actions required by the CUPA and any abatement actions required by the City. This is an untenable position for High-Hazard Facilities and would create significant regulatory uncertainty. Additionally, High-Hazard Facilities would now potentially be subject to penalties and fines for alleged public nuisances from both the City, the CUPA, and the BAAQMD.

The vague abatement provisions exceed the City's authority and are an impermissible delegation of authority that conflict with existing law. Additionally, it is unclear how the abatement process laid out in the City's Municipal Code would be applied to complicated and highly-integrated

industrial facilities where the ability to safely "abate" operations is significantly more complicated than abating an alleged public nuisance at a residential or commercial property in the City.

B. Preemption

Because Benicia is a "general law city," it "may make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws." Cal. Const. art. XI § 7. Thus, a general law city may not pass an ordinance that "duplicates or is coextensive with state law, is contradictory or inimical thereto, or enters an area either expressly or impliedly fully occupied by state law." *Temple of 1001 Buddhas v. City of Fremont,* 100 Cal. App. 5th 456, 467 (Ct. App. 2024).

The revised Draft Ordinance remains inconsistent with state and federal law and usurps the statutory roles of Cal/OSHA, CalEPA, and the CUPA with respect to California's regulatory programs for chemical accident prevention and refinery process safety.

OSHA & Cal/OSHA

The revised Draft Ordinance impermissibly attempts to regulate occupational health and safety. Congress barred such local regulation through the Occupational Safety and Health Act of 1970 ("OSH Act"). The OSH Act allows state regulation through California's federally approved State Plan. Neither the OSH Act nor the State Plan allows separate or inconsistent regulation of occupational health and safety by a municipality.

The OSH Act is one of the federal statutes that expressly creates complete federal preemption of its field. It addressed concerns over worker occupational health and safety by establishing national standards. With the OSH Act, Congress expressly vested the federal government with exclusive authority over all issues related to federal worker health and safety standards. 29 U.S.C. § 667(b). In this comprehensive scheme, Congress created a process for states like California to implement their own occupational health and safety standards through a federally approved State Plan. *Id.* California has created, and the federal government has approved, such a plan. Together, the federal OSH Act and the approved Cal/OSHA State Plan set forth the occupational safety and health standards in California. The Revised Ordinance continues to improperly displace this regulation.

An "occupational safety and health standard" is broadly defined as a "standard which requires conditions, or the adoption or use of one or more practices, means, method, operations, or processes, reasonably necessary or appropriate to provide safe or healthful employment and places of employment." 29 U.S.C. § 652(8). The OSH Act and Cal/OSHA's approved State Plan specifically address "Process Safety Management for Petroleum Refineries." 8 CCR § 5189.1; *see Ward v. Equilon Enterprises*, 2011 WL 2746645, at *1 (N.D. Cal. 2011) (noting that Title 8 Section 5189 of the California regulations is the codification of the Cal/OSHA plan). Thus, local regulation of occupational health and safety standards is precluded.

i. Implied/Field Preemption

The OSH Act preempts all "occupational safety and health standards relating to any occupational safety or health issue with respect to which a Federal standard has been promulgated." 29 U.S.C. § 667(b). In *Gade v. National Solid Wastes Management Association*, the U.S. Supreme Court held the OSH Act preempts "any state regulation of an occupational safety or health issue with respect to which a federal standard has been established, unless a state plan has been submitted and approved" by the Secretary of Labor. 505 U.S. 88, 102, 107–08 (1992). This "preemption analysis extends to states with approved plans like California . . . on an issue-by-issue basis." *Industrial Truck Ass'n, Inc. v. Henry,* 125 F.3d 1305, 1311 (9th Cir. 1997). And "any state regulations not submitted to OSHA as part of a state plan run afoul of the Occupational Safety and Health Act because OSHA has no opportunity to review them for fitness under this provision." *Id.* at 1310. Even state regulations "complementary" to the OSH Act "are subject to the 'background pre-emption' of the federal standard" when not included in the state plan. *Id.* Preemptive intent also bars regulation of issues of paramount state concern and/or that impact transient Californians.

As a result, in California, no agency other than Cal/OSHA may set worker safety and health standards. "Cal/OSHA, in conjunction with California Labor Code Section 142.3, vests the California Occupational Safety and Health Standards Board (the "Standards Board") with the sole authority to adopt occupational safety and health standards." *Columbia Sussex Mgmt., LLC v. City of Santa Monica,* 482 F. Supp. 3d 1002, 1010 (C.D. Cal. 2020) (citing *California Hotels & Lodging Ass'n v. City of Oakland,* 393 F. Supp. 3d 817, 824 (N.D. Cal. 2019)). "[T]he only way a State may regulate an [OSH Act]-regulated occupational safety and health issue is pursuant to an approved state plan that displaces the federal standards." *Gade,* 505 U.S. at 99; *see also Industrial Truck Ass'n,* 125 F.3d at 1314 (applying bar against regulation "relating to the issue addressed by" the OSH Act in 29 C.F.R. § 1910.1200(a)(2) to a "locality.")

The federally approved State Plan covers the "issue" of employee safety and emergency response, and puts in place additional, specific standards at oil refineries. Indeed, the Cal/OSHA State Plan requirements, as codified in the California Code of Regulations, have an entire regulatory section dedicated to "Process Safety Management for Petroleum Refineries." *See* 8 CCR § 5189.1.

Importantly, Section 18 requires a State Plan to be at least as effective as the federal OSH Act or it will not be considered operational. In addition, Section 18 of the OSH Act places additional requirements on State Plan regulation of facilities with products that are distributed or used in interstate commerce. Any such regulation cannot be unduly burdensome and is only permissible when certain compelling local conditions are met. While time constraints preclude listing each one, numerous other provisions of the State Plan conflict with the revised Draft Ordinance as well.

The revised Draft Ordinance is unlawful because it still includes "issues" covered by or related to standards set forth in the OSH Act or a federally approved State Plan. "Congress intended to subject employers and employees to only one set of regulations, be it federal or state." *Gade,*

505 U.S. at 99. In doing so, Congress barred local ordinances of the kind the City proposes. To the extent the revised Draft Ordinance regulates in areas that the State Plan covers, the State Plan bars the revised Draft Ordinance. All other regulation of industrial health and safety standards is subject to federal background preemption through the federal OSH Act. *Industrial Truck Ass'n.,* 125 F.3d at 1310.

ii. Conflict Preemption

The revised Draft Ordinance continues to contain numerous provisions that are directly at odds with established State Plan regulation, including, but not limited to, reporting mechanisms, inspections, audits, Department and Commission oversight provisions, incident investigations and definitions, emergency response, and other activities required by CalPSM (e.g., safeguard protection analysis, inherently safer systems analysis, human factors, and process hazard analysis).

As discussed above, the revised Draft Ordinance's definitions, including those relating to incidents, still improperly conflict with and undermine existing regulatory terms and obligations. The Revised Ordinance requires that High-Hazard Facilities submit Incident Investigation Reports, summaries, and notifications under an overbroad array of circumstances that are sometimes, but not always, contingent upon the activities of other agencies. Revised Draft Ordinance § 8.55.110–.120. As discussed above, confusing statements in the Revised Ordinance attempt to distinguish when reporting or investigation activities take place involving only the City or only the CUPA, or when coextensive reporting or incident investigation should occur. These revised provisions, however, remain ambiguous, self-contradictory, problematic, and will be infeasible to implement. The Revised Ordinance should not put facilities in such a position. It is similarly problematic that the Revised Ordinance still requires the facility to submit a request for an investigation report extension to the City at the same time as the CUPA, but still does nothing to address circumstances in which the agencies may differ in the response to that request. § 8.55.110.

Similarly, numerous provisions of the Revised Ordinance require submission of information "at the same time" to the City and CUPA even where there is no corresponding CalPSM requirement to provide the information in that manner to the CUPA. For example, Section 8.55.160 requires the facility provide to the City an "Onsite Safety Report," which appears to be an improper amalgamation of multiple independent CalARP requirements. Such requirements are separately maintained as evergreen, amount to millions of pages of information, and cannot be so generically "provided" or combined in a "Safety Report." The Revised Ordinance continues to fundamentally misunderstand the existing state obligations in that it overlays infeasible and unduly burdensome obligations that will serve only to detract from the state's existing programs. In so doing, the City's Revised Ordinance impermissibly conflicts with existing state regulations.

As noted above, the Revised Ordinance also requires facilities to develop an Annual Report that includes, among other items, summaries of overbroad, ill-defined, and potentially changeable

types of incidents, which not only would be overly burdensome to develop but would also conflict with CalPSM requirements. *See* § 8.55.090. Similarly providing "copies" of "reports" provided to the CUPA is an ambiguous and problematic use of resources that would not serve a productive purpose. The purpose of the CalPSM Program is to protect the health and safety of the community, and requiring the development of incident summaries and "reports" relating to information that has little or no impact to public health and safety would detract from the refinery's ability to focus on the goals and requirements of the CalPSM Program.

Not only are the Revised Ordinance's requirements "coextensive" with similar state requirements, but the City's involvement also is "contradictory or inimical" to the state regulations. *See Temple of 1001 Buddhas,* 100 Cal. App. 5th at 467. State requirements already require incident reporting and investigation among other CalPSM requirements. Nowhere do these state regulations authorize cities to interfere with or play a role in the execution of these requirements. Overlaying the revised Draft Ordinance requirements on pre-existing state requirements acts directly cross-purposes with the framework the state created.

Not only do these duplicative and contradictory requirements and definitions show that the revised Draft Ordinance is contrary to law, but it also illustrates why the revised Draft Ordinance is so dangerous. The last thing the City should want in the event of a crisis is confusion over which set of regulations apply. Yet, by prescribing inconsistent definitions and requirements, confusion seems likely.

iii. Obstacle Preemption

Because the regulations in the revised Draft Ordinance pose an obstacle to "the full purpose and objectives of Congress" and/or Cal/OSHA's State Plan goals, and ultimately frustrate its implementation, they are also preempted. *Industrial Truck Ass'n.,* 125 F.3d at 1309 (citing cases). Here, the revised Draft Ordinance attempts to strip Cal/OSHA of one of the program's fundamental goals: to encourage states "to assume the fullest responsibility for the administration and enforcement of their occupational safety and health laws." 29 U.S.C. § 651(b)(11). The OSH Act established a uniform standard of workplace safety. Where local ordinances attempt to implement their own rules over highly regulated, critical infrastructure, that purpose is also frustrated.

C. CalEPA/CUPA Authority

When comparing the revised Draft Ordinance to preexisting refinery-specific CalPSM requirements, there remains overlap and substantial conflicting differences. Given the limited time provided to comment on the revised Draft Ordinance, only examples of conflicts with CalARP Program 4 are shared here to help illustrate these significant issues. These examples do not represent an exhaustive inventory of problematic differences between the revised Draft Ordinance and existing CalPSM regulations. Importantly, CalPSM is part of the Cal/OSHA State Plan, meaning each of the previously discussed preemption principles apply in addition to the analysis

below. In addition, for ease of reading, the following comments discuss CalARP citations, but each comment applies equally where CalPSM has adopted similar or identical language within the Cal/OSHA State Plan.

i. Role of Commission and Fire Department

The ambiguous powers afforded by the revised Draft Ordinance to the Department and the Commission remain likely to expose the City and Department to significant liability. Uninformed participation in an incident investigation and associated public meetings could result in the development of conflicting conclusions and recommendations and divert necessary resources from the facility as it attempts to comply with CalPSM investigation requirements. Indeed, the revised Draft Ordinance requires oversight and input that the City, Department, and Commission have not been trained to undertake. This is likely to put the City at odds with other agencies and potentially put facility personnel and community members at risk of harm or injury. Revised Draft Ordinance § 8.55.120. Indeed, the City has improperly and ambiguously delegated power to the Commission to provide recommendations on implementation and enforcement of the Ordinance and convene public hearings, without a clear process for facilities to provide input on or challenge these recommendations and without a framework for how the Commission and/or the Department would consider, and potentially act on, the testimony provided at a public hearing.

ii. CalARP Program 4 Preempts the Draft Ordinance

As discussed above, the revised Draft Ordinance is inconsistent with state law and usurps the statutory role of Cal/OSHA as well as CalEPA and the CUPA with respect to California's regulatory programs for chemical accident prevention and refinery process safety.

The CalARP Program was implemented on January 1, 1997. The purpose of the CalARP Program is to prevent accidental releases of substances that can cause serious harm to the public and the environment, and to minimize the damage if releases do occur. *See* Cal. Gov't Code. § 8585; HSC §§ 25531, 25534.05; 19 CCR § 5050.1.

CalEPA oversees the implementation of the CalARP Program at the state level, while CUPAs and/or Participating Agencies implement the CalARP Program at the local level. CalEPA, CalARP Program Overview, https://calepa.ca.gov/california-accidental-release-prevention/. CalARP establishes a statewide standard for the prevention of accidental releases, ensuring uniformity in regulations state-wide. The revised Draft Ordinance still disrupts this uniformity by seeking to duplicate and conflict with the state's established standards.

When enacting CalARP, the California state legislature specifically cited the need to ensure coordination among local, state, and federal agencies, and the need to reduce duplicative regulatory requirements. HSC § 25531(e) (stating "the Legislature finds and declares that the goals of reducing regulated substances accident risks and eliminating duplication of regulatory programs can best be accomplished by implementing the federal risk management program in the state, with

certain amendments that are specific to the state"). As discussed herein, the revised Draft Ordinance on its face contradicts the stated intent of the legislature.

CalARP confers all the typical regulatory powers on CalEPA and the CUPA. For example—

- Coordinate with federal and state agencies (CalEPA and CUPA) (§ 25533(b))
- Implement and enforce U.S. EPA requirements regarding the RMP (CUPA) (§ 25533(d))
- Adopt regulations regarding registration of High-Hazard Facilities; review and audit of RMPs; providing for public availability of RMPs, etc. (CalEPA) (§ 25534.05)
- Rights of inspection access (CUPA) (§ 25534.5)
- Providing public access to complete RMPs (CUPA) (§ 25535.2)

Notably absent as a recipient of these enumerated powers is a municipal government.

The legislation establishing CalARP, however, is not silent on the role of other governments and agencies. Rather, CalARP granted enumerated powers and limited roles for local authorities, which supports a conclusion of "field preemption" (i.e., that the legislature established a pervasive scheme of chemical accident prevention regulation that implicitly precludes supplementary local regulation—especially if that local regulation conflicts with statewide regulation). The revised Draft Ordinance still represents an impermissible effort by the City to usurp the roles and powers conferred by the legislature on CalEPA and the CUPAs.

State law provides a comprehensive regulatory scheme for preventing accidental releases and maintaining environmental health and safety, which is implemented by CUPAs, not cities like Benicia. Because the revised Draft Ordinance both "enters an area . . . impliedly fully occupied by state law" and "is contradictory or inimical thereto," the Revised Ordinance will still be preempted in full or in part. *Temple of 1001 Buddhas,* 100 Cal. App. 5th at 467.

In sum, CalARP represents a comprehensive regulatory framework implemented by CalEPA and the CUPAs (e.g., "The program shall be implemented by [CalEPA] and the unified program agency."). HSC § 25533. CalARP does not provide for the creation of a separate and distinct program by a municipality like the City of Benicia.[1] While the CUPA must *consult* with city governments, *see id.* § 25539, the statute only empowers the CUPA to regulate. HSC § 25539. This backdrop shows that the revised Draft Ordinance, to the extent it regulates accidental releases, would "enter an area either expressly or impliedly fully occupied by state law" and would therefore be preempted. *Temple of 1001 Buddhas,* 100 Cal. App. 5th at 467.

[1] The City of Richmond Industrial Safety Ordinance arguably avoids this fatal deficiency because (a) it is identical to the Contra Costa County Industrial Safety Ordinance; and (b) confers implementation and enforcement authority on the CUPA for Contra Costa County (i.e., Contra Costa Health Services). Stated another way, the Contra Costa County Industrial Safety Ordinance applies to the unincorporated sections of the county while the City of Richmond Industrial Safety Ordinance applies to the incorporated area of Richmond within the county. The City of Richmond does not assert a role for itself in enforcing the program.

The City's claim that Section 25500 of the HSC provides additional authority for the enactment of the Revised Ordinance does not cure these conflicts. That portion of the HSC only relates to the regulation of inventorying of hazardous materials and the preparation of hazardous materials response plans; however, the Revised Ordinance continues to impose regulations that go far beyond the narrow bounds of the cited provision.

BAAQMD Regulations

In addition, the Revised Ordinance wades into air emissions and air monitoring issues that federal and state law have expressly delegated to BAAQMD, preempting the City's duplicitous effort. Because the revised Draft Ordinance exceeds any express local authority and conflicts with federal and regional authority already in place, the Clean Air Act preempts the revised Draft Ordinance.

This cooperative federalist structure is implemented through the EPA setting national ambient air quality standards ("NAAQS") to create a uniform level of air quality nationwide. 42 U.S.C. § 7409(b)(l). Each state then prepares and submits a State Implementation Plan ("SIP") to the EPA that provides for implementation, maintenance, and enforcement of the NAAQS within that state. § 7410(a)(l). As part of this regulatory structure, states must enforce the limitations they adopt in their SIP; regulate all stationary sources located in an area that is covered by a SIP; and implement a mandatory permit program that places restrictions on the types and amounts of emissions in-state that stationary sources may discharge. §§ 7410(a)(2)(C), 7661a(d)(l), 7661ac(a).

CARB is the California state agency with authority to coordinate efforts to attain and maintain the NAAQS. HSC Division 26, § 39003. The California legislature explicitly allocated the primary authority to regulate stationary source emissions to the local air pollution control districts and certain regional air boards. § 39001-2.

BAAQMD, the regional air board responsible for addressing emissions from stationary sources in and around the City of Benicia, has implemented comprehensive regulations that address emissions from those facilities. This regulatory scheme goes beyond the permitting and compliance obligations present at the federal level. The compliance obligations are designed to meet the NAAQS, and EPA has approved the majority of the BAAQMD rules and regulations, making those provisions federally enforceable.

The comprehensive BAAQMD regulatory scheme includes a myriad of rules and regulations that apply to refineries, including permitting and air quality monitoring requirements. *See* BAAQMD Regulation 2 and emissions tracking requirements; *see also* BAAQMD Regulation 12 Rule 15.

Provisions included in the proposed Revised Ordinance such as implementation of a citywide emissions monitoring program are inconsistent with and/or duplicative of existing emissions monitoring and permitting requirements. To the extent the revised Draft Ordinance would impose requirements on the refinery that duplicate or conflict with existing BAAQMD regulations, or that

would render the permits already issued to the refinery by BAAQMD or EPA insufficient for the continued operation of the refinery, those requirements would be preempted.

Any general reservation of authority to cities on air monitoring must be read in light of the HSC's specific delegation to BAAQMD to manage issues like this. BAAQMD is expressly established by Chapter 4 (commencing with § 40200) of Part 3 of Division 26 of the HSC. Benicia falls within the jurisdictional boundaries of BAAQMD. Both county boards of supervisors and cities within the district are involved in the appointment of directors to the BAAQMD governing board. HSC § 40221.5. Within the Bay Area at least, it seems clear that the California legislature wanted BAAQMD to manage issues like these.

D. Constitutional Rights Violations

Takings Clause

i. Unknown Costs and Fees

The revised Draft Ordinance states that the City "may, upon a majority vote of the City Council and in accordance with the provisions of the Municipal Code, adopt a schedule of fees to be collected from High-Hazard Facilities to implement the requirements of this chapter." Revised Draft Ordinance § 8.55.220. It is unclear what exactly the fees would cover, as that level of detail is not provided in the Revised Ordinance. However, Valero assumes these fees would go towards paying the costs of designing, implementing, and maintaining the AQMP, participating in Emergency Response Training, retention of consultants, hiring and/or re-training of additional staff needed to implement the Revised Ordinance, and conducting any audits, inspections, reviews, investigations, or public meetings authorized under the Revised Ordinance. In addition, the revised Draft Ordinance requires that High-Hazard Facilities pay for the "actual costs" of providing emergency response services when a City public safety officer determines that conditions exist to warrant a response by multiple emergency units. § 8.55.230.

In establishing permitting regimes, "[t]axes and user fees" on one side of the line, "are not takings." *Koontz v. St. Johns River Water Mgmt. Dist.*, 570 U.S. 595, 615 (2013). But "monetary exactions," which require the "owner of a particular piece of a property to make a monetary payment" to maintain a permit, are takings when they "pursue governmental ends that lack an essential nexus and rough proportionality to the effects of the [continued] use of the specific property at issue." *Id.* at 613–14.

The fees imposed by the Revised Ordinance go beyond "rough proportionality" and fund "ancillary" projects, including, but not limited to, the establishment of an AQMP that is duplicative of air monitoring already conducted by both Valero and BAAQMD and the undertaking of audits and inspections in an overbroad array of circumstances, when both the facility and the CUPA already prepare required audit and incident investigation findings and reports. It is unclear whether the fees assessed under the Revised Ordinance would also go towards funding any costs the

Commission incurs in fulfilling its duties as laid out in the proposed Industrial Safety Citizen Oversight Commission Policy, but extracting funds from High-Hazard Facilities to cover the costs of the duties of the Commission would also be considered a taking as those fees would go towards "governmental ends that lack an essential nexus and rough proportionality to the effects of the [continued] use of the specific property at issue."

ii. Access Provision

The Revised Ordinance provides the Department a right of physical access to a High-Hazard Facility's real property to audit, inspect, and assess the operations of the High-Hazard Facility. Revised Draft Ordinance § 8.55.100. Given that the Revised Ordinance is not reasonably tailored and allows for access for reasons unrelated to enhancing public safety,[2] such access rights, if exercised, could constitute a taking that requires fair compensation. *See* U.S. Const. amend. V. This provision would provide the City a "right to invade [Valero's] property and therefore constitute a per se physical taking." *Cedar Point Nursery v. Hassid,* 594 U.S. 139, 149 (2021).

First, this access provision is not "consistent with longstanding background restrictions on property rights." *Id.* at 160. While background property rights permit access "in the event of public . . . necessity," such as avoiding a disaster, *id.* at 160–61, the privilege to access property for this purpose only exists when it is "exercised in a reasonable manner," Restatement (Second) of Torts § 196 cmt. e. (1965). Because the Revised Ordinance adds significant additional bureaucratic complexity and calls for access based on conditions well outside the City's authority, it cannot be a called a "reasonable" way to access property for this public purpose. Significantly, the City's apparent desire to have access to refinery property in order to audit events or various types of incidents that have absolutely no impact on public health and safety is unreasonably broad and is not tied to a public necessity. Valero's concerns regarding the "incident" triggers for such audits and inspections are discussed above.

Similarly, this access provision is not a "reasonable" permitting condition either. *Cedar Point Nursery,* 594 U.S. at 161. While the government can often make inspection privileges a condition of receiving permits, the condition must be "rationally related to a legitimate Government interest" to avoid the Takings Clause. *Ruckelshaus v. Monsanto Co.,* 467 U.S. 986, 1007 (1984). Indeed, while the use of refineries may be "subject to reasonable governmental regulation," operating a refinery cannot be "held hostage" by an unreasonable permitting condition that must be met to be able to operate at all. *Horne v. Dep't of Agric.,* 576 U.S. 350, 366 (2015).

[2] For example, the revised Draft Ordinance permits audit and inspection following a Level 1 incident, which by the City's own definition is an incident that has no off-site health or environmental impacts. *See* Draft Hazardous Materials Incident Notification Policy, Attachment B.

iii. Procedural Due Process / Equal Protection

In this instance, an opportunity to submit written comments on the proposed health and safety ordinance may be insufficient as a matter of constitutional law. Because the City's process, even with the revised definition of High-Hazard Facility, in reality, still targets a singular entity (Valero), due process entitles Valero to a full hearing with an unbiased decisionmaker before the City may enact the proposed Revised Ordinance. *See Londoner v. Denver,* 210 U.S. 373 (1908).

While the City attempts to frame the Revised Ordinance as a regulation of general applicability, now also stemming from authority purportedly granted under the California Fire Code, context shows the Revised Ordinance is still intended to only target Valero. Reporting and advocacy materials reveal this aim. *See, e.g.,* Ryan Gellar, *Benicia to Move Forward with Regulation of Valero Refinery,* The Benicia Independent (Dec. 20, 2023), https://beniciaindependent.com/benicia-to-move-forward-with-regulation-of-valero-refinery/ (singling out Valero); Benicia Industrial Safety Ordinance, Benicia Industrial Health and Safety Working Group (BISHO) (last accessed Aug. 10, 2024), https://sites.google.com/view/beniciahealthsafety/violationsaccidents?authuser=0 (same). And judicial discovery will likely reveal numerous emails, texts, instant messages, and meeting minutes where City officials state that they are targeting the Valero refinery with the ordinance.

An ordinance like the one proposed that "exceptionally affect[s]" a single entity or even a "small number" of entities necessitates that the affected entities receive a pre-implementation hearing. *United States v. Florida East Coast Railway,* 410 U.S. 224, 245 (1973). Targeted rules such as this are not the sort of regulations with broad applicability for which the minimal fair process of notice and comment is suitable, particularly in light of the limited time afforded Valero to review the revised Draft Ordinance and the City's unwillingness, to date, to respond to the comments offered by Valero.

In *Florida East Coast Railway*, the Supreme Court discussed a line of cases under the Due Process Clause of the 14th Amendment, now dating back more than a century, including *Londoner v. Denver*, 210 U.S. 373 (1908), that established a framework for determining what level of regulatory due process is required when rules target a single or limited number of entities versus those that are truly meant for broad public applicability.

Under this framework, when an agency's action targets a single entity or small number of identified entities and substantially affects their rights or obligations, agency action veers closer to adjudication rather than "legislative" rulemaking. Such targeted rulemaking warrants heightened procedural protections, including the opportunity to present evidence, examine and cross-examine witnesses, and present legal argument in a formal hearing. *Id.* at 244–45.

Here, the actual effect of the revised Draft Ordinance in many instances singles out Valero. The ordinance imposes significant financial and operational burdens by subjecting Valero to substantial

fees used to fund a burdensome and duplicative safety program, a new and unprecedented permitting regime, and the threat of shutdowns and production delays through an arbitrary enforcement and abatement process. Given these deeply intrusive implications, Valero has a right under the 14th Amendment of the U.S. Constitution to challenge the ordinance in a "trial-type hearing" to ensure its due process rights are upheld. *Id.* at 235.

On a similar note, the City should consider whether the revised Draft Ordinance would violate the Constitution's guarantee of equal protection by discriminating against Valero. *See Village of Willowbrook v. Olech,* 528 U.S. 562 (2000). By singling out Valero as the only company subject to this revised Draft Ordinance, it raises the question whether Valero "has been intentionally treated differently from others" "without any rational basis for the difference in treatment." *Id.* at 564. The revised Draft Ordinance also interferes with Valero's vested rights.

iv. Violation of State Constitution's Taxing Power

Section 8.55.220 of the revised Draft Ordinance authorizes the City, based on a majority vote of the City Council, to adopt a schedule of fees. The authorization is broad and characterizes the authorization as fees to be collected from High-Hazard Facilities to implement the requirements of the chapter.

Article XIII C of the California Constitution, as amended by Proposition 26 in 2010, provides that fees that generate revenue in excess of reasonable costs to the City constitute taxes, which must be subject to voter approval requirements and cannot be adopted solely by a majority vote of the City Council.

While Section 8.55.220 provides that any fee schedule must be set in an amount sufficient to pay only the City's costs that are reasonably necessary to carry out the requirements of Chapter 8.55, Chapter 8.55 provides for programs and plans that extend well beyond what would reasonably be necessary to address issues associated with any High-Hazard Facility, in addition to being programs and plans that are inconsistent with California law with respect to the regulation of such High-Hazard Facilities. Moreover, the provisions purporting to impose these fees do not provide any limitation on such "fees" or any methodology for determining reasonable costs. Therefore, these fees may be taxes collected in a manner inconsistent with Article XIII C of the California Constitution. Additionally, each of these fees goes beyond City authority, conflicts with existing law, and may represent an improper and impermissible tax which cannot be adopted via the revised Draft Ordinance.

E. CEQA

Valero is concerned that the City has not adequately considered the range of impacts, including environmental impacts, that the revised Draft Ordinance may have on the ability of Valero, the City, and other emergency responders to react efficiently and effectively to emergencies. This, in turn, could exacerbate the environmental harms that any such event might have. Section 21000 of

the CEQA Public Resources Code requires government decisionmakers to consider the effects of their actions on the environment. CEQA "embodies a central state policy to require state and local governmental entities to perform their duties so that major consideration is given to preventing environmental damage." *E. Oakland Stadium All. v. City of Oakland,* 89 Cal. App. 5th 1226, 1237–38, 306 Cal. Rptr. 3d 684, 693 (2023). Valero is concerned that the City has not engaged in such "consideration" as it has developed this revised Draft Ordinance.

The point of the CEQA review process "is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made." *E. Oakland Stadium All.,* 89 Cal. App. 5th at 1238 (quoting *Citizens of Goleta Valley v. Board of Supervisors* (1990), 52 Cal.3d 553, 564, 276 Cal. Rptr. 410, 801 P.2d 1161). The City must, at a minimum, assess the revised Draft Ordinance's potential to cause these environmental harms and issue an Initial Study.

Such an analysis must include a study of the environmental harms that could result from the revised Draft Ordinance's duplicative and conflicting emergency response and safety procedures as well as the effects that the unclear and ambiguous abatement procedures might have on California should they require shutdowns or stoppages at a facility that provides a significant proportion of California's gasoline, asphalt, and other refined products.

F. Arbitrary and Capricious

As discussed above, even beyond the numerous legal problems with this revised Draft Ordinance, the ambiguous, and conflicting provisions described will create a host of practical difficulties for Valero, the City, and the State of California if it is not withdrawn or substantially revised. And these problems may cause further legal challenges for the revised Draft Ordinance, as it will be subject to challenge as "arbitrary and capricious." *St. Francis Electric, LLC v. Dep't of Transp.,* No. C098129, 2024 WL 3548236, at *3 (Cal. Ct. App. July 26, 2024).