BUCKEYE, AZ

PLEASE SILENCE ALL ELECTRONIC COMMUNICATION DEVICES. THANK YOU.

NOTICE OF POSSIBLE QUORUM OF THE CITY OF BUCKEYE PLANNING AND ZONING COMMISSION OR OTHER COUNCIL APPOINTED BOARD: PLEASE NOTE THAT THERE MAY BE A QUORUM PRESENT BUT THERE WILL BE NO VOTING TAKING PLACE BY THE CITY PLANNING AND ZONING COMMISSION OR OTHER COUNCIL APPOINTED BOARD AT THIS MEETING.

CITY OF BUCKEYE
REGULAR COUNCIL MEETING
MARCH 1, 2022
AGENDA

City Council Chambers
530 E. Monroe Ave.
Buckeye, AZ 85326
6:00 PM

Accessibility for all persons with disabilities will be provided upon request. Please telephone your accommodation request (623) 349-6911, 72 hours in advance if you need a sign language interpreter or alternate materials for a visual or hearing impairment.

Voting Members will either attend in person or by telephone conference call or video presentation. Items listed may be considered in any order

IMPORTANT NOTICE REGARDING PUBLIC PARTICIPATION

This meeting will be open to the public. Adherence to COVID-19 safety measures are recommended. If you would like to make a public comment, either in person or remotely, please review the information on the City's website and complete and submit the comment form found here: https://www.buckeyeaz.gov/government/city-clerk/meeting-agendas-minutes/meetings-agendas-minutes

1. Call to Order/Invocation/Pledge of Allegiance/Roll Call

2. Comments from the Public- Members of the audience may comment on any item of interest.
Council Action: Open Meeting Law does not permit Council discussion of items not specifically on the agenda

3. Awards/Presentations/Proclamations

4. Minutes

4.A Council to take action on approval of the January 25, 2022 Special Council Meeting and Executive Session Minutes (a.m. session), January 25, 2022 Special Council Meeting and Executive Session Minutes (p.m. session), January 31, 2022 Special Council Meeting and Executive Session Minutes, February 1, 2022 Council Workshop Minutes, February 1, 2022 Regular Council Meeting Minutes, and February 3, 2022 Special Council Meeting and Executive Session Minutes.

5. Expenditures

5.A Council to take action on the request to ratify the payment of the accounts payable expenditures made. Copies of invoices are available at City Hall.
Staff Liaison: William Kauppi, Chief Financial Officer, wkauppi@buckeyeaz.gov, (623) 349-6161

6. CONSENT AGENDA ITEMS / NEW BUSINESS
Approval of items on the Consent Agenda -All items with an (*) are considered to be routine matters and will be enacted by one motion and vote of the City Council. There will be no separate discussion of these items unless a Council member requests, in which event the item will be removed from the consent agenda and considered in its normal sequence

***6.A** Council to take action on the On-Call Consulting for Engineering and Architectural Services Contracts between the City of Buckeye and Affiliated Engineers, Inc. (Contract No. 2022003.01), Arrington Watkins Architects, LLC (Contract No. 2022003.02), Black & Veatch Corporation (Contract No. 2022003.03), Brown and Caldwell, Inc. (Contract No. 2022003.04), Bureau Veritas North America, Inc. (Contract No. 2022003.05), Burgess & Niple, Inc. (Contract No. 2022003.06), Cardno, Inc. (Contract No. 2022003.07), Carollo Engineers, Inc. (Contract No. 2022003.08), CivTech, Inc. (Contract No. 2022003.09), Consor Engineers, LLC (Contract No. 2022003.10), Consultant Engineering, Inc. (Contract No. 2022003.11), DFDG Architecture (Contract No. 2022003.12), Dibble & Associates Consulting Engineers, Inc. (Contract No. 2022003.13), Dig Studio, Inc. (Contract No. 2022003.14), Entellus, Inc. (Contract No. 2022003.15), Environmental Planning Group, LLC (Contract No. 2022003.16), Greenlight Traffic Engineering, LLC (Contract No. 2022003.17), Hazen and Sawyer (Contract No. 2022003.18), HDR Engineering, Inc. (Contract No. 2022003.19), HilgartWilson, LLC (Contract No. 2022003.20), J2 Engineering and Environmental Design, LLC (Contract No. 2022003.21), Kimley-Horn and Associates, Inc. (Contract No. 2022003.22), Kitchell/CEM, Inc. (Contract No. 2022003.23), LEA-Architects, LLC (Contract No. 2022003.24), Matrix New World Engineering (Contract No. 2022003.25), Michael Baker International, Inc. (Contract No. 2022003.26), Michael Wilson Kelly-Architects, Ltd. (Contract No. 2022003.27), Ninyo & Moore Geotechnical & Environmental Science Consultants (Contract No. 2022003.28), Pearson Engineering Associates, Inc. (Contract No. 2022003.29), Project Engineering Consultants, Ltd. (Contract No. 2022003.30), Ritoch-Powell & Associates (Contract No. 2022003.31), Speedie and Associates, Inc. (Contract No. 2022003.32), Stanley Consultants, Inc. (Contract No. 2022003.33), Sunrise Engineering, Inc. (Contract No. 2022003.34), Tristar Engineering and Management, Inc. (Contract No. 2022003.35), Western Technologies, Inc. (Contract No. 2022003.36), Willdan Engineering (Contract No. 2022003.37), Wilson Engineers (Contract No. 2022003.38), Wood Environment & Infrastructure Solutions, Inc. (Contract No. 2022003.39), Wood, Patel & Associates, Inc. (Contract No. 2022003.40), Wright Engineering Corp. (Contract No. 2022003.41), and Y2K Engineering, LLC (Contract No. 2022003.42); and authorizing the Mayor to execute and deliver said contracts on behalf of the City.
Summary: Over the next five (5) years, the City expects to execute several Capital Improvement

Projects (CIP). As these projects are funded and developed, having a qualified group of Consultants available to perform these projects and meet the City's requirements is essential. The contract period for each of the awarded contracts 2022003.01 through 2022003.42 is for an initial term of one (1) year with no more than four (4) additional one-year extensions. During the term of the contract, work shall be conducted as a series of individual Task Orders with estimated values of $50,000 to $500,000. As Capital Improvement Projects (CIP) are developed and funded, each Task Order shall be approved in strict accordance with the City procurement code.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.B** Council to take action on Delivery Order No. 3 to the Job Order Contract (No. 2020001.01) between the City of Buckeye, an Arizona municipal corporation, and Brycon Corporation, an Arizona corporation, related to site preparation for a public safety communication tower near the Buckeye Park-n-Ride; and authorizing the Mayor to execute and deliver said Agreement on behalf of the City.
Summary: As part of the Capital Improvement Program, the Information Technology Department has requested the Construction and Contracting Division to prepare the site at Jackrabbit Trail and Interstate 10 for installation of the 180' Communication Tower. The Communication Tower will provide additional public safety radio coverage. The total amount to be paid under this Delivery Order shall not exceed $970,987.25.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.C** Council to take action on Delivery Order No. 1 to the Job Order Contract (No. 2020003.02) between the City of Buckeye, an Arizona municipal corporation, and Haydon Building Corp., an Arizona Corporation, related to intersection improvements at Verrado Way from Yuma Road to Van Buren Street; and authorizing the Mayor to execute and deliver said Delivery Order on behalf of the City.
Summary: This project is part of the Fiscal Year 2021-2022 Capital Improvement Program (CIP) and will improve Verrado Way by adding one additional North-bound and South-bound lane to provide a total of two through-lanes in each direction between Yuma Road and Van Buren Street. The total amount to be paid under this Delivery Order shall not exceed $3,922,896.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.D** Council to take action on Change Order No. 3 to the Contract (No. 2020006) between the City of Buckeye and Willmeng Construction, Inc., related to Sundance Park Phase II, accepting Guaranteed Maximum Price ("GMP") #3; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.
Summary: As part of the Capital Improvement Program, construction of Sundance Park Phase II continues with GMP #3 that includes the North Parking Lot, Playground, Splash Pad, Ramada's

& Amenities, Restroom, Concrete Sidewalk and North Fields. The total amount to be paid under GMP #3 shall not exceed $10,697,784.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.E** Council to take action on the Professional Service Agreement (Contract No. 2022017) between the City of Buckeye, an Arizona municipal corporation, and Matrix Design Group, Inc., a Colorado corporation, to provide a Buckeye Airport Comprehensive Specific Area Plan; and authorizing the Mayor to execute and deliver said Agreement on behalf of the City.
Summary: The City of Buckeye is seeking professional planning services to provide a Buckeye Airport Comprehensive Specific Area Plan. The total amount to be paid under this Agreement shall not exceed $200,000.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.F** Council to take action on Change Order No. 3 to the Construction Contract (No. 2021036) between the City of Buckeye and LightDay Solar, Inc., for additional labor and materials related to Fire Station 701; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.
Summary: As part of the Capital Improvement Program, emergency backup generators were installed at six locations citywide; Fire Station 701 located on Miller Road in Buckeye was added as a seventh location via Change Order. Installation labor and materials are now being added under this Change Order for the generator installation. The total amount to be paid under this change order shall not exceed $105,160.94.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.G** Council to take action on Change Order No. 1 to Task Order No. 9 of the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-014) between the City of Buckeye and Stanley Consultants, Inc., to add additional design services for a Durango Street Roundabout within the scope of the design of overall improvements to Durango Street from Miller Road to Yuma Road; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.
Summary: As part of the Capital Improvement Program, additional design services for the Durango Street, Miller Road to 249th Avenue Roadway, and Intersection Improvement Project will consist of revising the location of the roundabout to minimize the right-of-way impacts to the existing parcels on the south side of Durango Street. The total amount to be paid under this Change Order shall not exceed $129,408.
Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.H** Council to take action on Task Order No. 5 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2017-010-002) between the City of Buckeye and Shums

Coda Associates, Inc., or Building Plan Review and Inspection Services; and authorizing the Mayor to execute and deliver said Task Order on behalf of the City.

Summary: The Development Services Department is requesting funds through Task Order No. 5 to keep up with the current demand for Building Inspections, Building Official and Building Plan Review Services. SHUMS Coda, Inc. will provide assistance with Building Inspections, Building Official and Building Plan Review Service reviews and other project related services. The total amount to be paid under this Task Order shall not exceed $543,000.

Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.I** Council to take action approving Task Order No. 2 to the On-Call Consulting Contract for Building Plan Review and Inspection Services (Contract No. 2017-010-003) between the City of Buckeye and Brown & Associates; and authorizing the Mayor to execute and deliver said Task Order on behalf of the City.

Summary: The Development Services Department is requesting funds through Task Order No. 2 to keep up with the current demand for Building Inspections. Brown & Associates, will provide assistance with Building Inspections, and other project related services in the budgeted amount not to exceed $75,600.

Staff Liaison: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225

***6.J** Council to take action on Resolution No. 25-22 ratifying the submission of a SAFER Grant Application to the Federal Emergency Management Agency; and authorizing the Mayor to accept, execute, and deliver any resulting grant award or agreement.

Summary: The Fire Department has applied for the FEMA Staffing for Adequate Fire and Emergency Response (SAFER) Grant Program, in the amount of $4,248,284.25, for the staffing of future Fire Station 707 in Blue Horizons. The department seeks to hire 15 firefighter recruits to complete a 14-week Academy no later than January 2023, with the intent to have those 15 new firefighters operational to allow the department to send 15 other members to specialty schools such as Paramedic, Technical Rescue and Hazardous Materials schools before the completion of Fire Station 707 in Blue Horizons.

Staff Liaison: Jake Rhoades, Fire Chief, jrhoades@buckeyeaz.gov, (623) 349-6700

7. City Manager's Report and Summary of Current Events

8. Comments from the Mayor and Council

Mayor and Council may present a brief summary on current events and/or report on any of the Boards and Commissions and other organizations as necessary.

Councilmember Youngker:
Public Safety Retirement Board (Police)
Airport Advisory Board
Main Street Board

Councilmember HagEstad:

Councilmember Goodman:
Valley Metro RPTA Board
WESTMARC

Councilmember Guy:
Buckeye Youth Council
Community Development Advisory Committee (CDAC Regular Member)

Vice Mayor Heustis:
Library Advisory Board
Planning and Zoning Commission Public Safety Retirement Board (Fire)
Buckeye Pollution Control Corporation (BPCC)
Chamber of Commerce Council Liaison

Councilmember Hess:
Community Development Advisory Committee (CDAC Alternate Member)
Community Services Advisory Board
Southwest Lending Closet Board

Mayor Orsborn:
MAG Regional Council - Member
MAG Economic Development Committee - Member
MAG Transportation Policy Committee - Member
Great Phoenix Economic Council (GPEC)

The Council may not propose, discuss, deliberate, or take any legal action on information presented. Council may direct inquiries to staff.

9. Council will make a motion to adjourn the meeting

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 4.A. Minutes
DATE PREPARED: 02/24/22	**DISTRICT NO.:** ALL
STAFF LIAISON:	
DEPARTMENT: City Clerk	**AGENDA ITEM TYPE:** Minutes

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on approval of the January 25, 2022 Special Council Meeting and Executive Session Minutes (a.m. session), January 25, 2022 Special Council Meeting and Executive Session Minutes (p.m. session), January 31, 2022 Special Council Meeting and Executive Session Minutes, February 1, 2022 Council Workshop Minutes, February 1, 2022 Regular Council Meeting Minutes, and February 3, 2022 Special Council Meeting and Executive Session Minutes.

RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

SUMMARY

PROJECT DESCRIPTION:
Council to take action on approval of the January 25, 2022 Special Council Meeting and Executive Session Minutes (a.m. session), January 25, 2022 Special Council Meeting and Executive Session Minutes (p.m. session), January 31, 2022 Special Council Meeting and Executive Session Minutes, February 1, 2022 Council Workshop Minutes, February 1, 2022 Regular Council Meeting Minutes, and February 3, 2022 Special Council Meeting and Executive Session Minutes.

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:
01.25.2022 Special Council Meeting and Executive Session Minutes AM.pdf
01.25.2022 Special Council Meeting and Executive Session Minutes PM.pdf
01.31.2022 Special Council Meeting and Executive Session Minutes.pdf
02.03.2022 Special Council Meeting and Executive Session Minutes.pdf
02.01.2022 Council Workshop Minutes.pdf
02.01.2022 Regular Council Meeting Minutes.pdf

BUCKEYE, AZ

CITY OF BUCKEYE
SPECIAL COUNCIL MEETING
COUNCIL EXECUTIVE SESSION
JANUARY 25, 2022
MINUTES

City Hall - Council Chambers
530 East Monroe Avenue
Buckeye, AZ 85326
10:00 AM

1. Call to Order/Roll Call

Mayor Orsborn called the meeting to order at 10:05 a.m.

Members Present: Councilmember Youngker (arrived at 10:06 a.m.), Councilmember Goodman, Councilmember HagEstad (via Microsoft Teams), Councilmember Guy, Councilmember Hess, Vice Mayor Heustis, and Mayor Orsborn.

Members Absent: None.

Departments Present: Human Resources Director Nancy Love, City Attorney Shiela Schmidt, and Deputy City Clerk Summer Stewart.

2. Council, Directors and Stakeholders to receive information and instructions from the Consultant on the day's agenda and process.

Sarah McKee, Sr. Vice President of GovHR USA, presented information and instructions regarding the day's agenda and process.

3. Upon a public majority vote, the Mayor and Council will convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidates Louis Andersen and Daniel Cotterman for the position of City Manager of the City of Buckeye.

At 10:15 a.m. a motion was made by Councilmember Hess and seconded by Councilmember Goodman to convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidates Louis Andersen and Daniel Cotterman for the position of City Manager of the City of Buckeye. Motion passed unanimously.

4. Reconvene into Special Council Meeting

At 12:45 p.m. a motion was made by Councilmember Youngker and seconded by Vice Mayor Heustis to reconvene into the Special Council Meeting. Motion passed unanimously.

5. Adjournment

A motion was made by Councilmember Hess and seconded by Councilmember Youngker to adjourn the meeting at 12:45 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Special Council Meeting and Executive Session held on January 25, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

BUCKEYE, AZ

CITY OF BUCKEYE
SPECIAL COUNCIL MEETING
COUNCIL EXECUTIVE SESSION
JANUARY 25, 2022
MINUTES

City Hall - Council Chambers
530 East Monroe Avenue
Buckeye, AZ 85326
1:30 PM

1. Call to Order/Roll Call

Mayor Orsborn called the meeting to order at 1:31 p.m.

Members Present: Councilmember Youngker, Councilmember Goodman, Councilmember HagEstad (via Microsoft Teams), Councilmember Guy, Councilmember Hess, Vice Mayor Heustis, and Mayor Orsborn.

Members Absent: None.

Departments Present: Human Resources Director Nancy Love, City Attorney Shiela Schmidt, and Deputy City Clerk Summer Stewart.

2. Upon a public majority vote, the Mayor and Council will convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Maury Thompson for the position of City Manager of the City of Buckeye.

At 1:31 p.m. a motion was made by Councilmember Guy and seconded by Councilmember Youngker to convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Maury Thompson for the position of City Manager of the City of Buckeye. Motion passed unanimously.

3. Reconvene into Special Council Meeting

At 2:47 p.m. a motion was made by Councilmember Goodman and seconded by Councilmember Hess to reconvene into the Special Council Meeting. Motion passed unanimously.

4. Council to receive input from Directors and Stakeholders.

Mayor Orsborn notified the Directors and Stakeholders input would be received by Council in Executive Session.

5. Upon a public majority vote, the Mayor and Council will convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidates Louis Andersen, Daniel Cotterman, and Maury Thompson for the position of City Manager of the City of Buckeye.

At 2:48 p.m. a motion was made by Councilmember Hess and seconded by Councilmember Youngker to convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the

employment of candidates Louis Andersen, Daniel Cotterman, and Maury Thompson for the position of City Manager of the City of Buckeye. Motion passed unanimously.

6. Reconvene into Special Council Meeting

At 5:07 p.m. a motion was made by Vice Mayor Heustis and seconded by Councilmember Goodman to reconvene into the Special Council Meeting. Motion passed unanimously.

7. Council to take action providing direction to staff and the consultant to negotiate an employment agreement with the City of Buckeye for the position of City Manager for future approval by Council.

No action was taken by Council.

8. Adjournment

A motion was made by Councilmember Hess and seconded by Vice Mayor Heustis to adjourn the meeting at 5:07 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Special Council Meeting and Executive Session held on January 25, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

BUCKEYE, AZ

CITY OF BUCKEYE
SPECIAL COUNCIL MEETING
COUNCIL EXECUTIVE SESSION
JANUARY 31, 2022
MINUTES

City Hall - Council Chambers
530 East Monroe Avenue
Buckeye, AZ 85326
10:30 AM

1. Call to Order/Roll Call

Mayor Orsborn called the meeting to order at 10:30 a.m.

Members Present: Councilmember Youngker, Councilmember Goodman, Councilmember HagEstad (via Microsoft Teams), Councilmember Guy, Councilmember Hess, Vice Mayor Heustis, and Mayor Orsborn.

Members Absent: None.

Departments Present: Human Resources Director Nancy Love, City Attorney Shiela Schmidt, and Deputy City Clerk Summer Stewart.

2. Upon a public majority vote, the Mayor and Council will convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Daniel Cotterman for the position of City Manager of the City of Buckeye.

At 10:31 a.m. a motion was made by Councilmember Youngker and seconded by Councilmember Goodman to convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Daniel Cotterman for the position of City Manager of the City of Buckeye. Motion passed unanimously.

3. Reconvene into Special Meeting

At 1:18 p.m. a motion was made by Councilmember Guy and seconded by Councilmember Goodman to reconvene into the Special Council Meeting. Motion passed unanimously.

4. Council will discuss and may provide direction to staff and take action regarding the position of City Manager for the City of Buckeye.

No action was taken by Council.

5. Adjournment

A motion was made by Councilmember Youngker and seconded by Councilmember Goodman to adjourn the meeting at 1:19 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Special Council Meeting and Executive Session held on January 31, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

BUCKEYE, AZ

CITY OF BUCKEYE
SPECIAL COUNCIL MEETING
COUNCIL EXECUTIVE SESSION
FEBRUARY 3, 2022
MINUTES

City Hall - Council Chambers
530 East Monroe Avenue
Buckeye, AZ 85326
5:30 PM

1. Call to Order/Roll Call

Mayor Orsborn called the meeting to order at 5:30 p.m.

Members Present: Councilmember Youngker, Councilmember Goodman (via Microsoft Teams), Councilmember Guy, Councilmember Hess, Vice Mayor Heustis, and Mayor Orsborn.

Members Absent: Councilmember HagEstad.

Departments Present: Human Resources Director Nancy Love, City Attorney Shiela Schmidt, and City Clerk Lucinda Aja.

2. Upon a public majority vote, the Mayor and Council will convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Daniel Cotterman for the position of City Manager of the City of Buckeye.

At 5:30 p.m. a motion was made by Vice Mayor Heustis and seconded by Councilmember Youngker to convene into Executive Session pursuant to A.R.S. Section 38-431.03(A)(1) to discuss or consider the employment of candidate Daniel Cotterman for the position of City Manager of the City of Buckeye. Motion passed unanimously.

3. Reconvene into Special Meeting

At 6:00 p.m. a motion was made by Vice Mayor Heustis and seconded by Councilmember Guy to reconvene into the Special Council Meeting. Motion passed unanimously.

4. Council will discuss and may provide direction to staff and take action regarding the position of City Manager for the City of Buckeye.

A motion was made by Vice Mayor Heustis and seconded by Councilmember Youngker to direct staff to negotiate an Employment Agreement with Daniel Cotterman for the position of City Manager for the City of Buckeye. Motion passed unanimously.

5. Adjournment

A motion was made by Councilmember Hess and seconded by Vice Mayor Heustis to adjourn the meeting at 6:03 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Special Council Meeting and Executive Session held on February 3, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

BUCKEYE, AZ

CITY OF BUCKEYE
COUNCIL WORKSHOP
FEBRUARY 1, 2022
MINUTES

City Council Chambers
530 East Monroe Avenue
Buckeye, AZ 85326
2:30 PM

1. Call to Order/Roll Call

Mayor Orsborn called the meeting to order at 2:30 p.m.

Members Present: Councilmember Youngker, Councilmember Goodman (arrived at 2:37 p.m.), Councilmember Guy (excused at 4:53 p.m.; returned at 4:56 p.m.), Councilmember Hess (arrived via Microsoft Teams at 2:35 p.m.; arrived in person at 3:34 p.m.; excused at 5:01 p.m.; returned at 5:04 p.m.), Vice Mayor Heustis, and Mayor Orsborn (excused at 3:54 p.m.; returned at 3:57 p.m.)

Members Absent: Councilmember HagEstad.

Departments Present: City Manager Roger Klingler, Assistant City Manager James Shano, Deputy City Manager Dave Roderique, City Clerk Lucinda Aja, Assistant to Mayor Christine Grundy, Police Chief Larry Hall, Fire Chief Jake Rhoades, Chief Financial Officer William Kauppi, Community Services Director Miranda Gomez, Human Resources Director Nancy Love, Information Technology Director Greg Platacz, and Water Resources Director Alisha Solano.

2. Workshop Items

2.A Buckeye City Council to receive a presentation from the Community Services Department regarding capital improvement projects that have been recently completed, are currently underway, or planned over the next five years.
Staff Liaison: Robert Wisener, Administration and Project Manager

Mr. Shano provided an overview of the Capital Improvement Plan (CIP) projects that will be presented to Council by the Community Services, Police, Fire, and Information Technology Departments; staff is seeking input and direction from Council.

Mr. Wisener presented information regarding Community Services Department CIP projects. Recently completed projects, projects currently underway, and additional project requests for Fiscal Year (FY) 2022-2023 were listed and reviewed; vicinity maps, design plans, and concept renderings were displayed. Mayor Orsborn requested clarification regarding additional public pool projects. Mr. Wisener stated conversations have been held with other communities in Buckeye regarding additional public pool projects. Ms. Gomez clarified impact fees cannot be used to fund a pool in the Verrado community; provided additional information regarding the pool and parking expansion project for the pool located in the downtown area; stated joint-use opportunities with other organizations are being explored. Vice Mayor Heustis presented comments regarding resident concerns related to the location of the proposed library and community center in the Sun City Festival community; requested further clarification regarding the status of the Sun City Festival library and community center project. Ms. Gomez stated conversations

have been held with concerned residents and with Pulte, who will be donating the land for the project; funds have been allocated for the design of the project and once the City has agreed to the location of the donated land, a deal will be entered into for conveyance of the property to the City; the design phase will not begin until land conveyance has been completed; public outreach and communication will be conducted. Mayor Orsborn requested further information regarding project design. Mr. Wisener clarified the design of the north library and community center is site specific. Mayor Orsborn requested clarification regarding use of impact fees for the Sundance Park Phase II construction project. Mr. Wisener stated the City has collected approximately $6 million in impact fees for the Sundance Park Phase II construction project and anticipates collecting an additional $4 to $5 million in impact fees over the next five years. Councilmember Guy requested further information regarding grant funding. Mr. Wisener stated grant funding for the Sundance Park Phase II construction project was received for items listed in the GMP No. 3 phase; stated funding agreements are in place and secured. Mayor Orsborn requested further information regarding grant opportunities. Mr. Wisener stated grant funding opportunities will be sought and applied for when available. Ms. Gomez stated staff is seeking direction from Council regarding the Buckeye Arena Facility Assessment and Improvements project; the property is leased to the City and requires improvements. Mr. Lowe presented additional statements regarding improvements needed at the Buckeye Arena Facility; stated APS does not currently have plans to use the land leased by the City. Vice Mayor Heustis requested clarification regarding the Demolition Derby events held at the Buckeye Arena Facility. Ms. Gomez stated City staff runs the Demolition Derby events; stated fees collected for events at the facility do not cover the anticipated costs of improvements. Vice Mayor Heustis requested further information regarding eradication of salt cedars in connection with the El Rio Trailhead project. Mr. Wisener provided additional information regarding the location of salt cedars in the area and the removal of salt cedars; efforts are underway and will be an ongoing process. Councilmember Guy requested further information regarding Gila River pilot projects submitted by other cities. Mr. Wisener provided additional information regarding the status of pilot projects submitted by other cities; the goal of the pilot projects was to demonstrate the river as a recreational resource for the public. Councilmember Guy requested clarification regarding the Skyline Regional Park Verrado Lost Creek Trailhead project. Mr. Wisener provided additional information regarding the project and process for leasing and/or acquiring land from the Bureau of Land Management (BLM). Mayor Orsborn requested further information regarding the location of the project. Mr. Wisener provided clarification regarding location of trailheads that will connect to Skyline Regional Park trails. General discussion was held regarding the project and the application process with BLM. Mr. Wisener stated the requested amount for FY 2022-2023, including carry over projects, new phase progressions, and new projects, totals $20,980,317; stated the total approved amount in FY 2021-2022 for Community Services CIP was $25,100,674. Councilmember Hess requested a breakdown be provided to Council reflecting CIP project amounts paid, impact fees collected and expended for those projects, and impact fees anticipated to be collected. Councilmember Guy requested further information be provided to Council reflecting grant monies received and used for CIP projects. Mayor Orsborn stated a breakdown of funds and funding sources will be a helpful tool.

2.B Buckeye City Council to receive a presentation from the Police Department regarding capital improvement projects that have been recently completed, are currently underway, or planned over the next five years. Staff Liaison: Robert Sanders, Assistant Police Chief

Chief Sanders presented information regarding Police Department CIP projects. A 2019 space needs study indicates the Police Department needs an additional 39,000 square feet of space. A CIP project historical summary was provided. FY 2022-2023 CIP project requests were listed and reviewed. Priorities include a communications center, headquarters, firearms simulator training, and equipment storage. Councilmember Hess requested further information regarding the communications center project. Chief Sanders stated it would house the Emergency Operations Center (EOC) along with the real time virtual crime center. Police Headquarters would house VirTra (virtual training) for use of force/de-escalation training; VirTra training example videos were played; facility concept depictions were displayed. Space needs were summarized; the Police Department estimates it will need an additional 65,000 square feet of space by 2030. Councilmember Youngker requested clarification regarding an equipment storage facility for the department. Chief Sanders stated an equipment storage facility will need a drive-thru. Councilmember Goodman requested further information regarding the VirTra. Chief Sanders stated the VirTra program and equipment would be purchased; stated there are several thousand virtual training options with the VirTra program. Vice Mayor Heustis requested further information regarding equipment donations and

savings. Chief Sanders stated he estimates the City has saved $500,000 by accepting equipment donations. Chief Hall provided additional information regarding equipment donations from the military. Councilmember Hess requested further information regarding public safety facilities. Chief Sanders stated there are options for one facility to be used for police headquarters, training, communications, and equipment storage; stated public safety currently shares space; stated the current communications center has reached its end of life due to technology improvements, but stated the facility could be re-purposed. Mayor Orsborn requested further information regarding a City-wide facility master plan. Mr. Klingler stated space planning for immediate City needs is taking place now; stated the City is also working on a City-wide facility master plan for long-term planning. General discussion was held regarding opportunities to partner with other organizations to share costs related to training and the VirTra program.

2.C Buckeye City Council to receive a presentation from the Fire Department regarding capital improvement projects that have been recently completed, are currently underway, or planned over the next five years.
Staff Liaison: Jake Rhoades, Fire Chief

Chief Rhoades presented an overview of Fire Department CIP projects; FY 2022-2023 requested projects were listed and summarized. Councilmember Guy requested further information regarding Westpark Fire Station 706. Chief Stockley clarified land has been provided by the developer for the Westpark Fire Station; however, the City will give back that land if it determines that it not the most appropriate location for the fire station; confirmed impact fees will be used to fund the project. Councilmember Hess requested further information regarding the North Star Ranch Fire Station and North Verrado/Highland Fire Station projects. Chief Rhoades stated the North Star Ranch facility will be needed due to access and growth. Chief Stockley stated the North Verrado/Highland facility would service the northern portions of Jackrabbit Trail including the Canyon Views development. Councilmember Guy presented statements regarding development agreements and developer costs related to the construction, land, and operations of fire stations within communities. Councilmember Goodman requested further information regarding emergency response calls in the Verrado community. Chief Stockley provided additional information regarding emergency response calls in the Verrado community and conversations held with the developer to address concerns. Mayor Orsborn stated opportunities for partnerships with neighboring municipalities and organizations should be explored. Chief Rhoades stated development and new facilities information is communicated to west valley fire departments; collaboration and partnership opportunities are evaluated. Councilmember Youngker requested further information regarding the Paramedicine program. Chief Rhoades stated Paramedicine is currently located in the Fire Administration building and future space needs are being assessed.

2.D Buckeye City Council to receive a presentation from the Information Technology Department regarding capital improvement projects that are currently underway and planned over the next five years.
Staff Liaison: Greg Platacz, Information Technology Director

Mr. Platacz presented an overview of Information Technology Department CIP projects; requested FY 2022-2023 projects were listed and summarized; vicinity maps were displayed. Vice Mayor Heustis requested clarification regarding fiber infrastructure. Mr. Platacz stated adding fiber infrastructure to roadway improvements is evaluated during the planning phase, but issues may prevent the installation of fiber infrastructure for specific projects; stated an internal conduit master plan has been drafted to ensure those improvements are made when possible. Mr. Shano stated staff is drafting engineering and design standards that include fiber infrastructure. Councilmember Guy stated the importance of technology and funding necessary information technology projects.

3. Adjournment.
A motion was made by Vice Mayor Heustis and seconded by Councilmember Goodman to adjourn the meeting at 5:17 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Council Workshop held on February 1, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

BUCKEYE, AZ

CITY OF BUCKEYE
REGULAR COUNCIL MEETING
FEBRUARY 1, 2022
MINUTES

City Council Chambers
530 E. Monroe Ave.
Buckeye, AZ 85326
6:00 PM

1. Call to Order/Invocation/Pledge of Allegiance/Roll Call

Mayor Orsborn called the meeting to order at 6:00 p.m.; Pastor Brian Wright of Citadel of Praise Christian Church led the invocation; Vice Mayor Heustis led the Pledge of Allegiance.

Members Present: Councilmember Youngker (arrived at 6:07 p.m.), Councilmember Goodman, Councilmember Hess, Councilmember Guy, Vice Mayor Heustis, and Mayor Orsborn.

Members Absent: Councilmember HagEstad.

Departments Present: Interim City Manager James Shano, Deputy City Manager Dave Roderique, City Attorney Shiela Schmidt, City Clerk Lucinda Aja, Assistant to Mayor and Council Christine Grundy, Police Chief Larry Hall, Fire Chief Jake Rhoades, Chief Financial Officer William Kauppi, Human Resources Director Nancy Love, Public Works Director Scott Lowe, City Engineer Scott Zipprich, Development Services Director Brian Craig, Water Resources Director Alisha Solano, Information Technology Director Greg Platacz, Judge John Burkholder, and Community Services Director Miranda Gomez.

2. Comments from the Public

Library Manager Jana White presented statements regarding her upcoming retirement after eight years of service to the City of Buckeye; thanked Council, staff, and the community for their support.

3. Awards/Presentations/Proclamations

3.A Mayor Orsborn proclaimed February 2022 as Career and Technical Education Month in Buckeye.

3.B Mayor Orsborn recognized the retirement of City Manager Roger Klingler.

4. Minutes

4.A Council to take action on approval of the January 4, 2022 Special Council Meeting and Executive Session Minutes, January 4, 2022 Council Workshop Minutes, and January 4, 2022 Regular Council Meeting Minutes.

A motion was made by Vice Mayor Heustis and seconded by Councilmember Goodman to approve the January 4, 2022 Special Council Meeting and Executive Session Minutes, January 4, 2022 Council Workshop Minutes, and January 4, 2022 Regular Council Meeting Minutes.

5. Expenditures

5.A Council to take action on the request to ratify the payment of the accounts payable expenditures made.

A motion was made by Vice Mayor Heustis and seconded by Councilmember Youngker to ratify the payment of the accounts payable expenditures made. Motion passed unanimously.

6. CONSENT AGENDA ITEMS / NEW BUSINESS

Approval of items on the Consent Agenda -All items with an (*) are considered to be routine matters and will be enacted by one motion and vote of the City Council. Vice Mayor Heustis initiated a motion; Councilmember Youngker requested Item *6.A be pulled for discussion; Vice Mayor Heustis withdrew his initiated motion. After discussion was held regarding Item *6.A, a motion was made by Councilmember Youngker and seconded by Councilmember Goodman to approve Items *6.A, *6.B, *6.C, *6.D, *6.E, *6.F, *6.G, *6.H., *6.I, *6.J and *6.K. Motion passed unanimously.

***6.A Council to take action on Task Order No. 19 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-032) between the City of Buckeye, an Arizona municipal corporation, and Kimley-Horn & Associates, Inc., an Arizona corporation, for final design services for intersection improvements at Miller Road and Baseline Road; and authorize the Mayor to execute and deliver said Task Order on behalf of the City.**
Staff Liaison: Chris Williams, Construction and Contracting Manager

Councilmember Youngker requested this item be pulled for discussion and requested further information regarding the proposed intersection improvements. Mr. Williams stated a roundabout at the subject intersection was initially proposed but it has since been determined that a roundabout is not appropriate at this location. Mr. Zipprich confirmed Miller Road will ultimately be a six lane roadway; the item before Council includes a five lane roadway with a median that will include ancillary infrastructure.

Council approved Task Order No. 19 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-032) between the City of Buckeye, an Arizona municipal corporation, and Kimley-Horn & Associates, Inc., an Arizona corporation, for final design services for intersection improvements at Miller Road and Baseline Road; and authorize the Mayor to execute and deliver said Task Order on behalf of the City.

***6.B Council to take action on Task Order No. 7 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-002) between the City of Buckeye, an Arizona municipal corporation, and Cardno, Inc., an Arizona corporation, for Watson Road Improvements from Durango Street to Lower Buckeye Road; and authorize the Mayor to execute and deliver said Task Order on behalf of the City.**
Staff Liaison: Chris Williams, Construction and Contracting Manager

Council approved Task Order No. 7 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-002) between the City of Buckeye, an Arizona municipal corporation, and Cardno, Inc., an Arizona corporation, for Watson Road Improvements from Durango Street to Lower Buckeye Road; and authorize the Mayor to execute and deliver said Task Order on behalf of the City.

***6.C Council to take action on the Professional Services Agreement (Contract No. 2022019) between the City of Buckeye, an Arizona municipal corporation, and Stanley Consultants, Inc., an Arizona corporation, to provide the design of Watson Road between MC85 and Southern Avenue; and authorize the Mayor to execute and deliver said Agreement on behalf of the City.**
Staff Liaison: Chris Williams, Construction and Contracting Manager

Council approved the Professional Services Agreement (Contract No. 2022019) between the City of Buckeye, an Arizona municipal corporation, and Stanley Consultants, Inc., an Arizona corporation, to provide the design of Watson Road between MC85 and Southern Avenue; and authorize the Mayor to execute and deliver said Agreement on behalf of the City.

***6.D Council to take action on a Map of Dedication for Durango-Miller 247 dedicating right-of-way along Durango and Yuma Roads and 247th Avenue.**
Staff Liaison: Andrea Marquez, Planner II

Council approved a Map of Dedication for Durango-Miller 247 dedicating right-of-way along Durango and Yuma Roads and 247th Avenue.

***6.E Council to take action on a Map of Dedication for Alta Vista Road associated with the Odyssey Preparatory Academy development.**
Staff Liaison: Bart Wingard, Principal Planner

Council approved a Map of Dedication for Alta Vista Road associated with the Odyssey Preparatory Academy development.

***6.F Council to take action on a final plat of Verrado Victory District Phase 3C Unit 2, generally located on the northwest corner of Indian School Road and Exeter Boulevard within the Verrado Victory District.**
Staff Liaison: Sean Banda, Senior Planner

Council approved a final plat of Verrado Victory District Phase 3C Unit 2, generally located on the northwest corner of Indian School Road and Exeter Boulevard within the Verrado Victory District.

***6.G Council to take action on the Memorandum of Understanding (MOU) for the Maricopa County Securing the Cities (STC) Program between Maricopa County, Arizona and the City of Buckeye, Arizona.**
Staff Liaison: Jake Rhoades, Fire Chief

Council approved the Memorandum of Understanding (MOU) for the Maricopa County Securing the Cities (STC) Program between Maricopa County, Arizona and the City of Buckeye, Arizona.

***6.H Council to take action on Resolution No. 19-22 ratifying the submission of a Grant Application to the Federal Emergency Management Agency, and authorizing the Mayor to accept, execute and deliver any resulting Grant Award or Agreement.**
Staff Liaison: Jake Rhoades, Fire Chief

Council adopted Resolution No. 19-22 ratifying the submission of a Grant Application to the Federal Emergency Management Agency, and authorizing the Mayor to accept, execute and deliver any resulting Grant Award or Agreement.

***6.I Council to take action on the Construction Contract (No. 2022033) between the City of Buckeye, an Arizona municipal corporation, and Colt Concrete, LLC, for demolition and reconstruction of the driveway for Fire Station 701; and authorizing the Mayor to execute and deliver said Contract on behalf of the City.**
Staff Liaison: Scott Lowe, Public Works Director

Council approved Construction Contract (No. 2022033) between the City of Buckeye, an Arizona municipal corporation, and Colt Concrete, LLC, for demolition and reconstruction of the driveway for Fire Station 701; and authorizing the Mayor to execute and deliver said Contract on behalf of the City.

***6.J Council to take action on entering into a Separation and Release Agreement between City Manager, Roger Klingler, and the City of Buckeye, and authorize the Mayor to execute and deliver said Agreement.**
Staff Liaison: Nancy Love, Human Resources Director

Council approved entering into a Separation and Release Agreement between City Manager, Roger Klingler, and the City of Buckeye, and authorize the Mayor to execute and deliver said Agreement.

***6.K Council to take action on entering into a Temporary Assignment Agreement between Assistant City Manager, James Shano and the City of Buckeye, placing Mr. Shano in the position of Interim City Manager, and authorize the Mayor to execute and deliver said Agreement.**
Staff Liaison: Nancy Love, Human Resources Director

Council approved entering into a Temporary Assignment Agreement between Assistant City Manager, James Shano and the City of Buckeye, placing Mr. Shano in the position of Interim City Manager, and authorize the Mayor to execute and deliver said Agreement.

7. Continued / Tabled Items

7.A Council to take action on Resolution No. 16-22 adopting a Notice of Intent to establish a new or increased court enhancement fee related to funding improvements to the municipal court, and to make available to the public a written report in support of the proposed new or increased fee.
(Continued from the January 18, 2022 Regular Council Meeting Agenda)
Staff Liaison: Johnny Tse, Court Administrator

Judge Burkholder provided an overview of the Notice of Intent to establish new or increased court enhancement fees. Revenue from the Court Enhancement Fund Fee is currently averaging $43,500 per fiscal year; there is a current balance of $313,000 in the fund. The Buckeye Municipal Court has used the fund in the past for parking lot improvements; possible future uses include installation of a gate to secure the Clerk workstation and sound proofing the courtroom. Uses from other municipal courts were listed and reviewed. The current fee is assessed at $10 per *case* with a total of $17.80 including surcharges. The proposed fee will assess a fee of $20 per *charge* for a total of $35.60 including surcharges. Examples of charges and the current and proposed fees for those charges were summarized. Per charge fees provides for better customer service on civil traffic and criminal cases. Staff recommends an increase to the court enhancement fee to $20 per charge in order to streamline operations and to plan for expansion and economic downturns. Mayor Orsborn requested clarification regarding the action Council is asked to take this date. Judge Burkholder confirmed staff is requesting Council approve the Notice of Intent; final action regarding the new or increased court enhancement fees will be taken by Council at a later date. Vice Mayor Heustis requested clarification regarding the proposed changes. Judge Burkholder provided additional clarification regarding the range of fines, which depend on the charge(s). A motion was made by Vice Mayor Heustis and seconded by Councilmember Hess to adopt Resolution No. 16-22 adopting a Notice of Intent to establish a new or increased court enhancement fee related to funding improvements to the municipal court, and to make available to the public a written report in support of the proposed new or increased fee. Motion passed unanimously.

8. Public Hearings / Non-Consent - New Business

8.A Council to hold a public hearing and take action on the Application for a Series 9 Liquor Store Liquor License for Bashas #56, located at 21064 West Main Street.
Staff Liaison: Lucinda Aja, City Clerk

Mayor Orsborn opened a public hearing at 6:56 p.m. to hear citizen input regarding the Application for a Series 9 Liquor Store Liquor License for Bashas #56, located at 21064 West Main Street. Ms. Aja presented an overview of the Application; Bashas #56 is requesting approval for a new Series 9 Liquor Store Liquor License for their existing location in Verrado. The application is due to a transfer in ownership. The business currently maintains a Series 9 Liquor Store Liquor License under the previous owner. The application was legally posted on January 4, 2022. The applicant was available for questions. There being no further comment, Mayor Orsborn closed the public hearing at 6:58 p.m. A motion was made by Vice Mayor Heustis and seconded by Councilmember Hess to the Application for a Series 9 Liquor Store Liquor License for Bashas #56, located at 21064 West Main Street. Motion passed unanimously.

8.B Council to take action on Ordinance No. 03-22 declaring as a public record that certain document on file with the City Clerk entitled the "City of Buckeye Amendments to the 2018 International Fire Code" by reference; and amending the Buckeye City Code by amending Chapter 15, Building Regulations, Article 15-2, Building Codes, Section 15-2-10, Fire Code; providing for repeal of conflicting ordinances; providing for severability; and providing penalties for violations.
Staff Liaison: Jake Rhoades, Fire Chief

Chief Rhoades presented information regarding the City of Buckeye Amendments to the 2018 International Fire Code. The State of Arizona has adopted the 2018 International Fire Code effective January 7, 2022. In order to be compliant with the amendments to the 2018 International Fire Code, the Buckeye Fire Department proposes amendments to the Code of Buckeye, Chapter 15 Building Regulations, related to Section 125-2019 Fire Code. Other Arizona municipalities have adopted local amendments to the 2018 International Fire Code with other local municipalities following suit. Proposed amendments were listed and reviewed. Councilmember Hess requested clarification regarding existing and current building projects and shared technology. Chief Rhoades clarified existing and current projects will not be impacted; thirty-day notices will be sent out and amendments will be shared with the community and stakeholders; provided additional information regarding shard technology. Vice Mayor Heustis requested clarification electronic vehicle regulations. Fire Marshal Nate Ryan provided additional information regarding battery charging stations and regulations. Councilmember Goodman provided statements regarding the importance of adapting to technological improvements and amending regulations as needed. Councilmember Youngker requested clarification regarding sprinkler requirements. Mr. Ryan provided clarification regarding sprinkler requirements in the Building Code and Fire Code. A motion was made by Vice Mayor Heustis and seconded by Councilmember Hess to adopt Ordinance No. 03-22 declaring as a public record that certain document on file with the City Clerk entitled the "City of Buckeye Amendments to the 2018 International Fire Code" by reference; and amending the Buckeye City Code by amending Chapter 15, Building Regulations, Article 15-2, Building Codes, Section 15-2-10, Fire Code; providing for repeal of conflicting ordinances; providing for severability; and providing penalties for violations. Motion passed unanimously.

9. City Manager's Report and Summary of Current Events

Mr. Klingler presented a brief summary of current events.

10. Comments from the Mayor and Council

Councilmember Youngker: presented statements regarding recent successful Buckeye Days events; thanked Mr. Klingler for her service to the City.

Councilmember Goodman: thanked Mr. Klingler for his service to the City and wished him well on his retirement; presented statements regarding the Buckeye Days events.

Vice Mayor Heustis: wished Mr. Klingler a great retirement; presented statements regarding community participation in recent Buckeye Days events.

Councilmember Guy: presented statements regarding recent successful Buckeye Days events; thanked Mr. Klingler for his service to the City.

Councilmember Hess: thanked Mr. Klingler for his service to the City and all his successes as City Manager.

Mayor Orsborn: presented statements regarding recent successful Buckeye Days events; thanked staff; thanked Mr. Klingler for his service to the City.

11. Council will make a motion to adjourn the meeting

A motion was made by Councilmember Hess and seconded by Vice Mayor Heustis to adjourn the meeting at 7:28 p.m. Motion passed unanimously.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

I hereby certify that the foregoing minutes are a true and correct copy of the Regular Council Meeting held on February 1, 2022. I further certify that a quorum was present.

_____
Lucinda J. Aja, City Clerk

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 5.A. City Expenditures
DATE PREPARED: 02/24/22	**DISTRICT NO.:** All
STAFF LIAISON: William Kauppi, Chief Financial Officer, wkauppi@buckeyeaz.gov, (623) 349-6161	
DEPARTMENT: Financial Services	**AGENDA ITEM TYPE:** Expenditures

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on the request to ratify the payment of the accounts payable expenditures made. Copies of invoices are available at City Hall.

RELEVANT GOALS:
GOAL 1: Fiscal Wellness and Financial Flexibility and Accountability

SUMMARY

PROJECT DESCRIPTION:
Council to take action on the request to ratify the payment of the accounts payable expenditures made. Copies of invoices are available at City Hall.

BUDGETED:
Yes

FISCAL YEAR:
FY21-22

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:
Expenditures 01272022-02022022.pdf

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139706	01/27/2022	PRTD	6456	3 MINUTE BUCKEYE LLC	1038	01/03/2022	22200427	012722AP	191.88
				95.94 40003210 521508 Automotive Expenses					
				95.94 40013220 521508 Automotive Expenses					
				3 MINUTE BUCKEYE LLC	1028	12/06/2021	22200082	012722AP	175.89
				175.89 10002140 521508 Automotive Expenses					
				3 MINUTE BUCKEYE LLC	1036	01/03/2022	22200082	012722AP	175.89
				175.89 10002140 521508 Automotive Expenses					
								CHECK 139706 TOTAL:	543.66
139707	01/27/2022	PRTD	1978	3M COMPANY	9413258571	10/29/2021	22200335	012722AP	8,886.24
				8,886.24 38103202 521715 Signs & Markings					
				3M COMPANY	9413228573	10/27/2021	22200335	012722AP	1,077.12
				1,077.12 38103202 521715 Signs & Markings					
				3M COMPANY	9414240552	12/30/2021	22200335	012722AP	912.38
				912.38 38103202 521715 Signs & Markings					
				3M COMPANY	9414207305	12/28/2021	22200335	012722AP	655.78
				655.78 38103202 521715 Signs & Markings					
								CHECK 139707 TOTAL:	11,531.52
139708	01/27/2022	PRTD	5566	ACRO SERVICE CORPORATION	1566311	12/12/2021	22200399	012722AP	1,273.00
				1,273.00 10005185 520037 Professional Services General					
				ACRO SERVICE CORPORATION	1597067	01/02/2022	22200399	012722AP	1,273.00
				1,273.00 10005185 520037 Professional Services General					
				ACRO SERVICE CORPORATION	1610473	01/16/2022	22200399	012722AP	1,273.00
				1,273.00 10005185 520037 Professional Services General					
				ACRO SERVICE CORPORATION	1566376	12/12/2021	22200363	012722AP	594.56
				297.28 40003210 520012 Contract Labor					
				297.28 40013220 520012 Contract Labor					
				ACRO SERVICE CORPORATION	1573530	12/19/2021	22200363	012722AP	743.20
				371.60 40003210 520012 Contract Labor					
				371.60 40013220 520012 Contract Labor					
								CHECK 139708 TOTAL:	5,156.76
139709	01/27/2022	PRTD	1095	ANTHONY'S BACKFLOW INC	026-22	01/21/2022	22200170	012722AP	33.00
				33.00 10003172 520037 Professional Services General					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139709 TOTAL:	33.00
139710	01/27/2022	PRTD	1103	AQUATIC ENVIRONMENTAL SYSTEMS	IN51064	01/24/2022	22200827	012722AP	12,313.68
				12,313.68 10003172 541070 Other Equipment >$5,000					
								CHECK 139710 TOTAL:	12,313.68
139711	01/27/2022	PRTD	1104	ARAMARK UNIFORM & CAREER APPAREL	473000340223	12/23/2021	22200362	012722AP	634.81
				356.03 40003210 521922 Uniforms					
				278.78 40013220 521922 Uniforms					
				ARAMARK UNIFORM & CAREER APPAREL	473000343174	12/30/2021	22200362	012722AP	628.84
				355.12 40003210 521922 Uniforms					
				273.72 40013220 521922 Uniforms					
				ARAMARK UNIFORM & CAREER APPAREL	473000345810	01/06/2022	22200362	012722AP	634.51
				355.88 40003210 521922 Uniforms					
				278.63 40013220 521922 Uniforms					
								CHECK 139711 TOTAL:	1,898.16
139712	01/27/2022	PRTD	5686	ARIZONA PPE RECON, INC.	3284	01/19/2022	22200022	012722AP	1,205.00
				1,205.00 10002140 520518 Equip Testing & Certification					
								CHECK 139712 TOTAL:	1,205.00
139713	01/27/2022	PRTD	1137	ARIZONA WATER COMPANY	DECEMBER 2021	01/03/2022	22200398	012722AP	75.00
				75.00 40013230 520037 Professional Services General					
								CHECK 139713 TOTAL:	75.00
139714	01/27/2022	PRTD	6679	ARRINGTON WATKINS ARCHITECTS, LLC	2020505	12/31/2021	22200618	012722AP	43,810.20
				43,810.20 50212140 543122 Blue Horizons Fire Station					
				ARRINGTON WATKINS ARCHITECTS, LLC	2020514	12/31/2021	22200409	012722AP	34,960.55
				34,960.55 50212121 543143 Police Training Center					
								CHECK 139714 TOTAL:	78,770.75
139715	01/27/2022	PRTD	1043	ASSI SECURITY OF ARIZONA	52362	01/18/2022	22200980	012722AP	5,236.02
				5,236.02 40003210 543028 Jackie A Meck Wtr Campus/BRWC					
								CHECK 139715 TOTAL:	5,236.02

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139716	01/27/2022	PRTD	6979	AVALON COPY CENTERS OF AMERICA, I	PNOV210017	12/20/2021	22200815	012722AP	9,100.00
				9,100.00 40003210 520037 Professional Services General					
						CHECK	139716 TOTAL:		9,100.00
139717	01/27/2022	PRTD	1165	ARIZONA GLOVE & SAFETY	7556866	11/08/2021	22200229	012722AP	49.16
				49.16 40003350 521514 Water Distrib System R&M					
				ARIZONA GLOVE & SAFETY	7557121	11/11/2021	22200229	012722AP	2,142.89
				2,142.89 40003350 521514 Water Distrib System R&M					
				ARIZONA GLOVE & SAFETY	7560473	01/05/2022	22200891	012722AP	5,698.18
				5,698.18 40013221 520540 Wastewater Plant R & M					
				ARIZONA GLOVE & SAFETY	7560759	01/10/2022	22200923	012722AP	126.30
				126.30 40013226 522152 Safety Equipment					
				ARIZONA GLOVE & SAFETY	7560760	01/10/2022	22200923	012722AP	356.87
				356.87 40013226 522152 Safety Equipment					
						CHECK	139717 TOTAL:		8,373.40
139718	01/27/2022	PRTD	5238	B&F CONTRACTING, INC	1	01/14/2022	22200850	012722AP	10,120.78
				10,120.78 40013226 520037 Professional Services General					
						CHECK	139718 TOTAL:		10,120.78
139719	01/27/2022	PRTD	1193	BAKER & TAYLOR	2036327485	11/16/2021	22200156	012722AP	64.99
				64.99 10004151 521550 Library Materials					
						CHECK	139719 TOTAL:		64.99
139720	01/27/2022	PRTD	1193	BAKER & TAYLOR	2036337139	12/29/2021	22200156	012722AP	13.79
				13.79 10004151 521550 Library Materials					
				BAKER & TAYLOR	2036350051	01/05/2022	22200156	012722AP	19.18
				19.18 10004151 521550 Library Materials					
				BAKER & TAYLOR	2036337830	01/03/2022	22200156	012722AP	49.22
				49.22 10004151 521550 Library Materials					
				BAKER & TAYLOR	2036337831	01/03/2022	22200156	012722AP	1,208.68
				1,208.68 10004151 521550 Library Materials					
				BAKER & TAYLOR	2036337832	01/03/2022	22200156	012722AP	202.30
				202.30 10004151 521550 Library Materials					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR NAME	INVOICE	INV DATE	PO	CHECK	NET
			BAKER & TAYLOR	2036337833	01/03/2022	22200156	012722AP	75.70
				75.70 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036337719	01/04/2022	22200156	012722AP	17.60
				17.60 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036337720	01/04/2022	22200156	012722AP	67.14
				67.14 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036337721	01/04/2022	22200156	012722AP	238.38
				238.38 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036337722	01/04/2022	22200156	012722AP	118.58
				118.58 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036337723	01/04/2022	22200156	012722AP	577.24
				577.24 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036317568	12/20/2021	22200712	012722AP	1,998.44
				1,998.44 35764150 521525 LSTA Grant				
			BAKER & TAYLOR	2036418252	12/29/2021	22200156	012722AP	19.30
				19.30 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036418253	12/29/2021	22200156	012722AP	31.78
				31.78 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036418256	12/29/2021	22200156	012722AP	16.66
				16.66 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036418258	12/29/2021	22200156	012722AP	39.42
				39.42 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383942	12/30/2021	22200156	012722AP	48.72
				48.72 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383943	12/30/2021	22200156	012722AP	24.36
				24.36 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383944	12/30/2021	22200156	012722AP	18.13
				18.13 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383945	12/30/2021	22200156	012722AP	36.68
				36.68 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383946	12/30/2021	22200156	012722AP	26.54
				26.54 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383947	12/30/2021	22200156	012722AP	41.90
				41.90 10004151 521550 Library Materials				
			BAKER & TAYLOR	2036383948	12/30/2021	22200156	012722AP	40.50

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR NAME	INVOICE	INV DATE	PO	CHECK	NET
				40.50 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383951	12/30/2021	22200156	012722AP	22.54
				22.54 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383952	12/30/2021	22200156	012722AP	106.36
				106.36 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383953	12/30/2021	22200156	012722AP	8.47
				8.47 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383954	12/30/2021	22200156	012722AP	12.22
				12.22 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383955	12/30/2021	22200156	012722AP	19.09
				19.09 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383956	12/30/2021	22200156	012722AP	36.26
				36.26 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036383957	12/30/2021	22200156	012722AP	19.19
				19.19 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036239611	11/17/2021	22200156	012722AP	1,252.10
				1,252.10 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036336191	12/29/2021	22200156	012722AP	28.64
				28.64 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036336192	12/29/2021	22200156	012722AP	39.28
				39.28 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036336193	12/29/2021	22200156	012722AP	22.34
				22.34 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036336194	12/29/2021	22200156	012722AP	77.74
				77.74 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036239608	11/17/2021	22200156	012722AP	55.48
				55.48 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036239609	11/17/2021	22200156	012722AP	20.25
				20.25 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036239610	11/17/2021	22200156	012722AP	31.10
				31.10 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036327483	11/16/2021	22200156	012722AP	209.47
				209.47 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036327484	11/16/2021	22200156	012722AP	22.34
				22.34 10004151 521550	Library Materials			

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
			BAKER & TAYLOR		2036327486	11/16/2021	22200156	012722AP	73.36
				73.36 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327487	11/16/2021	22200156	012722AP	144.38
				144.38 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327488	11/16/2021	22200156	012722AP	150.72
				150.72 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327489	11/16/2021	22200156	012722AP	73.36
				73.36 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327490	11/16/2021	22200156	012722AP	74.84
				74.84 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327491	11/16/2021	22200156	012722AP	55.08
				55.08 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327492	11/16/2021	22200156	012722AP	74.60
				74.60 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327493	11/16/2021	22200156	012722AP	191.26
				191.26 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327494	11/16/2021	22200156	012722AP	48.04
				48.04 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327495	11/16/2021	22200156	012722AP	53.36
				53.36 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327498	11/16/2021	22200156	012722AP	45.28
				45.28 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036327499	11/16/2021	22200156	012722AP	19.19
				19.19 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036416093	01/03/2022	22200156	012722AP	96.99
				96.99 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036416094	01/03/2022	22200156	012722AP	16.04
				16.04 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036416096	01/03/2022	22200156	012722AP	237.02
				237.02 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036416097	01/03/2022	22200156	012722AP	250.58
				250.58 10004151 521550	Library Materials				
			BAKER & TAYLOR		2036416098	01/03/2022	22200156	012722AP	36.20
				36.20 10004151 521550	Library Materials				

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
			BAKER & TAYLOR		2036416099	01/03/2022	22200156	012722AP	150.24
				150.24 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416100	01/03/2022	22200156	012722AP	125.24
				125.24 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416101	01/03/2022	22200156	012722AP	113.36
				113.36 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416102	01/03/2022	22200156	012722AP	124.87
				124.87 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416103	01/03/2022	22200156	012722AP	22.90
				22.90 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416105	01/03/2022	22200156	012722AP	78.86
				78.86 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416106	01/03/2022	22200156	012722AP	57.64
				57.64 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416107	01/03/2022	22200156	012722AP	204.76
				204.76 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416108	01/03/2022	22200156	012722AP	195.16
				195.16 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416109	01/03/2022	22200156	012722AP	106.50
				106.50 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416110	01/03/2022	22200156	012722AP	41.10
				41.10 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416111	01/03/2022	22200156	012722AP	201.66
				201.66 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416112	01/03/2022	22200156	012722AP	74.02
				74.02 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416113	01/03/2022	22200156	012722AP	138.02
				138.02 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416114	01/03/2022	22200156	012722AP	38.37
				38.37 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416115	01/03/2022	22200156	012722AP	75.66
				75.66 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036416116	01/03/2022	22200156	012722AP	21.00
				21.00 10004151 521550 Library Materials					
			BAKER & TAYLOR		2036395916	12/29/2021	22200156	012722AP	21.34

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR NAME	INVOICE	INV DATE	PO	CHECK	NET
				21.34 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395917	12/29/2021	22200156	012722AP	42.68
				42.68 10004151 521550	Library Materials			
			BAKER & TAYLOR	COA102877518	11/11/2021	22200156	012722AP	-10.00
				-10.00 10004151 521550	Library Materials			
			BAKER & TAYLOR	0003252327	11/22/2021	22200156	012722AP	-15.29
				-15.29 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395918	12/29/2021	22200156	012722AP	14.58
				14.58 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395919	12/29/2021	22200156	012722AP	84.35
				84.35 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395920	12/29/2021	22200156	012722AP	39.28
				39.28 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395921	12/29/2021	22200156	012722AP	178.10
				178.10 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395922	12/29/2021	22200156	012722AP	124.08
				124.08 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395923	12/29/2021	22200156	012722AP	124.14
				124.14 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395924	12/29/2021	22200156	012722AP	69.02
				69.02 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395925	12/29/2021	22200156	012722AP	33.88
				33.88 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395927	12/29/2021	22200156	012722AP	38.36
				38.36 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395928	12/29/2021	22200156	012722AP	26.54
				26.54 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395929	12/29/2021	22200156	012722AP	180.86
				180.86 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395930	12/29/2021	22200156	012722AP	274.99
				274.99 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395931	12/29/2021	22200156	012722AP	14.84
				14.84 10004151 521550	Library Materials			
			BAKER & TAYLOR	2036395933	12/29/2021	22200156	012722AP	83.61
				83.61 10004151 521550	Library Materials			

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				BAKER & TAYLOR	2036395934	12/29/2021	22200156	012722AP	22.54
				22.54 10004151 521550 Library Materials					
						CHECK	139720 TOTAL:		11,670.67
139721	01/27/2022	PRTD	1195	BALAR EQUIPMENT	122023	01/06/2022	22101060	012722AP	310.10
				310.10 40003210 541210 Automobiles					
						CHECK	139721 TOTAL:		310.10
139722	01/27/2022	PRTD	5131	BANNER ESTRELLA MED CENTER	41539404 01/05/2022	01/05/2022	22200093	012722AP	2,601.60
				2,601.60 10002140 522153 Medical Supplies					
						CHECK	139722 TOTAL:		2,601.60
139723	01/27/2022	PRTD	6624	FRESH AIRE	05-22172	11/23/2021	22200024	012722AP	40.50
				40.50 10004151 521501 Office Supplies					
				FRESH AIRE	05-21968	10/26/2021	22200024	012722AP	40.50
				40.50 10004151 521501 Office Supplies					
						CHECK	139723 TOTAL:		81.00
139724	01/27/2022	PRTD	1248	BUCKEYE VALLEY CHAMBER OF COMMERC	11213	01/19/2022	22200125	012722AP	5,000.00
				5,000.00 10001187 520038 Contributions to Civic Orgs					
						CHECK	139724 TOTAL:		5,000.00
139725	01/27/2022	PRTD	3107	CALMAT CO	80916473	01/07/2022	22200336	012722AP	274.25
				274.25 38103202 520502 Street Overlay R & M					
				CALMAT CO	80916472	01/07/2022	22200336	012722AP	274.25
				274.25 38103202 520502 Street Overlay R & M					
						CHECK	139725 TOTAL:		548.50
139726	01/27/2022	PRTD	1274	CALVERT OIL COMPANY	150815	12/01/2021		012722AP	54.65
				54.65 40013221 520515 Generator R & M					
				CALVERT OIL COMPANY	144909	02/10/2020		012722AP	86.02
				86.02 40013221 520540 Wastewater Plant R & M					
				CALVERT OIL COMPANY	148346	03/12/2021		012722AP	818.39
				818.39 40013225 520580 WRF O&M					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139726 TOTAL:	959.06
139727	01/27/2022	PRTD	1279	CANON SOLUTIONS AMERICA, INC	71424	12/31/2021	22200192	012722AP	552.43
				552.43 10005185 520525 Hardware Maintenance					
								CHECK 139727 TOTAL:	552.43
139728	01/27/2022	PRTD	6982	CARDINAL ELECTRIC LLC	89	12/24/2021	22200898	012722AP	5,922.93
				5,922.93 10003172 520018 General Contractual Services					
								CHECK 139728 TOTAL:	5,922.93
139729	01/27/2022	PRTD	5029	CDW GOVERNMENT LLC	Q344955	12/31/2021	22200886	012722AP	2,895.29
				1,447.65 40003231 521521 IT Equipment <$5000					
				1,447.64 40013231 521521 IT Equipment <$5000					
								CHECK 139729 TOTAL:	2,895.29
139730	01/27/2022	PRTD	3021	CINTAS CORPORATION NO 3	4107588802	01/13/2022	22200171	012722AP	78.32
				78.32 10003171 521922 Uniforms					
				CINTAS CORPORATION NO 3	4108283010	01/20/2022	22200171	012722AP	78.32
				78.32 10003171 521922 Uniforms					
				CINTAS CORPORATION NO 3	4108282992	01/20/2022	22200359	012722AP	9.72
				9.72 40053205 521922 Uniforms					
				CINTAS CORPORATION NO 3	4107588668	01/13/2022	22200359	012722AP	9.72
				9.72 40053205 521922 Uniforms					
				CINTAS CORPORATION NO 3	4108283076	01/20/2022	22200213	012722AP	79.83
				79.83 38103202 521922 Uniforms					
				CINTAS CORPORATION NO 3	4107588767	01/13/2022	22200213	012722AP	79.83
				79.83 38103202 521922 Uniforms					
				CINTAS CORPORATION NO 3	4101489348	11/11/2021	22200359	012722AP	9.72
				9.72 40053205 521922 Uniforms					
				CINTAS CORPORATION NO 3	4101489381	11/11/2021	22200213	012722AP	85.77
				85.77 38103202 521922 Uniforms					
				CINTAS CORPORATION NO 3	4101489432	11/11/2021	22200171	012722AP	78.32
				78.32 10003171 521922 Uniforms					
				CINTAS CORPORATION NO 3	4106160245	12/29/2021	22200359	012722AP	9.72
				9.72 40053205 521922 Uniforms					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				CINTAS CORPORATION NO 3	4106160324	12/29/2021	22200171	012722AP	78.32
				78.32 10003171 521922	Uniforms				
				CINTAS CORPORATION NO 3	4106160306	12/29/2021	22200213	012722AP	80.48
				80.48 38103202 521922	Uniforms				
								CHECK 139730 TOTAL:	678.07
139731	01/27/2022	PRTD	1303	CITY ELECTRIC SUPPLY	GOO/069018	12/07/2021	22200180	012722AP	454.05
				454.05 10003172 522155	Operational Supplies				
				CITY ELECTRIC SUPPLY	GOO/069551	12/27/2021	22200322	012722AP	1,333.33
				1,333.33 10003176 521720	Shop Supplies				
								CHECK 139731 TOTAL:	1,787.38
139732	01/27/2022	PRTD	1308	CITY OF PHOENIX	400952995	01/18/2022	22200158	012722AP	39,650.10
				30,013.62 10002121 520041	RWC Subscriber Fees				
				9,636.48 10002140 520041	RWC Subscriber Fees				
				CITY OF PHOENIX	400952868	01/12/2022	22200158	012722AP	-16,231.04
				-12,286.28 10002121 520041	RWC Subscriber Fees				
				-3,944.76 10002140 520041	RWC Subscriber Fees				
				CITY OF PHOENIX	400953076	01/19/2022	22200158	012722AP	2,960.64
				2,960.64 10002140 520041	RWC Subscriber Fees				
								CHECK 139732 TOTAL:	26,379.70
139733	01/27/2022	PRTD	5110	CLIMATEC LLC	915013780	01/10/2022	22200370	012722AP	10,288.75
				10,288.75 10003172 526121	On-line Subscriptions				
								CHECK 139733 TOTAL:	10,288.75
139734	01/27/2022	PRTD	5135	TECH 24-COMMERCIAL FOODSERVICE RE	6145703	01/10/2022	22200056	012722AP	267.00
				267.00 35754150 520018	General Contractual Services				
								CHECK 139734 TOTAL:	267.00
139735	01/27/2022	PRTD	1331	COURTESY CHEVROLET	1089634	12/31/2021	22200464	012722AP	38,027.92
				38,027.92 10002121 541210	Automobiles				
				COURTESY CHEVROLET	1089677	01/18/2022	22200464	012722AP	41,170.61
				41,170.61 10003173 541210	Automobiles				
				COURTESY CHEVROLET	1089797	01/18/2022	22200464	012722AP	41,170.61
				41,170.61 10003173 541210	Automobiles				

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				COURTESY CHEVROLET	1089640	01/18/2022	22200464	012722AP	41,170.61
				41,170.61 10003173 541210 Automobiles					
				COURTESY CHEVROLET	1089686	01/18/2022	22200464	012722AP	41,170.61
				41,170.61 10003173 541210 Automobiles					
						CHECK	139735 TOTAL:		202,710.36
139736	01/27/2022	PRTD	1341	CROSS LIFELINE TRAINING, INC	CLT012202	01/24/2022	22200345	012722AP	266.00
				266.00 10004160 520013 Contract Instruc-SIC					
						CHECK	139736 TOTAL:		266.00
139737	01/27/2022	PRTD	6721	DCS MANAGMENT, LLC	74351	12/31/2021	22200921	012722AP	500.00
				500.00 40013227 520049 Laboratory Fees					
				DCS MANAGMENT, LLC	74906	01/15/2022	22200921	012722AP	302.50
				302.50 40013227 520049 Laboratory Fees					
						CHECK	139737 TOTAL:		802.50
139738	01/27/2022	PRTD	5295	DELL MARKETING L.P.	10551448571	01/12/2022	22200907	012722AP	22,251.76
				20,251.76 10001192 521523 Equipment <$5,000					
				2,000.00 10005185 521521 IT Equipment <$5000					
				DELL MARKETING L.P.	10546301560	12/20/2021	22200855	012722AP	8,157.98
				8,157.98 10004153 521521 IT Equipment <$5000					
				DELL MARKETING L.P.	10551988323	01/14/2022	22200004	012722AP	960.61
				960.61 10001112 521521 IT Equipment <$5000					
						CHECK	139738 TOTAL:		31,370.35
139739	01/27/2022	PRTD	1367	DIBBLE & ASSOCIATES CONSULTING EN	1018028.05-01	01/06/2022	22201004	012722AP	2,747.00
				2,747.00 40111113 543111 Taxiway Rehabilitation					
						CHECK	139739 TOTAL:		2,747.00
139740	01/27/2022	PRTD	3032	ECD SYSTEMS LLC	20980	11/12/2021	22200178	012722AP	142.70
				142.70 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21208	11/12/2021	22200178	012722AP	170.00
				170.00 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21017	11/12/2021	22200178	012722AP	28.68
				28.68 10003172 526121 On-line Subscriptions					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				ECD SYSTEMS LLC	21016	11/12/2021	22200178	012722AP	50.74
				50.74 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21015	11/12/2021	22200178	012722AP	48.53
				48.53 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21014	11/12/2021	22200178	012722AP	48.53
				48.53 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21013	11/12/2021	22200178	012722AP	48.53
				48.53 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21012	11/12/2021	22200178	012722AP	48.53
				48.53 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21011	11/12/2021	22200178	012722AP	48.53
				48.53 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21005	11/12/2021	22200178	012722AP	28.68
				28.68 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21007	11/12/2021	22200178	012722AP	28.68
				28.68 10003172 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21008	11/12/2021	22200173	012722AP	28.68
				28.68 10003176 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21009	11/12/2021	22200173	012722AP	28.68
				28.68 10003176 526121 On-line Subscriptions					
				ECD SYSTEMS LLC	21010	11/12/2021	22200173	012722AP	28.68
				28.68 10003176 526121 On-line Subscriptions					
								CHECK 139740 TOTAL:	778.17
139741	01/27/2022	PRTD	1402	EMPIRE SOUTHWEST, LLC	EMRA00302923	12/13/2021	22200312	012722AP	4,017.43
				4,017.43 40003350 521514 Water Distrib System R&M					
								CHECK 139741 TOTAL:	4,017.43
139742	01/27/2022	PRTD	5172	ENTELLUS INC	25320	01/18/2022	22200905	012722AP	896.94
				896.94 10005185 520006 Engineering Services					
								CHECK 139742 TOTAL:	896.94
139743	01/27/2022	PRTD	1414	EWING IRRIGATION PRODUCTS INC	15945827	01/19/2022	22200057	012722AP	105.76
				105.76 10004155 520586 Irrigation Systems Parts/Mater					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139743 TOTAL:	105.76
139744	01/27/2022	PRTD	6630	FEDERAL EASTERN INTERNATIONAL, LL	53038900	07/23/2021		012722AP	5,590.12
				5,590.12 10002121 521509		Public Safety Equipment			
								CHECK 139744 TOTAL:	5,590.12
139745	01/27/2022	PRTD	1432	FERGUSON ENTERPRISES INC.	0204435	12/03/2021	22200526	012722AP	1,081.43
				1,081.43 40003351 520575		Water Meters R & M			
								CHECK 139745 TOTAL:	1,081.43
139746	01/27/2022	PRTD	5939	FORTILINE, INC	5527963	01/05/2022	22200138	012722AP	5,475.74
				5,475.74 40003350 521514		Water Distrib System R&M			
				FORTILINE, INC	5524248	12/16/2021	22200138	012722AP	304.58
				304.58 40003350 521514		Water Distrib System R&M			
								CHECK 139746 TOTAL:	5,780.32
139747	01/27/2022	PRTD	5719	FREIGHTLINER OF ARIZONA, LLC	XA310496495:01	01/12/2022	22200300	012722AP	903.03
				903.03 38103202 521508		Automotive Expenses			
				FREIGHTLINER OF ARIZONA, LLC	XA310495365:01	01/10/2022	22200300	012722AP	350.87
				350.87 10003171 522155		Operational Supplies			
								CHECK 139747 TOTAL:	1,253.90
139748	01/27/2022	PRTD	3040	GLOBAL WATER RESOURCES INC	1063	10/08/2021	22200402	012722AP	393,000.00
				393,000.00 40003210 523060		Global Growth Premium			
								CHECK 139748 TOTAL:	393,000.00
139749	01/27/2022	PRTD	1486	GRAYBAR	9325021113	01/06/2022	22200298	012722AP	1,696.55
				1,696.55 40013231 521512		Parts/Materials			
				GRAYBAR	9325185835	01/19/2022	22200999	012722AP	1,587.73
				1,587.73 50212121 543143		Police Training Center			
				GRAYBAR	9325229084	01/21/2022	22200688	012722AP	19,862.94
				19,862.94 40003210 543028		Jackie A Meck Wtr Campus/BRWC			
				GRAYBAR	9325203196	01/20/2022	22200999	012722AP	4,668.20
				4,668.20 50212121 543143		Police Training Center			
				GRAYBAR	9325203197	01/20/2022	22200999	012722AP	372.68

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				372.68 50212121 543143	Police Training Center				
						CHECK	139749 TOTAL:		28,188.10
139750	01/27/2022	PRTD	1494	HACH COMPANY	12776300	12/02/2021	22200649	012722AP	7,895.63
				7,895.63 40013221 541070	Other Equipment >$5,000				
						CHECK	139750 TOTAL:		7,895.63
139751	01/27/2022	PRTD	1497	HAMILTON'S TOWING	105816	01/18/2022	22200188	012722AP	107.00
				107.00 10003171 520033	Vehicle Towing				
				HAMILTON'S TOWING	105793	01/09/2022	22200188	012722AP	52.50
				52.50 10003171 520033	Vehicle Towing				
				HAMILTON'S TOWING	105756	12/30/2021	22200188	012722AP	60.00
				60.00 10003171 520033	Vehicle Towing				
				HAMILTON'S TOWING	105754	12/30/2021	22200188	012722AP	35.00
				35.00 10003171 520033	Vehicle Towing				
				HAMILTON'S TOWING	105799	01/15/2022	22200188	012722AP	107.00
				107.00 10003171 520033	Vehicle Towing				
						CHECK	139751 TOTAL:		361.50
139752	01/27/2022	PRTD	1016	HAYDON BUILDING CORP	8959	11/30/2021	22200857	012722AP	99,500.00
				99,500.00 40003211 520586	Irrigation Systems Parts/Mater				
						CHECK	139752 TOTAL:		99,500.00
139753	01/27/2022	PRTD	1491	USA BLUE BOOK	771680	10/26/2021	22200090	012722AP	65.66
				65.66 40003218 520585	Treatment Plant O&M				
				USA BLUE BOOK	834665	01/04/2022	22200234	012722AP	641.93
				641.93 40013224 521503	Lab Supplies				
				USA BLUE BOOK	834595	01/04/2022	22200234	012722AP	389.88
				389.88 40013224 521503	Lab Supplies				
				USA BLUE BOOK	774727	10/28/2021	22200234	012722AP	20.17
				20.17 40013224 521503	Lab Supplies				
				USA BLUE BOOK	843738	01/12/2022	22200090	012722AP	622.51
				275.99 40003214 520577	Reservoir/Booster Maint/Repair				
				346.52 40003215 520577	Reservoir/Booster Maint/Repair				

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139753 TOTAL:	1,740.15
139754	01/27/2022	PRTD	6322	HEINFELD, MEECH & CO. P.C.	102761	01/19/2022	22200734	012722AP	4,564.25
					4,564.25 10001110 520002 Audit Services				
								CHECK 139754 TOTAL:	4,564.25
139755	01/27/2022	PRTD	1509	HENRY SCHEIN INC	15640909	01/13/2022	22200250	012722AP	124.25
					124.25 10002140 522153 Medical Supplies				
								CHECK 139755 TOTAL:	124.25
139756	01/27/2022	PRTD	5539	HILGARTWILSON, LLC	30111	10/20/2021	22200511	012722AP	550.00
					550.00 10005185 520037 Professional Services General				
				HILGARTWILSON, LLC	30504	11/21/2021	22200511	012722AP	495.00
					495.00 10005185 520037 Professional Services General				
								CHECK 139756 TOTAL:	1,045.00
139757	01/27/2022	PRTD	1513	HILL BROTHERS CHEMICAL COMPANY	07119255	01/05/2022	22200133	012722AP	182.45
					182.45 40003215 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07119256	01/05/2022	22200133	012722AP	114.03
					114.03 40003214 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07119257	01/05/2022	22200133	012722AP	395.30
					395.30 40003213 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07119259	01/05/2022	22200133	012722AP	486.53
					486.53 40003216 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07118323	12/28/2021	22200308	012722AP	868.80
					868.80 40013222 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07113318	11/03/2021	22200584	012722AP	4,925.01
					4,925.01 40013225 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07117695	01/12/2022	22200133	012722AP	8,405.64
					8,405.64 40003216 521540 Chemicals				
				HILL BROTHERS CHEMICAL COMPANY	07117697	12/15/2021	22200133	012722AP	488.70
					488.70 40003218 521540 Chemicals				
								CHECK 139757 TOTAL:	15,866.46

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139758	01/27/2022	PRTD	6966	INDUSTRIAL BUS LINES INC	2	12/16/2021	22200751	012722AP	244.00
				244.00 30584160 521502 Program Supplies/Equipment					
							CHECK	139758 TOTAL:	244.00
139759	01/27/2022	PRTD	1551	INTERIOR SOLUTIONS OF AZ, LLC	119205-1-MB	12/19/2021	22200762	012722AP	4,891.21
				2,445.60 40003210 521501 Office Supplies					
				2,445.61 40013220 521501 Office Supplies					
				INTERIOR SOLUTIONS OF AZ, LLC	118572-1-MG	12/19/2021	22200414	012722AP	7,029.64
				7,029.64 10001112 521523 Equipment <$5,000					
							CHECK	139759 TOTAL:	11,920.85
139760	01/27/2022	PRTD	5487	IPROMOTEU	1927183PWP	12/29/2021	22200973	012722AP	237.29
				237.29 10001100 523026 Marketing Expense					
							CHECK	139760 TOTAL:	237.29
139761	01/27/2022	PRTD	6119	ISC SALES, INC.	0162536-IN	12/30/2021	22200228	012722AP	3,141.09
				3,141.09 40003213 520581 Well Maintenance Repair					
							CHECK	139761 TOTAL:	3,141.09
139762	01/27/2022	PRTD	5175	J2 ENGINEERING AND ENVIRONMENTAL	13511	01/17/2022	22000990	012722AP	9,467.71
				9,467.71 50214150 543055 Sundance Park Ph II					
				J2 ENGINEERING AND ENVIRONMENTAL	13526	01/18/2022	22000792	012722AP	551.75
				551.75 50213170 543072 Apache & Southern TS					
							CHECK	139762 TOTAL:	10,019.46
139763	01/27/2022	PRTD	6967	KDS INTERIOR DESIGN	IN-11599	01/25/2022	22200781	012722AP	1,232.50
				1,232.50 10003172 520037 Professional Services General					
							CHECK	139763 TOTAL:	1,232.50
139764	01/27/2022	PRTD	5666	KIMLEY-HORN AND ASSOCIATES, INC.	20451474	12/31/2021	22200616	012722AP	8,930.00
				8,930.00 50211000 543080 Emergency Backup Generators					
				KIMLEY-HORN AND ASSOCIATES, INC.	19222488	12/31/2021	22200059	012722AP	18,300.00
				18,300.00 50211000 543080 Emergency Backup Generators					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139764 TOTAL:	27,230.00
139765	01/27/2022	PRTD	1605	LAYER 8, LLC	1652	01/01/2022	22200899	012722AP	5,880.00
					5,880.00 10001189 520018 General Contractual Services				
				LAYER 8, LLC	1653	01/09/2022	22200899	012722AP	5,600.00
					5,600.00 10001189 520018 General Contractual Services				
				LAYER 8, LLC	1654	01/01/2022	22201020	012722AP	50,000.00
					50,000.00 10001189 520018 General Contractual Services				
								CHECK 139765 TOTAL:	61,480.00
139766	01/27/2022	PRTD	6190	LEGEND TECHNICAL SERVICES, INC.	2200583	12/31/2021	22200730	012722AP	1,348.00
					1,348.00 40013227 520049 Laboratory Fees				
				LEGEND TECHNICAL SERVICES, INC.	2200582	12/31/2021	22200730	012722AP	1,495.00
					1,495.00 40013227 520049 Laboratory Fees				
				LEGEND TECHNICAL SERVICES, INC.	2200580	12/31/2021	22200730	012722AP	2,282.00
					2,282.00 40013227 520049 Laboratory Fees				
				LEGEND TECHNICAL SERVICES, INC.	2200579	12/31/2021	22200730	012722AP	1,705.00
					1,705.00 40013227 520049 Laboratory Fees				
				LEGEND TECHNICAL SERVICES, INC.	2200577	12/31/2021	22200425	012722AP	1,892.00
					1,892.00 40003227 520049 Laboratory Fees				
								CHECK 139766 TOTAL:	8,722.00
139767	01/27/2022	PRTD	1035	ABSOLUTE SCREEN PRINTING	BSC160	12/20/2021	22200681	012722AP	1,669.97
					1,669.97 10004155 521922 Uniforms				
								CHECK 139767 TOTAL:	1,669.97
139768	01/27/2022	PRTD	6896	LIGHTDAY SOLAR INC.	2021036-2	01/20/2022	22200474	012722AP	155,752.20
					155,752.20 50211000 543080 Emergency Backup Generators				
								CHECK 139768 TOTAL:	155,752.20
139769	01/27/2022	PRTD	1621	LOGICALIS, INC	S140009	12/31/2021	22200467	012722AP	240.00
					240.00 10001189 520018 General Contractual Services				
				LOGICALIS, INC	IN204470	01/17/2022	22200993	012722AP	15,218.35
					15,218.35 10001189 520030 Software Maintenance				

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139769 TOTAL:	15,458.35
139770	01/27/2022	PRTD	1622	LOOMIS	12933694	12/31/2021	22200249	012722AP	1,564.44
					391.11 10001110 520053 Armored Car Services				
					391.11 40003230 520053 Armored Car Services				
					391.11 40013230 520053 Armored Car Services				
					391.11 40053230 520053 Armored Car Services				
				LOOMIS	1293599	12/31/2021	22200041	012722AP	559.42
					559.42 10002120 520053 Armored Car Services				
								CHECK 139770 TOTAL:	2,123.86
139771	01/27/2022	PRTD	5342	M & M PORTABLE TOILETS LLC	I9971	01/11/2022	22200146	012722AP	168.95
					168.95 50012140 521505 Equipment Rental				
								CHECK 139771 TOTAL:	168.95
139772	01/27/2022	PRTD	1649	MARICOPA COUNTY ENVIRONMENTAL SER	FY22 07526	12/06/2021		012722AP	2,810.00
					2,810.00 40003228 520036 Permit Fees				
				MARICOPA COUNTY ENVIRONMENTAL SER	FY22 WW-00006	01/03/2022		012722AP	2,100.00
					2,100.00 40013227 520045 Permit Fees				
								CHECK 139772 TOTAL:	4,910.00
139773	01/27/2022	PRTD	1666	METERING SERVICES INC.	10078679	01/13/2022	22200765	012722AP	15,343.62
					15,343.62 40003351 520575 Water Meters R & M				
								CHECK 139773 TOTAL:	15,343.62
139774	01/27/2022	PRTD	5113	MICHAEL BAKER INTERNATIONAL, INC.	1136745	01/10/2022	22200592	012722AP	91,422.50
					91,422.50 10005185 520037 Professional Services General				
								CHECK 139774 TOTAL:	91,422.50
139775	01/27/2022	PRTD	6252	MICKELSON & RAY, INC	50984	12/16/2021	22200147	012722AP	345.00
					345.00 50012140 522155 Operational Supplies				
				MICKELSON & RAY, INC	50951	12/16/2021	22200147	012722AP	805.00
					805.00 50012140 522155 Operational Supplies				
								CHECK 139775 TOTAL:	1,150.00

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139776	01/27/2022	PRTD	1668	MIDWAY CHEVROLET	764935	12/28/2021	22100843	012722AP	70,039.19
				70,039.19 38103202 541210 Automobiles					
						CHECK	139776 TOTAL:		70,039.19
139777	01/27/2022	PRTD	6918	MIDWEST TAPE, LLC	501476829	12/28/2021	22200396	012722AP	110.74
				110.74 10004151 521550 Library Materials					
				MIDWEST TAPE, LLC	501447629	12/21/2021	22200396	012722AP	80.86
				80.86 10004151 521550 Library Materials					
				MIDWEST TAPE, LLC	501510821	01/05/2022	22200396	012722AP	90.86
				90.86 10004151 521550 Library Materials					
				MIDWEST TAPE, LLC	501287195	11/17/2021	22200396	012722AP	196.72
				196.72 10004151 521550 Library Materials					
						CHECK	139777 TOTAL:		479.18
139778	01/27/2022	PRTD	6451	NESTLE WATERS NORTH AMERICA	01L6700459147	01/04/2022	22200114	012722AP	295.76
				295.76 10004150 521501 Office Supplies					
				NESTLE WATERS NORTH AMERICA	01L6700441336	01/04/2022	22200289	012722AP	109.04
				109.04 10001189 521501 Office Supplies					
						CHECK	139778 TOTAL:		404.80
139779	01/27/2022	PRTD	6451	NESTLE WATERS NORTH AMERICA	01L6701000492	01/04/2022	22200477	012722AP	47.67
				47.67 10001110 521501 Office Supplies					
						CHECK	139779 TOTAL:		47.67
139780	01/27/2022	PRTD	6976	OPERATIONAL RESEARCH IN HEALTH IN 2022/BucF1/1		01/18/2022	22200869	012722AP	8,725.00
				8,725.00 10002140 521555 Accreditation Program					
						CHECK	139780 TOTAL:		8,725.00
139781	01/27/2022	PRTD	999996	ELEVATION SOLAR	ELECR-21-1684	01/20/2022		012722AP	65.00
				65.00 10005180 431600 Vertical Construction					
						CHECK	139781 TOTAL:		65.00
139782	01/27/2022	PRTD	999996	EMPIRE RENEWABLE ENERGY LLC	ELECC-21-0078	01/19/2022		012722AP	4,876.43
				4,876.43 10005180 431600 Vertical Construction					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139782 TOTAL:	4,876.43
139783	01/27/2022	PRTD	999996	SUNSOLAR SOLUTIONS INC	ELECR-22-0067	01/20/2022		012722AP	260.00
				260.00 10005180 431600 Vertical Construction					
								CHECK 139783 TOTAL:	260.00
139784	01/27/2022	PRTD	999996	SUNVALLEY SOLAR SOLUTIONS	ELECR-21-1613	01/20/2022		012722AP	65.00
				65.00 10005180 431600 Vertical Construction					
								CHECK 139784 TOTAL:	65.00
139785	01/27/2022	PRTD	999990	Cynthia Cabera	Passport refund	01/26/2022		012722AP	103.17
				103.17 10001115 523018 Passport Expense					
								CHECK 139785 TOTAL:	103.17
139786	01/27/2022	PRTD	5274	PACTEC, INC	0148405-IN	12/17/2021	22200903	012722AP	10,038.92
				2,509.73 40013221 520542 Sludge Removal					
				2,509.73 40013222 520542 Sludge Removal					
				2,509.73 40013223 520543 WW R&M					
				2,509.73 40013224 520542 Sludge Removal					
								CHECK 139786 TOTAL:	10,038.92
139787	01/27/2022	PRTD	5513	PARTS MART	896190P	01/05/2022	22200303	012722AP	745.79
				745.79 10003171 522155 Operational Supplies					
								CHECK 139787 TOTAL:	745.79
139788	01/27/2022	PRTD	3024	PBC PHOENIX INC	536857	12/31/2021	22200656	012722AP	610.24
				610.24 10003176 520019 Custodial Contract					
				PBC PHOENIX INC	536846	12/31/2021	22200654	012722AP	3,066.14
				3,066.14 10003174 520019 Custodial Contract					
				PBC PHOENIX INC	536840	12/31/2021	22200652	012722AP	841.76
				841.76 10003170 520019 Custodial Contract (PW)					
				PBC PHOENIX INC	536841	12/31/2021	22200652	012722AP	526.14
				526.14 10003170 520019 Custodial Contract (PW)					
				PBC PHOENIX INC	536856	12/31/2021	22200652	012722AP	398.34
				398.34 10003170 520019 Custodial Contract (PW)					
				PBC PHOENIX INC	536838	12/31/2021	22200652	012722AP	153.63

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				153.63 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	536847	12/31/2021	22200657	012722AP	1,224.25
				1,224.25 10003177 520019		Custodial Contract			
				PBC PHOENIX INC	536849	12/31/2021	22200657	012722AP	2,048.38
				2,048.38 10003177 520019		Custodial Contract			
				PBC PHOENIX INC	536836	12/31/2021	22200652	012722AP	496.25
				496.25 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	540949	12/31/2021	22200652	012722AP	4,682.18
				4,682.18 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	540944	12/31/2021	22200652	012722AP	1,797.00
				1,797.00 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	536859	12/31/2021	22200652	012722AP	700.00
				700.00 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	536860	12/31/2021	22200652	012722AP	599.25
				599.25 10003170 520019		Custodial Contract (PW)			
				PBC PHOENIX INC	536853	12/31/2021	22200653	012722AP	920.00
				920.00 10003170 520019		Custodial Contract (PW)			
								CHECK 139788 TOTAL:	18,063.56
139789	01/27/2022	PRTD	6926	PIPING ALLOYS USA INC	I355710	01/06/2022	22200451	012722AP	1,026.54
				1,026.54 40013231 521512		Parts/Materials			
								CHECK 139789 TOTAL:	1,026.54
139790	01/27/2022	PRTD	5374	RDO EQUIPMENT CO.	E0321236	12/28/2021	22101064	012722AP	129,057.61
				129,057.61 38103202 541210		Automobiles			
								CHECK 139790 TOTAL:	129,057.61
139791	01/27/2022	PRTD	1847	RODEO FORD INC	CM160764	01/05/2022	22200343	012722AP	-115.59
				-115.59 10003171 522155		Operational Supplies			
				RODEO FORD INC	161123	01/13/2022	22200343	012722AP	11.24
				11.24 10003171 522155		Operational Supplies			
				RODEO FORD INC	161098	01/12/2022	22200343	012722AP	23.26
				23.26 38103202 521508		Automotive Expenses			
				RODEO FORD INC	160897	01/07/2022	22200343	012722AP	59.24
				59.24 10003171 522155		Operational Supplies			

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				RODEO FORD INC	160777	01/05/2022	22200343	012722AP	9.65
				9.65 10003171 522155 Operational Supplies					
				RODEO FORD INC	160764	01/05/2022	22200343	012722AP	419.04
				419.04 10003171 522155 Operational Supplies					
				RODEO FORD INC	160672	01/04/2022	22200343	012722AP	9.62
				9.62 10003171 522155 Operational Supplies					
								CHECK 139791 TOTAL:	416.46
139792	01/27/2022	PRTD	6169	RURAL ELECTRIC, INC.	pay app 2	01/21/2022	22200527	012722AP	3,287.23
				3,287.23 40111113 543140 Airport Beacon					
								CHECK 139792 TOTAL:	3,287.23
139793	01/27/2022	PRTD	6938	SAGUARO SUMMIT LLC	1456	01/05/2022	22200677	012722AP	6,930.00
				6,930.00 10003172 520037 Professional Services General					
								CHECK 139793 TOTAL:	6,930.00
139794	01/27/2022	PRTD	1869	SAN TAN FORD	F220310	01/10/2022	22101294	012722AP	39,650.61
				39,650.61 31001115 521508 Automotive Expenses					
								CHECK 139794 TOTAL:	39,650.61
139795	01/27/2022	PRTD	5310	SANDS CHEVROLET, LLC	138675	01/18/2022	22200282	012722AP	634.73
				634.73 10003171 522155 Operational Supplies					
				SANDS CHEVROLET, LLC	140337	01/19/2022	22200282	012722AP	22.58
				22.58 10003171 522155 Operational Supplies					
				SANDS CHEVROLET, LLC	140151	01/13/2022	22200282	012722AP	282.65
				282.65 10003171 522155 Operational Supplies					
				SANDS CHEVROLET, LLC	139919	01/06/2022	22200282	012722AP	155.55
				155.55 10003171 522155 Operational Supplies					
								CHECK 139795 TOTAL:	1,095.51
139796	01/27/2022	PRTD	5122	SESAC INC	157334	12/31/2021	22200992	012722AP	1,669.00
				1,669.00 10001189 520030 Software Maintenance					
								CHECK 139796 TOTAL:	1,669.00

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139797	01/27/2022	PRTD	1913	SEAN JOHNSON	INV20569	01/01/2022	22200988	012722AP	1,175.00
				1,175.00 10001189 520030 Software Maintenance					
								CHECK 139797 TOTAL:	1,175.00
139798	01/27/2022	PRTD	3089	SOMERSET LANDSCAPE LLC	PHXW 300995	12/01/2021	22200439	012722AP	1,420.00
				1,420.00 50012140 520035 Landscaping Service					
				SOMERSET LANDSCAPE LLC	PHXW 312927	01/07/2022	22200439	012722AP	1,420.00
				1,420.00 50012140 520035 Landscaping Service					
				SOMERSET LANDSCAPE LLC	PHXW291559	11/15/2021	22200663	012722AP	1,514.30
				1,514.30 10003176 520035 Landscaping Service					
								CHECK 139798 TOTAL:	4,354.30
139799	01/27/2022	PRTD	5549	WONDERWARE WEST	945249096	12/13/2021	22200902	012722AP	40,295.12
				23,996.56 40003231 520030 Software Maintenance					
				16,298.56 40013231 520030 Software Maintenance					
								CHECK 139799 TOTAL:	40,295.12
139800	01/27/2022	PRTD	1944	STANDARD PRINTING COMPANY INC	264917	12/30/2021	22200350	012722AP	10.72
				3.32 40003230 520037 Professional Services General					
				3.32 40013230 520037 Professional Services General					
				4.08 40053230 520037 Professional Services General					
				STANDARD PRINTING COMPANY INC	264890	12/27/2021	22200350	012722AP	287.42
				85.23 40003230 520037 Professional Services General					
				85.23 40013230 520037 Professional Services General					
				116.96 40053230 520037 Professional Services General					
				STANDARD PRINTING COMPANY INC	264862	12/20/2021	22200350	012722AP	4,336.18
				367.72 40003230 520037 Professional Services General					
				367.72 40013230 520037 Professional Services General					
				3,600.74 40053230 520037 Professional Services General					
								CHECK 139800 TOTAL:	4,634.32
139801	01/27/2022	PRTD	1966	SUNLAND ASPHALT & CONSTRUCTION IN	81991.01	12/17/2021	22200766	012722AP	63,516.71
				63,516.71 50213170 543112 Verrado-Yuma-VB Road Improveme					
								CHECK 139801 TOTAL:	63,516.71

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139802	01/27/2022	PRTD	6553	SUPERCHARGED ELECTRIC INC.	21041	01/18/2022	22200481	012722AP	975.00
				975.00 10003172 520512 Building Repairs					
						CHECK	139802 TOTAL:		975.00
139803	01/27/2022	PRTD	2008	TRAFFICADE SIGNS & SALES, INC	01546194	08/08/2021	22200329	012722AP	1,001.42
				1,001.42 40003350 521505 Equipment Rental					
				TRAFFICADE SIGNS & SALES, INC	01546195	08/08/2021	22200329	012722AP	679.84
				679.84 40003350 521505 Equipment Rental					
						CHECK	139803 TOTAL:		1,681.26
139804	01/27/2022	PRTD	2021	TYLER TECHNOLOGIES, INC.	045-363686	01/01/2022	22201016	012722AP	32,790.00
				32,790.00 10001189 520030 Software Maintenance					
						CHECK	139804 TOTAL:		32,790.00
139805	01/27/2022	PRTD	2029	U.S. PAYMENTS, LLC	025228	12/31/2021	22200395	012722AP	1,726.84
				535.32 40003230 520037 Professional Services General					
				535.32 40013230 520037 Professional Services General					
				656.20 40053230 520037 Professional Services General					
				U.S. PAYMENTS, LLC	024947	11/30/2021	22200395	012722AP	1,732.83
				537.18 40003230 520037 Professional Services General					
				537.18 40013230 520037 Professional Services General					
				658.47 40053230 520037 Professional Services General					
						CHECK	139805 TOTAL:		3,459.67
139806	01/27/2022	PRTD	6403	UNION PACIFIC RAILROAD COMPANY	316503824	11/01/2021		012722AP	2,524.20
				2,524.20 40003210 520051 Building Lease					
						CHECK	139806 TOTAL:		2,524.20
139807	01/27/2022	PRTD	2038	UNITED FIRE EQUIPMENT	758149	01/20/2022	22200084	012722AP	223.39
				223.39 10002140 521922 Uniforms					
						CHECK	139807 TOTAL:		223.39
139808	01/27/2022	PRTD	2041	UNITED ROTARY BRUSH CORP	CI278594	01/11/2022	22200377	012722AP	14,885.24
				14,885.24 38103202 521726 Sweeper Parts					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139808 TOTAL:	14,885.24
139809	01/27/2022	PRTD	5425	VORTEX INDUSTRIES	20-1564018	01/18/2022	22200193	012722AP	578.12
					578.12 10003172 520525 Hardware Maintenance				
								CHECK 139809 TOTAL:	578.12
139810	01/27/2022	PRTD	2071	W.W. GRAINGER, INC	9146525192	12/09/2021	22200230	012722AP	774.60
					774.60 40003231 521512 Parts/Materials				
				W.W. GRAINGER, INC	9156775976	12/20/2021	22200929	012722AP	399.07
					399.07 40013231 521512 Parts/Materials				
				W.W. GRAINGER, INC	9156775984	12/20/2021	22200929	012722AP	593.26
					593.26 40013231 521512 Parts/Materials				
				W.W. GRAINGER, INC	9157160715	12/20/2021	22200929	012722AP	178.76
					178.76 40013231 521512 Parts/Materials				
				W.W. GRAINGER, INC	9169329225	01/06/2022	22200929	012722AP	1,019.63
					1,019.63 40013231 521512 Parts/Materials				
								CHECK 139810 TOTAL:	2,965.32
139811	01/27/2022	PRTD	2080	WAXIE SANITARY SUPPLY	80570458	01/07/2022	22200420	012722AP	3,776.72
					3,776.72 10003170 520019 Custodial Contract (PW)				
								CHECK 139811 TOTAL:	3,776.72
139812	01/27/2022	PRTD	5190	WEST TECH LLC	22-10915	01/13/2022	22200444	012722AP	636.49
					636.49 40003213 520577 Reservoir/Booster Maint/Repair				
								CHECK 139812 TOTAL:	636.49
139813	01/27/2022	PRTD	6012	WOOD ENVIRONMENT & INFRASTRUCTURE	S68700016	01/18/2022	22200694	012722AP	4,435.00
					4,435.00 40011113 543050 SWRF Improvements				
				WOOD ENVIRONMENT & INFRASTRUCTURE	S68700015	01/18/2022	22200521	012722AP	3,488.72
					3,488.72 40011113 543131 Sundance WRF Centrifuge				
								CHECK 139813 TOTAL:	7,923.72

NUMBER OF CHECKS 108 *** CASH ACCOUNT TOTAL *** 1,919,718.71

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	108	1,919,718.71

*** GRAND TOTAL *** 1,919,718.71

JOURNAL ENTRIES TO BE CREATED

CLERK: acruz

YEAR PER JNL SRC ACCOUNT / EFF DATE	JNL DESC	REF 1	REF 2	REF 3	ACCOUNT DESC / LINE DESC	T	OB	DEBIT	CREDIT
2022 7 926									
APP 4000-201000					Accounts Payable			611,285.91	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 9999-104000					Cash in Bank - Checking				1,919,718.71
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 4001-201000					Accounts Payable			88,394.20	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 1000-201000					Accounts Payable			592,986.94	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 3810-201000					Accounts Payable			227,314.26	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 5021-201000					Accounts Payable			341,917.73	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 3576-201000					Accounts Payable			1,998.44	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 4005-201000					Accounts Payable			5,466.44	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 3575-201000					Accounts Payable			267.00	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 4011-201000					Accounts Payable			6,034.23	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 3058-201000					Accounts Payable			244.00	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 5001-201000					Accounts Payable			4,158.95	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
APP 3100-201000					Accounts Payable			39,650.61	
01/27/2022	012722AP	AP0127			AP CASH DISBURSEMENTS JOURNAL				
					GENERAL LEDGER TOTAL			1,919,718.71	1,919,718.71
APP 9999-201010					DT DF			1,919,718.71	
01/27/2022	012722AP	AP0127							
APP 4000-101010					Pooled Cash Equity				611,285.91
01/27/2022	012722AP	AP0127							
APP 4001-101010					Pooled Cash Equity				88,394.20
01/27/2022	012722AP	AP0127							
APP 1000-101010					Pooled Cash Equity				592,986.94
01/27/2022	012722AP	AP0127							
APP 3810-101010					Pooled Cash Equity				227,314.26
01/27/2022	012722AP	AP0127							
APP 5021-101010					Pooled Cash Equity				341,917.73
01/27/2022	012722AP	AP0127							
APP 3576-101010					Pooled Cash Equity				1,998.44
01/27/2022	012722AP	AP0127							
APP 4005-101010					Pooled Cash Equity				5,466.44
01/27/2022	012722AP	AP0127							
APP 3575-101010					Pooled Cash Equity				267.00

JOURNAL ENTRIES TO BE CREATED

YEAR PER JNL SRC ACCOUNT	EFF DATE	JNL DESC	REF 1	REF 2	REF 3	ACCOUNT DESC / LINE DESC	T	OB	DEBIT	CREDIT
	01/27/2022	012722AP	AP0127							
APP 4011-101010						Pooled Cash Equity				6,034.23
	01/27/2022	012722AP	AP0127							
APP 3058-101010						Pooled Cash Equity				244.00
	01/27/2022	012722AP	AP0127							
APP 5001-101010						Pooled Cash Equity				4,158.95
	01/27/2022	012722AP	AP0127							
APP 3100-101010						Pooled Cash Equity				39,650.61
	01/27/2022	012722AP	AP0127							
						SYSTEM GENERATED ENTRIES TOTAL			1,919,718.71	1,919,718.71
						JOURNAL 2022/07/926 TOTAL			3,839,437.42	3,839,437.42

JOURNAL ENTRIES TO BE CREATED

FUND / ACCOUNT	YEAR	PER	JNL	EFF DATE / ACCOUNT DESCRIPTION		DEBIT	CREDIT
1000 General Fund	2022	7	926	01/27/2022			
1000-101010				Pooled Cash Equity			592,986.94
1000-201000				Accounts Payable		592,986.94	
					FUND TOTAL	592,986.94	592,986.94
3058 Comm Services Programs	2022	7	926	01/27/2022			
3058-101010				Pooled Cash Equity			244.00
3058-201000				Accounts Payable		244.00	
					FUND TOTAL	244.00	244.00
3100 Risk Mgmt Retention Fund	2022	7	926	01/27/2022			
3100-101010				Pooled Cash Equity			39,650.61
3100-201000				Accounts Payable		39,650.61	
					FUND TOTAL	39,650.61	39,650.61
3575 Area Agency on Aging	2022	7	926	01/27/2022			
3575-101010				Pooled Cash Equity			267.00
3575-201000				Accounts Payable		267.00	
					FUND TOTAL	267.00	267.00
3576 Community Services Grants	2022	7	926	01/27/2022			
3576-101010				Pooled Cash Equity			1,998.44
3576-201000				Accounts Payable		1,998.44	
					FUND TOTAL	1,998.44	1,998.44
3810 Highway User Revenue Fund	2022	7	926	01/27/2022			
3810-101010				Pooled Cash Equity			227,314.26
3810-201000				Accounts Payable		227,314.26	
					FUND TOTAL	227,314.26	227,314.26
4000 Water Utility Fund	2022	7	926	01/27/2022			
4000-101010				Pooled Cash Equity			611,285.91
4000-201000				Accounts Payable		611,285.91	
					FUND TOTAL	611,285.91	611,285.91
4001 Wastewater Fund	2022	7	926	01/27/2022			
4001-101010				Pooled Cash Equity			88,394.20
4001-201000				Accounts Payable		88,394.20	
					FUND TOTAL	88,394.20	88,394.20
4005 Environmental Services	2022	7	926	01/27/2022			

JOURNAL ENTRIES TO BE CREATED

FUND / ACCOUNT	YEAR	PER	JNL	EFF DATE	ACCOUNT DESCRIPTION		DEBIT	CREDIT
4005-101010					Pooled Cash Equity			5,466.44
4005-201000					Accounts Payable		5,466.44	
						FUND TOTAL	5,466.44	5,466.44
4011 Airport Improvement Fund	2022	7	926	01/27/2022				
4011-101010					Pooled Cash Equity			6,034.23
4011-201000					Accounts Payable		6,034.23	
						FUND TOTAL	6,034.23	6,034.23
5001 Cemetery Improvement Fund	2022	7	926	01/27/2022				
5001-101010					Pooled Cash Equity			4,158.95
5001-201000					Accounts Payable		4,158.95	
						FUND TOTAL	4,158.95	4,158.95
5021 CIP General	2022	7	926	01/27/2022				
5021-101010					Pooled Cash Equity			341,917.73
5021-201000					Accounts Payable		341,917.73	
						FUND TOTAL	341,917.73	341,917.73
9999 Pooled Cash	2022	7	926	01/27/2022				
9999-104000					Cash in Bank - Checking			1,919,718.71
9999-201010					DT DF		1,919,718.71	
						FUND TOTAL	1,919,718.71	1,919,718.71

JOURNAL ENTRIES TO BE CREATED

FUND		DUE TO	DUE FR
1000	General Fund		592,986.94
3058	Comm Services Programs		244.00
3100	Risk Mgmt Retention Fund		39,650.61
3575	Area Agency on Aging		267.00
3576	Community Services Grants		1,998.44
3810	Highway User Revenue Fund		227,314.26
4000	Water Utility Fund		611,285.91
4001	Wastewater Fund		88,394.20
4005	Environmental Services		5,466.44
4011	Airport Improvement Fund		6,034.23
5001	Cemetery Improvement Fund		4,158.95
5021	CIP General		341,917.73
9999	Pooled Cash	1,919,718.71	
	TOTAL	1,919,718.71	1,919,718.71

** END OF REPORT - Generated by Anacelia Cruz **

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139842	02/02/2022	PRTD	5566	ACRO SERVICE CORPORATION	1600777	01/09/2022	22200758	020222AP	1,463.40
				1,463.40 10005180 520056 Inspection Services					
				ACRO SERVICE CORPORATION	1610583	01/16/2022	22200363	020222AP	743.20
				371.60 40003210 520012 Contract Labor					
				371.60 40013220 520012 Contract Labor					
				ACRO SERVICE CORPORATION	1597146	01/02/2022	22200363	020222AP	557.40
				278.70 40003210 520012 Contract Labor					
				278.70 40013220 520012 Contract Labor					
				ACRO SERVICE CORPORATION	1597145	01/02/2022	22200363	020222AP	687.46
				343.73 40003210 520012 Contract Labor					
				343.73 40013220 520012 Contract Labor					
				ACRO SERVICE CORPORATION	1624366	01/23/2022	22200399	020222AP	1,273.00
				1,273.00 10005185 520037 Professional Services General					
				ACRO SERVICE CORPORATION	1624367	01/23/2022	22200399	020222AP	763.80
				763.80 10005185 520037 Professional Services General					
				ACRO SERVICE CORPORATION	1624370	01/23/2022	22200757	020222AP	390.24
				390.24 10005180 520056 Inspection Services					
				ACRO SERVICE CORPORATION	1624369	01/23/2022	22200758	020222AP	536.58
				536.58 10005180 520056 Inspection Services					
				ACRO SERVICE CORPORATION	1624368	01/23/2022	22200758	020222AP	878.04
				878.04 10005180 520056 Inspection Services					
						CHECK	139842 TOTAL:		7,293.12
139843	02/02/2022	PRTD	5688	AJP ELECTRIC, INC	18857	02/01/2022	22200697	020222AP	175,979.70
				175,979.70 50213170 543067 Miller & Broadway TS					
						CHECK	139843 TOTAL:		175,979.70
139844	02/02/2022	PRTD	1517	ALBERT HOLLER & ASSOCIATES	013122	01/31/2022	22200411	020222AP	5,000.00
				5,000.00 10001110 520037 Professional Services General					
						CHECK	139844 TOTAL:		5,000.00
139845	02/02/2022	PRTD	1104	ARAMARK UNIFORM & CAREER APPAREL	473000348798	01/13/2022	22200362	020222AP	654.92
				356.24 40003210 521922 Uniforms					
				298.68 40013220 521922 Uniforms					
						CHECK	139845 TOTAL:		654.92

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139846	02/02/2022	PRTD	5019	ARIZONA GENERATOR TECHNOLOGY, INC	38046-1	01/10/2022	22200280	020222AP	492.42
				492.42 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	30426-1	10/19/2021	22200280	020222AP	1,312.16
				1,312.16 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	29630-1	09/16/2021	22200280	020222AP	140.00
				140.00 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	29628-1	09/16/2021	22200280	020222AP	1,941.32
				1,941.32 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	29624-1	09/16/2021	22200280	020222AP	140.00
				140.00 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	29622-1	09/16/2021	22200280	020222AP	1,433.97
				1,433.97 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	29608-1	09/16/2021	22200280	020222AP	1,542.73
				1,542.73 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	28102-1	08/25/2021	22200280	020222AP	1,304.94
				1,304.94 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	28051-1	08/25/2021	22200280	020222AP	878.73
				878.73 10003171 520515		Generator R & M			
				ARIZONA GENERATOR TECHNOLOGY, INC	16013-1	03/11/2021	22200280	020222AP	506.00
				506.00 10003171 520515		Generator R & M			
							CHECK	139846 TOTAL:	9,692.27
139847	02/02/2022	PRTD	6626	LAND ADVISORS ORGANIZATION	2022-1006-AZ	02/01/2022	22200197	020222AP	325.00
				325.00 10001187 520037		Professional Services General			
							CHECK	139847 TOTAL:	325.00
139848	02/02/2022	PRTD	6665	ASPIN/MOHAVE	22B00301	01/24/2022	22200829	020222AP	1,088.12
				1,088.12 35754150 521502		Program Supplies/Equipment			
							CHECK	139848 TOTAL:	1,088.12
139849	02/02/2022	PRTD	1165	ARIZONA GLOVE & SAFETY	7561614	01/20/2022	22200115	020222AP	65.54
				65.54 40003212 522152		Safety Equipment			
							CHECK	139849 TOTAL:	65.54

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139850	02/02/2022	PRTD	1193	BAKER & TAYLOR	2036395932	12/29/2021	22200156	020222AP	577.36
					577.36 10004151 521550 Library Materials				
				BAKER & TAYLOR	2036383949	12/30/2021	22200712	020222AP	69.40
					69.40 35764150 521525 LSTA Grant				
				BAKER & TAYLOR	2036327497	11/16/2021	22200712	020222AP	77.75
					77.75 35764150 521525 LSTA Grant				
				BAKER & TAYLOR	2036416104	01/03/2022	22200712	020222AP	77.75
					77.75 35764150 521525 LSTA Grant				
				BAKER & TAYLOR	2036360608	01/07/2022	22200712	020222AP	183.40
					183.40 35764150 521525 LSTA Grant				
				BAKER & TAYLOR	2036357980	01/10/2022	22200712	020222AP	74.80
					74.80 35764150 521525 LSTA Grant				
				BAKER & TAYLOR	2036357981	01/10/2022	22200156	020222AP	14.58
					14.58 10004151 521550 Library Materials				
				BAKER & TAYLOR	2036357982	01/10/2022	22200156	020222AP	316.08
					316.08 10004151 521550 Library Materials				
						CHECK 139850 TOTAL:			1,391.12
139851	02/02/2022	PRTD	1630	M&J TROPHIES AND APPAREL	109698	01/25/2022	22201015	020222AP	7,431.50
					7,431.50 30584160 521502 Program Supplies/Equipment				
						CHECK 139851 TOTAL:			7,431.50
139852	02/02/2022	PRTD	6624	FRESH AIRE	05-22570	01/18/2022	22200024	020222AP	40.50
					40.50 10004151 521501 Office Supplies				
						CHECK 139852 TOTAL:			40.50
139853	02/02/2022	PRTD	5696	BROWN AND ASSOCIATES CERTIFIED IN	36641	12/31/2021	22200134	020222AP	13,770.00
					13,770.00 10005180 520056 Inspection Services				
						CHECK 139853 TOTAL:			13,770.00
139854	02/02/2022	PRTD	1248	BUCKEYE VALLEY CHAMBER OF COMMERC	11212	01/19/2022	22200125	020222AP	9,000.00
					9,000.00 10001187 520038 Contributions to Civic Orgs				
						CHECK 139854 TOTAL:			9,000.00

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139855	02/02/2022	PRTD	1257	BUSTAMANTE & KUFFNER PC	January 31, 2022	01/30/2022	22200137	020222AP	13,000.00
				13,000.00 10001108 520021 City Prosecuter					
							CHECK	139855 TOTAL:	13,000.00
139856	02/02/2022	PRTD	1259	ACCREDITATION FOR LAW ENFORCEMENT	INV36645	10/04/2021	22201003	020222AP	4,645.00
				4,645.00 10002121 526120 Dues and Memberships					
							CHECK	139856 TOTAL:	4,645.00
139857	02/02/2022	PRTD	1279	CANON SOLUTIONS AMERICA, INC	73402	01/31/2022	22200192	020222AP	198.09
				198.09 10005185 520525 Hardware Maintenance					
				CANON SOLUTIONS AMERICA, INC	4040450604	01/31/2022	22200149	020222AP	185.13
				185.13 10005180 520037 Professional Services General					
							CHECK	139857 TOTAL:	383.22
139858	02/02/2022	PRTD	1138	CATS ARMS, LLC	20722	01/24/2022	22200535	020222AP	3,476.28
				3,476.28 10002121 521509 Public Safety Equipment					
							CHECK	139858 TOTAL:	3,476.28
139859	02/02/2022	PRTD	5029	CDW GOVERNMENT LLC	R093827	01/20/2022	22200984	020222AP	2,895.29
				2,895.29 40003210 521521 IT Equipment <$5000					
							CHECK	139859 TOTAL:	2,895.29
139860	02/02/2022	PRTD	1288	CENTRAL ARIZONA PROJECT	77205	01/20/2022		020222AP	45,093.08
				45,093.08 40003228 526024 Purchased Water					
							CHECK	139860 TOTAL:	45,093.08
139861	02/02/2022	PRTD	5514	CITY OF GLENDALE	97903	01/25/2022	22200043	020222AP	4,500.00
				4,500.00 10002140 526118 Operational Training/Testing					
							CHECK	139861 TOTAL:	4,500.00
139862	02/02/2022	PRTD	1308	CITY OF PHOENIX	400952978	01/04/2022	22200033	020222AP	98,095.05
				98,095.05 10002140 520055 Dispatch Fees					
							CHECK	139862 TOTAL:	98,095.05

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139863	02/02/2022	PRTD	1331	COURTESY CHEVROLET	1089685	01/28/2022	22200464	020222AP	41,170.61
				41,170.61 10003173 541210 Automobiles					
				COURTESY CHEVROLET	1089637	01/28/2022	22200464	020222AP	41,170.61
				41,170.61 10003173 541210 Automobiles					
						CHECK 139863 TOTAL:			82,341.22
139864	02/02/2022	PRTD	1333	COX BUSINESS	January 2022	01/25/2022		020222AP	24,004.68
				21,399.41 10001189 520032 Telecom Services					
				1,680.96 40003210 526025 Telephone					
				924.31 10002121 526019 RWC Utilities					
						CHECK 139864 TOTAL:			24,004.68
139865	02/02/2022	PRTD	6819	CS CONSTRUCTION, INC.	16505	01/26/2022	22200519	020222AP	11,500.00
				11,500.00 10001189 549999 Completed Capital					
						CHECK 139865 TOTAL:			11,500.00
139866	02/02/2022	PRTD	1343	CUMMINS ROCKY MOUNTAIN, LLC	54-12933	01/03/2022	22200349	020222AP	778.82
				778.82 40003212 520515 Generator R & M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17576	01/24/2022	22200792	020222AP	1,315.08
				1,315.08 40013223 520543 WW R&M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17570	01/24/2022	22200792	020222AP	2,125.64
				2,125.64 40013221 520515 Generator R & M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17573	01/24/2022	22200792	020222AP	1,107.30
				1,107.30 40013221 520515 Generator R & M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17616	01/24/2022	22200792	020222AP	1,315.08
				1,315.08 40013222 520543 WW R&M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17618	01/24/2022	22200792	020222AP	1,315.08
				1,315.08 40013222 520543 WW R&M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17628	01/24/2022	22200792	020222AP	1,315.08
				1,315.08 40013222 520543 WW R&M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17589	01/24/2022	22200792	020222AP	1,316.18
				1,316.18 40013224 520515 Generator R & M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17596	01/24/2022	22200792	020222AP	1,316.18
				1,316.18 40013225 520515 Generator R & M					
				CUMMINS ROCKY MOUNTAIN, LLC	54-17611	01/24/2022	22200792	020222AP	717.36

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				717.36 40013222 520543		WW R&M			
							CHECK	139866 TOTAL:	12,621.80
139867	02/02/2022	PRTD	5295	DELL MARKETING L.P.	10554683039	01/24/2022	22201006	020222AP	14,834.50
				14,834.50 10001192 521523		Equipment <$5,000			
				DELL MARKETING L.P.	10554683047	01/24/2022	22201000	020222AP	1,483.44
				1,483.44 10005180 521521		IT Equipment <$5000			
				DELL MARKETING L.P.	10555451459	01/26/2022	22200767	020222AP	2,452.74
				2,452.74 40003210 543028		Jackie A Meck Wtr Campus/BRWC			
				DELL MARKETING L.P.	10556826876	01/31/2022	22200632	020222AP	2,019.29
				1,617.19 10002140 521521		IT Equipment <$5000			
				402.10 10005180 521521		IT Equipment <$5000			
							CHECK	139867 TOTAL:	20,789.97
139868	02/02/2022	PRTD	1426	FACTORY MOTOR PARTS CO	7-3480748	12/22/2021	22200368	020222AP	139.94
				139.94 40003210 521508		Automotive Expenses			
							CHECK	139868 TOTAL:	139.94
139869	02/02/2022	PRTD	1432	FERGUSON ENTERPRISES INC.	0203867-1	01/20/2022	22200526	020222AP	33.26
				33.26 40003351 520575		Water Meters R & M			
				FERGUSON ENTERPRISES INC.	0203871	01/14/2022	22200379	020222AP	611.42
				611.42 40003350 521514		Water Distrib System R&M			
							CHECK	139869 TOTAL:	644.68
139870	02/02/2022	PRTD	1440	FLEETPRIDE, INC	88273731	12/22/2021	22200301	020222AP	222.63
				175.20 10003171 522155		Operational Supplies			
				47.43 38103202 521508		Automotive Expenses			
							CHECK	139870 TOTAL:	222.63
139871	02/02/2022	PRTD	5719	FREIGHTLINER OF ARIZONA, LLC	XA310482231:01	12/02/2021	22200300	020222AP	62.01
				62.01 10003171 522155		Operational Supplies			
				FREIGHTLINER OF ARIZONA, LLC	XA310483848:01	12/07/2021	22200300	020222AP	26.70
				26.70 10003171 522155		Operational Supplies			
							CHECK	139871 TOTAL:	88.71

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139872	02/02/2022	PRTD	5419	FX TACTICAL	I1-10020614	01/25/2022	22200080	020222AP	1,000.00
				500.00 10002121 521509 Public Safety Equipment					
				500.00 35732121 523106 DOJ COPS BVP Grant					
				FX TACTICAL	I1-10020615	01/25/2022	22200080	020222AP	1,000.00
				500.00 10002121 521509 Public Safety Equipment					
				500.00 35732121 523106 DOJ COPS BVP Grant					
							CHECK	139872 TOTAL:	2,000.00
139873	02/02/2022	PRTD	5279	ACTON CONTRACTING LLC	1457	11/28/2021	22200189	020222AP	510.00
				510.00 10003171 520509 Fuel Yard Maintenance					
							CHECK	139873 TOTAL:	510.00
139874	02/02/2022	PRTD	1486	GRAYBAR	9325243452	01/24/2022	22200999	020222AP	70.98
				70.98 50212121 543143 Police Training Center					
				GRAYBAR	9325243453	01/24/2022	22200999	020222AP	145.18
				145.18 50212121 543143 Police Training Center					
							CHECK	139874 TOTAL:	216.16
139875	02/02/2022	PRTD	7013	GROUP C MEDIA INC	32859	01/31/2022	22201032	020222AP	2,950.00
				2,950.00 10001187 523057 Advertising Expense					
							CHECK	139875 TOTAL:	2,950.00
139876	02/02/2022	PRTD	1016	HAYDON BUILDING CORP	01-0036-00 #1	01/31/2022	22200738	020222AP	117,335.79
				117,335.79 50214150 543121 Buckeye Vly Museum Facade Reno					
							CHECK	139876 TOTAL:	117,335.79
139877	02/02/2022	PRTD	1491	USA BLUE BOOK	853649	01/21/2022	22200223	020222AP	491.73
				491.73 40013221 521503 Lab Supplies					
				USA BLUE BOOK	837905	01/06/2022	22200233	020222AP	145.37
				145.37 40013222 521503 Lab Supplies					
				USA BLUE BOOK	849205	01/18/2022	22200224	020222AP	278.72
				278.72 40013223 521503 Lab Supplies					
				USA BLUE BOOK	823069	12/17/2021	22200223	020222AP	1,736.59
				1,736.59 40013221 521503 Lab Supplies					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139877 TOTAL:	2,652.41
139878	02/02/2022	PRTD	5180	HDR ENGINEERING, INC	1200405239	02/01/2022	22101183	020222AP	11,721.78
					11,721.78 40001113 543102	WPhoenix Est Wtr Campus #3 Imp			
								CHECK 139878 TOTAL:	11,721.78
139879	02/02/2022	PRTD	1504	HEALTHCARE MEDICAL WASTE SERVICES	R3372353	01/26/2022	22200261	020222AP	176.26
					176.26 10002121 520005	Crime Scene Clean-Up			
								CHECK 139879 TOTAL:	176.26
139880	02/02/2022	PRTD	1513	HILL BROTHERS CHEMICAL COMPANY	07120535	01/18/2022	22200133	020222AP	244.35
					244.35 40003218 521540	Chemicals			
				HILL BROTHERS CHEMICAL COMPANY	07116261A	12/17/2021	22200133	020222AP	11,332.79
					6,066.40 40003213 521540	Chemicals			
					5,266.39 40003216 521540	Chemicals			
				HILL BROTHERS CHEMICAL COMPANY	07120513	01/13/2022	22200584	020222AP	1,520.40
					1,520.40 40013225 521540	Chemicals			
				HILL BROTHERS CHEMICAL COMPANY	07120580	01/17/2022	22200364	020222AP	3,040.80
					3,040.80 40013221 521540	Chemicals			
								CHECK 139880 TOTAL:	16,138.34
139881	02/02/2022	PRTD	1521	HORIZON TOWER LIMITED, LLC	FR-020122	02/01/2022	22200245	020222AP	2,907.23
					2,907.23 10002121 521505	Equipment Rental			
								CHECK 139881 TOTAL:	2,907.23
139882	02/02/2022	PRTD	5363	K.P. VENTURES	10340	01/26/2022	22200729	020222AP	10,827.32
					10,827.32 40003213 520581	Well Maintenance Repair			
				K.P. VENTURES	10107	01/26/2022	22200729	020222AP	48,217.88
					48,217.88 40003213 520581	Well Maintenance Repair			
								CHECK 139882 TOTAL:	59,045.20
139883	02/02/2022	PRTD	6666	PRECISE POLYGRAPH LLC	1116	01/28/2022	22200843	020222AP	900.00
					900.00 10002121 520029	Pre-Employment Testing			
				PRECISE POLYGRAPH LLC	1117	01/28/2022	22200843	020222AP	450.00
					450.00 10002121 520029	Pre-Employment Testing			

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
				PRECISE POLYGRAPH LLC	1118	01/28/2022	22200843	020222AP	600.00
				600.00 10002121 520029 Pre-Employment Testing					
				PRECISE POLYGRAPH LLC	1119	01/28/2022	22200843	020222AP	750.00
				750.00 10002121 520029 Pre-Employment Testing					
				PRECISE POLYGRAPH LLC	1120	01/28/2022	22200843	020222AP	750.00
				750.00 10002121 520029 Pre-Employment Testing					
								CHECK 139883 TOTAL:	3,450.00
139884	02/02/2022	PRTD	6713	LIBRARY IDEAS, LLC	85803	11/16/2021	22200600	020222AP	167.80
				167.80 10004151 521550 Library Materials					
								CHECK 139884 TOTAL:	167.80
139885	02/02/2022	PRTD	1621	LOGICALIS, INC	IN204718	01/25/2022	22200942	020222AP	9,355.53
				9,355.53 40003210 543028 Jackie A Meck Wtr Campus/BRWC					
								CHECK 139885 TOTAL:	9,355.53
139886	02/02/2022	PRTD	5342	M & M PORTABLE TOILETS LLC	I10085	01/12/2022	22200100	020222AP	218.60
				218.60 40003218 520037 Professional Services General					
								CHECK 139886 TOTAL:	218.60
139887	02/02/2022	PRTD	1645	MARICOPA COUNTY ANIMAL CARE & CON	03.2022	01/14/2022	22200032	020222AP	28,591.25
				28,591.25 10002121 520010 Animal Control					
								CHECK 139887 TOTAL:	28,591.25
139888	02/02/2022	PRTD	1649	MARICOPA COUNTY ENVIRONMENTAL SER	FY22 TARTESSO	12/06/2021		020222AP	2,810.00
				2,810.00 40003228 520036 Permit Fees					
								CHECK 139888 TOTAL:	2,810.00
139889	02/02/2022	PRTD	5052	MATRIX NEW WORLD ENGINEERING, LAN	34463	01/25/2022	22200910	020222AP	14,940.85
				14,940.85 40001113 543156 Broadway Road Well #8					
								CHECK 139889 TOTAL:	14,940.85
139890	02/02/2022	PRTD	6918	MIDWEST TAPE, LLC	501541183	01/12/2022	22200396	020222AP	301.35
				301.35 10004151 521550 Library Materials					
				MIDWEST TAPE, LLC	501604823	01/26/2022	22200396	020222AP	182.69

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
					182.69 10004151 521550	Library Materials			
							CHECK	139890 TOTAL:	484.04
139891	02/02/2022	PRTD	6451	NESTLE WATERS NORTH AMERICA	01L6700441315	01/04/2022	22200413	020222AP	565.37
					565.37 10002121 522155	Operational Supplies			
							CHECK	139891 TOTAL:	565.37
139892	02/02/2022	PRTD	1712	NET TRANSCRIPTS INC	NT8601	01/15/2022	22200436	020222AP	25.87
					25.87 10002121 520037	Professional Services General			
							CHECK	139892 TOTAL:	25.87
139893	02/02/2022	PRTD	999998	Arizona Creative Minds	020122	02/02/2022		020222AP	25.00
					25.00 10001110 440011	License Applic/Reinstate Fee			
							CHECK	139893 TOTAL:	25.00
139894	02/02/2022	PRTD	6826	OUT OF THE BLUE LOGISTICS	1008	01/11/2022	22200459	020222AP	1,850.00
					1,850.00 10002121 522155	Operational Supplies			
							CHECK	139894 TOTAL:	1,850.00
139895	02/02/2022	PRTD	5574	PRECISION INTEGRATED SYSTEMS, LLC	2667	01/12/2022	22200983	020222AP	4,771.85
					4,771.85 40013221 520540	Wastewater Plant R & M			
							CHECK	139895 TOTAL:	4,771.85
139896	02/02/2022	PRTD	5194	RICOH USA, INC.	9029511327	01/26/2022	22201031	020222AP	16,454.38
					16,454.38 10001189 520020	Mail Service Center			
				RICOH USA, INC.	EDD21110112	11/23/2021	22200550	020222AP	2,640.00
					2,640.00 10001189 520030	Software Maintenance			
				RICOH USA, INC.	EDD21120167	12/27/2021	22200550	020222AP	2,640.00
					2,640.00 10001189 520030	Software Maintenance			
				RICOH USA, INC.	EDD22010398	01/31/2022	22200550	020222AP	2,640.00
					2,640.00 10001189 520030	Software Maintenance			
							CHECK	139896 TOTAL:	24,374.38

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139897	02/02/2022	PRTD	3082	RITOCH-POWELL & ASSOCIATES	8394	01/27/2022	22200867	020222AP	2,096.25
				2,096.25 50213170 543147		Apache-Broadway Intersect Impr			
						CHECK	139897 TOTAL:		2,096.25
139898	02/02/2022	PRTD	1847	RODEO FORD INC	491004	10/21/2021	22200343	020222AP	39.90
				39.90 10003171 520505		Vehicle & Equipment Repair			
						CHECK	139898 TOTAL:		39.90
139899	02/02/2022	PRTD	1868	SAN DIEGO POLICE EQUIPMENT CO	650391	01/10/2022	22200552	020222AP	861.29
				861.29 10002121 521900		Ammunition			
						CHECK	139899 TOTAL:		861.29
139900	02/02/2022	PRTD	1881	SECRETARY OF STATE	012622	01/26/2022		020222AP	43.00
				43.00 10002121 526120		Dues and Memberships			
						CHECK	139900 TOTAL:		43.00
139901	02/02/2022	PRTD	5324	SHUMS CODA ASSOCIATES	6989	01/12/2022	22200135	020222AP	8,400.00
				8,400.00 10005180 520056		Inspection Services			
				SHUMS CODA ASSOCIATES	6990	01/12/2022	22200135	020222AP	7,875.00
				7,875.00 10005180 520056		Inspection Services			
				SHUMS CODA ASSOCIATES	6991	01/12/2022	22200135	020222AP	8,760.00
				8,760.00 10005180 520056		Inspection Services			
				SHUMS CODA ASSOCIATES	6992	01/12/2022	22200135	020222AP	10,780.00
				10,780.00 10005180 520056		Inspection Services			
				SHUMS CODA ASSOCIATES	6993	01/12/2022	22200135	020222AP	14,800.00
				14,800.00 10005180 520056		Inspection Services			
				SHUMS CODA ASSOCIATES	6994	01/12/2022	22200135	020222AP	5,565.68
				5,565.68 10005180 520056		Inspection Services			
						CHECK	139901 TOTAL:		56,180.68
139902	02/02/2022	PRTD	1913	SEAN JOHNSON	1341-IS	01/28/2022	22200959	020222AP	5,950.00
				5,950.00 50012140 520030		Software Maintenance			
						CHECK	139902 TOTAL:		5,950.00

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
139903	02/02/2022	PRTD	1944	STANDARD PRINTING COMPANY INC	265026	01/10/2022	22200350	020222AP	2,092.47
				648.67 40003230 520037 Professional Services General					
				648.67 40013230 520037 Professional Services General					
				795.13 40053230 520037 Professional Services General					
						CHECK	139903 TOTAL:		2,092.47
139904	02/02/2022	PRTD	1976	SUTPHEN CORPORATION	40052951	12/08/2021	22200533	020222AP	215.15
				215.15 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40052863	12/01/2021	22200533	020222AP	164.27
				164.27 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40052703	11/19/2021	22200533	020222AP	66.73
				66.73 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40050694	08/06/2021	22200533	020222AP	192.23
				192.23 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40051718	10/01/2021	22200533	020222AP	406.38
				406.38 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40048188	05/19/2021	22200533	020222AP	534.64
				534.64 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40046507	02/12/2021	22200533	020222AP	316.72
				316.72 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40053392	01/07/2022	22200533	020222AP	1,184.93
				1,184.93 10003171 522155 Operational Supplies					
				SUTPHEN CORPORATION	40053786	01/28/2022	22200533	020222AP	115.18
				115.18 10003171 522155 Operational Supplies					
						CHECK	139904 TOTAL:		3,196.23
139905	02/02/2022	PRTD	6505	THE CONCENTRIUM LLC	220102	01/30/2022	22200822	020222AP	2,550.00
				2,550.00 10004150 523026 Marketing/Publicity Exp					
				THE CONCENTRIUM LLC	210905	11/02/2021	22200574	020222AP	4,051.16
				4,051.16 35764150 521525 LSTA Grant					
						CHECK	139905 TOTAL:		6,601.16
139906	02/02/2022	PRTD	1884	THE SEGAL COMPANY	429226	01/31/2022	22200136	020222AP	2,416.67
				2,416.67 10001115 520037 Professional Services General					

CASH ACCOUNT: 9999 104000 Cash in Bank - Checking

CHECK NO	CHK DATE	TYPE	VENDOR	NAME	INVOICE	INV DATE	PO	CHECK	NET
								CHECK 139906 TOTAL:	2,416.67
139907	02/02/2022	PRTD	1999	TISCHLERBISE INC	202220000087	02/01/2022	22200508	020222AP	4,500.00
					4,500.00 10005180 520037 Professional Services General				
								CHECK 139907 TOTAL:	4,500.00
139908	02/02/2022	PRTD	2035	UNIFIRST CORPORATION	3152492241	01/19/2022	22200055	020222AP	10.62
					10.62 35754150 521502 Program Supplies/Equipment				
								CHECK 139908 TOTAL:	10.62
139909	02/02/2022	PRTD	5660	VERTECH INDUSTRIAL SYSTEMS, LLC	P210362.00-11509	01/19/2022	22200918	020222AP	15,706.88
					15,706.88 40013222 520037 Professional Services General				
								CHECK 139909 TOTAL:	15,706.88
139910	02/02/2022	PRTD	2081	WEBER WATER RESOURCES, LLC	17753	01/24/2022	22200701	020222AP	31,593.00
					31,593.00 40013221 520540 Wastewater Plant R & M				
								CHECK 139910 TOTAL:	31,593.00
					NUMBER OF CHECKS 69			*** CASH ACCOUNT TOTAL ***	994,745.20

	COUNT	AMOUNT
TOTAL PRINTED CHECKS	69	994,745.20

*** GRAND TOTAL *** 994,745.20

JOURNAL ENTRIES TO BE CREATED

CLERK: acruz

YEAR PER JNL SRC ACCOUNT / EFF DATE	JNL DESC	REF 1	REF 2	REF 3	ACCOUNT DESC / LINE DESC	T	OB	DEBIT	CREDIT
2022 8 113									
APP 1000-201000					Accounts Payable			439,771.45	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 9999-104000					Cash in Bank - Checking				994,745.20
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 4000-201000					Accounts Payable			165,419.09	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 4001-201000					Accounts Payable			73,069.70	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 5021-201000					Accounts Payable			295,627.90	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 3575-201000					Accounts Payable			1,098.74	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 3576-201000					Accounts Payable			4,534.26	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 3058-201000					Accounts Payable			7,431.50	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 3810-201000					Accounts Payable			47.43	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 3573-201000					Accounts Payable			1,000.00	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 5001-201000					Accounts Payable			5,950.00	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
APP 4005-201000					Accounts Payable			795.13	
02/02/2022	020222AP	AP0202			AP CASH DISBURSEMENTS JOURNAL				
					GENERAL LEDGER TOTAL			994,745.20	994,745.20
APP 9999-201010					DT DF			994,745.20	
02/02/2022	020222AP	AP0202							
APP 1000-101010					Pooled Cash Equity				439,771.45
02/02/2022	020222AP	AP0202							
APP 4000-101010					Pooled Cash Equity				165,419.09
02/02/2022	020222AP	AP0202							
APP 4001-101010					Pooled Cash Equity				73,069.70
02/02/2022	020222AP	AP0202							
APP 5021-101010					Pooled Cash Equity				295,627.90
02/02/2022	020222AP	AP0202							
APP 3575-101010					Pooled Cash Equity				1,098.74
02/02/2022	020222AP	AP0202							
APP 3576-101010					Pooled Cash Equity				4,534.26
02/02/2022	020222AP	AP0202							
APP 3058-101010					Pooled Cash Equity				7,431.50
02/02/2022	020222AP	AP0202							
APP 3810-101010					Pooled Cash Equity				47.43
02/02/2022	020222AP	AP0202							
APP 3573-101010					Pooled Cash Equity				1,000.00

JOURNAL ENTRIES TO BE CREATED

YEAR PER JNL SRC ACCOUNT	EFF DATE	JNL DESC	REF 1	REF 2	REF 3	ACCOUNT DESC / LINE DESC	T	OB	DEBIT	CREDIT
	02/02/2022	020222AP	AP0202							
APP 5001-101010						Pooled Cash Equity				5,950.00
	02/02/2022	020222AP	AP0202							
APP 4005-101010						Pooled Cash Equity				795.13
	02/02/2022	020222AP	AP0202							
						SYSTEM GENERATED ENTRIES TOTAL			994,745.20	994,745.20
						JOURNAL 2022/08/113 TOTAL			1,989,490.40	1,989,490.40

JOURNAL ENTRIES TO BE CREATED

FUND / ACCOUNT	YEAR	PER	JNL	EFF DATE / ACCOUNT DESCRIPTION		DEBIT	CREDIT
1000 General Fund	2022	8	113	02/02/2022			
1000-101010				Pooled Cash Equity			439,771.45
1000-201000				Accounts Payable		439,771.45	
					FUND TOTAL	439,771.45	439,771.45
3058 Comm Services Programs	2022	8	113	02/02/2022			
3058-101010				Pooled Cash Equity			7,431.50
3058-201000				Accounts Payable		7,431.50	
					FUND TOTAL	7,431.50	7,431.50
3573 Police Department Grants	2022	8	113	02/02/2022			
3573-101010				Pooled Cash Equity			1,000.00
3573-201000				Accounts Payable		1,000.00	
					FUND TOTAL	1,000.00	1,000.00
3575 Area Agency on Aging	2022	8	113	02/02/2022			
3575-101010				Pooled Cash Equity			1,098.74
3575-201000				Accounts Payable		1,098.74	
					FUND TOTAL	1,098.74	1,098.74
3576 Community Services Grants	2022	8	113	02/02/2022			
3576-101010				Pooled Cash Equity			4,534.26
3576-201000				Accounts Payable		4,534.26	
					FUND TOTAL	4,534.26	4,534.26
3810 Highway User Revenue Fund	2022	8	113	02/02/2022			
3810-101010				Pooled Cash Equity			47.43
3810-201000				Accounts Payable		47.43	
					FUND TOTAL	47.43	47.43
4000 Water Utility Fund	2022	8	113	02/02/2022			
4000-101010				Pooled Cash Equity			165,419.09
4000-201000				Accounts Payable		165,419.09	
					FUND TOTAL	165,419.09	165,419.09
4001 Wastewater Fund	2022	8	113	02/02/2022			
4001-101010				Pooled Cash Equity			73,069.70
4001-201000				Accounts Payable		73,069.70	
					FUND TOTAL	73,069.70	73,069.70
4005 Environmental Services	2022	8	113	02/02/2022			

JOURNAL ENTRIES TO BE CREATED

FUND / ACCOUNT	YEAR	PER	JNL	EFF DATE / ACCOUNT DESCRIPTION		DEBIT	CREDIT
4005-101010				Pooled Cash Equity			795.13
4005-201000				Accounts Payable		795.13	
					FUND TOTAL	795.13	795.13
5001 Cemetery Improvement Fund	2022	8	113	02/02/2022			
5001-101010				Pooled Cash Equity			5,950.00
5001-201000				Accounts Payable		5,950.00	
					FUND TOTAL	5,950.00	5,950.00
5021 CIP General	2022	8	113	02/02/2022			
5021-101010				Pooled Cash Equity			295,627.90
5021-201000				Accounts Payable		295,627.90	
					FUND TOTAL	295,627.90	295,627.90
9999 Pooled Cash	2022	8	113	02/02/2022			
9999-104000				Cash in Bank - Checking			994,745.20
9999-201010				DT DF		994,745.20	
					FUND TOTAL	994,745.20	994,745.20

JOURNAL ENTRIES TO BE CREATED

FUND		DUE TO	DUE FR
1000	General Fund		439,771.45
3058	Comm Services Programs		7,431.50
3573	Police Department Grants		1,000.00
3575	Area Agency on Aging		1,098.74
3576	Community Services Grants		4,534.26
3810	Highway User Revenue Fund		47.43
4000	Water Utility Fund		165,419.09
4001	Wastewater Fund		73,069.70
4005	Environmental Services		795.13
5001	Cemetery Improvement Fund		5,950.00
5021	CIP General		295,627.90
9999	Pooled Cash	994,745.20	
	TOTAL	994,745.20	994,745.20

** END OF REPORT - Generated by Anacelia Cruz **

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.A. On-Call Consultant Engineering & Architectural Services Contracts
DATE PREPARED: 02/24/22	**DISTRICT NO.:** ALL
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council) Council to take action on the On-Call Consulting for Engineering and Architectural Services Contracts between the City of Buckeye and Affiliated Engineers, Inc. (Contract No. 2022003.01), Arrington Watkins Architects, LLC (Contract No. 2022003.02), Black & Veatch Corporation (Contract No. 2022003.03), Brown and Caldwell, Inc. (Contract No. 2022003.04), Bureau Veritas North America, Inc. (Contract No. 2022003.05), Burgess & Niple, Inc. (Contract No. 2022003.06), Cardno, Inc. (Contract No. 2022003.07), Carollo Engineers, Inc. (Contract No. 2022003.08), CivTech, Inc. (Contract No. 2022003.09), Consor Engineers, LLC (Contract No. 2022003.10), Consultant Engineering, Inc. (Contract No. 2022003.11), DFDG Architecture (Contract No. 2022003.12), Dibble & Associates Consulting Engineers, Inc. (Contract No. 2022003.13), Dig Studio, Inc. (Contract No. 2022003.14), Entellus, Inc. (Contract No. 2022003.15), Environmental Planning Group, LLC (Contract No. 2022003.16), Greenlight Traffic Engineering, LLC (Contract No. 2022003.17), Hazen and Sawyer (Contract No. 2022003.18), HDR Engineering, Inc. (Contract No. 2022003.19), HilgartWilson, LLC (Contract No. 2022003.20), J2 Engineering and Environmental Design, LLC (Contract No. 2022003.21), Kimley-Horn and Associates, Inc. (Contract No. 2022003.22), Kitchell/CEM, Inc. (Contract No. 2022003.23), LEA-Architects, LLC (Contract No. 2022003.24), Matrix New World Engineering (Contract No. 2022003.25), Michael Baker International, Inc. (Contract No. 2022003.26), Michael Wilson Kelly-Architects, Ltd. (Contract No. 2022003.27), Ninyo & Moore Geotechnical & Environmental Science Consultants (Contract No. 2022003.28), Pearson Engineering Associates, Inc. (Contract No. 2022003.29), Project Engineering Consultants, Ltd. (Contract No. 2022003.30), Ritoch-Powell & Associates (Contract No. 2022003.31), Speedie and Associates, Inc. (Contract No. 2022003.32), Stanley Consultants, Inc. (Contract No. 2022003.33), Sunrise Engineering, Inc. (Contract No. 2022003.34), Tristar Engineering and Management, Inc. (Contract No. 2022003.35), Western Technologies, Inc. (Contract No. 2022003.36), Willdan Engineering (Contract No. 2022003.37), Wilson Engineers (Contract No. 2022003.38), Wood Environment & Infrastructure Solutions, Inc. (Contract No. 2022003.39), Wood, Patel & Associates, Inc. (Contract No. 2022003.40), Wright Engineering Corp. (Contract No. 2022003.41), and Y2K Engineering, LLC (Contract No. 2022003.42); and authorizing the Mayor to execute and deliver said contracts on behalf of the City.

RELEVANT GOALS:
GOAL 4: Adequate, Well-Maintained and Well-Planned Public Infrastructure

ADDITIONAL RELEVANT GOALS:
GOAL 3: A Well-Planned Urban Community

SUMMARY

PROJECT DESCRIPTION:
Over the next five (5) years, the City expects to execute several Capital Improvement Projects (CIP). As these projects are funded and developed, having a qualified group of Consultants available to perform these projects and meet the City's requirements is essential.

The Construction and Contracting Division issued a Request for Qualifications (RFQ) on September 16, 2021and a Pre-Submittal Conference was held on September 28, 2021 with One Hundred and Eleven (111) Consultants in attendance. The RFQ closed on October 14, 2021 with One Hundred Seventy Three (173) Statements of Qualifications (SOQ) received.

The SOQ's were sorted into the following twenty one (21) Professional categories for evaluation per each Consultant's submitted SOQ category interest:
Category 1: General Engineering
Category 2: Water/Wastewater
Category 3: Water/Wastewater Specialties
Category 4: Roadway/Transportation
Category 5: Transportation Studies
Category 6: Traffic Engineering
Category 7: Parks & Recreation
Category 8: Geotechnical Engineering
Category 9: Environmental Consulting
Category 10: Structural Engineering
Category 11: Architectural
Category 12: Electrical Engineering
Category 13: Mechanical Engineering
Category 14: Construction Management
Category 15: Building Plan Review
Category 16: Civil Plan Review
Category 17: Building Inspection Services
Category 18: Civil Inspection Services
Category 19: Reports & Investigations
Category 20: SCADA Control Panel Design, Build & Installation
Category 21: SCADA System Programming

Ten (10) evaluation teams of five (5) members on each team were formed, team meetings scheduled and conducted from December 7, 2021 - December 16, 2021 and the 173 detailed submittals (SOQ's) were reviewed and ranked.
At the close of evaluations, some Consultants were awarded a single category, other Consultants awarded multiple categories according to the categories they submitted SOQ's in.

The following categories were not awarded due to lack of response/low number of SOQ's received and will be re-advertised in the near future:
Category 15: Building Plan Review
Category 17: Building Inspection Services
Category 20: SCADA Control Panel Design, Build and Installation
Category 21: SCADA System Programming
(Note: currently there are active contracts in Categories 15 and 17 that expire 8/15/22, and active contracts in Categories 20 and 21 that expire 6/30/22. Re-advertisement and contract award will take

the place of these contracts when they expire.)

The contract period for each of the awarded contracts 2022003.01 through 2022003.42 is for an initial term of one (1) year with no more than four (4) additional one-year extensions. During the term of the contract, work shall be conducted as a series of individual Task Orders with estimated values of $50,000 to $500,000. As Capital Improvement Projects (CIP) are developed and funded, each Task Order shall be approved in strict accordance with the City procurement code.

NOTE: DUE TO DOCUMENT VOLUME, THE ABOVE LISTED CONTRACTS HAVE NOT BEEN
UPLOADED IN GRANICUS.
SIGNED CONTRACTS ARE ON FILE IN THE CITY CLERK'S OFFICE.

BENEFITS:
Having On-Call Contracts in place for Engineering and Architectural Services streamlines the procurement process and allows for expeditious project execution for Design Projects.

FUTURE ACTION:
Task Orders under these Contracts will be awarded to the Consultant with the most experience and qualified staff to meet the budget parameters of the project being developed. Depending upon the cost of the service required, Task Orders may require City Council approval and Mayor execution.

FINANCIAL IMPACT STATEMENT:
No cost implications or encumbrances until individual Task Orders are issued.

CURRENT FISCAL YEAR TOTAL COST:
As funded and developed

BUDGETED:
No

FISCAL YEAR:
As developed

FUND/DEPARTMENT:
As developed

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.B. Park and Ride Communications Tower site preparation for installation.
DATE PREPARED: 02/24/22	**DISTRICT NO.:** 6
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Delivery Order No. 3 to the Job Order Contract (No. 2020001.01) between the City of Buckeye, an Arizona municipal corporation, and Brycon Corporation, an Arizona corporation, related to site preparation for a public safety communication tower near the Buckeye Park-n-Ride; and authorizing the Mayor to execute and deliver said Agreement on behalf of the City.

RELEVANT GOALS:
GOAL 4: Adequate, Well-Maintained and Well-Planned Public Infrastructure

SUMMARY

PROJECT DESCRIPTION:
As part of the Capital Improvement Program, the preparation of the one (1) acre Communication Tower site includes footings for tower, driveway, electricity to property, communications hut, fencing and backup generator. This will 1) extend/augment/provide public safety (Fire and Police) radio coverage for the "simulcast J" network -9 channels -RWC 700MHz spectrum, 2) add "vertical assets" for City communications infrastructure, 3) provide coverage to under-served or non-served water resource facilities and 4) specifications for additional public safety radio coverage coupled with the City's lack of communications infrastructure, the need for substantial vertical assets to extend/augment city networks for all departments is crucial.

BENEFITS:
The Communication Tower will provide additional public safety radio coverage.

FUTURE ACTION:
None.

FINANCIAL IMPACT STATEMENT:
Delivery Order #3 in the amount of $970,987.25.

CURRENT FISCAL YEAR TOTAL COST:
$970,987.25

BUDGETED:
Yes

FISCAL YEAR:
FY21/22

FUND/DEPARTMENT:
50212121-543053 (CIP 2020029)

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:
Brycon Contract No. 2020001.01.pdf
Brycon - CO#1 FE 4-26-21.pdf
MAP.pdf
MAP 2.pdf
DO #3 signed by firm & Chris.pdf

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
BRYCON CORPORATION

Contract Number: 2020001.01

This JOB ORDER CONTRACT FOR GENERAL CONSTRUCTION SERVICES (the "Contract") is made and entered into by and between the City of Buckeye, an Arizona municipal corporation (the "City") and Brycon Corporation, an Arizona corporation (the "Contractor"). This Contract is for General Construction Services, and issued as required by award of individual Job Orders (the "Project").

RECITALS

A. The City issued a Request for Qualifications entitled "Job Order Contracting for "General Construction Services" (the "RFQ") incorporated herein by reference, seeking proposals from vendors interested in providing construction services.

B. The Contractor submitted a proposal in response to the RFQ (the "Proposal"), attached hereto as Exhibit A and incorporated herein by reference, and the City desires to enter into an Agreement with the Contractor for indefinite quantity and indefinite delivery for various projects related to General Construction Services such as New Building Construction, Renovations, Site Enhancements, Rehabilitation and Miscellaneous Construction-related Improvements for the City. The Projects may include Design Services, preconstruction services, permitting regulatory requirements and as-built/close-out documents (collectively the "Services").

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements stated herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the City and the Contractor agree as follows:

ARTICLE 1
CONTRACT TERM

1. This Contract has a base period of one (1) year and four option periods of one (1) year each that may be exercised in the sole discretion of the City. Any exercise of any option to renew this Contract beyond the base period will only be effective upon written notice from the City. The time period during which this Contract is in effect is the "Term".

2. The Contract Time for each Job Order shall start with the Notice to Proceed ("NTP") and end with Final Acceptance, as set forth below. The NTP will not be issued until prior approval and acceptance by City of the Job Order.

3. The Contract Time is identified in the Job Order as the Contract Duration in terms of calendar days. Contractor agrees that it will commence performance of the Work after receiving an official NTP letter and complete the Project through both Substantial Completion (if applicable) and Final Completion within the Contract Time.

4. Time is of the Essence of this Contract, and each Job Order issued hereunder, for each Project, and for each phase and/or designed Milestone thereof.

5. Failure on the part of Contractor to adhere to the approved Project Schedule will be deemed a material breach and sufficient grounds for termination of a specific Job Order and/or this Contract by City. The City will assess liquidated damages as described in each Job Order for each calendar day of delay beyond the Final Completion date.

ARTICLE 2
OVERVIEW OF JOB ORDER CONTRACTING UNDER THIS CONTRACT

1. This Contract establishes an indefinite delivery, indefinite quantity, Job Order Contract for such Services within the scope of this Contract as City may request from time to time by issuance of an individual Job Order for each Project. Unless otherwise specified in a specific Job Order, Job Orders generally will not include Design Services and that where Design Services are necessary, City will provide them under separate contract. There will be a separate Job Order for each Project that will describe the Work to be provided by Contractor for that Project. There may be multiple Projects and therefore multiple Job Orders under this Contract.

2. The amount to be paid by the City for the Project under each Job Order is the Contract Price for that Job Order. The Job Order price will include a total amount for each Job Order priced for the Work described for that Job Order. The Contract Price for any Job Order will be established as a Firm Fixed Price, subject to the following:

   (a) Estimated values for individual projects are estimated at $50,000 to $1,000,000. Projects may extend into the next fiscal year and beyond, but in no instance will any one project under this Contract exceed $5,000,000. It is expected that no more than two (2) projects per year will exceed $1,000,000.

   (b) There is no limit on the number of Job Orders that City may issue to the Contractor during the term of this Contract. Likewise, there is no requirement that the City issue any Job Orders to the Contractor during the Term of this Contract.

3. City shall have the right to perform work of the types included in this Contract itself or to have other contractors perform such work.

4. No Contract in relation to any specific Work is in effect until a Job Order has been fully executed by City and Contractor.

5. During the Term of this Contract, City will issue an individual Job Order request for proposal to Contractor for each Project. Each Job Order will have specific instruction concerning that Job Order. The Contractor will follow these specific instructions when preparing a response in the form of a Job Order Proposal.

6. The general steps for development of a Job Order are:

   (a) When City identifies a need for performance of a Project under a Job Order; City will issue an RFP to Contractor and also advise Contractor of the nature of the Work to be done. At the same time, City will advise the Contractor if Design Services are required and how those services will be provided. Within seven (7) working days of receipt of this notification, Contractor will:

   (i) Visit the proposed Project Site with City designated representatives; and
   (ii) Arrange with City to further define the scope of the Project.

   Contractor shall thoroughly acquaint itself with all available information concerning the conditions of the Work under each Job Order and is responsible for correctly and fully estimating the difficulty of performing the Work, the actions required to perform the Work and the cost of successfully performing the Work under each Job Order.

   (b) City may arrange for any needed Design Services to produce the Drawings and Specifications. Design Services will not begin until the scope of Design Services is approved by City. The Drawings and Specifications developed by the Design Services are subject to approval by City. If there are no Design Services, City will develop Drawings and Specifications consisting of a line drawing and a written description of the contemplated Work.

   (c) Upon establishment of the scope of the, Contractor will prepare its proposal for accomplishment of the Project.

7. Upon award of a Job Order, a signed copy of the Job Order will be mailed or electronically forwarded to Contractor. Failure by Contractor to pick up or receive the mailed or electronic orders shall not relieve Contractor from the obligation to complete the Work under the Job Order in accordance with the terms of this Contract or the terms of each Job Order.

8. City may provide a verbal NTP for the Work in advance of issuing the formal NTP letter (which will be followed up with a written NTP). Normally, NTP will be issued under separate cover from the Job Order. The Contract duration starts with the date on the NTP letter.

ARTICLE 3
DEFINITIONS

"Addenda" written or graphic instruments issued prior to the submittal of the Proposal(s), which clarify, correct or change the Proposal(s) requirements.

"Agreement" means the executed agreement between City and Contractor.

"Change Order" means a written instrument issued after execution of a Job Order or this Contract signed by City and the Contractor, stating their agreement upon all of the following: the scope of the change in the Work; the amount of the adjustment to the Contract Price; and the extent of the adjustment to the Contract Time(s).

"City" means the City of Buckeye, a municipal corporation, with whom Contractor has entered into this Contract and for whom the Services is to be provided pursuant to said Contract.

"City's Project Criteria" means information developed by or for the City to describe City's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Contractor's performance of the Work. City's Project Criteria may include conceptual documents, design criteria, performance requirements and other Project-specific technical materials and requirements.

"City's Representative" means the person designated within this contract.

"Commissioning" means the process for achieving, validating and documenting the performance of the Project including any works and its systems to meet the design needs and requirements of the City.

"Construction Documents" means the plans, specifications and drawings prepared by the Contractor or a Consultant.

"Construction Drawings" means the detailed drawings approved as part of the approved Construction Documents.

"Construction Work" means the construction component of the Project.

"Contract Documents" means the following items and documents in descending order of precedence: (i) all written modifications, amendments and Change Orders to this Contract; (ii) this Contract, including all exhibits and attachments, executed by City and Contractor to include each Job Order; (iii) written supplementary conditions; (iv) Construction Documents prepared and approved; (v) Contractor's approved Variations of the City's Project Criteria, as contained in Exhibit A.; (vi) City's Project Criteria; (vii) Contractor's Proposal(s), except for accepted Variations of the City's Project Criteria, submitted in response to City's Project Criteria.

"Contract Price" means the amount or amounts set forth in each awarded Job Order subject to adjustment in accordance with this Contract.

"Contract Time" means the Days set forth in each awarded Job Order subject to adjustment in accordance with this Contract.

"Job Order" means a specific written agreement between the City and the Contractor for Work to be performed under this Contract for an individual, mutually agreed upon scope of work, schedule and price.

"Day(s)" means calendar days unless otherwise specifically noted in the Contract Documents.

"Deliverables" means the work products prepared by the Contractor in performing the scope of work described in each Job Order.

"Design Services" means all professional services to be performed or procured by the Contractor or by City to provide required Project design under this Contract and any subsequent amendments.

"Job Order Contractor" means the firm, corporation, or other approved legal entity with whom the City has entered into this Contract to provide services as detailed in this Contract. The term Contractor may be used to identify the Job Order Contractor.

"Differing Site Conditions" means concealed or latent physical conditions or subsurface conditions at the Site that, (i) materially differ from the conditions indicated in the Scope of Work issued with each Job Order or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work.

"Final Acceptance" means the completion of the Project as prescribed in Article 10.

"Float" means the number of Days by which an activity can be delayed without lengthening the Critical Path and extending the Substantial Completion date.

"Legal Requirements" means all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

"Notice to Proceed" or "NTP" means the directive issued by the City, authorizing the Contractor to start Work or a portion of the work.

"Payment Request" means the City form used by the Contractor to request payment for Work performed.

"Product Data" means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

"Project" means the Work to be completed in the execution of any awarded Job Order and as amended and as prescribed as any Scope of Work in identified in each awarded Job Order. Project means the Work associated with each awarded Job Order issued under this Contract.

"Project Schedule" means a schedule as prescribed in this Contract or subsequent Job Orders.

"Project Record Documents" means the documents created pursuant to Article 12.

"Samples" means physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

"Schedule of Values (SOV)", means the Document specified in the construction phase, which divides the Contract Price into pay items, such that the sum of all pay items equals the awarded Job Order Price for the Work, or for any portion of the Work having a separate specified Contract Price.

"Shop Drawings" mean drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

"Scheduled Substantial Completion Date" means the calendar date equal to the Notice to Proceed date established plus the number of Days established in each Job Order.

"Site" means the land or locations on which the Project is located, as more particularly described in the Job Order.

"Subcontractor" or "Sub consultant" means any person or entity retained by Contractor as an independent contractor to perform a portion of the Work and shall include material, men and suppliers.

"Substantial Completion" means the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete so that City can occupy and use the Project or a portion thereof for its intended purposes.

"Technical Consultant" means an agent of the City who furnishes project management assistance (if applicable to a Job Order).

"Variations of the City's Project Criteria" means agreed changes to the City's Project Criteria by both Parties.

"Work" means as defined in Article 5, Paragraph 2.

ARTICLE 4
DESIGN PHASE AND DESIGN SERVICES

1. Costs for Preconstruction services will be included in Contractor's firm fixed price cost proposal.

2. Contractor may also be required to provide incidental Design Services for all or a portion of the Work to be constructed under a specific Job Order. If consulting services for design and the preparation of Plans and Specifications are required; they will be paid for as a separate line item in the Contractor's price proposal. Normally the City will obtain Design Services from a consultant or prepare design documents using City staff.

ARTICLE 5
CONSTRUCTION SERVICES

1. Contractor shall perform all Work necessary to construct the Project in accordance with all applicable Legal Requirements, this Contract and the specifications outlined in each Job Order, and render the Project and all its components operational and functionally and legally usable for their intended purpose.

2. The term "Work" shall mean whatever is done by or required of Contractor to perform and complete its duties relating to the construction of each Job Order under the Contract, including, without limitation, the following:

    A. Construction of the whole and all parts of the Project in full and strict conformity with each Job Order;

    B. The provision and furnishing, and prompt payment therefore, of all labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, fuel, heat, light, cooling, other utilities and things required for the construction of each Job Order;

C. The procurement and furnishing of all necessary permits and other permits required for the construction of each Job Order;

D. The creation and submission to City of detailed as-built drawings depicting all as-built construction;

E. The furnishing of any required surety bonds and insurance as may be required by each Job Order;

F. The furnishing of all equipment and product warranties, manuals, test results and user guides required by each Job Order or otherwise reasonably available to Contractor;

G. The furnishing of all other services and things required or reasonably inferable from the Contract Documents, including the provisions of Article 6 below.

ARTICLE 6
TIME FOR CONSTRUCTION: THE CONTRACT TIME

1. After City has awarded each Job Order, City shall issue a NTP directing Contractor to proceed with the Work on the date indicated in the notice (the "Commencement Date"). The notice to commence Work shall be issued at least ten (10) days prior to the Commencement Date.

2. Contractor shall commence the Work on the Commencement Date, and the Work shall be carried out regularly and without interruption. Contractor shall substantially complete the Work no later than the date established in each Job Order or such other date as may be issued by a Change Order (the "Scheduled Completion Date"). The number of calendar days between the effective date of the Contract and the Scheduled Completion Date is the "Contract Time". Contractor shall achieve Final Completion of the Work no later than thirty (30) calendar days after achieving Substantial Completion.

3. Contractor understands that if Substantial Completion for entire project is not attained by the Scheduled Substantial Completion date, City will suffer damages which are difficult to determine and accurately specify. Contractor agrees that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, Contractor shall pay City the amount established in each Job Order as liquidated damages for each day that Substantial completion extends beyond the Scheduled Substantial Completion Date.

4. All limitations of time set forth in each Job Order are material and time is of the essence of each Job Order.

ARTICLE 7
ADDITIONAL DUTIES AND RESPONSIBILITIES OF CONTRACTOR

1. The intent of this Contract is to require complete, correct and timely execution of all Job Orders awarded for the Construction Work. Any and all Construction Work that may be required reasonably implied or reasonably inferred by each Job Order as necessary to produce the intended result shall be provided by Contractor for the Construction Price as provided in each awarded Job Order.

2. All Work performed by Contractor shall be in strict compliance with each Job Order. "Substantial Compliance" is not strict compliance. Any Construction Work not in strict compliance with each Job Order is defective.

3. The Construction Work shall be strictly supervised and directed using Contractors best and highest skill and effort. Contractor shall bear full responsibility for any and all acts or omissions of those engaged in the Construction Work on behalf of the Contractor.

4. Contractor warrants and guarantees to City that all labor furnished to perform the Construction Work under each Job Order will be competent to perform the tasks undertaken and is the best quality obtainable, that the product of such labor will yield only superior results in strict compliance with the requirements of each Job Order, that materials and equipment furnished will be of high quality and new unless otherwise permitted by the Job Order, and that the Construction Work will be of high quality, free from faults and defects and in strict conformance with the requirements found in each Job Order. Any and all Construction Work not strictly conforming to these requirements shall be considered defective and shall constitute a breach of Contractor's warranty.

5. Special or specific guarantees and warranties which are required by each Job Order to run for a fixed period of time shall commence running on the date of Substantial Completion of all Construction Work. In general, Contractor warrants all work, including labor and materials, for a period of two (2) years from the date of Substantial Completion, unless otherwise specified in the Job Order.

6. Contractor, within fifteen (15) days after the Commencement Date, shall submit to the Manager of Construction and Contracting for his information, and shall comply with, Contractor's Schedule of Construction for each Job Order awarded. The Schedule of Construction shall reflect the performance of all Construction Work on weekdays and non-holidays. The Schedule of Construction shall be a detailed critical path (CPM) schedule in a form acceptable to City. The Schedule of Construction shall be revised at least monthly and shall be revised to reflect conditions encountered from time to time and shall be related to the entire Project awarded as a Job Order. Each such revision shall be furnished to the City. Strict compliance with the requirements of this Paragraph shall be a condition precedent for payment to Contractor, and failure to strictly comply with this requirement shall constitute a material breach of the Contract. No claim for an

increase in the Construction Price shall be allowed as a result of Contractor basing the Construction Price upon an early completion schedule, or as a result of delays and costs attributable to completion later than the planned early completion date.

7. Contractor shall continuously maintain at the Site, for the benefit of City, an updated copy of the awarded Job Order, including one record copy of the Job Order Documents marked to record on a current basis changes, selections and modifications made during construction. Additionally, Contractor shall maintain at the Site, for the benefit of City, a copy of all Shop Drawings, Product Data, Samples, and other Submittals, if specified in the awarded Job Order. Upon Final Completion of the Construction Work, or upon the City's request, all of the documents described in this Paragraph shall be finally updated and delivered to City and shall become the property of the City.

8. Contractor shall review, study, and approve, or take other necessary action upon all Shop Drawings, Product Data, Samples, and other Submittals to ensure that each Job Order will be constructed in a timely fashion in strict compliance with the requirements of the Contract and Job Order. No deviation from, substitution for or other modification from the Documents shall be allowed by Contractor in a shop drawing or submittal without written approval, in the form of a Change Order, from City. Contractor shall engage in prompt and adequate review of Shop Drawing and other Submittals to maintain the Construction Schedule; Contractor also warrants it will use its best independent professional judgment in its review to determine compliance with the Contract Documents.

9. City shall also, in its discretion, have the right to review and approve Submittals, and if City so elects, Contractor shall not perform any portion of the Construction Work as to which the City has required submittal and review until such Submittal has been approved by the City. Approval by the City, however, shall not be evidence that Construction Work installed pursuant to the City's approval conforms to the requirements of the Contract nor shall such approvals relieve Contractor of any of its responsibilities or warranties under the Contract. If City elects to review Submittals, Contractor shall maintain a Submittal log which shall include, at a minimum, the date of each Submittal, the date of any resubmittal, the date of any approval or rejection, and the reason for any approval or rejection. Contractor shall have the duty to carefully review, inspect and examine any and all Submittals before submission of same to City. Shop Drawings and other Submittals from Contractor do not constitute a part of this Contract.

10. Contractor shall procure from all Subcontractors and Suppliers and shall transmit to the City, all warranties required by the Contract. Contractor shall review all such warranties and shall certify to City that the warranties are in strict compliance with the requirements of the Contract.

11. Contractor shall prepare or procure and shall transmit to the City all documentation required by this Contract regarding the operation and recommended maintenance programs relating to the various elements of the Construction Work.

12. If required in the Job Order, Contractor shall prepare and provide to the City a complete set of all as-built drawings which shall be complete and, except as specifically noted, shall reflect performance of the Construction Work in strict compliance with the requirements of this Contract.

13. Contractor shall assume all labor responsibility for all personnel assigned to or contracted for the performance of the Construction Work and agrees to strictly comply with all its obligations as employer with respect to said personnel under all applicable labor laws.

14. Contractor shall be responsible for procuring all tests and inspections required by sound professional practices and by governmental authorities having jurisdiction over the Project. Contractor shall submit certified results of such tests to City. If the laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Construction Work to be specifically inspected, tested, or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish to City the required certificates of inspection, testing or approval.

15. Contractor shall, during the course of the Construction Work, comply with any regulations or guidelines prescribed by City. Contractor warrants that it will comply with all public laws, ordinances, rules and regulations applicable to the services to be performed under the Contract, including without limitation, those relating to the terms and conditions of the employment of any person by Contractor in connection with the Construction Work to be performed under the Contract.

16. Contractor shall perform the Construction Work in accordance with all construction codes, laws, ordinances or regulations applicable to the design and execution of the Construction Work. Any fine or penalty which may be imposed as consequence of any violation of this provision shall be paid by Contractor, and Contractor, to the fullest extent permitted by the law, shall fully defend, indemnify and hold City harmless for, from and against all loss, damage, and expense, including attorney's fees, resulting from any such violation or alleged violation of codes, laws, ordinances, or regulations, regardless of a concurrent contribution by City, through negligence or other wrongful act, to such loss, damage, or expense, except that such indemnity shall not apply if the violation is solely and directly caused by a negligent or willful act or omission of City, its officers, agents, or employees.

17. All construction and building permits, licenses and authorizations necessary for the construction of the Project shall be secured and paid for by Contractor. Contractor shall notify the City when it has received said permits, licenses, and authorizations, and upon receipt shall supply the City with copies of same. The originals of permits, licenses and

authorizations shall be delivered to the City upon completion of the Construction Work, and receipt of these documents by City shall be a condition precedent to final payment. Contractor shall also give and maintain any and all notices required by applicable laws pertaining to the construction of the Construction Work.

18. While on City's property, all Contractor's employees and Subcontractors shall confine themselves to areas designated by the City and will be subject to City's badge and pass requirements, if any, in effect at the Site of the Construction Work.

19. Contractor shall take all reasonable steps and legally required measures at the site to comply with applicable safety regulations and standards and to adequately protect the Construction Work, stored materials, and temporary structures located on the premises, and to prevent unauthorized persons from entering upon the site. Contractor shall at all times safeguard City's property and employees from injury or loss in connection with the performance of the Contract. Contractor shall at all times safeguard and protect its own partially or completely finished Construction Work and that of the adjacent property and all adjacent construction Work from damage. Contractor shall protect City's equipment, apparatus, machinery, and other property and all adjacent construction Work with boarding and other safeguards so as to keep the premises free from dampness, dirt, dust, or other damage and shall remove all such temporary protection upon completion of the Construction Work.

20. Unless otherwise instructed by City, Contractor shall repair and return to original condition all buildings, streets, curbs, sidewalks, utilities or other facilities affected by Contractor's performance of the Construction Work.

21. Contractor shall keep the site reasonably clean during performance of the Construction Work. Upon Final Completion of the Construction Work, Contractor shall thoroughly clean the site and the Project and remove all waste, debris, trash and excess materials or equipment, together with Contractor's property therefrom.

22. At all times relevant to the Contract, Contractor shall provide access to the Construction Work to City and its designees without formality or other procedure.

23. The City's decisions in matters relating to aesthetic standards and effect shall be final.

24. In performing both Design Services and Construction Work under this Contract, the relationship between City and Contractor is that of independent contractor, and the execution of this Contract does not change the independent status of Contractor. Contractor shall exercise independent judgment in performing its duties under this Contract and is solely responsible for setting working hours, scheduling or prioritizing the Contract work flow and determining how all Contract work is to be performed. No term or provision of this Contract or act of Contractor in the performance of this Contract shall be construed as making Contractor the agent, servant or employee of City, or making

Contractor or any of its employees eligible for the fringe benefits, such as retirement, insurance and worker's compensation, which City provides its employees.

ARTICLE 8
CONTRACT PRICE

1. City shall pay, and Contractor shall accept, as full and complete payment for all Work associated with each Job Order the amount approved and awarded to the Contractor as a Job Order. Each Job Order will be a separate contract under this Contract. The general terms and conditions will be established by this Contract and special contract provisions will be established within each Job Order.

2. Job Order Construction Price, unless changed by Supplemental Agreement or Change Order, represents the absolute limit of obligation or liability that City may ever have insofar as the cost for full and final completion of the Work, and the total of all payments to Contractor or its Subcontractors are concerned. Should additional amounts be required to be expended, over and above a Job Order Construction Price, to achieve completion of the Construction Work, including Project construction, and payment to Contractor, in accordance with this Contract and any Special Provisions included in each awarded Job Order, liability for and payment of such additional amounts shall be the sole responsibility of Contractor and its Contract Surety herein, and City shall never be liable for same.

3. In addition to the Construction Work Contractor will perform, it will also provide all the usual and necessary traditional construction management services incident to construction projects of the nature and scope of this Project, for which the Management Fee described in this Contract is paid. The services required are not intended in any manner to diminish the overall responsibility of Contractor for the full and final completion of the Construction Work within the time and cost constraints specified in this Contract.

4. City agrees to pay Contractor for the Cost of the Construction Work as defined in each Job Order, subject to submission by Contractor of all backup substantiation as may be reasonably required by the City. In no event shall the sum of payments for the Cost of the Construction Work and any other Contractor compensation exceed the Construction Price, as adjusted by Change Order. The term "Cost of the Construction Work" shall be defined in each Job Order and be established as a Firm-Fixed Price Contract.

ARTICLE 9
PAYMENT OF THE CONTRACT PRICE

1. Payments of the Contract Price will be made monthly as Work progresses. Payment Applications, covering labor, material, equipment, supplies, and other items completed, delivered or suitably stored on site during a period ending on the last calendar day of each month, shall be submitted to the City by the Contractor on the current edition of AIA

Documents G702 and G703, within five (5) days after end of the period. Payment Applications shall be notarized shall be supported by such data substantiating the Contractor's right to payment as the City may require, and reflect retainage, if any, as is provided. All payments shall be subject to any offset or retainage provisions of the Contract.

2. Each payment made to the Contractor shall be on account of the total amount payable to the Contractor, and title to all Work covered by a paid partial payment shall thereupon pass to the City. Nothing in this section shall be construed as relieving the Contractor from the sole responsibility for care and protection of materials and Work upon which payments have been made, for restoration of any damaged Work, or as a waiver of the right of the City to require fulfillment of all terms of Contract Documents.

3. The City, within seven (7) days after receipt of the Payment Application, will either issue a Certificate for Payment for such amount as is properly due or issue written notice of the reasons for withholding such a certificate.

4. The issuance of a Certificate for Payment will constitute a representation by the City, observations at the site and the data comprising the Application for Payment, that the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his certificate); and that the Contractor is entitled to payment in the amount certified.

5. Payment may be withheld in whole or in part to protect the City on account of:

   (a) Unsatisfactory job progress as determined by the City.
   (b) Defective Work or materials not remedied.
   (c) Disputed Work or materials.
   (d) Claims or other encumbrances filed or reasonable evidence indicating probable filing of claims or other encumbrances by Subcontractors or Suppliers, or others.
   (e) Failure of the Contractor to make payment to Subcontractors or Suppliers within seven (7) days after receipt of each progress payment.
   (f) A reasonable doubt as determined by the City that the Work can be completed for the unpaid balance of the Contract Price or within the Contract Time.
   (g) The Contractor's failure to perform any of its contractual obligations under the Contractor Documents, or any other Contract with the City.
   (h) Deficiencies or claims asserted by City against Contractor arising from any other project. Within fourteen (14) days following the receipt of the Certificate of Payment, the City shall pay to the Contractor 90% of the value of the Work in place and materials suitably stored at the Site. The remaining 10% shall be retained by the City until the Contract is 50% completed at which time the retainage shall be reduced to 5%;

provided that: (a) the Contractor is making satisfactory progress on the Contract; and (b) in the City's sole judgment, there is no specific cause or claim requiring a greater amount than 5% to be retained. Thereafter, the City shall pay the Contractor 95% of the value of the Work, unless and until it determines satisfactory progress is not being made, at which time the 10% retainage may be reinstated. Such 10% reinstatement would be 10% of the total contract value of Work in place and materials stored. The City's sole judgment concerning the satisfactory progress of the Work shall be final.

6. Within sixty (60) days after the issuance of the Certificate of Final Completion by the City and receipt of all other documents required by the Contract, all retained amounts shall be paid to Contractor as part of Final Payment:

   (a) The Final Payment shall not become due until the Contractor delivers to the City full and final unconditional releases from Subcontractors and major Suppliers acknowledging payment in full. Any claim filed thereafter shall be the responsibility of the Contractor.
   (b) If any claim remains unsatisfied after all payments are made, the Contractor shall immediately upon demand refund to the City all monies that the latter may be compelled to pay in discharging such claim including all costs, interest and attorneys' fees.

ARTICLE 10
SUBSTANTIAL AND FINAL COMPLETION

1. "Substantial Completion" means that stage in the progression of the Construction Work, as approved by City in writing, when the Project is sufficiently complete in accordance with the Contract that City can enjoy beneficial use or occupancy of the entire Project and can utilize it for all of its intended purposes. A condition precedent to Substantial Completion is the receipt by City of all necessary authorizations for the use of the Project required by any governmental or regulatory authority. City reserves the right to use any part, phase or system of the Project when such part, phase or system is substantially completed, but such partial use of the Project shall not result in the Project being deemed substantially complete, and such partial use shall not be evidence of Substantial Completion.

2. When Contractor believes that the Construction Work is substantially complete, Contractor shall notify the City in writing and shall submit to City a list of items remaining to be completed or corrected. The City, the City's designee, (or an independent consultant hired by City) will perform an inspection. If the Construction Work is substantially complete, in the sole opinion of City, City will prepare a Certificate of Substantial Completion which shall establish the date of Substantial Completion. The Certificate of Substantial Completion shall state the responsibilities of City and Contractor for Project security, maintenance, damage to the Construction Work, and insurance, and shall fix the date, not more than 30 days after the established date of Substantial Completion, within

which Contractor shall complete any items of incomplete or defective Construction Work. The Certificate of Substantial Completion shall be submitted to Contractor for its written acceptance of the responsibilities assigned to it in such certificate.

3. Upon Substantial Completion of the Construction Work, and upon execution by both City and Contractor of the Certificate of Substantial Completion, City shall pay Contractor, within thirty (30) days, all sums due Contractor, including such amount of retainage as the City in its sole discretion wishes to pay based upon the value of remaining performance, less the reasonable costs, as determined by City in City's sole discretion, for completing all incomplete Construction Work and/or any Design Services, correcting and bringing into strict conformance all defective and nonconforming Construction Work, and handling all outstanding or threatened claims.

4. "Final Completion" means the completion of all Work required by, and in strict compliance with, this Contract, the Job Order, including Contractor's provision to City of all documents and deliverables required to be provided by the Contract.

5. When Contractor believes that all of the Construction Work is finally complete, and Contractor is ready for a final inspection, Contractor shall so notify the City in writing. The City (or an independent consultant hired by City) will then make final inspection of the Construction Work and, if the Construction Work is complete in strict accordance with the Contract, and the Contract has been fully performed, then City will issue a Certificate for Final Payment, providing for payment of the remainder of the Contract Price, less any amount withheld pursuant to the Contract.

6. City shall make final payment of all remaining sums due to Contractor within thirty (30) days after Final Completion as reflected by City's Certificate for Final Payment, provided that all documents and deliverables required to be delivered to City under this Contract have been delivered as required, and provided that all other conditions precedent to payment have been satisfied.

7. Prior to being entitled to receive final payment, and as a condition precedent thereto, Contractor shall furnish City, in the form and manner required by the City, the following:

   (a) an Affidavit of Final Payment and Release, in particular certifying that all Subcontractors and Suppliers have been paid all sums lawfully due to them, and releasing City from all claims that Contractor had or might have asserted during the performance of this Contract;
   (b) if required by City, separate releases of lien or lien waivers from each Subcontractor, lower tier subcontractor, laborer, Supplier or other person or entity who has, or might assert a claim against City or City's property;
   (c) consent of surety to final payment;
   (d) a complete set of the as-built drawings to include AutoCAD disks and the record set of Contract Documents; and

(e) All product warranties, operating manuals, instruction manuals and other record documents, drawings and things customarily required of a Contractor, or expressly required herein, as a part of or prior to Project closeout.

8. Acceptance by Contractor of final payment shall constitute a waiver and release of all claims against City by Contractor except for those claims previously made in writing against City by Contractor, pending at the time of final payment and specifically identified on Contractor's pay request for final payment as unsettled at the time it submits its pay request.

ARTICLE 11
CITY'S DUTIES, OBLIGATIONS, AND RESPONSIBILITIES

In addition to payment, City shall undertake to perform the following:

1. City shall provide Contractor with information regarding City's requirements for the Project including any desired or required design or construction schedule.

2. City shall review any documents submitted by Contractor requiring City's decision, and shall render any required decisions pertaining thereto.

3. In the event City knows of any material fault or defect in the Construction Work, nonconformance with the Contract, or of any errors, omissions or inconsistencies in the Design Documents, then City shall give prompt notice thereof in writing to Contractor.

4. City shall provide Contractor access to the Site and to the Construction Work, and shall provide Contractor with such information, existing and reasonably available, necessary to Contractor's performance of the Contract as Contractor may request.

5. City shall cooperate with Contractor in securing any necessary licenses, permits, approvals or other necessary authorizations for the design, construction and certification of the Project.

6. City shall perform the duties set forth in this Article 11 in a reasonably expeditious fashion so as to permit the orderly and timely progress of Contractor's Design Services and of the Construction Work.

7. City's review, inspection, or approval of any Construction Work, Design Documents, Submittals, or pay requests by Contractor shall be solely for the purpose of determining whether such Construction Work and such documents are generally consistent with City's construction program and requirements. No review, inspection, or approval by City of the Construction Work or documents shall relieve Contractor of its responsibility for the performance of its obligations under the Contract or the accuracy, adequacy, fitness, suitability, or coordination of its Design Services or the Construction Work. Approval by

any governmental or other regulatory agency or other governing body of any Construction Work, Design Documents, or Contract Documents shall not relieve Contractor of responsibility for the strict performance of its obligations under the Contract. Payment by City pursuant to the Contract shall not constitute a waiver of any of City's rights under the Contract or at law, and Contractor expressly accepts the risk that defects in its performance, if any, may not be discovered until after payment, including final payment, is made by City.

9. City's agreement not to exercise, or its delay or failure to exercise, any right under the Contract or to require strict compliance with any obligation of Contractor under the Contract shall not be a waiver of the right to exercise such right or to insist on such compliance at any other time or on any other occasion.

10. City shall furnish to Contractor, prior to the execution of each Job Order, any and all written and tangible material knowingly in its possession concerning conditions below ground at the site of the Project. Such written and tangible material is furnished to Contractor only in order to make complete disclosure of such material and for no other purpose. By furnishing such material, City does not represent, warrant, or guarantee its accuracy or completeness either in whole or in part, and shall have no liability therefore. If Contractor requests in writing, City shall also furnish surveys, legal limitations, and utility locations (if known), and a legal description of the Project site.

11. City shall obtain all easements required for construction, and shall pay for necessary assessments and charges required for use and occupancy of the Construction Work. Contractor shall render such assistance as City may request in obtaining such easements, certificates of occupancy, and the like.

12. In the event Contractor fails or refuses to perform the Construction Work in strict accordance with the Contract, or is otherwise in breach of this Contract in any way, City may, at its option, instruct Contractor to cease and desist from performing further Construction Work, or any part thereof. Upon receipt of such instruction from City in writing, Contractor shall immediately cease and desist as instructed by City and shall not proceed further until the cause for City's instructions has been corrected, no longer exists, or City instructs that the Construction Work may resume.

13. In the event City issues such instructions to stop Construction Work, and in the further event that Contractor fails and refuses within seven (7) days of receipt of same to provide adequate assurance to City that the cause of such instructions will be eliminated or corrected, then City shall have the right to carry out the Construction Work with its own forces, or with the forces of other contractors, and Contractor shall be fully responsible for the costs incurred in correcting any defective or deficient Construction Work. The rights set forth in Article 11, Paragraph 11 and this Article 11, Paragraph 12 are in addition to, and without prejudice to, any other rights or remedies City may have against Contractor, including the rights to terminate or withhold payment as provided herein.

ARTICLE 12
JOB ORDER (PROJECT) DOCUMENTATION

1. Contractor shall maintain and protect all records relating in any manner whatsoever to the Project (the "Project Records") for no less than four (4) years after Final Completion of the Project, and for any longer period of time as may be required by law or good management practice.

2. All Project Records which are in the possession of Contractor or Contractors Subcontractors shall be made available to City for inspection and copying upon City's request at any time. Additionally, such records shall be made available upon request by City to any state, federal or other regulatory authorities and any such authority may review, inspect and copy such records. The Project Records include, without limitation, all drawings, plans, specifications, Submittals, correspondence, logs, minutes, memoranda, photographs, tape or videotape recordings, or other writings or things which document the Project, its design, or its construction. Said records include those documents reflecting the cost of design and construction to Contractor.

ARTICLE 13
PERSONNEL, SUBCONTRACTORS AND SUPPLIERS

1. A "Subcontractor" means an entity which has a direct contract with Contractor to perform a portion of the Construction Work or the Design Services. For purposes of the Contract, Subcontractors shall also include those furnishing any equipment and materials for the Project.

2. A "Supplier" means an entity providing only equipment or materials for the performance of the Construction Work.

3. Upon execution of this Contract, and at such later times as may be applicable, Contractor shall furnish City, in writing, the names of persons or entities proposed by Contractor to act as Subcontractors on the Project. Contractor shall provide such information regarding such proposed Subcontractors as City deems necessary. City shall promptly reply to Contractor, in writing, stating any objections City may have to such proposed Subcontractors. Contractor shall not enter into a subcontract with an intended Subcontractor with reference to whom City objects. Any consent or failure to reject by City shall in no way relieve Contractor of any of its duties or warranties under the Contract.

4. All subcontracts and purchase orders with Subcontractors shall afford Contractor rights against the Subcontractor which correspond to those rights afforded to City against Contractor under this Contract, including those rights of Contract suspension, termination, and stop Construction Work orders as set forth in this Contract. It is expressly agreed that no relationship of agency, employment, contract, obligation or otherwise

shall be created between City and any Subcontractor of Contractor, and a provision to this effect shall be inserted into all agreements between Contractor and its Subcontractors.

5. Should Contractor subcontract all or any part of the Construction Work, such subcontracting of the Construction Work shall not relieve Contractor from any liability or obligation under the Contract or under any applicable policy, law or regulation, and Contractor shall be responsible for all and any acts, defaults, omissions or negligence of its Subcontractors, Suppliers, and CONTRACTOR'S.

6. In accordance with Article 7, Paragraph 4 above, Contractor shall employ and assign only qualified and competent personnel to perform any service or task concerning the Project. Contractor shall designate one such person as the Project Contractor. Absent written instruction from Contractor to the contrary, the Project Contractor shall be deemed to be Contractor's authorized representative and shall be authorized to receive and accept any and all communications from City. Key design and supervisory personnel assigned by Contractor to each Job Order will be provided at the time the contractor submits the RFP pricing package. The contractor shall conform to all requirements established in each Job Order RFP issued by the City.

7. If, at any time during the course of the Project, City reasonably determines that the performance of any Subcontractor or any member of Contractor's staff construction working on the Project is unsatisfactory, City's Representative may require Contractor to remove such Subcontractor or staff member from the Project immediately and replace the staff member at no cost or penalty to City for delays or inefficiencies the change may cause.

ARTICLE 14
CHANGES AND EXTENSIONS OF TIME

1. Changes in the Design Services (if required) or the Construction Work under this Contract, consisting of additions, deletions, revisions or any combination thereof, may be ordered unilaterally by City without invalidating the Contract. Such changes shall be communicated by Change Order, Field Order or supplemental agreement, as applicable. Contractor shall proceed diligently with any changes, and same shall be accomplished in strict accordance with the terms and conditions as set forth in this Contract/Job Order.

2. All change orders, changes requested by Contractor, or extensions of Contract Time occurring during construction of the Project related to actual Construction Work shall be governed by the applicable provisions of this Contract/Job Order. All requests for additional compensation due to a change in the scope, and all requests for an extension of time to the Schedule, shall include sufficient backup documentation to reasonably understand the request and the amount of time or compensation requested and determines the merits of the request.

3. Upon the occurrence of a change order for Construction Work which increases the Cost of the Construction Work, the Construction Price will thereafter include such Cost of the Construction Work and Services attributable to such change to the extent allowed.

4. In the event the parties are unable to agree on the terms of a Change Order or Supplemental Agreement, then Contractor shall continue to diligently perform the Work, including any change directed by City by Change Order or Supplemental Agreement, and shall keep thorough records of the cost of performance of such Change Order or Supplemental Agreement.

5. Contractor recognizes and accepts a fiduciary relationship of trust and confidence hereby established between Contractor and City and agrees that it shall at all times in good faith use its best efforts to advance City's interests and agrees to perform the Work in the highest professional manner.

ARTICLE 15
CLAIMS BY CONTRACTOR

1. Claims by Contractor against City are subject to the terms and conditions of this Article 15, and strict compliance herewith shall be a condition precedent to any liability of City therefore.

2. All claims for additional compensation or additional time, regardless of their nature, when they occur, or whether they occur during the design or construction phase, shall be governed by the City of Buckeye Procurement Code.

3. Contractor shall provide, and continue to provide, to City all such documentation, including cost and time records, as and when City may request so that City may evaluate Contractor's claim.

4. Contractor shall continue its performance under this Contract regardless of the existence of any claims submitted by Contractor against City.

5. In the event Contractor seeks to make a claim for an increase in the Construction Price, as a condition precedent to any liability of City for any claim, Contractor shall strictly comply with the requirements of Paragraph 2 above and such notice shall be given by Contractor before proceeding to execute any alleged additional or changed Construction Work. Failure of the condition precedent to occur shall constitute a waiver by Contractor of any claim.

6. In connection with any claim by Contractor against City for compensation in excess of the Construction Price, any liability of City shall be strictly limited to the Cost of the Construction Work and Design Services if required as defined and allowed in this Contract

and subsequent Job Orders and shall in no event include, indirect, consequential, impact or other costs, expenses or damages of Contractor or its Subcontractors. City shall not be liable to Contractor for claims of third parties, including Subcontractors, for acts, omissions, events, or conditions for which City would not be liable to Contractor under the terms of the Contract. As a condition precedent to City's liability to Contractor for any loss or damage resulting from claims of third parties, including Subcontractors, such third parties must have complied with all conditions contained in their agreements with Contractor and such claims must have been submitted to City by Contractor in strict compliance with all the requirements of this Article. City shall not be liable to Contractor for claims of third parties including Subcontractors, unless and until the liability of Contractor has been established in a court of competent jurisdiction.

7. The resolution of any claim under this Article shall be reflected by a Change Order or Supplemental Agreement executed by City and Contractor.

ARTICLE 16
UNCOVERING AND CORRECTING CONSTRUCTION WORK

1. If any of the Construction Work is covered, concealed or obscured contrary to the written request of City, or contrary to any provision of the Contract, said Construction Work shall, if required by City, be uncovered for inspection and shall be properly replaced at Contractor's expense without change in the Contract Time.

2. If any of the Construction Work is covered, concealed or obscured in a manner not inconsistent with Paragraph 1 above, it shall, if required by City, be uncovered for inspection. If such Construction Work conforms strictly to the Contract, the cost of uncovering and proper replacement shall be charged to City. If such Construction Work does not strictly conform to the Contract, Contractor shall pay the cost of uncovering and proper replacement.

3. Contractor shall immediately proceed to correct Construction Work rejected by City as defective or failing to conform to the Contract. Contractor shall pay all costs and expenses associated with correcting such rejected Construction Work, including any additional testing and inspections made necessary thereby.

4. In addition to its warranty obligations set forth elsewhere herein, Contractor shall be specifically obligated to correct at its cost and expense any and all defective or nonconforming Construction Work for a period of twelve (12) months following Final Completion upon written direction from City. This obligation shall survive final payment by City and termination of the Contract.

5. Nothing contained in Paragraph 4 shall establish any period of limitation with respect to other obligations which Contractor has under the Contract. Establishment of the one-year

time period in Paragraph 4 above relates only to the duty to Contractor to specifically correct the Construction Work.

6. City may, but shall in no event be required to, choose to accept defective or nonconforming Construction Work. In such event, the Contract Price shall be reduced by the reasonable costs of removing and correcting the defective or nonconforming Construction Work. City shall be entitled to a reduction in the Construction Price regardless of whether City has, in fact, removed and corrected such defective Construction Work. If the unpaid balance of the Construction Price, if any, is insufficient to compensate City for the acceptance of defective or nonconforming Construction Work, Contractor shall, upon written demand from City, pay City such additional compensation for accepting defective or nonconforming Construction Work.

ARTICLE 17
SUSPENSION AND TERMINATION

1. City may for any reason whatsoever suspend performance under the Contract. City shall give written notice of such suspension to Contractor specifying when such suspension is to become effective.

2. From and upon the effective date of any Suspension ordered by City, Contractor shall incur no further expense or obligations in connection with this Contract and Contractor shall cease its performance. Contractor shall also, at City's direction, either suspend or assign to City any of its open or outstanding subcontracts or purchase orders.

3. In the event City directs a suspension of performance under this Article 17, through no fault of Contractor, and provided Contractor submits a proper claim as provided in this Contract, City shall pay Contractor as full compensation for such suspension Contractor's reasonable costs, actually incurred and paid, of:

   (a) Demobilization and remobilization, including such costs paid to Subcontractors
   (b) preserving and protecting Construction Work in place;
   (c) Storage of materials or equipment purchased for the Project, including Insurance.
   (d) Performing in a later, or during a longer, time frame than that contemplated by This contract.

4. If City lifts the suspension it shall do so in writing and Contractor shall promptly resume performance of the Contract unless, prior to receiving the notice to resume, Contractor has exercised its right of termination as provided herein.

5. City reserves the right, for any reason whatsoever (including, but not limited to, the City's failure to appropriate funding for this Contract), or without reason, terminate performance under the Contract by Contractor for convenience. City shall give thirty (30) calendar days advance written notice of termination for convenience to Contractor.

Contractor shall incur no further obligations in connection with the Contract and Contractor shall stop Work when such termination becomes effective. Contractor shall also, at City's direction, either terminate or assign to City outstanding orders and subcontracts. Contractor shall settle the liabilities and claims arising out of any terminated subcontracts and orders. City may direct Contractor to assign Contractor's right, title and interest under terminated orders or subcontracts to City or its designee. Contractor shall transfer title and deliver to City such completed or partially completed Design Documents (if any), Construction Work and materials, equipment, parts, fixtures, information and Contract rights as Contractor has.

6. When terminated for convenience, Contractor shall be compensated as follows:

   (a) Contractor shall submit a termination claim to City specifying the amounts believed to be due because of the termination for convenience together with costs, pricing or other data required by City. If Contractor fails to file a termination claim within three (3) months from the effective date of termination, City shall pay Contractor an amount derived in accordance with Subparagraph (c) below;
   (b) City and Contractor may agree to the compensation, if any, due to Contractor under this paragraph;
   (c) Absent agreement to the amount due to Contractor, City shall pay Contractor, as full compensation for termination for convenience, the following amounts:

      (i) the Cost of the Construction Work and Services, as defined and allowed by to the extent incurred or paid prior to receipt by Contractor of the notice of termination;

      (ii) such portion of Work which is completed and unpaid as of the date of receipt by Contractor of the notice of termination; and

      (iii) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders hereinabove. These costs shall not include amounts paid in accordance with other provisions of this Contract. In no event shall Contractor be entitled to recover lost profits or other incidental or consequential damages from City on account of a termination for convenience, or an erroneous termination for cause as described below.

7. If Contractor does not perform the Construction Work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise commits a violation of a material provision of the Contract, then City may by written notice to Contractor, without prejudice to any other right or remedy against Contractor or others, terminate the performance of Contractor and take possession of the Project site and of all materials and equipment at the site and may finish the Construction Work by whatever methods it may deem

expedient. In such cases, Contractor shall not be entitled to receive any further payment until the Construction Work is finished.

8. In the event the employment of Contractor is terminated by City for cause and it is subsequently determinedly a court or other tribunal of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Paragraph and the provisions of this Paragraph regarding compensation shall apply.

ARTICLE 18
INDEMNITY

1. To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold City, its elected officials, officers, agents and employees, harmless for, from and against any and all claims, lawsuits, judgments, costs and expenses for personal injury (including death), property damage or other harm for which recovery of damages is sought, suffered by any person or persons, that may arise out of or be occasioned by Contractor's breach of any of the terms or provisions of this Contract, or by any negligent, grossly negligent or strictly liable act or omission of Contractor, its officers, agents, or employees, in the performance of this Contract; except that the indemnity provided for in this paragraph shall not apply to any liability resulting from the sole negligence or fault of City, its elected officials, officers, agents, employees or separate contractors. The provisions of this paragraph are solely for the benefit of the parties hereto and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

ARTICLE 19
INSURANCE AND BONDS

1. Concurrently with the execution of the Contract, the Contractor shall furnish the City of Buckeye a certificate of insurance on a standard insurance industry ACORD form. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona.

2. Contractor, subcontractors and sub CONTRACTOR'S shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property, which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

   A. The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

   B. The City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives,

employees, subcontractors or sub CONTRACTOR'S and Contractor is free to purchase such additional insurance as may be determined necessary.

C. Minimum Scope and Limits of Insurance. Contractor shall provide coverage at least as broad and with limits of liability not less than those stated below.

(a) Commercial General Liability-Occurrence Form Policy shall include bodily injury, property damage, and broad form contractual liability and XCU coverage.

General Aggregate	$2,000,000
Products-Completed Operations Aggregate	$1,000,000
Personal & Advertising Injury	$1,000,000
Each Occurrence	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor."

(b) Automobile Liability- Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract

Combined Single Limit (CSL)	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor" including automobiles owned, leased, hired or borrowed by the Contractor."

(c) Workers Compensation and Employers Liability

<u>Workers Compensation</u>	<u>Statutory</u>
Employers' Liability	
Each Accident	$ 100,000
Disease-Each Employee	$ 100,000
Disease-Policy Limit	$ 500,000

The policy shall contain a waiver of subrogation against the City of Buckeye.

(d) <u>Professional Liability</u>

Each Claim	$1,000,000
Annual Aggregate	$2,000,000

(i) The required professional liability coverage must cover work done or to be

done or on the behalf of the Contractor.

(ii) In the event that professional liability insurance required by this Contract is written on a "claims made" basis, coverage shall be maintained for two years past completion and acceptance of the Work or services required by this Contract.

(iii) Should any Job Order include the services of design as an integral part of the work, any professional liability shall specifically delete any design-build or similar exclusions that could compromise coverage's because of the design-build delivery of the Project.

(e) Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $5,000,000 per occurrence combined limit Bodily Injury and Property Damage, that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

(f) Additional Insurance Requirements. The policies shall include, or be endorsed to include, the following provisions:

(i) On insurance policies where the City of Buckeye is named as an additional insured, the City of Buckeye shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.

(ii) The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

(iii) Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

(g) Sub consultant's and Subcontractor's Insurance. Contractor's certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. All coverage's for subcontractors and sub CONTRACTOR'S shall be appropriate to cover all of its work performed herein.

(h) Notice of Cancellation. Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given, by certified mail, return receipt requested to:

Christopher A. Williams
Manager, Construction & Contracting
City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326

(i) Acceptability of Insurers. Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the State of Arizona and with an A. M. Best's rating of no less than A -. The City in no way warrants that the above required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

(j) Verification of Coverage:

(i) Contractor shall furnish the City Certificates of Insurance (ACORD form or equivalent approved by the City) and with original endorsements effecting coverage as required by this Contract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. *Any policy endorsements that restrict or limit coverages shall be clearly noted on the certificate of insurance.*

(i) All certificates and endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to the earlier of commencement of work under this Contract or the signing of this Contract and remain in effect for the duration of the Project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

(ii) All certificates of insurance required by this Contract shall be sent directly to the City of Buckeye, Contracts Manager. The contract number and project description shall be included on the Certificates of Insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract, at any time.

(k) Approval. Any modification or variation from the insurance requirements in this Contract shall be approved by the City, whose decision shall be final. Such action will not require a formal contract amendment, but may be made by administrative action.

(l) Bonds and Other Performance Security. Contractor shall provide the following performance bond and labor and material payment bond:

(i) Prior to execution of this Contract, the Contractor must provide a performance bond and a labor and materials bond, each in an amount equal to the amount of initial Contract Price designated for construction services set forth in each Job Order.

(ii) Each such bond shall be executed by a surety company or companies holding a Certificate of Authority to transact surety business in the State of Arizona, Issued by the City of the Arizona Department of Insurance. A copy of the Certificate of Authority shall accompany the bonds. The Certificate shall have been issued or updated within two years prior to the execution of the Contract.

(m) The bonds shall be made payable and acceptable to the City of Buckeye.

(n) The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the state of Arizona or whose principal office is maintained in this state, as by law required, and the bonds shall have attached thereto a certified copy of Power of Attorney of the signing official. If one Power of Attorney is submitted, it shall be for twice the total Contract amount. If two Powers of Attorney are submitted, each shall be for the total Contract amount. Personal or individual bonds are not acceptable.

(o) Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

(p) All bonds submitted for this project shall be provided by a company which has been rated "A- or better" by the A.M. Best Company.

3. Approval, disapproval or failure to act by City regarding any insurance supplied by Contractor or its Subcontractors shall not relieve Contractor of full responsibility or liability for damages, errors, omissions or accidents as set forth in this Contract. Neither the bankruptcy or insolvency of Contractor's insurer nor any denial of liability by Contractor's insurer shall exonerate Contractor from the liability or responsibility of Contractor set forth in this Contract.

ARTICLE 20
CANCELLATION UNDER A.R.S. § 38-511

1. This Contract may be cancelled pursuant to the terms of Arizona Revised Statutes Section 38-511 as amended.

ARTICLE 21
GIFT TO PUBLIC SERVANT

1. City may terminate this Contract immediately if Contractor has offered, conferred, or agreed to confer any benefit upon a City of Buckeye employee or official that the City of Buckeye employee or official is prohibited by law from accepting.

2. For purposes of this section, "benefit" means anything reasonably regarded as pecuniary gain or pecuniary advantage, including benefit to any other person in whose welfare the beneficiary has a direct or substantial interest, but does not include a contribution or expenditure made and reported in accordance with law.

3. Notwithstanding any other legal remedies, City may require Contractor to remove any employee of Contractor from the Project who has violated the restrictions of this section or any similar state or federal law, and obtain reimbursement for any expenditures made to Contractor as a result of the improper offer, agreement to confer, or conferring of a benefit to a City employee or official.

ARTICLE 22
NONDISCRIMINATION

1. As a condition of this Contract, Contractor covenants that Contractor will take all necessary actions to insure that, in connection with any work under this Contract, Contractor, his associates and subcontractors, will not discriminate in the treatment or employment of any individual or groups of individuals on the grounds of race, color, religion, national origin, age, sex, or handicap unrelated to job performance, either directly, indirectly or through contractual or other arrangements. Contractor shall also comply with all applicable requirements of the Americans with Disabilities Act, 42 U.S.C.A. §§12101-12213, as amended. In this regard, Contractor shall keep, retain and safeguard all records relating to this Contract or work performed hereunder for a minimum period of three (3) years from final Contract completion, with full access allowed to authorized representatives of City, upon request, for purposes of evaluating compliance with this and other provisions of the Contract.

2. Subject to existing law, and regulations, illegal or undocumented persons will not be employed by the Contractor for any work or services to be performed pursuant to this contract. The Contractor will ensure that this provision is expressly incorporated into any and all subcontracts or subordinate agreements issued in support of this contract. Contractor shall notify the City upon the selection and agreement with any sub-contractor, and shall notify the City prior to any subcontractor being on site doing work. Contractor agrees to comply with the provisions of section 274A(a)(1)(A) and 274A(a)(2) of the Immigration and Nationality Act (8 U.S.C.1324a(a)(1)(A), 1324a(a)(2)) (the "INA employment provisions"), and any amendments thereto, prohibiting the unlawful employment of illegal or undocumented persons. Under the terms of this agreement, the

Contractor shall not knowingly hire or employ for any work performed pursuant to this contract any workers or employees not lawfully authorized to work in the United States under the provisions of the Immigration and Nationality Act or any other applicable federal or state laws. Violation of the provisions of this Article 22 shall be deemed a material breach of this Contract.

ARTICLE 23
MISCELLANEOUS PROVISIONS

1. This Contract shall be governed by the laws and court decisions of the State of Arizona. This Contract is performed in Maricopa County, Arizona, and exclusive venue for the enforcement of rights or legal obligations under this Contract shall be in Maricopa County, Arizona.

2. This Contract shall be binding upon and inure to the benefit of the parties to this Contract and their respective successors and, except as otherwise provided in this Contract, their assigns.

3. Contractor shall not assign this Contract, or any part of this Contract, without prior written consent of City.

4. All notices, communications, and reports required or permitted under this Contract shall be personally delivered or mailed to the respective parties by depositing same in the United States mail, postage prepaid, at the addresses shown below, unless and until either party is otherwise notified in writing by the other party, at the following addresses. Mailed notices shall be deemed communicated as of five days after mailing.

   If intended for City, to:
   Christopher A. Williams
   Manager, Construction & Contracting
   City of Buckeye
   530 E. Monroe Avenue
   Buckeye, Arizona 85326
   Phone: 623.349.6225

   If intended for Contractor, to:
   Kevin Freis
   Division Manager
   Brycon Corporation
   6905 W. Frye Road
   Chandler, Arizona 85226
   Phone: 480.785.9911
   Email: kfreis@brycon.com

5. No information relative to the existence or the details of the Design Services or the Construction Work shall be released by Contractor, either before or after completion of

the Project, for publication, advertising or any commercial purposes without City's prior written consent.

6. In the event that any portion or any portions of this Contract are held to be unenforceable by a court of competent jurisdiction, then the remainder of this Contract shall be enforced as though such portions had not been included, unless to do so would cause this Contract to fail of its essential purposes.

7. This Contract, with all Exhibits and incorporated or referenced attachments, and any Job Order, together with Contractor's and Surety's performance and payment bonds for the Project, constitute the entire and exclusive agreement between City and Contractor with reference to the Project. This Contract supersedes any and all prior documents, discussions, communications, representations, understandings, negotiations or agreements by and between the parties.

8. If the City Council does not appropriate funds to continue this Contract or any Job Order into a subsequent fiscal year, and pay for charges hereunder or under any current Job Order for a Project that extends into a new fiscal year, the City may terminate this Contract at the end of the current fiscal period, or at the time that funds are no longer available to meet the City's payment obligations hereunder. The City agrees to give written notice of termination to the Contractor at least thirty (30) days prior to any termination for a lack of funds and will pay to the Contractor all approved charges incurred prior to Contractor's receipt of such notice, subject to the availability of funds therefore.

9. Cooperative Purchasing- Specific eligible political subdivisions and nonprofit educational or health institutions ("Eligible Procurement Unit(s)") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All cooperative procurements under this Agreement shall be transacted solely between the requesting Eligible Procurement Unit and Consultant. Payment for such purchases will be the sole responsibility of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by the Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

ARTICLE 24
E-VERIFY

1. E-Verify Requirements. To the extent applicable under Ariz. Rev. Stat. §41-4401, the Vendor and its subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under Ariz. Rev. Stat. §23-214(A). The Vendor's or its subconsultant's failure to comply with such warranty shall be deemed a material breach of this Agreement and may result in the termination of this Agreement by the City.

2. The Contractor and its subcontractors warrant to keep the papers and records open for random inspection during normal business hours by the City. The Contractor and its subcontractors shall cooperate with City's random inspections including granting the City's entry rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

ARTICLE 25
ISRAEL

1. Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, And agrees for the duration of the Contract to not engage in, a boycott of Israel, or any entity that does business in Israel or any territories controlled by Israel.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names this May 19, 2020.

CITY:
THE CITY OF BUCKEYE, ARIZONA
an Arizona municipal corporation

By: _____
Jackie A. Meck, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction & Contracting

APPROVED AS TO FORM:

Shiela B. Schmidt
_____
City Attorney

CONTRACTOR:
BRYCON CORPORATION

By: _____
Kevin Freis, Division Manager

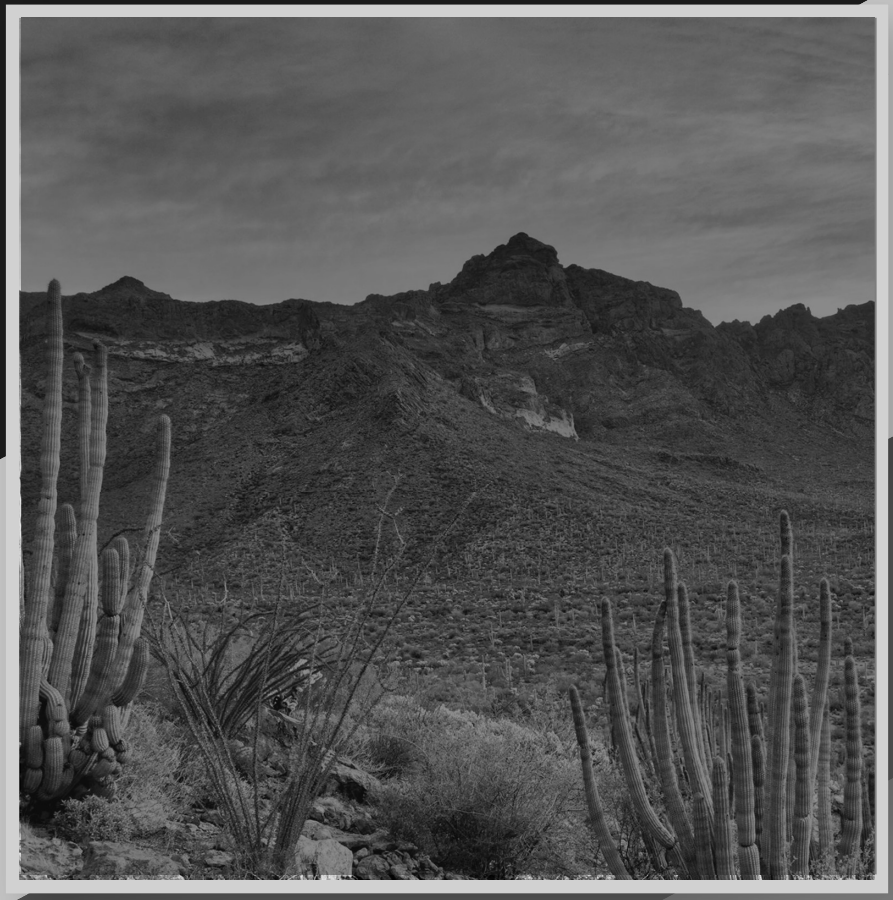
EXHIBIT A
TO
JOB ORDER CONTRACT FOR
GENERAL CONSTRUCTION SERVICES
BETWEEN
CITY OF BUCKEYE
AND
BRYCON CORPORATION

[CONTRACTORS PROPOSAL]
SEE FOLLOWING PAGES

RFQ: 2020001

job order contracting
General Construction Services

City of Buckeye



City of Buckeye
530 E. Monroe Ave.
Buckeye, AZ 85236

Attn: Debby Fasano

Brycon
6915 W. Frye Rd.
Chandler, AZ 85226

Kevin Freis | kfreis@brycon.com

February 25, 2020

City of Buckeye
Attn: Debby Fasano
530 East Monroe Avenue
Buckeye, AZ 85326

Dear Ms. Fasano and Selection Committee Members:

At Brycon, we believe it isn't what you build, it's how you build it that counts. This philosophy has enabled Brycon to become one of the largest full-service General Contractors in Arizona who specialize in Job Order Contracting services. In the last two decades, we have grown to more than 1,000 employees with an average tenure of 10 years. Eighty-five percent of our work is conducted with repeat JOC clientele, which we are proud to say is due to our understanding and expertise in what it takes to perform under the JOC delivery method.

From the way a room is built to the care taken while working in operational facilities, Brycon's experience has earned us our reputation as a "go-to" JOC Contractor. We have been awarded Job Order Contracts with the likes of City of Phoenix, City of Phoenix Aviation, City of Goodyear, Arizona State University, and Maricopa County. We believe our proposed team offers the City of Buckeye several distinct benefits to successfully complete your projects. These key benefits include:

- Extensive experience with the JOC delivery method.
- Established relationships with key subcontractors accustomed to the JOC delivery method.
- A decades long working relationship with public sector JOC programs and projects. Brycon currently has JOC contracts with the City of Phoenix, Maricopa County, City of Buckeye and the City of Phoenix Aviation.
- An unparalleled safety record with over 1 million man-hours worked and an EMR of 0.69.
- A lean and efficient project management team resulting in minimal overhead and a significant cost savings to you.
- Financial security and bonding capacity in excess of $500 million aggregate, which means that Brycon will be here to provide construction services through the life of this contract.
- Our JOC projects are regularly completed under budget, allowing additional scope or returned funds.
- Our preconstruction services will ensure informed and optimal decisions to maximize budget and schedule to deliver predictable results.

Brycon is well-suited for your projected workload and we believe the benefits listed above will provide the City of Buckeye with a successful JOC program and a team with the confidence to achieve your goals. We know that our success depends on how well we deliver our promise to you and we are ready to get started. Please feel free to contact me at 480.785.9911, should you need any additional information. Thank you for your consideration of the Brycon team.

Sincerely

Kevin Freis
Division Manager

1. FINANCIAL CAPACITY

The document featured on this page depicts Brycon's financial standing as of February 25th, 2020. This statement is brought to you by USI; the firm of Brycon's financial representation.

USI PROTECT. MANAGE. GROW.

USI Insurance Services LLC (New Mexico)
4100 Osuna Rd NE, Suite 2-203
Albuquerque, NM 87109
www.usi.com
Phone: 505.262.2621
Fax: 855.512.3881

February 21, 2020

City of Buckeye
530 East Monroe Avenue
Buckeye, AZ 85326

Subject: Brycon Corporation
P.O. Box 15820
Albuquerque, NM 87174

Project: JOC General Construction Services

Letter of Insurability

To Whom It May Concern:

Please be advised that Brycon Corporation will be able to obtain the required insurance limits as outlined in the contract requirements. Evidence of coverage is provided per the attached certificate of insurance.

We ask that you review the certificate, noting the coverages and limits of protection provided.

Should you have any questions we welcome your direct inquiries at (505)262-2621.

Best Regards,

Sam Conlee
Executive Agent

Enclosure

1. FINANCIAL CAPACITY (CONTINUED)

Client#: 1142387 BRYCOCOR1

ACORD **CERTIFICATE OF LIABILITY INSURANCE**

DATE (MM/DD/YYYY): 2/21/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Sam Conlee / Tina Jojola
USI Southwest Inc. NM - CL 4100 Osuna Road NE Suite 2-203 Albuquerque, NM 87109 505 262-2621	PHONE (A/C, No, Ext): 505 262-2621 FAX (A/C, No): 855-512-3881 E-MAIL ADDRESS: tina.jojola@usi.com

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Brycon Corporation 6915 West Frye Road Chandler, AZ 85226	INSURER A : Continental Insurance Company	35289
	INSURER B : Aspen American Insurance Company	43460
	INSURER C : Atlantic Specialty Insurance Company	27154
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	[X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR [X] PD Ded:10,000 [X] Contractual XCU GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC [ ] OTHER:	X	X	5093377284	07/01/2019	07/01/2020	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $100,000 $15,000 $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY [X] ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS [X] HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY	X	X	5093377267	07/01/2019	07/01/2020	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
B	[X] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE [ ] DED [ ] RETENTION $	X	X	CX00D4Q19	07/01/2019	07/01/2020	EACH OCCURRENCE AGGREGATE	$11,000,000 $11,000,000
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N [N] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	5093377270	07/01/2019	07/01/2020	[X] PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000
C	Builders Risk Reporting Form			790006081001	07/01/2019	07/01/2020	$2,500,000 Frame $10,000,000 All Other $1,000 Ded, RC, Special	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
The General Liability, Automobile and Umbrella policies include an automatic Additional Insured endorsement that provides Additional Insured status to the Certificate Holder and Owner, only when there is a written contract or written agreement between the named insured and the certificate holder and with regard to work performed and completed operations on behalf of the named insured.
The General Liability, Automobile, Umbrella and Workers' Compensation policies provide a Blanket Waiver of
(See Attached Descriptions)

CERTIFICATE HOLDER	CANCELLATION
For Informational Purposes Only For Informational Purposes Only For Informational Purposes Only	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE

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ACORD 25 (2016/03) 1 of 2 The ACORD name and logo are registered marks of ACORD
#S27988002/M26058266 TMJHR

1. FINANCIAL CAPACITY (CONTINUED)

DESCRIPTIONS (Continued from Page 1)

Subrogation in favor of the same, when required by written contract.
The General Liability policy contains a special endorsement with "Primary and Noncontributory" wording, when required by written contract

SAGITTA 25.3 (2016/03) 2 of 2
#S27988002/M26058266

2. TOTAL BONDING CAPACITY

The document featured on this page depicts Brycon's total bonding capacity both single limit and aggregate limit. This statement is brought to you by USI; the firm of Brycon's financial representation.

USI UNDERSTAND. SERVICE. INNOVATE.

USI Southwest, Inc.
4100 Osuna NE
Suite 2-203
Albuquerque, NM 87109
www.usi.biz
Phone: 505.262.2621
Fax: 855.512.3881

February 21, 2020

City of Buckeye
530 East Monroe Avenue
Buckeye, AZ 85326

RE: BRYCON CORPORATION
JOC General Construction Services

To Whom It May Concern:

We are proud to have handled the insurance and bonding needs of Brycon Corporation since their inception. Brycon Corporation has an excellent reputation in the construction industry. All projects undertaken by this firm have been completed satisfactorily with the utmost in professionalism.

This firm enjoys an outstanding relationship with their surety, the Travelers Casualty and Surety Company of America. Travelers current A.M. Best rating is A++ XV and is listed in the July 1, 2019 Department of the Treasury's Listing of Approved Sureties (Department Circular 570) with a limit of $211,123,000.

The Travelers Casualty and Surety Company of America will favorably consider providing single bonds up to $100,000,000 and aggregate Work on Hand Limits up to $500,000,000 for Brycon Corporation.

This letter is provided to you as a reference only and is not intended to be a guarantee of any bid, proposal, performance, payment or similar type obligation for this company, but as an indication of our past experience and confidence in this firm.

If you should need anything further in this regard, please feel free to contact me using the information listed above.

Sincerely yours,

USI Southwest, Inc.

Carl S. Conlee, III

3. CURRENT BACKLOG/PROJECT LIST

The list featured on this page depicts Brycon's current project backlog as of February 25th, 2020. This workload does not inhibit our ability to perform on City of Buckeye's JOC. We are adequately staffed to support your project(s).



- SubZero Expansion
- Mesa Marriot Residence Inn
- Prenexus Health Preconstruction
- Hampton Inn & Suites Watsonville
- CW Smoke Curtain Installation
- Prenexus Health Construction
- City of Phoenix Compost Facility 55K Plus Improvements
- ASU ISTB 1 - 4th Floor Labs
- Maricopa County Fuel Tank Replacements Preconstruction
- 2828 Phase 3 Fire Alarm Upgrades
- Fresinius Medical Care Flagstaff
- Mercury Systems Facility Renovations
- Air Products Site Prep
- FMI FM3 Facility Expansion
- ANS Beck
- ASM Lab Steel/Concrete
- Ahwatukee Recreation Center New Entry & Parking
- Air Products Civil Foundations Package
- Mercury Systems Cleanroom
- FMC Western Skies Preconstruction/ Demolition
- University Business Center Shell Work
- NAFRI Tucson Collaborative Remodel
- Maricopa County Central Courts 13th Floor Exploration Demo
- Maricopa County West Courts Basement Electrical Upgrades
- SunTree 2019 Facility Projects
- City of Goodyear Facilities Management Building Tenant Improvement
- Toy Barn Cave Creek
- Toy Barn Chandler
- Maricopa County Surprise Fueling Station
- Air Products Civil 2 Package
- City of Phoenix Salt River Service Center TPAC Repair
- Marriott Canyon Villas Pool Renovations
- City of Phoenix Burton Barr Library Rare Book Room HVAC
- Maricopa County 4th Ave Jail Generator Exhaust
- Fresinius Medical Care Western Skies Construction
- NAFRI Carpet & Paint
- Microchip - Tempe and Chandler
- City of Phoenix Aviation JOC Overhead
- City of Phoenix Ranger Station
- City of Buckeye Preconstruction Services
- City of Buckeye Development Service Counter
- City of Phoenix Aviation DVT Hangar 06-13 Structural Repair
- Arizona State University Diamond Lab Expansion

4. INSURANCE PROVIDER RATING

The document featured on this page depicts Brycon's current insurance provider rating as of February 25th, 2020. This statement is brought to you by USI; the firm of Brycon's financial representation.

USI UNDERSTAND. SERVICE. INNOVATE.

USI Southwest, Inc.
4100 Osuna NE
Suite 2-203
Albuquerque, NM 87109
www.usi.biz
Phone: 505.262.2621
Fax: 855.512.3881

February 21, 2020

City of Buckeye
530 East Monroe Avenue
Buckeye, AZ 85326

RE: BRYCON CORPORATION
JOC General Construction Services

To Whom It May Concern:

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This letter is provided to you as a reference only and is not intended to be a guarantee of any bid, proposal, performance, payment or similar type obligation for this company, but as an indication of our past experience and confidence in this firm.

If you should need anything further in this regard, please feel free to contact me using the information listed above.

Sincerely yours,

USI Southwest, Inc.

Carl S. Conlee, III



TAB A

TAB A. PROJECT EXPERIENCE







1. Venture Out Fitness Center

Description of Project This tenant improvement project consisted of full site upgrades including the pool and surrounding area, fitness center, exercise rooms, storage room, showers, restrooms and the administrative area.
Project Team Tom Klinkert (Project Manager), Kevin Freis (Project Director), Beth Lemon (Asst. Project Manager), Art Dickerson (Superintendent)
Construction Cost $2,193,469
Size 1 Acre
Similarities/Relevance Multiple scopes of work in same location, coordination with owner contractors, new construction and remodel work, occupied facility







2. City of Phoenix Tennis Center @ Washington Park JOC

Description of Project New 1,000 SF storefront clubhouse with functions that include a multi-purpose room, lounge space, sales/pro shop, office, and restrooms. Also included was the renovation of an additional 1,400 SF multi-purpose building. Both buildings serve the tennis courts at Washington Park.
Project Team Beth Lemon (Project Manager), Kevin Freis (Project Director), Bob Fisher (Superintendent)
Construction Cost $1,499,328
Size 2,400 SF
Similarities/Relevance JOC delivery method, both new-build and remodel aspects, municipal







3. City of Buckeye JOC - Police Evidence & HR Remodel

Description of Project Renovation of police booking area including stainless steel countertops, CMU wall, epoxy flooring, rubber base, painting and T-111 wainscot on wall. Electrical modification of desk layout.
Project Team Tom Klinkert (Project Manager), Kevin Freis (Project Director), Scott Dluzen (VP of Preconstruction)
Construction Cost $49,302
Size 1,500 SF
Similarities City of Buckeye project, JOC delivery method, renovation







4. City of Goodyear JOC - Fire Station 184 & 185 Flooring

Description of Project Project consisted of the removal of existing carpet and grind/seal floors. The challenge was to keep the operations dustless while keeping the fire stations operational. Storage pods were ordered as part of scope for the fire stations to move furniture into while floors were completed.
Project Team Beth lemon (Project Manager), Kevin Freis (Project Director), Gus Arellano (Superintendent)
Construction Cost $75,867
Size Station 184: 1880 SF | Station 185: 1214 SF
Similarities JOC delivery method, phased work, occupied building, environmental

TAB A. PROJECT EXPERIENCE





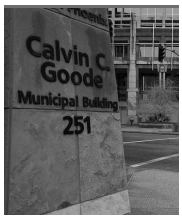


5. City of Phoenix JOC - Burton Barr Library Renovation

Description of Project College Depot Expansion included overtaking 8,000 SF of former library stack space for the addition of a new enclosed classroom and large multi-use assembly space. Children's Area Revamp consisted of repurposing and updating library stack space to new children's educational and activity play areas including the hub, story time, mini-maker area, and 1st 5 years.
Project Team Keith Parrish (Superintendent), Kevin Freis (Project Director), Scott Dluzen (VP of Preconstruction)
Construction Cost $2,323,802
Size 8,000 SF
Similarities/Relevance Municipal project, JOC delivery method, multiple JOC scopes of work,restoration

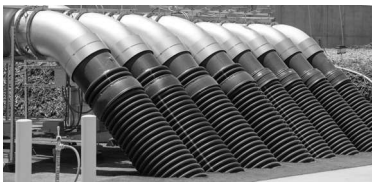






6. City of Phoenix City Hall Refresh - Calvin Goode

Description of Project Brycon was selected by City of Phoenix to complete Tenant Improvements to the Calvin Goode building. This included the relocation of staff to the 15th floor while the 10th floor received improvements that included demolition of the existing kitchen and break room which was replaced with a conference room.
Project Team Tom Klinkert (Project Manager), Bob Fisher (Superintendent)
Construction Cost $1,163,811
Size 55,000 SF
Similarities Refresh of current building, coordinate with city officials, personnel movement/relocation, phased construction







7. City of Phoenix 27th Ave. Compost Facility

Description of Project This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.
Project Team Art Dickerson (Superintendent), Kevin Freis (Project Director), Scott Dluzen (VP of Preconstruction), Beth Lemon (Project Engineer)
Construction Cost $12,800,000
Size 20 Acres
Similarities Municipal project, sustainability efforts







8. Arizona State University JOC - Goldwater Center Grad Space

Description of Project Brycon remodeled an existing office on the 5th floor of the Goldwater Center Building into a Grad Space studying area, two conference rooms, and breakroom. Brycon demo'd the walls and installed new glass partitions. During construction, Brycon placed temporary partitions to enclose construction activities while the classrooms across the hall and the hallway remained in use.
Project Team Kevin Freis (Project Director), Scott Dluzen (VP of Preconstruction)
Construction Cost $292,684
Size 2,422 SF
Similarities JOC delivery method, occupied building, demolition, MPE, new finishes

TAB A. PROJECT EXPERIENCE







9. City of Phoenix Aviation JOC - Various Projects

Description of Project Throughout our 20+ year relationship with City of Phoenix's Aviation Department, Brycon has performed over 66 tenant improvement projects at Sky Harbor including restroom renovations; renovation of terminal gates; general building repairs; installation of automated kiosks; repairs to jet bridges; installation of monitoring wells; police explosives bunker; and police K-9 hangar.
Project Team Kevin Freis (Project Manager), Scott Dluzen (VP of Preconstruction), Superintendents (Shawn Foster, Ran Ethington, Jerry Roeder, Keith Parrish, Tim Bennet), Beth Lemon (Project Engineer)
Construction Cost 2012-2016; Max. Total Amount: $25,000,000; Max. Amount per Job: $2,000,000; 3 years plus 2 years extension 2019-2024; Undetermined
Size 500 SF to 30,000 SF







10. Maricopa County JOC - Mesa Fueling Station Replacement

Description of Project Removal of two (2) underground storage tanks per ADEQ requirements and furnish and install a split aboveground 20K gallon tank with new electronic dispenser. Included all electrical work, fuel system piping and tank monitoring, concrete and asphalt paving, catch basin and sewer to existing drywell
Project Team Chris Boston (Project Manager), Jacob Smith (Project Engineer), Ran Ethington (Superintendent)
Construction Cost $340,000
Size 1 Acre
Similarities JOC delivery method, municipal

Brycon's Experienced JOC Team:

Our proposed project team has tremendous experience with JOC projects. With Kevin Freis as Project Director and Tom Klinkert as lead Project Manager, Brycon has successfully performed JOC projects for the last 20+ years. Our Superintendents have multiple JOC experience, and our support staff has the knowledge and experience to optimize our project team's ability to administer your JOC projects accurately.

Brycon's team JOC experience provides us with the unique ability to convert typical challenges into opportunities using our lessons learned and proven approaches to ensure a successful project every time. Some of the known questions on all JOC projects are identified and key elements to a successful project:

- Budget Consideration
- Keeping mechanical, plumbing, electrical, and critical systems functional during operation hours.
- Employee Background Checks and Badging
- Provide clear, understandable signage/directional information to the building occupants and the public during renovation
- Dirt / Debris / Dust effecting the air quality
- Noise and vibration
- Construction logistics and staging areas
- Safety guidelines to the building occupants and public during construction and renovation



TAB B

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon
Address: 6915 W Frye Rd
Phone Number: 480-426-1428
Email: tklinkert@brycon.com
Contact Name: Tom Klinkert
Contact Phone: 480-694-4783

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 14-308
Contract Type: ☐ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Venture Out Fitness Center Contract Location: Mesa Arizona

Award Date (mm/dd/yy): 3-14-2014
Contract Completion Date: 11-18-2014 Actual Completion Date: 11-18-2014
Explain Differences:

Original Contract Price (Award Amount): $2,085,000.00
Final Contract Price *(to include all modifications, if applicable)*: $2,193,469.00
Explain Differences: Owner Added scope items was the difference in Price SRP Cost, Storage Room Expansion, SW GAS, Finish Upgrades.

4. Project Description:

Complexity of Work: ☐ High ☒ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Project was a full site, IMPROVEMENTS pool, Fitness center build. 10,625 ☐ - Fitness, Exercise Room, Restroms, Showers, Admin Area.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Mary L Schmit/VENTURE AIMESA INC Phone Number: 480-832-0200
Title: General Mgr Email Address: UO64@VENTUREOUTDOORSINC.COM

6. Describe the client's role in the project:

Tom HAD worked on ~~THREE~~ 4 Jobs for us TOTALING $9,250,000 - with Two Different GC's Brycon AND Prim Concepts AS SUPER & MANAGER

Client Signature: [signature] **Date:** 2/14/20

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract —will work with ya to resolve issues—	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	E	(VG)	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	(VG)	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client TOM will help us use a proj eq with me necessary	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U (N)
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	N/A Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: _____ **Date:** 2/19/20

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon
Email : bhart@brycon.com
Address: 6915 W. Frye Rd. Chandler
Contact Name: Beth Lemon
Phone Number: 480-985-9911
Contact Phone: 602-326-6912

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 138903, 4108JOC122, PA75300227, No.21
Contract Type: ☐ Firm Fixed Price ☑ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Tennis Center Washington Park
Contract Location: Phoenix, AZ

Award Date (mm/dd/yy): 10/11/17
Contract Completion Date: 03/12/18
Actual Completion Date : 08/17/18
Explain Differences:
Permit delay, unforseen conditions
Original Contract Price (Award Amount): $1,317,529.78
Final Contract Price *(to include all modifications, if applicable)* : $1,499,328.88
Explain Differences:
Owner added scope

4. Project Description:

Complexity of Work: ☐ High ☐ Med ☑ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)*

JOC delivery method. It consisted of two buildings, one being a new build and one being a remodel of an existing building.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Jaime Garrido
Phone Number: 602-256-4375
Title: Project Manager
Email Address: jaime.garrido@phoenix.gov

6. Describe the client's role in the project: Provided project management and contract administration for both construction and design. During construction attended jobsite meetings, authorized contractor payments, monitored construction progress and general compliance with contracts provisions.

Client Signature: Jaime Garrido **Date:** 2-20-2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	(VG)	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	(VG)	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	(VG)	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	(VG)	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	(VG)	S	M	U	N
c) Government Property Control	E	(VG)	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	(VG)	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: _____ **Date:** 2-20-2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon
Email: tklinkert@brycon.com
Address: 6915 W Frye Rd
Contact Name: Tom Klinkert
Phone Number: 480-426-4278
Contact Phone: 480-694-4783

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 16-335
Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Police Evidence, HR Kendall Contract Location:

Award Date (mm/dd/yy): 7-19-2016
Contract Completion Date: 9-26-2016
Actual Completion Date: 8-26-2016
Explain Differences:

Original Contract Price (Award Amount): $49,302.96
Final Contract Price *(to include all modifications, if applicable)*: $54,999.96
Explain Differences: Added Scope - Power at refrigerators & Carpet for Hallways

4. Project Description:

Complexity of Work: ☐ High ☒ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Interior T.I demo and install new walls, floors. Paint wall surfaces.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Steven Riley
Phone Number: 623-687-8442
Title: Project Manager
Email Address: SRiley@Buckeyeaz.Gov

6. Describe the client's role in the project:

Project Manager

Client Signature: _____ **Date:** 2/20/2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	(VG)	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	E	(VG)	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	(Yes) (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: _____ **Date:** 2/20/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon Corporation
Address: 6915 W Frye Road
Phone Number: 480.785.9911
Email : kfreis@brycon.com
Contact Name: Kevin Freis
Contact Phone: 602.920.6341

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: CON-19-4693
Contract Type: ☐ Firm Fixed Price ☑ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Fire Station 184 & 185 Flooring
Contract Location: Goodyear, Arizona

Award Date (mm/dd/yy): 2/19/2019
Contract Completion Date: 3/29/2019
Actual Completion Date : 3/29/2019
Explain Differences:
None

Original Contract Price (Award Amount): $75,867
Final Contract Price *(to include all modifications, if applicable)* : $75,867
Explain Differences:
None

4. Project Description:

Complexity of Work: ☐ High ☑ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* JOC delivery method, phased work in an occupied building, environmental controls

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Walt Kinsler
Phone Number: 623-882-7959
Title: CIP Manager
Email Address: walter.kinsler@goodyearaz.gov

6. Describe the client's role in the project: Provided scope of work to JOC, administered the JOC contract, inspected completed work, and was the point of contact for the JOC.

Client Signature: Walt Kinsler **Date:** 2/20/2020

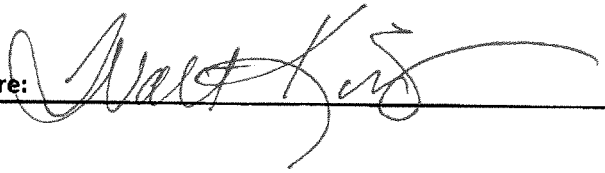
PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature:  **Date:** 2/20/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: BRYCON CORP.
Address: 6915 W. FRYE RD.
Phone Number: 480.785.9911
Email: CBOSTON@BRYCON.COM
Contact Name: CHRIS BOSTON
Contact Phone: 480.426.1410 EXT 110

2. Work Performed as: ■ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 138903/4108JOC122 JOA#24
Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: BURTON BARR CENTRAL LIBRARY REPAIRS FLOORS 1-4
Contract Location: PHOENIX, AZ
Award Date (mm/dd/yy): 09/15/17
Contract Completion Date: 06/08/18
Actual Completion Date: 06/08/18
Explain Differences:

Original Contract Price (Award Amount): $2,297,802.54
Final Contract Price *(to include all modifications, if applicable)*: $2,323,443.04
Explain Differences: ARCHITECTURAL IMPROVEMENTS AND ENHANCEMENTS ABOVE ORIGINAL CONTINGENCY ESTABLISHED BY OWNER.

4. Project Description:

Complexity of Work: ☒ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* THIS PROJECT WAS DONE FOR A MUNICIPALITY IN A JOC DELIVERY METHOD.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: MARTIN WHITFIELD Phone Number: (602) 262-7510
Title: Deputy Director Public Works Email Address: martin.whitfield@phoenix.gov

6. Describe the client's role in the project:

I was the project manager for the City of Phoenix during this Burton Barr restoration

Client Signature: Martin Whitfield Date: 2-20-2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	(Yes) No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	(Yes) No
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: Mark A Wehrle **Date:** 2-20-2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon
Address: 6915 W Frye Rd
Phone Number: 480 - 426 - 1428
Email: tklinkert@brycon.com
Contact Name: Tom Klinkert
Contact Phone: 480 - 694 - 4783

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 16-311
Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: City of Phoenix & Calvin Goode Contract Location: Personnel Relocation - Refresh
Award Date (mm/dd/yy): March, 2016
Contract Completion Date: Oct, 2016 Actual Completion Date: September 2017
Explain Differences: Added Scope extended duration.
Original Contract Price (Award Amount): $933,751.00
Final Contract Price *(to include all modifications, if applicable)*: $1,163,811.00
Explain Differences: Added Scope — HVAC work & 10th Floor Renovations

4. Project Description:

Complexity of Work: ☒ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Refresh and movement of staff. Coordinated Furniture & staff movement with COP Managers. Powered HVAC Rework involved also. Drywall, Framing

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Karen Mazer Phone Number: 602-534-3031 (Desk)
Title: Facilities Planner Email Address: karen.mazer@phoenix.com

6. Describe the client's role in the project:

Project manage overall delivery of the project. Worked with multiple end users to deliver new spaces.

Client Signature: Karen S Mazer Date: 2/20/2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY	
a) Quality of technical data/report preparation efforts	(E) VG S M U N
b) Ability to meet quality standards specified for technical performance	E (VG) S M U N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E (VG) S M U N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E (VG) S M U N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:	
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E (VG) S M U N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E) VG S M U N
3. CUSTOMER SATISFACTION	
a) To what extent were the end users satisfied with the project?	(E) VG S M U N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E (VG) S M U N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E) VG S M U N
d) Overall customer satisfaction	E (VG) S M U N
4. MANAGEMENT/PERSONNEL/LABOR	
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E (VG) S M U N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E (VG) S M U N
c) Government Property Control	E VG S M U (N)
d) Knowledge/expertise demonstrated by contractor personnel	E (VG) S M U N
e) Utilization of Small Business	E (VG) S M U N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E (VG) S M U N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E (VG) S M U N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E (VG) S M U N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E (VG) S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E (VG) S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E (VG) S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E (VG) S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: Karen S Mozzi **Date:** 2/20/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: BRYCON CORP. Email: CBOSTON@BRYCON.COM

Address: 6915 W. FRYE RD. Contact Name: CHRIS BOSTON

Phone Number: 480.785.9911 Contact Phone: 480.426.1410 EXT. 110

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: CM00140405 / PW16700021-8

Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):

Contract Title: COMPOST FACILITY C E/C Contract Location: PHOENIX, AZ

Award Date (mm/dd/yy): _____

Contract Completion Date: 3/30/17 Actual Completion Date: 3/30/17

Explain Differences: NA

Original Contract Price (Award Amount): $12,900,000

Final Contract Price *(to include all modifications, if applicable)*: $13,265,500.

Explain Differences: CITY ADDED LINED STORMWATER POND AND BLACK WATER TANK SYSTEM TO ORIGINAL CONTRACT.

4. Project Description:

Complexity of Work: ☒ High ☐ Med ☐ Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* THIS PROJECT WAS DONE FOR A MUNICIPALITY FOCUSING ON SUSTAINABILITY AND RECYCLING EFFORTS.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: ALLAN SMOLKO Phone Number: 602 256 4337

Title: ENGR SUPERVISOR Email Address: ALLAN.SMOLKO@PHOENIX.GOV

6. Describe the client's role in the project:

PROJECT MANAGER FOR CITY

Client Signature: _____ **Date:** 7.20.20

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY	
a) Quality of technical data/report preparation efforts	E (VG) S M U N
b) Ability to meet quality standards specified for technical performance	E (VG) S M U N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E (VG) S M U N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E VG (S) M U N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:	
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E (VG) S M U N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E (VG) S M U N
3. CUSTOMER SATISFACTION	
a) To what extent were the end users satisfied with the project?	E (VG) S M U N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E (VG) S M U N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E) VG S M U N
d) Overall customer satisfaction	E (VG) S M U N
4. MANAGEMENT/PERSONNEL/LABOR	
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E (VG) S M U N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E (VG) S M U N
c) Government Property Control	E (VG) S M U N
d) Knowledge/expertise demonstrated by contractor personnel	E (VG) S M U N
e) Utilization of Small Business	E VG S M U (N)
f) Ability to simultaneously manage multiple projects with multiple disciplines	E (VG) S M U N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E (VG) S M U N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E (VG) S M U N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E (VG) S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG (S) M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E (VG) S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U (N)
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E VG (S) M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: _____ **Date:** 2.20.20

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon Corporation
Address: 6915 W. Frye Road
Phone Number: 480 785 9911
Email : kfreis@brycon.com
Contact Name: Kevin Freis
Contact Phone: 602 920 6341

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: PO 19_00082054
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: GWC 5th Floor Grad Space
Contract Location: Arizona State University - Tempe, AZ

Award Date (mm/dd/yy): 01/23/19
Contract Completion Date: 4/30/19
Actual Completion Date : 4/30/19
Explain Differences:
Project completed on time.

Original Contract Price (Award Amount): $282,874.09
Final Contract Price *(to include all modifications, if applicable)* : $292.684.68
Explain Differences:
Additional scope added by Owner to project-kitchen equipment and mechanical diffusers.

4. Project Description:

Complexity of Work: ☐ High ☑ Med ☑ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* This project is typical of a JOC remodel project performed in a space within an occupie

Scope of work included demolition, MPE, and new finishes.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Liz Voss
Phone Number: 480-868-0363
Title: Project Manager
Email Address: liz.voss@asu.edu

6. Describe the client's role in the project: Coordination of design, permitting, construction, IT, AV, furniture, security.

Client Signature: Liz Voss **Date:** 2.24.2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E (VG) S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E (VG) S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E (VG) S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E (VG) S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: E. Voss **Date:** 2/24/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Brycon Corporation
Email : kfreis@brycon.com
Address: 6915 W Frye Road
Contact Name: Kevin Freis
Phone Number: 480.785.9911
Contact Phone: 602.920.6341

2. Work Performed as: ■ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 4108JOC092
Contract Type: ☐ Firm Fixed Price ☑ Cost Reimbursement ☐ Other (Please specify):
Contract Title: COP Aviation JOC
Contract Location: Phoenix, Arizona

Award Date (mm/dd/yy): 8/31/2011
Contract Completion Date: 8/31/2016
Actual Completion Date : 5/24/2019
Explain Differences:
None
Original Contract Price (Award Amount): $15,000,000
Final Contract Price *(to include all modifications, if applicable)* : $18,670,159
Explain Differences:
Contract extension in May of 2014 to extend contract 2 years and increase amount to $25,000,000.

4. Project Description:

Complexity of Work: ☐ High ☑ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)*

JOC delivery method, multiple projects in one location, high security, 24/7 operating environment

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Jaime Brown
Phone Number: 602-683-3785
Title: JOC Program Administrator
Email Address: jaime.brown@phoenix.gov

6. Describe the client's role in the project: JOC Program Administrator for the JOC Contract.

Client Signature: Jaime Brown **Date:** 2/20/2020

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E VG (S) M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG (S) M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E (VG) S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E VG (S) M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: Jaime L Brown **Date:** 2/20/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: BRYCON CORP. Email : CBOSTON@BRYCON.COM

Address: 6915 W. FRYE RD. Contact Name: CHRIS BOSTON

Phone Number: 480.785.9911 Contact Phone: 480.426.1410 EXT. 110

2. Work Performed as: ☒ Prime Contractor ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: D0.19000000078S7

Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):

Contract Title: REPLACEMENT OF FUEL TANKS, MESA Contract Location: MESA, AZ

Award Date (mm/dd/yy): 09/24/18

Contract Completion Date: 12/16/19 Actual Completion Date : 12/16/19

Explain Differences: NA

Original Contract Price (Award Amount): $672,357.39

Final Contract Price *(to include all modifications, if applicable)* : $672,357.39

Explain Differences: NA

4. Project Description:

Complexity of Work: ☐ High ☒ Med ☐ Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)*

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Brian Sheehan Phone Number: 602-506-0369

Title: Capital Project Manager Email Address: brian.sheehan@maricopa.gov

6. Describe the client's role in the project:

Owner's representative responsible for oversight of general contractor, design team and various vendors.

Client Signature: [signature] **Date:** 2/24/20

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT							
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	[E]	VG	S	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	[E]	VG	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	[E]	VG	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	[Yes]			No		
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes			[No]		
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes			[No]		
6. SAFETY/SECURITY							
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	[E]	VG	S	M	U	N
b) Contractor complied with all security requirements for the project and personnel security requirements.	[E]	VG	S	M	U	N
7. GENERAL							
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	[E]	VG	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	[E]	VG	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*	[Yes]			No		
d) In summary, provide an overall raiting for the work performed by this contractor.	[E]	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature:  **Date:** 2/24/20



TAB C

160



KEVIN FREIS

BRYCON DIVISION MANAGER | *PROJECT DIRECTOR*

PROFILE

As Project Director, Kevin provides leadership to the team and ensures necessary resources are allocated to each project from beginning to end. Kevin serves as a liaison between the office and field, while coordinating staffing and movement of field personnel. He reviews and approves project team on-site setup, including facilities layout, selection of forming systems and equipment. He oversees Brycon's quality management program to achieve contract compliance and seek ways to expedite construction while predicting challenges.

YEARS OF EXPERIENCE

16 Years with Brycon
27 Years Total

CERTIFICATIONS

OSHA 510
Qualifying Party for Commercial License
First Aid & CPR

EDUCATION

B.S. Construction Management, University of Nebraska Lincoln

COP 27th AVE COMPOSTING FACILITY

PROJECT DIRECTOR | PHOENIX, AZ | $17.6 million | 20 ACRES

This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.

NORTHEAST REGIONAL COURTS COMPLEX

PROJECT MANAGER | PHOENIX, AZ | $680,658 | 35,816 SF

This tenant improvement project consisted of replacing existing broadloom carpet with new carpet tile, replacing existing carpet insets with new matching terrazzo, installing new ceramic tile in wet areas and replacing all rubber base in designated areas.

ARIZONA SCIENCE CENTER - CREATE SPACE

PROJECT MANAGER | PHOENIX, AZ | $611,417 | 6,682 SF

Brycon completed a renovation that created an Innovation Learning Center called "CREATE". The previous gallery was converted into a vibrant and flexible learning space that includes areas for hands-on experience--an Electronics Room, a Crafts Room, and a Wood Shop.

AVIATION JOC- GOODYEAR AIRPORT HANGAR 18

PROJECT MANAGER | PHOENIX, AZ | $1,545,589 | 124,873 SF

Scope of work included the renovation of two sets of existing restrooms and the addition of two new elevators to provide ADA accessibility to the office areas on the north and south sides of the hangar.

ASU JOC - VARIOUS LAB SPACES

PROJECT DIRECTOR | PHOENIX, AZ | RANGE $10,000 - 1,850,000

Brycon is listed as one of ASU's "preferred" lab contractors. Throughout our lengthy relationship with the university, we have completed dozens of fast-track projects featuring integrated design needs and heavy interaction with students in occupied, fully-operational facilities. Projects include: STB2 Lab 195 Remodel, ISTB2 Lab 175 Remodel, ECC Lab 105 Remodel, Octopus Tool Installation, ECC Lab 107 Remodel, ECD Lab 131 Remodel, E-Space II Innovation Lab, SHESC Lab 359 Remodel, ERC 234 Laser Lab Remodel, & ECE 114 Gas Lines.



SCOTT DLUZEN

BRYCON VP OF PRECONSTRUCTION

PROFILE

The key to providing accurate and reliable budgeting on any project relies on two key components: understanding the project scope and combining that understanding with an experienced team. As Preconstruction Manager, Scott leads the team through the design, value engineering, construction document review and the establishing of the GMP. Scott develops budgets and estimates, provides systems analysis, develops bid packages, bid solicitation and subcontractor evaluations. Scott's goal is to bring the best value while monitoring cost and quality.

YEARS OF EXPERIENCE

20 Years with Brycon
27 Years Total

EDUCATION

B.S. Construction Management and Engineering,
Arizona State University

ARIZONA SCIENCE CENTER - CREATE

PROJECT DIRECTOR | PHOENIX, AZ | $611,417 | 6,682SF

Brycon completed a renovation that created an Innovation Learning Center called "CREATE". The previous gallery was converted into a vibrant and flexible learning space that includes areas for hands-on experience--an Electronics Room, a Crafts Room, and a Wood Shop.

CITY OF PHOENIX BURTON BARR LIBRARY REMODEL

PROJECT DIRECTOR | PHOENIX, AZ | $6,000,000 | 50,000 SF

College Depot Expansion included overtaking 8,000 SF of former library stack space for the addition of a new enclosed classroom and large multi-use assembly space. Children's Area Revamp consisted of repurposing and updating library stack space to a new children's educational and activity play areas including the hub, story time, mini-maker area, and 1st 5 years. These projects were among several that Brycon completed for the library.

ASU LABS JOC

PROJECT DIRECTOR | PHOENIX, AZ | RANGE $10,000 - 1,850,000

Brycon is listed as one of ASU's "preferred" lab contractors. Throughout our lengthy relationship with the university, we have completed dozens of fast-track projects featuring integrated design needs and heavy interaction with students in occupied, fully-operational facilities. Projects include: STB2 Lab 195 Remodel, ISTB2 Lab 175 Remodel, ECC Lab 105 Remodel, Octopus Tool Installation, ECC Lab 107 Remodel, ECD Lab 131 Remodel, E-Space II Innovation Lab, SHESC Lab 359 Remodel, ERC 234 Laser Lab Remodel, & ECE 114 Gas Lines

COP 27th AVE COMPOSTING FACILITY

PROJECT DIRECTOR | PHOENIX, AZ | $17.6 million | 20 ACRES

This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.



BETH LEMON

BRYCON PROJECT MANAGER

PROFILE

Beth has 17 years of combined experience as a Project Engineer and Project Manager and is adept at LEED documentation, project submittals, and working closely with superintendents on field changes, scheduling, and Requests For Information. Beth coordinates project close outs including obtaining final inspections, turnover material, owner training, as-builts and Operation and Maintenance Manuals. She has diverse experience in new construction as well as renovation projects in varying size and methods.

.

YEARS OF EXPERIENCE

8 Years with Brycon
17 Years Total

CERTIFICATIONS

OSHA 30
LEED AP BD+C
Dust Control

EDUCATION

B.S. Construction Managment, Arizona State University

M.S. Construction Managment, Arizona State University

VENTURE OUT FITNESS CENTER

ASST. PROJECT MANAGER | MESA, AZ | $2,193,469 | 1 ACRE

This tenant improvement project consisted of full site upgrades including the pool and surrounding area, fitness center, exercise rooms, storage room, showers, restrooms and the administrative area.

COP TENNIS CENTER

PROJECT MANAGER | PHOENIX, AZ | $1,499,328 | 2,400 SF

New 1,000 sf masonry/storefront clubhouse with multi-purpose/ lounge, sales/pro shop, office, and restroom. Renovation of Multi-purpose Building with restrooms and mult-purpose room. Buildings serve the tennis courts at Washington Park.

GOODYEAR FIRE DEPARTMENT STATIONS 184 & 185 FLOOR REMODEL

ASST. PROJECT MANAGER | GOODYEAR, AZ | $75,867 | Station 184: 1,880 SF | Station 185: 1,214 SF

Project consisted of the removal of existing carpet and grind/seal floors. The challenge was to keep the operations dustless while keeping the fire stations operational. Storage pods were ordered as part of scope for the fire stations to move furniture into while floors were completed.

CITY OF PHOENIX OKEMAH BULK STORAGE 17-321

PROJECT MANAGER | PHOENIX, AZ | $72,249

Construction of two cast in place concrete bulk material storage bins at existing service yard. Each bin is 16′ wide by 24′ deep. Demo existing concrete slab and asphalt for bin install.

ARIZONA SCIENCE CENTER - CREATE SPACE

PROJECT ENGINEER | PHOENIX, AZ | $611,417 | 6,682 SF

Brycon completed a renovation that created an Innovation Learning Center called "CREATE". The previous gallery was converted into a vibrant and flexible learning space that includes areas for hands-on experience--an Electronics Room, a Crafts Room, and a Wood Shop.

COP 27th AVE COMPOSTING FACILITY

PROJECT ENGINEER | PHOENIX, AZ | $17.6 million | 20 ACRES

This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.



ART DICKERSON

BRYCON SR. SUPERINTENDENT

PROFILE

Art brings expert experience to the team as a project superintendent. Art is charged with on-site management including control, processing and distribution of all project documentation (contract drawings, submittals, documents and other technical data) and recording and distributing any changes made. Art will work closely witih the PM on the creation and management of the milestone schedule, cost control, verification of trade/ subcontractors, coordination and management of day-to-day construction activities.

YEARS OF EXPERIENCE

8 Years with Brycon
35 Years Total

CERTIFICATIONS

OSHA 30
Certified Storm Water Professional
Maricopa County Certified Dust Control
First Aid & CPR

EDUCATION

Business Management,
Skyline Community College

VENTURE OUT FITNESS CENTER

ASST. PROJECT MANAGER | MESA, AZ | $2,193,469 | 1 ACRE

This tenant improvement project consisted of full site upgrades including the pool and surrounding area, fitness center, exercise rooms, storage room, showers, restrooms and the administrative area.

MC EVIDENCE WAREHOUSE

SUPERINTENDENT | PHOENIX, AZ | $235,523 | 38,483 SF

Work consists of removal of existing rooftop HVAC unit and exhaust fan and installation of new equipment with upgraded controls.

ASU ISTB2 LAB 195

SUPERINTENDENT | TEMPE, AZ | $82,027 | 980 SF

New equipment was brought into Lab 195 through the roll-up doors with a clear pathway to the location provided. New HPU unit was moved into the basement from the elevator, with a clear pathway to the location provided.

COP 27th AVE COMPOSTING FACILITY

SUPERINTENDENT | PHOENIX, AZ | $17.6 million | 20 ACRES

This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.

CITY OF PHOENIX OKEMAH BULK STORAGE 17-321

SUPERINTENDENT | PHOENIX, AZ | $72,249

Construction of two cast in place concrete bulk material storage bins at existing service yard. Each bin is 16′ wide by 24′ deep. Demo existing concrete slab and asphalt for bin install.



KEITH PARRISH

BRYCON SUPERINTENDENT

PROFILE

Keith has over 25 years of experience in the construction industry and an excellent record of successfully completing projects on time and budget. He is responsible for all facets of construction activities on projects, including coordination of all trade contractors, maintenance and execution of the schedules, budget, and quality of work in accordance with plans and specifications. Keith has strong communication skills and an effective record of planning and managing construction projects.

YEARS OF EXPERIENCE

14 Years with Brycon
25 Years Total

CERTIFICATIONS

Confined Spaces, Crisis Management, OSHA 30, Maricopa County Dust Control, First Aid, CPR

COP BURTON BARR LIBRARY REMODEL

SUPERINTENDENT | PHOENIX, AZ | $6,000,000 | 50,000 SF

College Depot Expansion included overtaking 8,000 SF of former library stack space for the addition of a new enclosed classroom and large multi-use assembly space. Children's Area Revamp consisted of repurposing and updating library stack space to a new children's educational and activity play areas including the hub, story time, mini-maker area, and 1st 5 years. These projects were among several that Brycon completed for the library.

COP 27th AVE COMPOSTING FACILITY

ASST. SUPERINTENDENT | PHOENIX, AZ | $17.6 million | 20 ACRES

This Tenant Infrastructure Improvement Project included furnishing and installing UG electrical and site lighting; APS conduits and pads for north transformer; UG fireline and hydrants; IT conduits and vaults for trailer locations; site millings with emulsion, existing mulch relocation on site from City of Phoenix for construction, and existing well site improvements.

GLEN ROSA SERVICE CENTER

SUPERINTENDENT | PHOENIX, AZ | $213,600 | 930 SF

New, ground-up masonry and pre-engineered metal building. Tire storage facility, including fire sprinkler system.

NORTHEAST REGIONAL COURTS COMPLEX

SUPERINTENDENT i PHOENIX, AZ | $680,658 | 35,816 SF

This tenant improvement project consisted of replacing existing broadloom carpet with new carpet tile, replacing existing carpet insets with new matching terrazzo, installing new ceramic tile in wet areas and replacing all rubber base in designated areas.



GUS ARELLANO

BRYCON SAFETY & QUALITY CONTROL MANAGER

PROFILE

As Quality Control Manager for Brycon, Gustavo's responsibilities include ensuring our procedures are in compliance with all federal and local rules and regulations and that our Corporate Safety Manual Procedures are administered and adhered to. Duties include safety and health training for all employees, supervision and guidance of all field safety professionals, performing daily audits, special hazard assessments and risk mitigation, accident reporting, safety observations, and scaffolding and trenching inspections.

YEARS OF EXPERIENCE

11 W/ Brycon
19 In Total

CERTIFICATIONS

OSHA 500, Dust Control, MEWP, Heavy Equipment, Forklift Certified

CITY OF PHOENIX BURTON BARR LIBRARY REMODEL

SAFETY MANAGER | PHOENIX, AZ | $6,000,000 | 50,000 SF

College Depot Expansion included overtaking 8,000 SF of former library stack space for the addition of a new enclosed classroom and large multi-use assembly space. Children's Area Revamp consisted of repurposing and updating library stack space to a new children's educational and activity play areas including the hub, story time, mini-maker area, and 1st 5 years. These projects were among several that Brycon completed for the library.

GOODYEAR FIRE DEPARTMENT STATIONS 184 & 185 FLOOR REMODEL

SUPERINTENDENT | GOODYEAR, AZ | $75,867 |
Station 184: 1,880 SF | Station 185: 1,214 SF

Project consisted of the removal of existing carpet and grind/seal floors. The challenge was to keep the operations dustless while keeping the fire stations operational. Storage pods were ordered as part of scope for the fire stations to move furniture into while floors were completed.

CITY OF BUCKEYE CHARGING STATIONS POWER

SUPERINTENDENT | BUCKEYE, AZ | $32,599

Install 2 ChargePoint Level 2 Charging stations. One is located at Buckeye City Hall & the other at Buckeye Public Works Department. Provided the electrical for the charging stations & all installations.



TOM KLINKERT

BRYCON PROJECT MANAGER

PROFILE

As a project manager, Tom will be the single point of contact, will assist during preconstruction, and will also lead the team through construction and beyond. An important part Tom's role is maintaining open and constant communication with the team and the owner(s). Updates will be communicated to the owner(s) that will consist of the status of the budget and project scheduling goals.

YEARS OF EXPERIENCE

8 Years with Brycon
30+ Years Total

CERTIFICATIONS

OSHA 30
LEED AP
Dust Control
AZ DPS Level 1 Fingerprint Clearance
CPR

EDUCATION

Associates in Business, Kishaukee College

VENTURE OUT FITNESS CENTER

PROJECT MANAGER | MESA, AZ | $2,193,469 | 1 ACRE

This tenant improvement project consisted of full site upgrades including the pool and surrounding area, fitness center, exercise rooms, storage room, showers, restrooms and the administrative area.

COB CITY HALL & POLICE EVIDENCE TENANT IMPROVEMENT

PROJECT MANAGER | BUCKEYE, AZ | $54,499 |

Renovation of police booking area including stainless steel countertops, CMU wall, epoxy flooring, rubber base, painting and T-111 wainscot on wall. Electrical modification of desk layout.

COB HOPEVILLE WATER FACILITY ELECTRICAL UPGRADES

PROJECT MANAGER | BUCKEYE, AZ | $75,251 | 12,000 SF

Furnishing all labor, materials, transportation and equipment required to provide electrical upgrades, conduit runs, and shade structure to Hopeville Water Facility.

CITY OF BUCKEYE HELLZAPOPPIN RESTROOM RENOVATION

PROJECT MANAGER | BUCKEYE, AZ | $51,000 |

Restroom renovation including new exterior stucco and paint, along with new toilet partitions/accessories and epoxy flooring.

CALVIN GOODE PERSONNEL RELOCATION

PROJECT MANAGER | PHOENIX, AZ | $1,163,811 | 55,000 SF

Brycon was selected by City of Phoenix to complete Tenant Improvements to the Calvin Goode building. This included the relocation of staff to the 15th floor while the 10th floor received improvements that included demolition of the existing kitchen and break room which was replaced with a conference room.

ORGANIZATIONAL CHART

This page depicts an organizational chart of Brycon's proposed staff for the City of Buckeye JOC. We understand that the listed Brycon staff is responsible for maintaining these selected roles throughout the length of the contract with Buckeye unless otherwise disclosed.

BUCKEYE, AZ



KEVIN FREIS
Project Director

PROJECT MANAGEMENT

PRECONSTRUCTION



SCOTT DLUZEN
V.P. of Precon

ESTIMATING TEAM



TOM KLINKERT
Project Manager
(Single Main Point of Contact)



BETH LEMON
Project Manager

FIELD SUPERVISION



ART DICKERSON
Sr. Superintendent



GUSTAVO ARELLANO
Safety & Quality Control Manager/Superintendent



KEITH PARRISH
Superintendent

SUBCONTRACTORS



TAB D

METHOD OF APPROACH

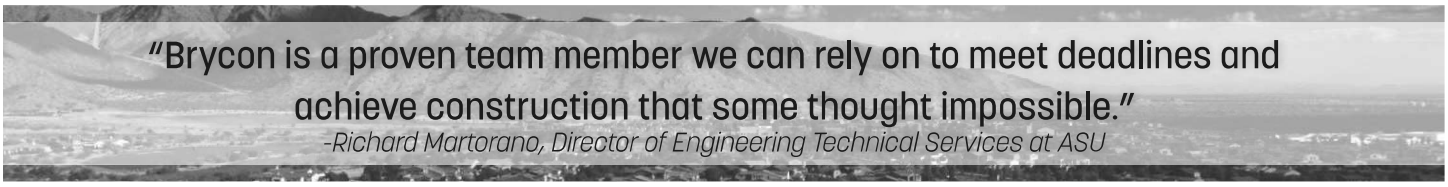
General Project Approach

1. Commitment to Responding Brycon has an company-wide commitment to quality and prompt communication and our JOC work is no exception. City of Buckeye will be assigned Project Manager, Tom Klinkert as a "main point of contact." There is no lengthy chain of command to travel through for answers--our lean structure empowers our Project Managers to make decisions on behalf of Brycon. Tom will take your requests directly and upon receival of a (non-emergency) JOC request, will respond within 24 hours to coordinate a scope discussion and site investigation.

2. Cost Control Methodology Cost control begins with the detailed scoping of the project to ensure all scope of work is included in the proposal. Once the buyout has been completed, weekly and monthly cost forecasting reports are prepared utilizing Brycon's proprietary forecasting module. Our accounting system, Timberline, downloads real time data to the this module to ensure that the most recent cost data is utilized for forecasting. The forecasts include all committed costs, actual costs, and final cost projections to ensure the project budget remains on-track. Our team also continually looks forward and plans ahead to address any potential issues before they become critical to the project.

3. Conflict Communication Plan Our philosophy is to prevent problems before they arise. Our intent is to have zero claims, not just to reduce them. Our process capitalizes on partnering and by selecting Brycon as the JOC, the City has already taken a key step towards avoiding unwanted claims. Most claims are the result of poor communications and not addressing issues "head-on" in a timely manner. Our goal is to quickly work through issues and bring them to resolution. If a problem needs to escalate beyond the project site, senior level management from all parties will come together and work towards a fair resolution benefitting everyone involved.

4. Project Closeout Process Brycon's closeout process occurs as follows: Upon project completion, Brycon will perform an initial site walkthrough to note any outstanding punchlist items. Once punchlist items are completed, a final walkthrough is performed and closeout and warranty information is disseminated accordingly to owners, shareholders and tenants.



Job Order Management

1. How many days to complete paperwork and return proposal? 5 to 15 working days depending upon project complexity
2. Upon acceptance of proposal, how many days required to mobilize and begin construction? 1 to 5 working days
3. Firm's change request procedure Effective change management requires teamwork, strict adherence to project procedures, and discipline to mitigate change orders. Brycon will perform technical reviews of the design documents and specifications to minimize potential impacts. Brycon will assist the City of Buckeye in reducing/controlling change orders during the bid phase by conducting comprehensive scope reviews and clarifications with subcontractors prior to bid award ensuring no overlaps, gaps, or errors.

Value Analysis/Value Engineering/Risk Mitigation

1. Value analysis and value engineering is a true examination of value rather than scope reduction. Our team regularly evaluates materials and systems necessary for a project and provides input that can save cost, reduce time, and increase sustainability. For example, on a previous community college lab project, our team evaluated the specification for the stainless steel exhaust duct for the lab exhaust hoods along with the chemicals and gases planned to be used. We identified that the specification for 316 stainless could be changed to 305 stainless steel and still provide the corrosion protection required. This material change provided an opportunity to change from a welded duct connection to a bolted flange connection resulting in thousands of dollars in savings and weeks off the schedule.

METHOD OF APPROACH

2. Risk mitigation starts with the same approach as cost control--a detailed and complete JOC proposal that covers the entire scope of work and anticipates any potential issues that could affect cost or schedule. Our team's experience provides us with a unique ability to visual the project from beginning to end and identity potential road blocks along the way. Pre-planning is the key to success in mitigating the risk associated with construction and more importantly, safety. Brycon's tools for Job Hazard Analysis, Pre-Task Planning, Project Scheduling, and Cost Control enable us to mitigate risk to a minimal level.

Selection by Qualifications Only:

Subcontracts and/or purchase orders that will be issued based only on a qualification based selection will be decided upon a case by case basis with collaboration and agreement from the City of Buckeye. In the event the project team determines this approach would be in the best interest of the City, we will follow the following procedure.

RFQ ISSUED TO IDENTIFIED AND PRE-QUALIFIED SUBS
Request for information such as how the sub plans to complete the project, budgetary pricing, preliminary schedule, materials lead times, past experience, current work load, available manpower, financial stability, etc.

SCORING/INTERVIEWS
If appropriate, a matrix is developed to evaluate SOQ's and determine if an interview is desired by stakeholders. Often, complex scopes of work warrant an interview. The interview will involve key stakeholders, but at minimum include a Buckeye representative, design representative, and general contractor representative.

CONTRACTUAL AGREEMENT
Upon evaluation/selection of a qualification-based sub, a contractual agreement will be executed. It is anticipated that multiple or phased GMP's may be required on these project and these subs will be included in an early GMP.

OPEN BOOK PROCESS
Subs and suppliers selected through this project will be required to complete their respective scope on an open book basis.

In our experience, we have found that the above subcontractor selection plan allows for the most effective approach to providing the City of Buckeye with the best value.

Qualification/Competitive Bid Based Selection:

Brycon intends to award subcontracts utilizing this approach. Subcontracts and/or purchase orders that will be issued based on a qualification selection along with competitive bid will follow the following procedures:

RFQ ISSUED TO IDENTIFIED AND PRE-QUALIFIED SUBS
A request for quotation will be prepared and issued to 3-5 subcontractors in each trade, which will identify the scope of work being bid, necessary items/scope to be included and excluded from pricing, general conditions associated with the scope of work, bidding documents (drawings, specifications, schedule, etc), pre-bid walk notification, question due date/time, and bid due date/time.

SUBCONTRACTOR SITE WALK
A pre-bid subcontractor walk will be scheduled to review the work area and discuss scope/questions from subcontractors.

PREPARATION OF 'BID RECAPS'
Brycon will prepare individual "bid recaps" for each trade being bid. Each bid recap will list the detailed scope of work for that trade, paying particular attention to unique or items easily missed by the subcontractors.

BID EVALUATION
Evaluation of bids against its respective bid recap sheet to ensure that all required scope of work has been included in the subcontractor's bid. Subcontractor is contacted (if necessary) to discuss and verify scope. Ensures that the entire scope of work is covered to identify the low, qualified bid along with mitigate unwanted surprises in missed scope within the GMP.

PREPARATION OF SUBCONTRACT DOCUMENTS
Brycon will begin preparing subcontract documents for each subcontractor once low, qualified subcontractors are identified,. Upon approval of the GMP and Notice to Proceed, subcontracts will be released to the successful bidders.

SAFETY



GUSTAVO ARELLANO

1. Firm's Safety Manager
Gustavo Arellano, *Safety Manager & Quality Control Manager*

2. Certifications *OSHA 500, CPR/First Aid, Forklift, Dust Control, MEWP, Heavy Equipment Operation*

3. Safety training protocol to field staff at project site Brycon's low EMR of 0.69 speaks to our experience with safety management and concern for public safety. The implementation and management of our Environmental Safety and Health Program is the key element in achieving this goal. A good safety record reflects the quality of management, supervision, and the worker. It also serves to promote business, thereby contributing to the continued growth and success of Brycon and our clients. All project staff is empowered to stop work and take corrective action in the event of a safety issue.

4. Current EMR *0.69*

TRUSTED PARTNER
85% of our business is repeat clientele

CONFIDENT SERVICE
We deliver value beyond delivery

AMPLE RESOURCES
1,000+ employees across three state markets

SAFETY LEADERSHIP
Industry-leading EMR of 0.69

"BRYCON CONSISTENTLY DEMONSTRATES ADMINISTRATIVE AND TECHNICAL CAPABILITY IN PERFORMING SERVICES ON TIME, WITHIN BUDGET, AND BEYOND OUR EXPECTATIONS."

- Chevy Humphrey, *President & CEO*, Arizona Science Center

SOLICITATION AMENDMENT
RFQ #2020001
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6174

AMENDMENT #1

NOTE: Attach to Original RFQ. However, if Bid has already been returned, complete this amendment and return for attachment to your Bid by **3:00 pm, February 25, 2020.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano

SOLICITATION: RFQ #2020001: JOB ORDER CONTRACT FOR GENERAL CONSTRUCTION SERVICES
Bid Due Date and Time: **February 25, 2020 no later than 3:00 pm**
Last Day for Questions: **February 19, 2020 by Noon**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. On Page 6 of the RFQ, the proposer is requested to provide the following information in no more than "two (2) pages financial information":

1. Financial Capacity/Bonding/Insurance
2. Total Bonding Capacity - Single Limit and Aggregate Limit
3. Current Backlog/ Project List
4. Insurance Provider Rating (e.g. A.M. Best, Moody's, S&P, etc.)

(Items 1-3 must be documented/verified from your surety or insurance carrier.)

Our question is: The bonding company can verify bonding and financial capacity from their perspective; however, insurance would need to be verified by our insurance carrier. As for our current backlog/project list, this is an internal report. The RFQ has provided 2 pages for this information. A letter verifying our bonding information would be one (1) page, a letter from our insurance company would be another page and our backlog and project list would be an additional page (3 pages total).

Would you please clarify if you will need actual verification from the insurance company or if we can just list our limits and the insurance company rating and provide a formal bonding letter? Or

can the page count for this section be revised (to 3 pages for financial information) so we may include a letter from the insurance company?

A1. Revise the first sentence on page 6 to read as follows:

"Submittal Cover Letter (one (1) page cover letter, three (3) pages financial information)."

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020001 – JOC General Construction Services
AMENDMENT NUMBER 1
AMENDMENT ISSUE DATE: February 6, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Brycon

Authorized Signature: [signature]

Print Name and Title: Kevin Freis, Division Manager

Date: 2·25·20

Address: 6915 W. Frye Rd.

City, State, Zip Code: Chandler, AZ 85226

Telephone Number: 480.785.9911

Email Address: kfreis@brycon.com

SOLICITATION AMENDMENT
RFQ #2020001
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6174

AMENDMENT #2

NOTE: Attach to Original RFQ. However, if Bid has already been returned, complete this amendment and return for attachment to your Bid by **3:00 pm, February 25, 2020.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano

SOLICITATION: RFQ #2020001: JOB ORDER CONTRACT FOR GENERAL CONSTRUCTION SERVICES
Bid Due Date and Time: **February 25, 2020 no later than 3:00 pm**
Last Day for Questions: **February 19, 2020 by Noon**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Under Tab A- Project Experience, Item 3 requests that two of the proposer's projects must have a final construction value greater than $2,000,000. Will non-JOC projects be meet this requirement?

A1. Non Job Order Contract projects are permitted.

Q2. Item #3 requests that the proposer list two projects that were new construction. New builds under a JOC are a rarity for local, public entities. Will non-JOC projects completed meet this requirement?

A2. Non Job Order Contract projects are permitted.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020001 – JOC General Construction Services
AMENDMENT NUMBER 1
AMENDMENT ISSUE DATE: February 6, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Brycon

Authorized Signature: 

Print Name and Title: Kevin Freis, Division Manager

Date: 2.25.20

Address: 6915 W. Frye Rd.

City, State, Zip Code: Chandler, AZ 85226

Telephone Number: 480.785.9911

Email Address: Kfreis@brycon.com

SOLICITATION AMENDMENT
RFQ #2020001
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6174

AMENDMENT #3

NOTE: Attach to Original RFQ. However, if Bid has already been returned, complete this amendment and return for attachment to your Bid by **3:00 pm, February 25, 2020.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano

SOLICITATION: RFQ #2020001: JOB ORDER CONTRACT FOR GENERAL CONSTRUCTION SERVICES
Bid Due Date and Time: **February 25, 2020 no later than 3:00 pm**
Last Day for Questions: **February 19, 2020 by Noon**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Under Tab C- Experience of Key Personnel (b), can you please explain project assignment? Is this referring to current project the individual is currently assigned to or are you referring to something else?

A1. Any projects the individual has worked on in Tab A should be listed along with other project that are related to Job Order Contract for the Request for Qualifications scope of work.

Q2. Do you have a total page count you don't want us to exceed?

A2. There is no set total page number not to exceed.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020001 – JOC General Construction Services
AMENDMENT NUMBER 3
AMENDMENT ISSUE DATE: February 18, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Brycon

Authorized Signature: [signature]

Print Name and Title: 2.25.20

Date: Kevin Freis, Division Manager

Address: 6915 W. Frye Rd.

City, State, Zip Code: Chandler, AZ 85226

Telephone Number: 480. 785. 9911

Email Address: Kfreis@brycon.com



Company Address

6915 W. Frye Rd.
Chandler, AZ 85226



Phone & Fax

Phone: 480.785.9911
Fax: 480.785.9858



Online Info

Email: kfreis@brycon.com
Website: www.brycon.com

JOC Contract Brycon 2020001.01

Final Audit Report 2020-04-08

Created:	2020-04-08
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAASa426SqtuRJPVFzGS8yxYR8l3L0Jayly

"JOC Contract Brycon 2020001.01" History

Document created by Purchasing Buckeye (purchasing@buckeyeaz.gov)
2020-04-08 - 6:11:04 PM GMT- IP address: 174.78.95.30

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2020-04-08 - 6:12:22 PM GMT

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2020-04-08 - 7:16:25 PM GMT- IP address: 159.100.168.31

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2020-04-08 - 9:50:37 PM GMT- IP address: 174.78.95.30

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Signature Date: 2020-04-08 - 9:51:00 PM GMT - Time Source: server- IP address: 174.78.95.30

Signed document emailed to all eligible parties.
2020-04-08 - 9:51:00 PM GMT

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
BRYCON CORPORATION

CONTRACT NO. 2020001.01
CHANGE ORDER #1

Pursuant to the Job Order Contract for General Construction Services between the City of Buckeye, an Arizona municipal corporation (the "City") and Brycon Corporation, an Arizona corporation (the "Contractor"), dated May 19, 2020, the following changes apply:

The following changes shall be made:

1. The contract term shall be extended from May 20, 2021 through May 19, 2022.

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

[Signature page to follow.]

THEREFORE, the City of Buckeye by its Manager, Construction and Contracting has hereunto subscribed his name Apr 26, 2021.

CITY OF BUCKEYE

CA Williams

Christopher A. Williams, Manager
Construction and Contracting Division

CONTRACTOR:
BRYCON CORPORATION

Kevin Freis, Division Manager

Adobe Sign Transaction Number: CBJCHBCAABAAQiXXngyqPRlIUphGkX4hVQinLwNxnr2y

Brycon - CO#1 - Ext.

Final Audit Report 2021-04-26

Created:	2021-04-26
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAQiXXngyqPRIlUphGkX4hVQinLwNxnr2y

"Brycon - CO#1 - Ext." History

Document created by Purchasing Buckeye (purchasing@buckeyeaz.gov)
2021-04-26 - 5:18:12 PM GMT- IP address: 174.78.95.30

Document emailed to Kevin Freis (kfreis@brycon.com) for signature
2021-04-26 - 5:19:08 PM GMT

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2021-04-26 - 5:24:40 PM GMT- IP address: 40.134.16.198

Document e-signed by Kevin Freis (kfreis@brycon.com)
Signature Date: 2021-04-26 - 6:05:02 PM GMT - Time Source: server- IP address: 159.100.168.31

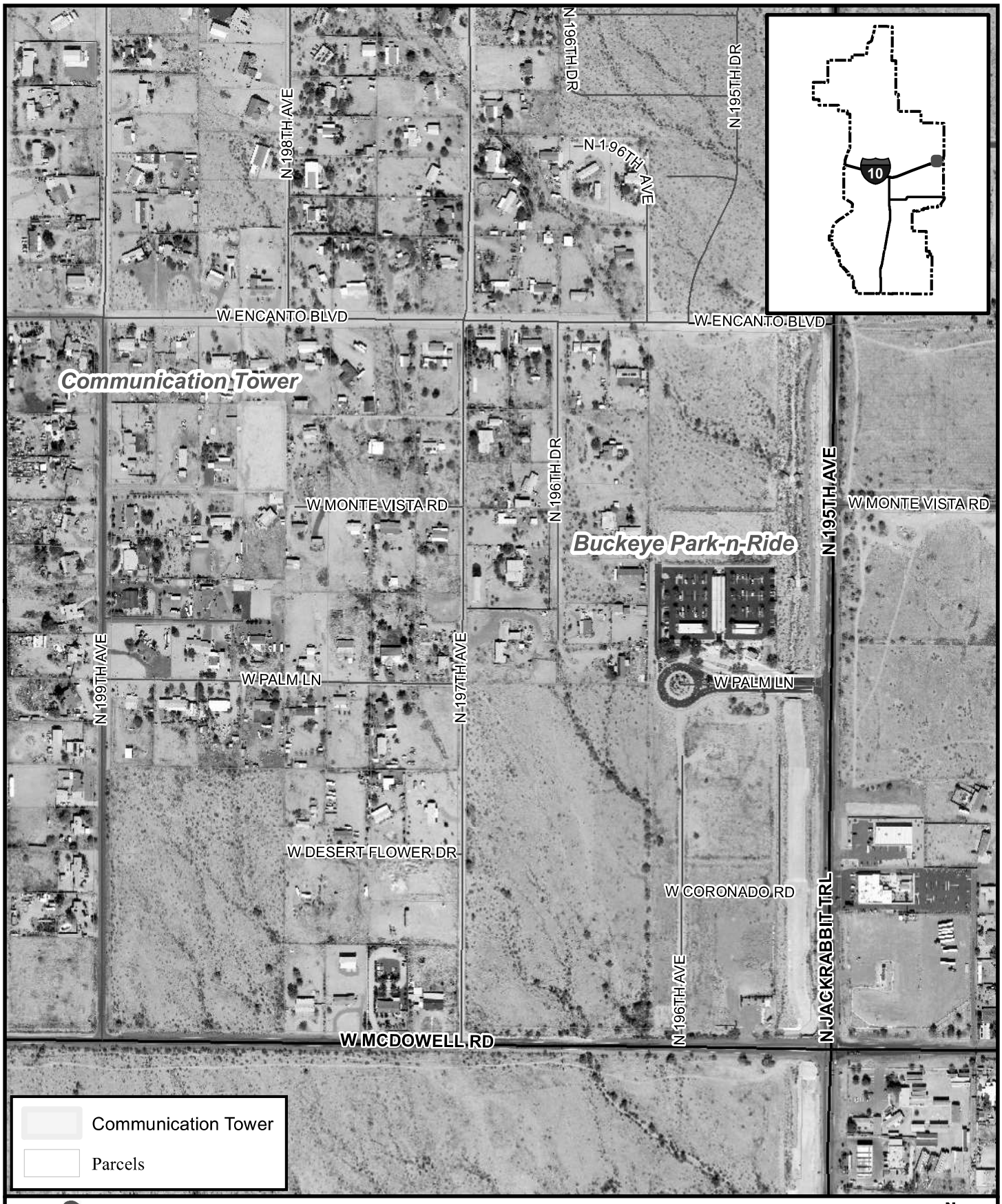
Document emailed to CA Williams (cwilliams@buckeyeaz.gov) for signature
2021-04-26 - 6:05:05 PM GMT

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2021-04-26 - 6:09:12 PM GMT- IP address: 104.47.64.254

Document e-signed by CA Williams (cwilliams@buckeyeaz.gov)
Signature Date: 2021-04-26 - 6:09:41 PM GMT - Time Source: server- IP address: 174.78.95.30

Agreement completed.
2021-04-26 - 6:09:41 PM GMT


W ENCANTO BLVD
Tower Site
N 197TH AVE
Park and Ride Site
N 196TH DR
N 199TH AVE
W MONTE VISTA RD
W HOLLY ST
W PALM LN
N
Maxar, Microsof



BUCKEYE, AZ

CIP 100960 Communication Tower

N

While every effort has been made to ensure the accuracy of this information, the City of Buckeye makes no warranty, expressed or implied, as to its absolute accuracy and expressly disclaims liability for the accuracy thereof.

0 250 500 1,000 Feet

Date: 2/1/2022

Document Name: CIP100960_CommunicationTower_8x11

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
BRYCON CORPORATION

DELIVERY ORDER #3
JOC CONTRACT NO. 2020001.01

THIS JOB ORDER CONTRACT AGREEMENT (this "Agreement") is entered into by and between the CITY OF BUCKEYE, an Arizona municipal corporation (the "City") and Brycon Corporation, an Arizona corporation (the "Contractor").

RECITALS

In accordance with the Job Order Contract No. 2020001.01 (the "Contract") between the City and Contractor, dated May 19, 2020, the Contractor will perform the following Scope of Work as detailed in Article 1, subject and pursuant to the terms and conditions of the Job Order Contract.

ARTICLE 1
SCOPE OF WORK

The Contractor shall furnish all labor, materials, and equipment required to prepare one (1) acre site for the 180' Valmont Communications tower to include site prep, footings for tower, driveway, electricity to property, communications hut, fencing and backup generator, more particularly set forth in the scope of work and fee proposal attached as Exhibit A.

ARTICLE 2
SCHEDULE OF COMPLETION OF WORK

The Contractor shall commence work within ten (10) days from issuance of the Notice to Proceed and complete the work identified in the Scope of Work within **Seventy** (**70) calendar days.** In view of the difficulty or impossibility of determining the City's damages from delay, should the Contractor fail to achieve Substantial Completion by the date, as extended by any City approved Change Orders, the Contractor agrees to pay and will pay to the City, In addition to all other sums pursuant to the Contract Documents, the sum of **Five Hundred Seventy Dollars and Zero Cents ($570.00)** for each calendar day of delay as liquidated damages for such delay and not as a penalty. This sum may be withheld from the balance of the Contract Price as it becomes due. Should liquidated damages exceed the Contract Price due or to become due, then the Contractor shall pay the City the difference within three (3) days of receipt of written demand.

ARTICLE 3
COST OF CONSTRUCTION

The total cost to complete the Scope of Work under this Job Order Contract Delivery Order identified in Article 1 and as set forth in Exhibit A, is **Nine Hundred Seventy Thousand, Nine Hundred Eighty-Seven Dollars and Twenty-Five Cents ($970,987.25)**.

ARTICLE 4
BONDS AND INSURANCE

In accordance with Article 19 of the Contract, the Contractor agrees to issue the required insurance ACORD form. Payment and Performance Bonds shall be required for this project. Contractor shall provide the performance bond and labor and material payment bond in accordance with Article 19 of the Contract.

This Job Order Contract Delivery Order No. 3 is subject to the terms and conditions of the Contract and may be cancelled pursuant to the provisions of the Arizona Revised Statutes Section 38-511. If there is a discrepancy between the terms and conditions of the Contract and Scope of Work in Exhibit A, the Contract supersedes the Scope of Work.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names _____.

CITY:
THE CITY OF BUCKEYE, ARIZONA
an Arizona municipal corporation

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction and Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
BRYCON CORPORATION
An Arizona corporation

_____
Kevin T. Freis, Vice President

Adobe Sign Transaction Number: CBJCHBCAABAAT1wB2tx2kS1PEKbbCPHe8jASNWk_wJ8k

EXHIBIT A
CONTRACTOR FEE PROPOSAL

PROJECT NAME: City of Buckeye WEC Tower

LOCATION: 2127 N. 199th Ave, Buckeye, AZ 85396

Date: January 25, 2022 **Estimate No.:** E21-120

Estimator: MKupanoff **Revision No.:** 1

Brycon appreciates the opportunity to present its bid and qualifications for the above referenced project.

QUALIFICATIONS & CLARIFICATIONS

General Requirements & Assumptions

- Proposal is based on plans by Kimley-Horn, dated 9/16/2021 , and Geotech Evaluation dated 6/24/2021.
- Project duration is estimated to be **10 weeks.**
- Insurance and gross receipts tax *is included*.
- Payment and performance bonds *are included*.
- Provide full time field supervision on site, at all times, during construction activities
- Provide qualified person responsible for safe performance of work
- Host weekly progress meetings attended by the project manager and superintendent
- Daily and final cleanup of trash and construction debris to Brycon provided dumpsters.
- **NOTE: Valmont pricing for Tower Footings shows $112,356. Tower footing is included in this proposal. Estimated savings of $60,000 if deducted from Valmont scope.**
- **NOTE: Scope of Work/Schedule begins when all early procurement items arrive on site.**

Allowances

- **$20,000 Allowance –** Old Castle transition to new supplier and necessary updated Fire Suppression system.
- **$5,000 Allowance –** repairs to existing perimeter fence

Earthwork

- SWPPP Plan & Requirements
- Clear and grub site – cut/fill – assumes balanced site
- Cut drainage, grade slope
- Subgrade prep and final grade
- 6” ABC/Millings and fine grade
- Silt Fencing

Exterior Improvements

- Chain link perimeter fence and gate
- Access swing gate
- Ice Bridge Supports
- Meter rack supports
- ALLOWANCE – existing fence repairs.

Utilities

- 12” HDPE Storm Drain Culvert

Concrete

- Generator concrete pad
- Equipment room concrete pad
- Fence foundations
- Ice bridge and meter rack post foundations
- Tower foundation

Metals

- Ice bridge Unistrut and cable tray
- Meter rack supports

Thermal/Moisture Protection

- Misc. caulking/sealants touch up

Finishes

- Misc. paint touch up

Special Construction

- Pre-Engineered 12 x 24 Equipment Room provided by Old Castle – per attached proposal. For interior finishes and equipment included see attached proposal.
- Crane
- ALLOWANCE – alternate fire suppression system.

Fire Suppression

- FM200 Fire Suppression sys in Equipment Room

Plumbing

- N/A

HVAC

- See Old Castle proposal for HVAC included.

Electrical

- See Old Castle proposal for Electric included in equipment room.
- Utility conduit run for APS.
- Service meter
- 80 KW 189 gal diesel generator
- Auto Transfer switch
- Grounding
- Conduit and power from meter to equipment room.
- Temp power

Low Voltage/Security

- N/A

Exclusions

- Off hours or weekend work.
- Easement signatures from neighboring property owners.
- WEC Tower – to be fabricated, shipping, and installed/erected by Valmont
- Hazardous materials testing or abatement.
- Special inspections – to be by owner.
- Permits, plan reviews, and associated fees.
- Unistrut/cabling/framing on Tower frame. Only providing Unistrut/cable tray from tower to pre-engineered building.
- Unforeseen conditions.
- Architectural and Engineering design costs and fees.

Base Bid: $970,987.25

If there are any questions and/or comments, please do not hesitate to call me at 480.426.1419.

Sincerely,

BRYCON CORPORATION

Michael Kupanoff

cc: Kevin Freis, Vice President of Construction

BRYCON
QUALITY. PRECISION. PURPOSE.

ESTIMATE SUMMARY

Owner: City of Buckeye
Contact: Justin Goodere

Project:	**City of Buckeye WEC Tower**	Date:	**01/25/22**
Location:	Buckeye	Time:	**14:10:29**
Building Area:	**300**	Estimator:	**Mkupanoff**
Site Area:	**1**	Estimate #:	**E21-120**
Construction Duration:	**10** Weeks	Revision:	**1**

DIV	DESCRIPTION	% TOTAL COST	UNIT COST BLDNG. AREA	TOTAL MANHOURS	LABOR COST TOTAL	MATERIAL COST	SUBCONTRACT COST	TOTAL	COMMENTS
1	GENERAL REQUIREMENTS	1.73%	56.00	0	0	3,850	12,950	16,800.20	
2	EXISTING CONDITIONS	0.00%	0.00	0	0	0	0	0.00	
2	EARTHWORK	11.47%	371.33	140	15,600	11,050	84,750	111,400.00	
2	EXTERIOR IMPROVEMENTS	2.96%	95.79	0	0	0	28,736	28,736.00	
2	UTILITIES	0.50%	16.17	0	0	0	4,850	4,850.00	
3	CONCRETE	8.11%	262.47	0	0	0	78,740	78,740.00	
4	MASONRY	0.00%	0.00	0	0	0	0	0.00	
5	METALS	0.77%	25.07	64	3,072	1,650	2,800	7,522.00	
6	WOOD AND PLASTICS	0.00%	0.00	0	0	0	0	0.00	
7	THERM./MOIST. PROTECT	0.15%	5.00	0	0	0	1,500	1,500.00	
8	DOORS & WINDOWS	0.00%	0.00	0	0	0	0	0.00	
9	FINISHES	0.26%	8.33	0	0	0	2,500	2,500.00	
10	SPECIALTIES	0.00%	0.00	0	0	0	0	0.00	
11	BUILDING EQUIPMENT	0.00%	0.00	0	0	0	0	0.00	
12	FURNISHINGS	0.00%	0.00	0	0	0	0	0.00	
13	SPECIAL CONSTRUCTION	18.60%	601.89	8	7,160	0	173,407	180,567.00	
14	CONVEYING SYSTEMS	0.00%	0.00	0	0	0	0	0.00	
15	FIRE SUPPRESSION	0.00%	0.00	0	0	0	0	0.00	
15	PLUMBING	0.00%	0.00	0	0	0	0	0.00	
15	HVAC	0.00%	0.00	0	0	0	0	0.00	
16	ELECTRICAL	26.77%	866.45	0	0	0	259,934	259,934.00	
16	ELECTRONIC SAFETY & SECURITY	0.00%	0.00	0	0	0	0	0.00	
0	PRECON / DESIGN / ENGINEERING	0.00%	0.00	0	0	0	0	0.00	
	TOTAL DIRECT COST	71.32%	1785.38	212	25,832	16,550	650,167	**692,549.20**	
1	PROJECT STAFF	5.99%	193.95	760	58,186	0	0	58,186.00	
1	CONSTRUCTION EQUIPMENT	0.98%	31.67	0	0	9,500	0	9,500.00	
1	PROJECT OVERHEAD	0.67%	21.69	8	280	5,726	500	6,506.00	
	TOTAL GENERAL CONDITIONS	7.64%	247.31	768	58,466	15,226	500	**74,192.00**	
	BONDS	0.90%	29.13			8,739		8,738.89	
	INSURANCE	1.05%	33.98			10,195		10,195.37	
	TAX	5.70%	184.50			55,350		55,350.26	
	BOND/INSURANCE/TAXES	7.65%	247.62	0	0	74,285	0	**74,284.51**	
	TOTAL COST	86.62%	2803.42	980	84,298	87,126	650,667	**841,025.71**	
	CONTINGENCY	7.72%	250.00					75,000.00	
	FEE	5.66%	183.21					54,961.54	
	TOTAL BID	100.00%	3236.62					**970,987.25**	

DO #3 revised, Communication Tower - Brycon

Final Audit Report 2022-02-23

Created:	2022-02-17
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAT1wB2tx2kS1PEKbbCPHe8jASNWk_wJ8k

"DO #3 revised, Communication Tower - Brycon" History

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Signature Date: 2022-02-17 - 4:58:18 PM GMT - Time Source: server- IP address: 174.205.226.156

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2022-02-17 - 4:58:22 PM GMT

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Signature Date: 2022-02-23 - 3:49:55 PM GMT - Time Source: server- IP address: 174.78.95.30

Agreement completed.
2022-02-23 - 3:49:55 PM GMT

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.C. Verrado Way - Yuma Road to Van Buren Street Intersection Improvements
DATE PREPARED: 02/24/22	**DISTRICT NO.:** 6
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Delivery Order No. 1 to the Job Order Contract (No. 2020003.02) between the City of Buckeye, an Arizona municipal corporation, and Haydon Building Corp., an Arizona Corporation, related to intersection improvements at Verrado Way from Yuma Road to Van Buren Street; and authorizing the Mayor to execute and deliver said Delivery Order on behalf of the City.

RELEVANT GOALS:
GOAL 3: A Well-Planned Urban Community

SUMMARY

PROJECT DESCRIPTION:
This Capital Improvement Project is for labor, materials and equipment to perform improvements at the intersection of Verrado Way, from Yuma Road to Van Buren Street. The project is part of the FY2021/2022 Capital Improvement Program (CIP) and will improve Verrado Way by adding one additional North-bound and South-bound lane to provide a total of two (2) through-lanes in each direction between Yuma Road and Van Buren Street.

A Delivery Order Request for Proposal (DORFP) was issued to the five Job Order Contractors for Road Construction (1.) Achen-Gardner Construction, 2.) Haydon Building Corp., 3.) J. Banicki Construction, 4.) Markham Contracting Co., and 5) M.R. Tanner Development and Construction) on December 2, 2021. Price Proposals were due on January 27, 2022 and all five contractors submitted proposals.

After review of the price proposals it was determined that Haydon Building Corp. is the lowest responsive and responsible bidder and most advantageous to the City. The price proposals received are as follows:

1. Markham Contracting Co. $5,676,557.10
2. M.R. Tanner Development $5,133,000.00
3. Achen-Gardner Construction $4,357,357.00
4. J. Banicki Construction $4,012,310.85
5. Haydon Building Corp. $3,922,896.00

BENEFITS:
This project will improve traffic flow.

FUTURE ACTION:
None.

FINANCIAL IMPACT STATEMENT:
This project is budgeted as part of the Capital Improvement Program.

CURRENT FISCAL YEAR TOTAL COST:
$3,922,896.00

BUDGETED:
Yes

FISCAL YEAR:
FY2021/2022

FUND/DEPARTMENT:
50213170-543112 (CIP 2020022)

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:
Haydon Building Corp Contract No. 2020003.02.pdf
Haydon CO #1 FE 4-28-21.pdf
MAP.pdf
DO1.pdf

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
HAYDON BUILDING CORP.

Contract Number: 2020003.02

This JOB ORDER CONTRACT FOR ROAD CONSTRUCTION SERVICES (the "Contract") is made and entered into, by and between the City of Buckeye, an Arizona municipal corporation (the "City") and Haydon Building Corp., an Arizona limited liability corporation (the "Contractor"). This Contract is for Road Construction Services, and issued as required by award of individual Job Orders (the "Project").

RECITALS

A. The City issued a Request for Qualifications entitled "Job Order Contracting for "Road Construction Services" (the "RFQ") incorporated herein by reference, seeking proposals from vendors interested in providing construction services.

B. The Contractor submitted a proposal in response to the RFQ (the "Proposal"), attached hereto as Exhibit A and incorporated herein by reference, and the City desires to enter into an Agreement with the Contractor for indefinite quantity and indefinite delivery for various projects related to Road Contraction Services for the City. The Projects may include Design Services, preconstruction services, permitting regulatory requirements and as-built/close-out documents (collectively the "Services").

AGREEMENT

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements stated herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the City and the Contractor agree as follows:

ARTICLE 1
CONTRACT TERM

1. This Contract has a base period of one (1) year and four option periods of one (1) year each that may be exercised in the sole discretion of the City. Any exercise of any option to renew this Contract beyond the base period will only be effective upon written notice from the City. The time period during which this Contract is in effect is the "Term".

2. The Contract Time for each Job Order shall start with the Notice to Proceed ("NTP") and end with Final Acceptance, as set forth below. The NTP will not be issued until prior approval and acceptance by City of the Job Order.

3. The Contract Time is identified in the Job Order as the Contract Duration in terms of calendar days. Contractor agrees that it will commence performance of the Work after receiving an official NTP letter and complete the Project through both Substantial Completion (if applicable) and Final Completion within the Contract Time.

4. Time is of the Essence of this Contract, and each Job Order issued hereunder, for each Project, and for each phase and/or designed Milestone thereof.

5. Failure on the part of Contractor to adhere to the approved Project Schedule will be deemed a material breach and sufficient grounds for termination of a specific Job Order and/or this Contract by City. The City will assess liquidated damages as described in each Job Order for each calendar day of delay beyond the Final Completion date.

ARTICLE 2
OVERVIEW OF JOB ORDER CONTRACTING UNDER THIS CONTRACT

1. This Contract establishes an indefinite delivery, indefinite quantity, Job Order Contract for such Services within the scope of this Contract as City may request from time to time by issuance of an individual Job Order for each Project. Unless otherwise specified in a specific Job Order, Job Orders generally will not include Design Services and that where Design Services are necessary, City will provide them under separate contract. There will be a separate Job Order for each Project that will describe the Work to be provided by Contractor for that Project. There may be multiple Projects and therefore multiple Job Orders under this Contract.

2. The amount to be paid by the City for the Project under each Job Order is the Contract Price for that Job Order. The Job Order price will include a total amount for each Job Order priced for the Work described for that Job Order. The Contract Price for any Job Order will be established as a Firm Fixed Price, subject to the following:

   (a) Estimated values for individual projects are estimated at $500,000 to $1,000,000. Projects may extend into the next fiscal year and beyond, but in no instance will any one project under this Contract exceed $5,000,000. It is expected that no more than two (2) projects per year will exceed $1,000,000.

   (b) There is no limit on the number of Job Orders that City may issue to the Contractor during the term of this Contract. Likewise, there is no requirement that the City issue any Job Orders to the Contractor during the Term of this Contract.

3. City shall have the right to perform work of the types included in this Contract itself or to have other contractors perform such work.

4. No Contract in relation to any specific Work is in effect until a Job Order has been fully executed by City and Contractor.

5. During the Term of this Contract, City will issue an individual Job Order request for proposal to Contractor for each Project. Each Job Order will have specific instruction concerning that Job Order. The Contractor will follow these specific instructions when preparing a response in the form of a Job Order Proposal.

6. The general steps for development of a Job Order are:

   (a) When City identifies a need for performance of a Project under a Job Order; City will issue an RFP to Contractor and also advise Contractor of the nature of the Work to be done. At the same time, City will advise the Contractor if Design Services are required and how those services will be provided. Within seven (7) working days of receipt of this notification, Contractor will:

      (i) Visit the proposed Project Site with City designated representatives; and
      (ii) Arrange with City to further define the scope of the Project.

   Contractor shall thoroughly acquaint itself with all available information concerning the conditions of the Work under each Job Order and is responsible for correctly and fully estimating the difficulty of performing the Work, the actions required to perform the Work and the cost of successfully performing the Work under each Job Order.

   (b) City may arrange for any needed Design Services to produce the Drawings and Specifications. Design Services will not begin until the scope of Design Services is approved by City. The Drawings and Specifications developed by the Design Services are subject to approval by City. If there are no Design Services, City will develop Drawings and Specifications consisting of a line drawing and a written description of the contemplated Work.

   (c) Upon establishment of the scope of the, Contractor will prepare its proposal for accomplishment of the Project.

7. Upon award of a Job Order, a signed copy of the Job Order will be mailed or electronically forwarded to Contractor. Failure by Contractor to pick up or receive the mailed or electronic orders shall not relieve Contractor from the obligation to complete the Work under the Job Order in accordance with the terms of this Contract or the terms of each Job Order.

8. City may provide a verbal NTP for the Work in advance of issuing the formal NTP letter (which will be followed up with a written NTP). Normally, NTP will be issued under separate cover from the Job Order. The Contract duration starts with the date on the NTP letter.

ARTICLE 3
DEFINITIONS

"Addenda" written or graphic instruments issued prior to the submittal of the Proposal(s), which clarify, correct or change the Proposal(s) requirements.

"Agreement" means the executed agreement between City and Contractor.

"Change Order" means a written instrument issued after execution of a Job Order or this Contract signed by City and the Contractor, stating their agreement upon all of the following: the scope of the change in the Work; the amount of the adjustment to the Contract Price; and the extent of the adjustment to the Contract Time(s).

"City" means the City of Buckeye, a municipal corporation, with whom Contractor has entered into this Contract and for whom the Services is to be provided pursuant to said Contract.

"City's Project Criteria" means information developed by or for the City to describe City's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Contractor's performance of the Work. City's Project Criteria may include conceptual documents, design criteria, performance requirements and other Project-specific technical materials and requirements.

"City's Representative" means the person designated within this contract.

"Commissioning" means the process for achieving, validating and documenting the performance of the Project including any works and its systems to meet the design needs and requirements of the City.

"Construction Documents" means the plans, specifications and drawings prepared by the Contractor or a Consultant.

"Construction Drawings" means the detailed drawings approved as part of the approved Construction Documents.

"Construction Work" means the construction component of the Project.

"Contract Documents" means the following items and documents in descending order of precedence: (i) all written modifications, amendments and Change Orders to this Contract;

(ii) this Contract, including all exhibits and attachments, executed by City and Contractor to include each Job Order; (iii) written supplementary conditions; (iv) Construction Documents prepared and approved; (v) Contractor's approved Variations of the City's Project Criteria, as contained in Exhibit A.; (vi) City's Project Criteria; (vii) Contractor's Proposal(s), except for accepted Variations of the City's Project Criteria, submitted in response to City's Project Criteria.

"Contract Price" means the amount or amounts set forth in each awarded Job Order subject to adjustment in accordance with this Contract.

"Contract Time" means the Days set forth in each awarded Job Order subject to adjustment in accordance with this Contract.

"Job Order" means a specific written agreement between the City and the Contractor for Work to be performed under this Contract for an individual, mutually agreed upon scope of work, schedule and price.

"Day(s)" means calendar days unless otherwise specifically noted in the Contract Documents.

"Deliverables" means the work products prepared by the Contractor in performing the scope of work described in each Job Order.

"Design Services" means all professional services to be performed or procured by the Contractor or by City to provide required Project design under this Contract and any subsequent amendments.

"Job Order Contractor" means the firm, corporation, or other approved legal entity with whom the City has entered into this Contract to provide services as detailed in this Contract. The term Contractor may be used to identify the Job Order Contractor.

"Differing Site Conditions" means concealed or latent physical conditions or subsurface conditions at the Site that, (i) materially differ from the conditions indicated in the Scope of Work issued with each Job Order or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work.

"Final Acceptance" means the completion of the Project as prescribed in Article 10.

"Float" means the number of Days by which an activity can be delayed without lengthening the Critical Path and extending the Substantial Completion date.

"Legal Requirements" means all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

“Notice to Proceed” or “NTP” means the directive issued by the City, authorizing the Contractor to start Work or a portion of the work.

“Payment Request” means the City form used by the Contractor to request payment for Work performed.

“Product Data” means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

“Project” means the Work to be completed in the execution of any awarded Job Order and as amended and as prescribed as any Scope of Work in identified in each awarded Job Order. Project means the Work associated with each awarded Job Order issued under this Contract.

“Project Schedule” means a schedule as prescribed in this Contract or subsequent Job Orders.

“Project Record Documents” means the documents created pursuant to Article 12.

“Samples” means physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

“Schedule of Values (SOV)”, means the Document specified in the construction phase, which divides the Contract Price into pay items, such that the sum of all pay items equals the awarded Job Order Price for the Work, or for any portion of the Work having a separate specified Contract Price.

“Shop Drawings” mean drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

“Scheduled Substantial Completion Date” means the calendar date equal to the Notice to Proceed date established plus the number of Days established in each Job Order.

“Site” means the land or locations on which the Project is located, as more particularly described in the Job Order.

“Subcontractor” or “Sub consultant*”* means any person or entity retained by Contractor as an independent contractor to perform a portion of the Work and shall include material, men and suppliers.

“Substantial Completion” means the date on which the Work, or an agreed upon portion of the Work, is sufficiently complete so that City can occupy and use the Project or a portion thereof for its intended purposes.

"Technical Consultant" means an agent of the City who furnishes project management assistance (if applicable to a Job Order).

"Variations of the City's Project Criteria" means agreed changes to the City's Project Criteria by both Parties.

"Work" means as defined in Article 5, Paragraph 2.

ARTICLE 4
DESIGN PHASE AND DESIGN SERVICES

1. Costs for Preconstruction services will be included in Contractor's firm fixed price cost proposal.

2. Contractor may also be required to provide incidental Design Services for all or a portion of the Work to be constructed under a specific Job Order. If consulting services for design and the preparation of Plans and Specifications are required; they will be paid for as a separate line item in the Contractor's price proposal. Normally the City will obtain Design Services from a consultant or prepare design documents using City staff.

ARTICLE 5
CONSTRUCTION SERVICES

1. Contractor shall perform all Work necessary to construct the Project in accordance with all applicable Legal Requirements, this Contract and the specifications outlined in each Job Order, and render the Project and all its components operational and functionally and legally usable for their intended purpose.

2. The term "Work" shall mean whatever is done by or required of Contractor to perform and complete its duties relating to the construction of each Job Order under the Contract, including, without limitation, the following:

    A. Construction of the whole and all parts of the Project in full and strict conformity with each Job Order;

    B. The provision and furnishing, and prompt payment therefore, of all labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, fuel, heat, light, cooling, other utilities and things required for the construction of each Job Order;

    C. The procurement and furnishing of all necessary permits and other permits required for the construction of each Job Order;

D. The creation and submission to City of detailed as-built drawings depicting all as-built construction;

E. The furnishing of any required surety bonds and insurance as may be required by each Job Order;

F. The furnishing of all equipment and product warranties, manuals, test results and user guides required by each Job Order or otherwise reasonably available to Contractor;

G. The furnishing of all other services and things required or reasonably inferable from the Contract Documents, including the provisions of Article 6 below.

ARTICLE 6
TIME FOR CONSTRUCTION: THE CONTRACT TIME

1. After City has awarded each Job Order, City shall issue a NTP directing Contractor to proceed with the Work on the date indicated in the notice (the "Commencement Date"). The notice to commence Work shall be issued at least ten (10) days prior to the Commencement Date.

2. Contractor shall commence the Work on the Commencement Date, and the Work shall be carried out regularly and without interruption. Contractor shall substantially complete the Work no later than the date established in each Job Order or such other date as may be issued by a Change Order (the "Scheduled Completion Date"). The number of calendar days between the effective date of the Contract and the Scheduled Completion Date is the "Contract Time". Contractor shall achieve Final Completion of the Work no later than thirty (30) calendar days after achieving Substantial Completion.

3. Contractor understands that if Substantial Completion for entire project is not attained by the Scheduled Substantial Completion date, City will suffer damages which are difficult to determine and accurately specify. Contractor agrees that if Substantial Completion is not attained by the Scheduled Substantial Completion Date, Contractor shall pay City the amount established in each Job Order as liquidated damages for each day that Substantial completion extends beyond the Scheduled Substantial Completion Date.

4. All limitations of time set forth in each Job Order are material and time is of the essence of each Job Order.

ARTICLE 7
ADDITIONAL DUTIES AND RESPONSIBILITIES OF CONTRACTOR

1. The intent of this Contract is to require complete, correct and timely execution of all Job Orders awarded for the Construction Work. Any and all Construction Work that may be

required reasonably implied or reasonably inferred by each Job Order as necessary to produce the intended result shall be provided by Contractor for the Construction Price as provided in each awarded Job Order.

2. All Work performed by Contractor shall be in strict compliance with each Job Order. "Substantial Compliance" is not strict compliance. Any Construction Work not in strict compliance with each Job Order is defective.

3. The Construction Work shall be strictly supervised and directed using Contractors best and highest skill and effort. Contractor shall bear full responsibility for any and all acts or omissions of those engaged in the Construction Work on behalf of the Contractor.

4. Contractor warrants and guarantees to City that all labor furnished to perform the Construction Work under each Job Order will be competent to perform the tasks undertaken and is the best quality obtainable, that the product of such labor will yield only superior results in strict compliance with the requirements of each Job Order, that materials and equipment furnished will be of high quality and new unless otherwise permitted by the Job Order, and that the Construction Work will be of high quality, free from faults and defects and in strict conformance with the requirements found in each Job Order. Any and all Construction Work not strictly conforming to these requirements shall be considered defective and shall constitute a breach of Contractor's warranty.

5. Special or specific guarantees and warranties which are required by each Job Order to run for a fixed period of time shall commence running on the date of Substantial Completion of all Construction Work. In general, Contractor warrants all work, including labor and materials, for a period of two (2) years from the date of Substantial Completion, unless otherwise specified in the Job Order.

6. Contractor, within fifteen (15) days after the Commencement Date, shall submit to the Manager of Construction and Contracting for his information, and shall comply with, Contractor's Schedule of Construction for each Job Order awarded. The Schedule of Construction shall reflect the performance of all Construction Work on weekdays and non-holidays. The Schedule of Construction shall be a detailed critical path (CPM) schedule in a form acceptable to City. The Schedule of Construction shall be revised at least monthly and shall be revised to reflect conditions encountered from time to time and shall be related to the entire Project awarded as a Job Order. Each such revision shall be furnished to the City. Strict compliance with the requirements of this Paragraph shall be a condition precedent for payment to Contractor, and failure to strictly comply with this requirement shall constitute a material breach of the Contract. No claim for an increase in the Construction Price shall be allowed as a result of Contractor basing the Construction Price upon an early completion schedule, or as a result of delays and costs attributable to completion later than the planned early completion date.

7. Contractor shall continuously maintain at the Site, for the benefit of City, an updated copy of the awarded Job Order, including one record copy of the Job Order Documents marked to record on a current basis changes, selections and modifications made during construction. Additionally, Contractor shall maintain at the Site, for the benefit of City, a copy of all Shop Drawings, Product Data, Samples, and other Submittals, if specified in the awarded Job Order. Upon Final Completion of the Construction Work, or upon the City's request, all of the documents described in this Paragraph shall be finally updated and delivered to City and shall become the property of the City.

8. Contractor shall review, study, and approve, or take other necessary action upon all Shop Drawings, Product Data, Samples, and other Submittals to ensure that each Job Order will be constructed in a timely fashion in strict compliance with the requirements of the Contract and Job Order. No deviation from, substitution for or other modification from the Documents shall be allowed by Contractor in a shop drawing or submittal without written approval, in the form of a Change Order, from City. Contractor shall engage in prompt and adequate review of Shop Drawing and other Submittals to maintain the Construction Schedule; Contractor also warrants it will use its best independent professional judgment in its review to determine compliance with the Contract Documents.

9. City shall also, in its discretion, have the right to review and approve Submittals, and if City so elects, Contractor shall not perform any portion of the Construction Work as to which the City has required submittal and review until such Submittal has been approved by the City. Approval by the City, however, shall not be evidence that Construction Work installed pursuant to the City's approval conforms to the requirements of the Contract nor shall such approvals relieve Contractor of any of its responsibilities or warranties under the Contract. If City elects to review Submittals, Contractor shall maintain a Submittal log which shall include, at a minimum, the date of each Submittal, the date of any resubmittal, the date of any approval or rejection, and the reason for any approval or rejection. Contractor shall have the duty to carefully review, inspect and examine any and all Submittals before submission of same to City. Shop Drawings and other Submittals from Contractor do not constitute a part of this Contract.

10. Contractor shall procure from all Subcontractors and Suppliers and shall transmit to the City, all warranties required by the Contract. Contractor shall review all such warranties and shall certify to City that the warranties are in strict compliance with the requirements of the Contract.

11. Contractor shall prepare or procure and shall transmit to the City all documentation required by this Contract regarding the operation and recommended maintenance programs relating to the various elements of the Construction Work.

12. If required in the Job Order, Contractor shall prepare and provide to the City a complete set of all as-built drawings which shall be complete and, except as specifically noted, shall reflect performance of the Construction Work in strict compliance with the requirements of this Contract.

13. Contractor shall assume all labor responsibility for all personnel assigned to or contracted for the performance of the Construction Work and agrees to strictly comply with all its obligations as employer with respect to said personnel under all applicable labor laws.

14. Contractor shall be responsible for procuring all tests and inspections required by sound professional practices and by governmental authorities having jurisdiction over the Project. Contractor shall submit certified results of such tests to City. If the laws, ordinances, rules, regulations or orders of any public authority having jurisdiction require any Construction Work to be specifically inspected, tested, or approved, Contractor shall assume full responsibility therefore, pay all costs in connection therewith and furnish to City the required certificates of inspection, testing or approval.

15. Contractor shall, during the course of the Construction Work, comply with any regulations or guidelines prescribed by City. Contractor warrants that it will comply with all public laws, ordinances, rules and regulations applicable to the services to be performed under the Contract, including without limitation, those relating to the terms and conditions of the employment of any person by Contractor in connection with the Construction Work to be performed under the Contract.

16. Contractor shall perform the Construction Work in accordance with all construction codes, laws, ordinances or regulations applicable to the design and execution of the Construction Work. Any fine or penalty which may be imposed as consequence of any violation of this provision shall be paid by Contractor, and Contractor, to the fullest extent permitted by the law, shall fully defend, indemnify and hold City harmless for, from and against all loss, damage, and expense, including attorney's fees, resulting from any such violation or alleged violation of codes, laws, ordinances, or regulations, regardless of a concurrent contribution by City, through negligence or other wrongful act, to such loss, damage, or expense, except that such indemnity shall not apply if the violation is solely and directly caused by a negligent or willful act or omission of City, its officers, agents, or employees.

17. All construction and building permits, licenses and authorizations necessary for the construction of the Project shall be secured and paid for by Contractor. Contractor shall notify the City when it has received said permits, licenses, and authorizations, and upon receipt shall supply the City with copies of same. The originals of permits, licenses and authorizations shall be delivered to the City upon completion of the Construction Work, and receipt of these documents by City shall be a condition precedent to final payment.

Contractor shall also give and maintain any and all notices required by applicable laws pertaining to the construction of the Construction Work.

18. While on City's property, all Contractor's employees and Subcontractors shall confine themselves to areas designated by the City and will be subject to City's badge and pass requirements, if any, in effect at the Site of the Construction Work.

19. Contractor shall take all reasonable steps and legally required measures at the site to comply with applicable safety regulations and standards and to adequately protect the Construction Work, stored materials, and temporary structures located on the premises, and to prevent unauthorized persons from entering upon the site. Contractor shall at all times safeguard City's property and employees from injury or loss in connection with the performance of the Contract. Contractor shall at all times safeguard and protect its own partially or completely finished Construction Work and that of the adjacent property and all adjacent construction Work from damage. Contractor shall protect City's equipment, apparatus, machinery, and other property and all adjacent construction Work with boarding and other safeguards so as to keep the premises free from dampness, dirt, dust, or other damage and shall remove all such temporary protection upon completion of the Construction Work.

20. Unless otherwise instructed by City, Contractor shall repair and return to original condition all buildings, streets, curbs, sidewalks, utilities or other facilities affected by Contractor's performance of the Construction Work.

21. Contractor shall keep the site reasonably clean during performance of the Construction Work. Upon Final Completion of the Construction Work, Contractor shall thoroughly clean the site and the Project and remove all waste, debris, trash and excess materials or equipment, together with Contractor's property therefrom.

22. At all times relevant to the Contract, Contractor shall provide access to the Construction Work to City and its designees without formality or other procedure.

23. The City's decisions in matters relating to aesthetic standards and effect shall be final.

24. In performing both Design Services and Construction Work under this Contract, the relationship between City and Contractor is that of independent contractor, and the execution of this Contract does not change the independent status of Contractor. Contractor shall exercise independent judgment in performing its duties under this Contract and is solely responsible for setting working hours, scheduling or prioritizing the Contract work flow and determining how all Contract work is to be performed. No term or provision of this Contract or act of Contractor in the performance of this Contract shall be construed as making Contractor the agent, servant or employee of City, or making

Contractor or any of its employees eligible for the fringe benefits, such as retirement, insurance and worker's compensation, which City provides its employees.

ARTICLE 8
CONTRACT PRICE

1. City shall pay, and Contractor shall accept, as full and complete payment for all Work associated with each Job Order the amount approved and awarded to the Contractor as a Job Order. Each Job Order will be a separate contract under this Contract. The general terms and conditions will be established by this Contract and special contract provisions will be established within each Job Order.

2. Job Order Construction Price, unless changed by Supplemental Agreement or Change Order, represents the absolute limit of obligation or liability that City may ever have insofar as the cost for full and final completion of the Work, and the total of all payments to Contractor or its Subcontractors are concerned. Should additional amounts be required to be expended, over and above a Job Order Construction Price, to achieve completion of the Construction Work, including Project construction, and payment to Contractor, in accordance with this Contract and any Special Provisions included in each awarded Job Order, liability for and payment of such additional amounts shall be the sole responsibility of Contractor and its Contract Surety herein, and City shall never be liable for same.

3. In addition to the Construction Work Contractor will perform, it will also provide all the usual and necessary traditional construction management services incident to construction projects of the nature and scope of this Project, for which the Management Fee described in this Contract is paid. The services required are not intended in any manner to diminish the overall responsibility of Contractor for the full and final completion of the Construction Work within the time and cost constraints specified in this Contract.

4. City agrees to pay Contractor for the Cost of the Construction Work as defined in each Job Order, subject to submission by Contractor of all backup substantiation as may be reasonably required by the City. In no event shall the sum of payments for the Cost of the Construction Work and any other Contractor compensation exceed the Construction Price, as adjusted by Change Order. The term "Cost of the Construction Work" shall be defined in each Job Order and be established as a Firm-Fixed Price Contract.

ARTICLE 9
PAYMENT OF THE CONTRACT PRICE

1. Payments of the Contract Price will be made monthly as Work progresses. Payment Applications, covering labor, material, equipment, supplies, and other items completed, delivered or suitably stored on site during a period ending on the last calendar day of each

month, shall be submitted to the City by the Contractor on the current edition of AIA Documents G702 and G703, within five (5) days after end of the period. Payment Applications shall be notarized shall be supported by such data substantiating the Contractor's right to payment as the City may require, and reflect retainage, if any, as is provided. All payments shall be subject to any offset or retainage provisions of the Contract.

2. Each payment made to the Contractor shall be on account of the total amount payable to the Contractor, and title to all Work covered by a paid partial payment shall thereupon pass to the City. Nothing in this section shall be construed as relieving the Contractor from the sole responsibility for care and protection of materials and Work upon which payments have been made, for restoration of any damaged Work, or as a waiver of the right of the City to require fulfillment of all terms of Contract Documents.

3. The City, within seven (7) days after receipt of the Payment Application, will either issue a Certificate for Payment for such amount as is properly due or issue written notice of the reasons for withholding such a certificate.

4. The issuance of a Certificate for Payment will constitute a representation by the City, observations at the site and the data comprising the Application for Payment, that the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his certificate); and that the Contractor is entitled to payment in the amount certified.

5. Payment may be withheld in whole or in part to protect the City on account of:

    a. Unsatisfactory job progress as determined by the City.
    b. Defective Work or materials not remedied.
    c. Disputed Work or materials.
    d. Claims or other encumbrances filed or reasonable evidence indicating probable filing of claims or other encumbrances by Subcontractors or Suppliers, or others.
    e. Failure of the Contractor to make payment to Subcontractors or Suppliers within seven (7) days after receipt of each progress payment.
    f. A reasonable doubt as determined by the City that the Work can be completed for the unpaid balance of the Contract Price or within the Contract Time.
    g. The Contractor's failure to perform any of its contractual obligations under the Contractor Documents, or any other Contract with the City.
    h. Deficiencies or claims asserted by City against Contractor arising from any other project. Within fourteen (14) days following the receipt of the Certificate of Payment, the City shall pay to the Contractor 90% of the value of the Work

in place and materials suitably stored at the Site. The remaining 10% shall be retained by the City until the Contract is 50% completed at which time the retainage shall be reduced to 5%; provided that: (a) the Contractor is making satisfactory progress on the Contract; and (b) in the City's sole judgment, there is no specific cause or claim requiring a greater amount than 5% to be retained. Thereafter, the City shall pay the Contractor 95% of the value of the Work, unless and until it determines satisfactory progress is not being made, at which time the 10% retainage may be reinstated. Such 10% reinstatement would be 10% of the total contract value of Work in place and materials stored. The City's sole judgment concerning the satisfactory progress of the Work shall be final.

6. Within sixty (60) days after the issuance of the Certificate of Final Completion by the City and receipt of all other documents required by the Contract, all retained amounts shall be paid to Contractor as part of Final Payment:

    a. The Final Payment shall not become due until the Contractor delivers to the City full and final unconditional releases from Subcontractors and major Suppliers acknowledging payment in full. Any claim filed thereafter shall be the responsibility of the Contractor.
    b. If any claim remains unsatisfied after all payments are made, the Contractor shall immediately upon demand refund to the City all monies that the latter may be compelled to pay in discharging such claim including all costs, interest and attorneys' fees.

ARTICLE 10
SUBSTANTIAL AND FINAL COMPLETION

1. "Substantial Completion" means that stage in the progression of the Construction Work, as approved by City in writing, when the Project is sufficiently complete in accordance with the Contract that City can enjoy beneficial use or occupancy of the entire Project and can utilize it for all of its intended purposes. A condition precedent to Substantial Completion is the receipt by City of all necessary authorizations for the use of the Project required by any governmental or regulatory authority. City reserves the right to use any part, phase or system of the Project when such part, phase or system is substantially completed, but such partial use of the Project shall not result in the Project being deemed substantially complete, and such partial use shall not be evidence of Substantial Completion.

2. When Contractor believes that the Construction Work is substantially complete, Contractor shall notify the City in writing and shall submit to City a list of items remaining to be completed or corrected. The City, the City's designee, (or an independent consultant hired by City) will perform an inspection. If the Construction Work is substantially complete, in the sole opinion of City, City will prepare a

Certificate of Substantial Completion which shall establish the date of Substantial Completion. The Certificate of Substantial Completion shall state the responsibilities of City and Contractor for Project security, maintenance, damage to the Construction Work, and insurance, and shall fix the date, not more than 30 days after the established date of Substantial Completion, within which Contractor shall complete any items of incomplete or defective Construction Work. The Certificate of Substantial Completion shall be submitted to Contractor for its written acceptance of the responsibilities assigned to it in such certificate.

3. Upon Substantial Completion of the Construction Work, and upon execution by both City and Contractor of the Certificate of Substantial Completion, City shall pay Contractor, within thirty (30) days, all sums due Contractor, including such amount of retainage as the City in its sole discretion wishes to pay based upon the value of remaining performance, less the reasonable costs, as determined by City in City's sole discretion, for completing all incomplete Construction Work and/or any Design Services, correcting and bringing into strict conformance all defective and nonconforming Construction Work, and handling all outstanding or threatened claims.

4. "Final Completion" means the completion of all Work required by, and in strict compliance with, this Contract, the Job Order, including Contractor's provision to City of all documents and deliverables required to be provided by the Contract.

5. When Contractor believes that all of the Construction Work is finally complete, and Contractor is ready for a final inspection, Contractor shall so notify the City in writing. The City (or an independent consultant hired by City) will then make final inspection of the Construction Work and, if the Construction Work is complete in strict accordance with the Contract, and the Contract has been fully performed, then City will issue a Certificate for Final Payment, providing for payment of the remainder of the Contract Price, less any amount withheld pursuant to the Contract.

6. City shall make final payment of all remaining sums due to Contractor within thirty (30) days after Final Completion as reflected by City's Certificate for Final Payment, provided that all documents and deliverables required to be delivered to City under this Contract have been delivered as required, and provided that all other conditions precedent to payment have been satisfied.

7. Prior to being entitled to receive final payment, and as a condition precedent thereto, Contractor shall furnish City, in the form and manner required by the City, the following:

    (a) an Affidavit of Final Payment and Release, in particular certifying that all Subcontractors and Suppliers have been paid all sums lawfully due to

them, and releasing City from all claims that Contractor had or might have asserted during the performance of this Contract;

(b) if required by City, separate releases of lien or lien waivers from each Subcontractor, lower tier subcontractor, laborer, Supplier or other person or entity who has, or might assert a claim against City or City's property;

(c) consent of surety to final payment;

(d) a complete set of the as-built drawings to include AutoCAD disks and the record set of Contract Documents; and

(e) All product warranties, operating manuals, instruction manuals and other record documents, drawings and things customarily required of a Contractor, or expressly required herein, as a part of or prior to Project closeout.

8. Acceptance by Contractor of final payment shall constitute a waiver and release of all claims against City by Contractor except for those claims previously made in writing against City by Contractor, pending at the time of final payment and specifically identified on Contractor's pay request for final payment as unsettled at the time it submits its pay request.

ARTICLE 11
CITY'S DUTIES, OBLIGATIONS, AND RESPONSIBILITIES

In addition to payment, City shall undertake to perform the following:

1. City shall provide Contractor with information regarding City's requirements for the Project including any desired or required design or construction schedule.

2. City shall review any documents submitted by Contractor requiring City's decision, and shall render any required decisions pertaining thereto.

3. In the event City knows of any material fault or defect in the Construction Work, nonconformance with the Contract, or of any errors, omissions or inconsistencies in the Design Documents, then City shall give prompt notice thereof in writing to Contractor.

4. City shall provide Contractor access to the Site and to the Construction Work, and shall provide Contractor with such information, existing and reasonably available, necessary to Contractor's performance of the Contract as Contractor may request.

5. City shall cooperate with Contractor in securing any necessary licenses, permits, approvals or other necessary authorizations for the design, construction and certification of the Project.

6. City shall perform the duties set forth in this Article 11 in a reasonably expeditious fashion so as to permit the orderly and timely progress of Contractor's Design Services and of the Construction Work.

7. City's review, inspection, or approval of any Construction Work, Design Documents, Submittals, or pay requests by Contractor shall be solely for the purpose of determining whether such Construction Work and such documents are generally consistent with City's construction program and requirements. No review, inspection, or approval by City of the Construction Work or documents shall relieve Contractor of its responsibility for the performance of its obligations under the Contract or the accuracy, adequacy, fitness, suitability, or coordination of its Design Services or the Construction Work. Approval by any governmental or other regulatory agency or other governing body of any Construction Work, Design Documents, or Contract Documents shall not relieve Contractor of responsibility for the strict performance of its obligations under the Contract. Payment by City pursuant to the Contract shall not constitute a waiver of any of City's rights under the Contract or at law, and Contractor expressly accepts the risk that defects in its performance, if any, may not be discovered until after payment, including final payment, is made by City.

9. City's agreement not to exercise, or its delay or failure to exercise, any right under the Contract or to require strict compliance with any obligation of Contractor under the Contract shall not be a waiver of the right to exercise such right or to insist on such compliance at any other time or on any other occasion.

10. City shall furnish to Contractor, prior to the execution of each Job Order, any and all written and tangible material knowingly in its possession concerning conditions below ground at the site of the Project. Such written and tangible material is furnished to Contractor only in order to make complete disclosure of such material and for no other purpose. By furnishing such material, City does not represent, warrant, or guarantee its accuracy or completeness either in whole or in part, and shall have no liability therefore. If Contractor requests in writing, City shall also furnish surveys, legal limitations, and utility locations (if known), and a legal description of the Project site.

11. City shall obtain all easements required for construction, and shall pay for necessary assessments and charges required for use and occupancy of the Construction Work. Contractor shall render such assistance as City may request in obtaining such easements, certificates of occupancy, and the like.

12. In the event Contractor fails or refuses to perform the Construction Work in strict accordance with the Contract, or is otherwise in breach of this Contract in any way, City may, at its option, instruct Contractor to cease and desist from performing further

Construction Work, or any part thereof. Upon receipt of such instruction from City in writing, Contractor shall immediately cease and desist as instructed by City and shall not proceed further until the cause for City's instructions has been corrected, no longer exists, or City instructs that the Construction Work may resume.

13. In the event City issues such instructions to stop Construction Work, and in the further event that Contractor fails and refuses within seven (7) days of receipt of same to provide adequate assurance to City that the cause of such instructions will be eliminated or corrected, then City shall have the right to carry out the Construction Work with its own forces, or with the forces of other contractors, and Contractor shall be fully responsible for the costs incurred in correcting any defective or deficient Construction Work. The rights set forth in Article 11, Paragraph 11 and this Article 11, Paragraph 12 are in addition to, and without prejudice to, any other rights or remedies City may have against Contractor, including the rights to terminate or withhold payment as provided herein.

ARTICLE 12
JOB ORDER (PROJECT) DOCUMENTATION

1. Contractor shall maintain and protect all records relating in any manner whatsoever to the Project (the "Project Records") for no less than four (4) years after Final Completion of the Project, and for any longer period of time as may be required by law or good management practice.

2. All Project Records which are in the possession of Contractor or Contractors Subcontractors shall be made available to City for inspection and copying upon City's request at any time. Additionally, such records shall be made available upon request by City to any state, federal or other regulatory authorities and any such authority may review, inspect and copy such records. The Project Records include, without limitation, all drawings, plans, specifications, Submittals, correspondence, logs, minutes, memoranda, photographs, tape or videotape recordings, or other writings or things which document the Project, its design, or its construction. Said records include those documents reflecting the cost of design and construction to Contractor.

ARTICLE 13
PERSONNEL, SUBCONTRACTORS AND SUPPLIERS

1. A "Subcontractor" means an entity which has a direct contract with Contractor to perform a portion of the Construction Work or the Design Services. For purposes of the Contract, Subcontractors shall also include those furnishing any equipment and materials for the Project.

2. A "Supplier" means an entity providing only equipment or materials for the performance of the Construction Work.

3. Upon execution of this Contract, and at such later times as may be applicable, Contractor shall furnish City, in writing, the names of persons or entities proposed by Contractor to act as Subcontractors on the Project. Contractor shall provide such information regarding such proposed Subcontractors as City deems necessary. City shall promptly reply to Contractor, in writing, stating any objections City may have to such proposed Subcontractors. Contractor shall not enter into a subcontract with an intended Subcontractor with reference to whom City objects. Any consent or failure to reject by City shall in no way relieve Contractor of any of its duties or warranties under the Contract.

4. All subcontracts and purchase orders with Subcontractors shall afford Contractor rights against the Subcontractor which correspond to those rights afforded to City against Contractor under this Contract, including those rights of Contract suspension, termination, and stop Construction Work orders as set forth in this Contract. It is expressly agreed that no relationship of agency, employment, contract, obligation or otherwise shall be created between City and any Subcontractor of Contractor, and a provision to this effect shall be inserted into all agreements between Contractor and its Subcontractors.

5. Should Contractor subcontract all or any part of the Construction Work, such subcontracting of the Construction Work shall not relieve Contractor from any liability or obligation under the Contract or under any applicable policy, law or regulation, and Contractor shall be responsible for all and any acts, defaults, omissions or negligence of its Subcontractors, Suppliers, and CONTRACTOR'S.

6. In accordance with Article 7, Paragraph 4 above, Contractor shall employ and assign only qualified and competent personnel to perform any service or task concerning the Project. Contractor shall designate one such person as the Project Contractor. Absent written instruction from Contractor to the contrary, the Project Contractor shall be deemed to be Contractor's authorized representative and shall be authorized to receive and accept any and all communications from City. Key design and supervisory personnel assigned by Contractor to each Job Order will be provided at the time the contractor submits the RFP pricing package. The contractor shall conform to all requirements established in each Job Order RFP issued by the City.

7. If, at any time during the course of the Project, City reasonably determines that the performance of any Subcontractor or any member of Contractor's staff construction working on the Project is unsatisfactory, City's Representative may require Contractor to remove such Subcontractor or staff member from the Project immediately and replace the staff member at no cost or penalty to City for delays or inefficiencies the change may cause.

ARTICLE 14
CHANGES AND EXTENSIONS OF TIME

1. Changes in the Design Services (if required) or the Construction Work under this Contract, consisting of additions, deletions, revisions or any combination thereof, may be ordered unilaterally by City without invalidating the Contract. Such changes shall be communicated by Change Order, Field Order or supplemental agreement, as applicable. Contractor shall proceed diligently with any changes, and same shall be accomplished in strict accordance with the terms and conditions as set forth in this Contract/Job Order.

2. All change orders, changes requested by Contractor, or extensions of Contract Time occurring during construction of the Project related to actual Construction Work shall be governed by the applicable provisions of this Contract/Job Order. All requests for additional compensation due to a change in the scope, and all requests for an extension of time to the Schedule, shall include sufficient backup documentation to reasonably understand the request and the amount of time or compensation requested and determines the merits of the request.

3. Upon the occurrence of a change order for Construction Work which increases the Cost of the Construction Work, the Construction Price will thereafter include such Cost of the Construction Work and Services attributable to such change to the extent allowed.

4. In the event the parties are unable to agree on the terms of a Change Order or Supplemental Agreement, then Contractor shall continue to diligently perform the Work, including any change directed by City by Change Order or Supplemental Agreement, and shall keep thorough records of the cost of performance of such Change Order or Supplemental Agreement.

5. Contractor recognizes and accepts a fiduciary relationship of trust and confidence hereby established between Contractor and City and agrees that it shall at all times in good faith use its best efforts to advance City's interests and agrees to perform the Work in the highest professional manner.

ARTICLE 15
CLAIMS BY CONTRACTOR

1. Claims by Contractor against City are subject to the terms and conditions of this Article 15, and strict compliance herewith shall be a condition precedent to any liability of City therefore.

2. All claims for additional compensation or additional time, regardless of their nature, when they occur, or whether they occur during the design or construction phase, shall be governed by the City of Buckeye Procurement Code.

3. Contractor shall provide, and continue to provide, to City all such documentation, including cost and time records, as and when City may request so that City may evaluate Contractor's claim.

4. Contractor shall continue its performance under this Contract regardless of the existence of any claims submitted by Contractor against City.

5. In the event Contractor seeks to make a claim for an increase in the Construction Price, as a condition precedent to any liability of City for any claim, Contractor shall strictly comply with the requirements of Paragraph 2 above and such notice shall be given by Contractor before proceeding to execute any alleged additional or changed Construction Work. Failure of the condition precedent to occur shall constitute a waiver by Contractor of any claim.

6. In connection with any claim by Contractor against City for compensation in excess of the Construction Price, any liability of City shall be strictly limited to the Cost of the Construction Work and Design Services if required as defined and allowed in this Contract and subsequent Job Orders and shall in no event include, indirect, consequential, impact or other costs, expenses or damages of Contractor or its Subcontractors. City shall not be liable to Contractor for claims of third parties, including Subcontractors, for acts, omissions, events, or conditions for which City would not be liable to Contractor under the terms of the Contract. As a condition precedent to City's liability to Contractor for any loss or damage resulting from claims of third parties, including Subcontractors, such third parties must have complied with all conditions contained in their agreements with Contractor and such claims must have been submitted to City by Contractor in strict compliance with all the requirements of this Article. City shall not be liable to Contractor for claims of third parties including Subcontractors, unless and until the liability of Contractor has been established in a court of competent jurisdiction.

7. The resolution of any claim under this Article shall be reflected by a Change Order or Supplemental Agreement executed by City and Contractor.

ARTICLE 16
UNCOVERING AND CORRECTING CONSTRUCTION WORK

1. If any of the Construction Work is covered, concealed or obscured contrary to the written request of City, or contrary to any provision of the Contract, said Construction

Work shall, if required by City, be uncovered for inspection and shall be properly replaced at Contractor's expense without change in the Contract Time.

2. If any of the Construction Work is covered, concealed or obscured in a manner not inconsistent with Paragraph 1 above, it shall, if required by City, be uncovered for inspection. If such Construction Work conforms strictly to the Contract, the cost of uncovering and proper replacement shall be charged to City. If such Construction Work does not strictly conform to the Contract, Contractor shall pay the cost of uncovering and proper replacement.

3. Contractor shall immediately proceed to correct Construction Work rejected by City as defective or failing to conform to the Contract. Contractor shall pay all costs and expenses associated with correcting such rejected Construction Work, including any additional testing and inspections made necessary thereby.

4. In addition to its warranty obligations set forth elsewhere herein, Contractor shall be specifically obligated to correct at its cost and expense any and all defective or nonconforming Construction Work for a period of twelve (12) months following Final Completion upon written direction from City. This obligation shall survive final payment by City and termination of the Contract.

5. Nothing contained in Paragraph 4 shall establish any period of limitation with respect to other obligations which Contractor has under the Contract. Establishment of the one-year time period in Paragraph 4 above relates only to the duty to Contractor to specifically correct the Construction Work.

6. City may, but shall in no event be required to, choose to accept defective or nonconforming Construction Work. In such event, the Contract Price shall be reduced by the reasonable costs of removing and correcting the defective or nonconforming Construction Work. City shall be entitled to a reduction in the Construction Price regardless of whether City has, in fact, removed and corrected such defective Construction Work. If the unpaid balance of the Construction Price, if any, is insufficient to compensate City for the acceptance of defective or nonconforming Construction Work, Contractor shall, upon written demand from City, pay City such additional compensation for accepting defective or nonconforming Construction Work.

ARTICLE 17
SUSPENSION AND TERMINATION

1. City may for any reason whatsoever suspend performance under the Contract. City shall give written notice of such suspension to Contractor specifying when such suspension is to become effective.

2. From and upon the effective date of any Suspension ordered by City, Contractor shall incur no further expense or obligations in connection with this Contract and Contractor shall cease its performance. Contractor shall also, at City's direction, either suspend or assign to City any of its open or outstanding subcontracts or purchase orders.

3. In the event City directs a suspension of performance under this Article 17, through no fault of Contractor, and provided Contractor submits a proper claim as provided in this Contract, City shall pay Contractor as full compensation for such suspension Contractor's reasonable costs, actually incurred and paid, of:

   (a) Demobilization and remobilization, including such costs paid to Subcontractors
   (b) Preserving and protecting Construction Work in place;
   (c) Storage of materials or equipment purchased for the Project, including Insurance.
   (d) Performing in a later, or during a longer, time frame than that contemplated by this contract.

4. If City lifts the suspension it shall do so in writing and Contractor shall promptly resume performance of the Contract unless, prior to receiving the notice to resume, Contractor has exercised its right of termination as provided herein.

5. City reserves the right, for any reason whatsoever (including, but not limited to, the City's failure to appropriate funding for this Contract), or without reason, terminate performance under the Contract by Contractor for convenience. City shall give thirty (30) calendar days advance written notice of termination for convenience to Contractor. Contractor shall incur no further obligations in connection with the Contract and Contractor shall stop Work when such termination becomes effective. Contractor shall also, at City's direction, either terminate or assign to City outstanding orders and subcontracts. Contractor shall settle the liabilities and claims arising out of any terminated subcontracts and orders. City may direct Contractor to assign Contractor's right, title and interest under terminated orders or subcontracts to City or its designee. Contractor shall transfer title and deliver to City such completed or partially completed Design Documents (if any), Construction Work and materials, equipment, parts, fixtures, information and Contract rights as Contractor has.

6. When terminated for convenience, Contractor shall be compensated as follows:

   (a) Contractor shall submit a termination claim to City specifying the amounts believed to be due because of the termination for convenience together with costs, pricing or other data required by City. If Contractor fails to file a termination claim within three

(3) months from the effective date of termination, City shall pay Contractor an amount derived in accordance with Subparagraph (c) below;

(b) City and Contractor may agree to the compensation, if any, due to Contractor under this paragraph;

(c) Absent agreement to the amount due to Contractor, City shall pay Contractor, as full compensation for termination for convenience, the following amounts:

(i) the Cost of the Construction Work and Services, as defined and allowed by to the extent incurred or paid prior to receipt by Contractor of the notice of termination;

(ii) such portion of Work which is completed and unpaid as of the date of receipt by Contractor of the notice of termination; and

(iii) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders hereinabove. These costs shall not include amounts paid in accordance with other provisions of this Contract. In no event shall Contractor be entitled to recover lost profits or other incidental or consequential damages from City on account of a termination for convenience, or an erroneous termination for cause as described below.

7. If Contractor does not perform the Construction Work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or otherwise commits a violation of a material provision of the Contract, then City may by written notice to Contractor, without prejudice to any other right or remedy against Contractor or others, terminate the performance of Contractor and take possession of the Project site and of all materials and equipment at the site and may finish the Construction Work by whatever methods it may deem expedient. In such cases, Contractor shall not be entitled to receive any further payment until the Construction Work is finished.

8. In the event the employment of Contractor is terminated by City for cause and it is subsequently determinedly a court or other tribunal of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under this Paragraph and the provisions of this Paragraph regarding compensation shall apply.

ARTICLE 18
INDEMNITY

1. To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold City, its elected officials, officers, agents and employees, harmless for, from and against any and all claims, lawsuits, judgments, costs and expenses for personal injury (including death), property

damage or other harm for which recovery of damages is sought, suffered by any person or persons, that may arise out of or be occasioned by Contractor's breach of any of the terms or provisions of this Contract, or by any negligent, grossly negligent or strictly liable act or omission of Contractor, its officers, agents, or employees, in the performance of this Contract; except that the indemnity provided for in this paragraph shall not apply to any liability resulting from the sole negligence or fault of City, its elected officials, officers, agents, employees or separate contractors. The provisions of this paragraph are solely for the benefit of the parties hereto and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

ARTICLE 19
INSURANCE AND BONDS

1. Concurrently with the execution of the Contract, the Contractor shall furnish the City of Buckeye a certificate of insurance on a standard insurance industry ACORD form. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona.

2. Contractor, subcontractors and sub CONTRACTOR'S shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property, which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

   A. The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

   B. The City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, subcontractors or sub CONTRACTOR'S and Contractor is free to purchase such additional insurance as may be determined necessary.

   C. Minimum Scope and Limits of Insurance. Contractor shall provide coverage at least as broad and with limits of liability not less than those stated below.

   (i) Commercial General Liability-Occurrence Form Policy shall include bodily injury, property damage, and broad form contractual liability and XCU coverage.

General Aggregate	$2,000,000
Products-Completed Operations Aggregate	$1,000,000
Personal & Advertising Injury	$1,000,000
Each Occurrence	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor."

(a) Automobile Liability- Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract

Combined Single Limit (CSL)	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor" including automobiles owned, leased, hired or borrowed by the Contractor."

(b) Workers Compensation and Employers Liability

Workers Compensation	Statutory
Employers' Liability	
Each Accident	$ 100,000
Disease-Each Employee	$ 100,000
Disease-Policy Limit	$ 500,000

The policy shall contain a waiver of subrogation against the City of Buckeye.

(c) Professional Liability

Each Claim	$1,000,000
Annual Aggregate	$2,000,000

(i) The required professional liability coverage must cover work done or to be done or on the behalf of the Contractor.

(ii) In the event that professional liability insurance required by this Contract is written on a "claims made" basis, coverage shall be maintained for two years past completion and acceptance of the Work or services required by this Contract.

(iii) Should any Job Order include the services of design as an integral part of the work, any professional liability shall specifically delete any design-build or similar exclusions that could compromise coverage's because of the design-build delivery of the Project.

(d) Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $5,000,000 per occurrence combined limit Bodily Injury and Property Damage,

that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

(e) Additional Insurance Requirements. The policies shall include, or be endorsed to include, the following provisions:

(i) On insurance policies where the City of Buckeye is named as an additional insured, the City of Buckeye shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.

(ii) The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

(iii) Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

(f) Sub consultant's and Subcontractor's Insurance. Contractor's certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. All coverage's for subcontractors and sub CONTRACTOR'S shall be appropriate to cover all of its work performed herein.

(g) Notice of Cancellation. Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given, by certified mail, return receipt requested to:

Christopher A. Williams
Manager, Construction & Contracting
City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326

(h) Acceptability of Insurers. Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the State of Arizona and with an A. M. Best's rating of no less than A -. The City in no way warrants that the above required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

(i) Verification of Coverage:

(i) Contractor shall furnish the City Certificates of Insurance (ACORD form or equivalent approved by the City) and with original endorsements effecting coverage as required

by this Contract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. *Any policy endorsements that restrict or limit coverages shall be clearly noted on the certificate of insurance.*

(ii) All certificates and endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to the earlier of commencement of work under this Contract or the signing of this Contract and remain in effect for the duration of the Project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

(iii) All certificates of insurance required by this Contract shall be sent directly to the City of Buckeye, Contracts Manager. The contract number and project description shall be included on the Certificates of Insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract, at any time.

(j) Approval. Any modification or variation from the insurance requirements in this Contract shall be approved by the City, whose decision shall be final. Such action will not require a formal contract amendment, but may be made by administrative action.

(k) Bonds and Other Performance Security. Contractor shall provide the following performance bond and labor and material payment bond:

(i) Prior to execution of this Contract, the Contractor must provide a performance bond and a labor and materials bond, each in an amount equal to the amount of initial Contract Price designated for construction services set forth in each Job Order.

(ii) Each such bond shall be executed by a surety company or companies holding a Certificate of Authority to transact surety business in the State of Arizona, issued by the City of the Arizona Department of Insurance. A copy of the Certificate of Authority shall accompany the bonds. The Certificate shall have been issued or updated within two years prior to the execution of the Contract.

(l) The bonds shall be made payable and acceptable to the City of Buckeye.

(m) The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the state of Arizona or whose principal office is maintained in this state, as by law required, and the bonds shall have attached thereto a certified copy of Power of Attorney of the signing official. If one Power of Attorney is submitted, it shall be for twice the total Contract amount. If two Powers of Attorney are submitted, each shall be for the total Contract amount. Personal or individual bonds are not acceptable.

(n) Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall permit a copy to be made.

(o) All bonds submitted for this project shall be provided by a company which has been rated "A- or better" by the A.M. Best Company.

3. Approval, disapproval or failure to act by City regarding any insurance supplied by Contractor or its Subcontractors shall not relieve Contractor of full responsibility or liability for damages, errors, omissions or accidents as set forth in this Contract. Neither the bankruptcy or insolvency of Contractor's insurer nor any denial of liability by Contractor's insurer shall exonerate Contractor from the liability or responsibility of Contractor set forth in this Contract.

ARTICLE 20
CANCELLATION UNDER A.R.S. § 38-511

1. This Contract may be cancelled pursuant to the terms of Arizona Revised Statutes Section 38-511 as amended.

ARTICLE 21
GIFT TO PUBLIC SERVANT

1. City may terminate this Contract immediately if Contractor has offered, conferred, or agreed to confer any benefit upon a City of Buckeye employee or official that the City of Buckeye employee or official is prohibited by law from accepting.

2. For purposes of this section, "benefit" means anything reasonably regarded as pecuniary gain or pecuniary advantage, including benefit to any other person in whose welfare the beneficiary has a direct or substantial interest, but does not include a contribution or expenditure made and reported in accordance with law.

3. Notwithstanding any other legal remedies, City may require Contractor to remove any employee of Contractor from the Project who has violated the restrictions of this section or any similar state or federal law, and obtain reimbursement for any expenditures made to Contractor as a result of the improper offer, agreement to confer, or conferring of a benefit to a City employee or official.

ARTICLE 22
NONDISCRIMINATION

1. As a condition of this Contract, Contractor covenants that Contractor will take all necessary actions to insure that, in connection with any work under this Contract, Contractor, his associates and subcontractors, will not discriminate in the treatment or employment of any individual or groups of individuals on the grounds of race, color,

religion, national origin, age, sex, or handicap unrelated to job performance, either directly, indirectly or through contractual or other arrangements. Contractor shall also comply with all applicable requirements of the Americans with Disabilities Act, 42 U.S.C.A. §§12101-12213, as amended. In this regard, Contractor shall keep, retain and safeguard all records relating to this Contract or work performed hereunder for a minimum period of three (3) years from final Contract completion, with full access allowed to authorized representatives of City, upon request, for purposes of evaluating compliance with this and other provisions of the Contract.

2. Subject to existing law, and regulations, illegal or undocumented persons will not be employed by the Contractor for any work or services to be performed pursuant to this contract. The Contractor will ensure that this provision is expressly incorporated into any and all subcontracts or subordinate agreements issued in support of this contract. Contractor shall notify the City upon the selection and agreement with any sub-contractor, and shall notify the City prior to any subcontractor being on site doing work. Contractor agrees to comply with the provisions of section 274A(a)(1)(A) and 274A(a)(2) of the Immigration and Nationality Act (8 U.S.C.1324a(a)(1)(A), 1324a(a)(2)) (the "INA employment provisions"), and any amendments thereto, prohibiting the unlawful employment of illegal or undocumented persons. Under the terms of this agreement, the Contractor shall not knowingly hire or employ for any work performed pursuant to this contract any workers or employees not lawfully authorized to work in the United States under the provisions of the Immigration and Nationality Act or any other applicable federal or state laws. Violation of the provisions of this Article 22 shall be deemed a material breach of this Contract.

ARTICLE 23
MISCELLANEOUS PROVISIONS

1. This Contract shall be governed by the laws and court decisions of the State of Arizona. This Contract is performed in Maricopa County, Arizona, and exclusive venue for the enforcement of rights or legal obligations under this Contract shall be in Maricopa County, Arizona.

2. This Contract shall be binding upon and inure to the benefit of the parties to this Contract and their respective successors and, except as otherwise provided in this Contract, their assigns.

3. Contractor shall not assign this Contract, or any part of this Contract, without prior written consent of City.

4. All notices, communications, and reports required or permitted under this Contract shall be personally delivered or mailed to the respective parties by depositing same in the United States mail, postage prepaid, at the addresses shown below, unless and until

either party is otherwise notified in writing by the other party, at the following addresses. Mailed notices shall be deemed communicated as of five days after mailing.

If intended for City, to:

Christopher A. Williams
Manager, Construction & Contracting
City of Buckeye
530 E. Monroe Ave.
Buckeye, Arizona 85326
Phone: 623.349.6225

If intended for Contractor, to:

Mark Eklund, Vice President
Haydon Building Corp.
4640 E. Cotton Gin Loop
Phoenix, Arizona 85040
Phone: 602.296.1496
Email: meklund@haydonbc.com

5. No information relative to the existence or the details of the Design Services or the Construction Work shall be released by Contractor, either before or after completion of the Project, for publication, advertising or any commercial purposes without City's prior written consent.

6. In the event that any portion or any portions of this Contract are held to be unenforceable by a court of competent jurisdiction, then the remainder of this Contract shall be enforced as though such portions had not been included, unless to do so would cause this Contract to fail of its essential purposes.

7. This Contract, with all Exhibits and incorporated or referenced attachments, and any Job Order, together with Contractor's and Surety's performance and payment bonds for the Project, constitute the entire and exclusive agreement between City and Contractor with reference to the Project. This Contract supersedes any and all prior documents, discussions, communications, representations, understandings, negotiations or agreements by and between the parties.

8. If the City Council does not appropriate funds to continue this Contract or any Job Order into a subsequent fiscal year, and pay for charges hereunder or under any current Job Order for a Project that extends into a new fiscal year, the City may terminate this Contract at the end of the current fiscal period, or at the time that funds are no longer available to meet the City's payment obligations hereunder. The City agrees to give written notice of termination to the Contractor at least thirty (30) days prior to any termination for a lack of funds and will pay to the Contractor all approved charges incurred prior to Contractor's receipt of such notice, subject to the availability of funds therefore.

9. Cooperative Purchasing- Specific eligible political subdivisions and nonprofit educational or health institutions ("Eligible Procurement Unit(s)") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All cooperative procurements under this Agreement shall be transacted solely between the requesting Eligible Procurement Unit and Consultant. Payment for such purchases will be the sole responsibility of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by the Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

ARTICLE 24
E-VERIFY

1. E-Verify Requirements. To the extent applicable under Ariz. Rev. Stat. §41-4401, the Vendor and its subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under Ariz. Rev. Stat. §23-214(A). The Vendor's or its subconsultant's failure to comply with such warranty shall be deemed a material breach of this Agreement and may result in the termination of this Agreement by the City.

2. The Contractor and its subcontractors warrant to keep the papers and records open for random inspection during normal business hours by the City. The Contractor and its subcontractors shall cooperate with City's random inspections including granting the City's entry rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

ARTICLE 25
ISRAEL

1. Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, And agrees for the duration of the Contract to not engage in, a boycott of Israel, or any entity that does business in Israel or any territories controlled by Israel.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names this May 19, 2020.

CITY:
THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

By: _____
Jackie A. Meck, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

_____
Christopher A. Williams, Manager
Construction & Contracting

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
HAYDON BUILDING CORP.

_____
Mark Eklund, Vice President

EXHIBIT A
TO
JOB ORDER CONTRACT FOR
ROAD CONSTRUCTION SERVICES
BETWEEN
CITY OF BUCKEYE
AND
HAYDON BUILDING CORP.

[CONTRACTORS PROPOSAL]
SEE FOLLOWING PAGES

BUCKEYE, AZ

STATEMENT OF QUALIFICATIONS

JOB ORDER CONTRACTING FOR ROAD CONSTRUCTION

RFQ No. 2020003

Due Date: April 2, 2020 at 2:00 PM

HAYDON

HAYDON BUILDING CORP | 4640 East Cotton Gin Loop | Phoenix, Arizona 85040
602.296.1496 tel | 602.297.6972 fax | www.haydonbc.com

COVER LETTER

April 2, 2020

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano

Re: Statement of Qualifications, RFQ 2020003
Job Order Contracting - Road Construction

Dear Ms. Fasano and Members of the Selection Committee:

On behalf of Haydon Building Corp, I would like to thank you for the opportunity to submit our Statement of Qualifications for your Job Order Contracting for Road Construction. We are enthusiastic about continuing our relationship with the City of Buckeye, and would be pleased to be a part of this project team. In our proposal, we have highlighted a variety of similar project experience to showcase our ability to deliver a timely, successful, and budget-conscious project for the City of Buckeye.

Firm and Team Experience: The Haydon project team is comprised of experienced professionals who have a stellar track record of delivering high-quality projects ahead of schedule and below budget. Our team members have worked together on past projects that contain all of the critical components outlined in your JOC scope, including grading, paving, excavation, wet utilities, drainage, curb and gutter, sidewalk, street lights, traffic signals, pre-construction services, permitting, and all other components required to complete a turn-key roadway project. Our project experience will make Haydon an outstanding partner for the City of Buckeye.

The Haydon Advantage: Haydon is a leader in APDM (Alternative Procurement Delivery Method) projects (including JOC, CMAR, and Design/Build), having completed over 220 CMAR and Design-Build projects and 49 JOC Projects over the past 15 years. Currently, Haydon is contracted to perform JOC services with the City of Buckeye, the City of Phoenix, the City of Avondale, the City of Mesa, SRP, Arizona State University, Pinal County, NAU, and Town of Gilbert. Haydon understands that JOC is conceived to be the fastest and most flexible construction delivery method available. We have structured our team with speed, quality, flexibility, and customer satisfaction as the governing tenets. We are accustomed to working on more than one job order for a client at the same time and currently have several ongoing JOC projects that are on schedule and under budget.

1 / 2 / 4: Financial Capacity / Bonding Capacity / Insurance Provider Rating: Haydon has a bonding capacity for single projects of $150,000,000, with an aggregate program of $550,000,000. A letter from Travelers Casualty and Surety Company of America, who holds an *A++ A.M. Best* rating, is included immediately following Amendment 3.

3. Current Backlog / Project List: Please see our current backlog and project list immediately following Haydon's bonding letter.

We appreciate your time and consideration. For further information about this submittal, please do not hesitate to contact me at (602) 296-1496 or meklund@haydonbc.com. **We acknowledge receipt of all addenda and modifications.**

Sincerely,

HAYDON BUILDING CORP

Mark Eklund, Vice President (Authorized to Bind)

HAYDON BUILDING CORP
4640 E. Cotton Gin Loop
Phoenix, Arizona 85040

Tel 602.296.1496
Fax 602.296.1495
LIC# A ROC108937, B-01 ROC108085

SOLICITATION AMENDMENT
RFQ #2020003
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

AMENDMENT #1

NOTE: Attach to Original RFQ. However, if Statement of Qualifications (SOQ) has already been returned, complete this amendment and return for attachment to your SOQ by **2:00 pm, March 26, 2020**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano
623-349-6174

SOLICITATION: RFQ #2020003: JOB ORDER CONTRACT FOR ROAD CONSTRUCTION
Bid Due Date and Time: **March 26, 2020 no later than 2:00 pm**
Last Day for Questions: **March 16, 2020 no later than 5:00 pm**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Request for Qualifications documents prepared by the City of Buckeye.

THE FOLLOWING CHANGE IS BEING MADE TO THE SOLICITATION:

1. In order to take precautions to keep our staff and your staff health, the City will be changing the Submittal Requirements found on page 3 of this solicitation as follows:

   SECTION 4 – SUBMITTAL REQUIREMENTS

   Firms interested in this JOC should submit their Statement of Qualifications, **by 2:00 pm, local time, March 26, 2020 electronically by email**. The Subject of your email should state "SOQ RFQ #2020004" and should have a complete copy of your Qualifications in a searchable "PDF" file format. No hard copy will be required.

   Submittals not received in the email box of dfasano@buckeyeaz.gov by the specified time will be disqualified. Feel free to contact Debby Fasano at 623-349-6174 to ensure your email has been received.

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Page 4 of the RFQ, top of the page, "Submittal Cover Letter (one (1) page cover letter. Three (3) pages financial information)

Under the COVER LETTER Heading it lists:

1. Financial Capacity/Bonding/Insurance
2. Total Bonding Capacity – Single Limit and Aggregate Limit
3. Current Backlog / Project List
4. Insurance Provider Rating (e.g. A. M. Best, Moody's S&P, etc.)

(Items 1-3 must be documented/verified from your surety or insurance carrier)

We have gathered items 1 – 4 with the proper cover from our surety and insurance carrier the total page count for this information is eight (8) pages. If we are limited to Three (3) pages you will not get everything you have requested, can this page count be increased? If not, can this information be included in an appendix and a one (1) page summary be provided following the Cover Letter.

A1. The City will allow up to six pages for the Cover Letter and Items 1-4 listed on page 4 of the Request for Qualifications.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020003 – JOC Road Construction
AMENDMENT NUMBER 1
AMENDMENT ISSUE DATE: March 19, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Haydon Building Corp

Authorized Signature: 

Print Name and Title: Mark Eklund, Vice President

Date: March 19, 2020

Address: 4640 E. Cotton Gin Loop

City, State, Zip Code: Phoenix, AZ 85040

Telephone Number: (602) 296-1496

Email Address: meklund@haydonbc.com

SOLICITATION AMENDMENT
RFQ #2020003
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

AMENDMENT #2

NOTE: Attach to Original RFQ. However, if Statement of Qualifications (SOQ) has already been returned, complete this amendment and return for attachment to your SOQ by **2:00 pm, April 2, 2020.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano
623-349-6174

SOLICITATION: RFQ #2020003: JOB ORDER CONTRACT FOR ROAD CONSTRUCTION
Bid Due Date and Time: **March 26, 2020 no later than 2:00 pm**
Last Day for Questions: **March 16, 2020 no later than 5:00 pm**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Request for Qualifications documents prepared by the City of Buckeye.

THE FOLLOWING CHANGE IS BEING MADE TO THE SOLICITATION:

SECTION 4 – SUBMITTAL REQUIREMENTS

Firms interested in this JOC should submit their Statement of Qualifications, **by 2:00 pm, local time, April 2, 2020 electronically by email**. The Subject of your email should state "SOQ RFQ #2020003" and should have a complete copy of your Qualifications in a searchable "PDF" file format. No hard copy will be required.

Submittals not received in the email box of dfasano@buckeyeaz.gov by the specified time will be disqualified. Feel free to contact Debby Fasano at 623-349-6174 to ensure your email has been received.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020003 – JOC Road Construction
AMENDMENT NUMBER 2
AMENDMENT ISSUE DATE: March 25, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Haydon Building Corp

Authorized Signature: 

Print Name and Title: Mark Eklund, Vice President

Date: March 25, 2020

Address: 4640 E. Cotton Gin Loop

City, State, Zip Code: Phoenix, AZ 85040

Telephone Number: (602) 296-1496

Email Address: meklund@haydonbc.com

SOLICITATION AMENDMENT
RFQ #2020003
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

AMENDMENT #3

NOTE: Attach to Original RFQ. However, if Statement of Qualifications (SOQ) has already been returned, complete this amendment and return for attachment to your SOQ by **2:00 pm, April 2, 2020.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Debby Fasano
623-349-6174

SOLICITATION: RFQ #2020003: JOB ORDER CONTRACT FOR ROAD CONSTRUCTION
Bid Due Date and Time: **April 2, 2020 no later than 2:00 pm, electronically by email**
Last Day for Questions: **March 16, 2020 no later than 5:00 pm**

NOTICE TO CONTRACTORS:
This Amendment forms a part of the Contract and clarifies, corrects, or modifies the original Request for Qualifications documents prepared by the City of Buckeye.

THE FOLLOWING QUESTION WAS SUBMITTED:

Q1: With the social distancing going on, we are having trouble getting responses on the Past Performance Questionnaire that we sent out for the SOQ due on Thursday (April 2, 2020) & were wondering if we can use one's that we have received previously for Buckeye SOQ's

A1: You are more than welcome to submit what you chose, but you will still be evaluated on the criteria in the current solicitation.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Amendment by returning the attached Solicitation Amendment Acknowledgement Page with the Bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ #2020003 – JOC Road Construction
AMENDMENT NUMBER 3
AMENDMENT ISSUE DATE: March 31, 2020

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Haydon Building Corp

Authorized Signature: 

Print Name and Title: Mark Eklund, Vice President

Date: March 31, 2020

Address: 4640 E. Cotton Gin Loop

City, State, Zip Code: Phoenix, AZ 85040

Telephone Number: (602) 296-1496

Email Address: meklund@haydonbc.com

cbi bonding, inc.

535 E. McKellips Rd
Suite 129
Mesa, AZ 85203-2566

Phone: 480-968-0100
Fax: 480-968-4043

www.cibibonding.com

March 18, 2020

City of Buckeye
Construction & Contracting Division
530 East Monroe Avenue
Buckeye, AZ 85326
Attn: Debby Fasano, Contracting Officer

Re: Haydon Building Corp
Request for Qualification; RFQ: 2020003
Job Order Contracting for Road Construction

Dear Ms. Fasano:

It is my understanding that **Haydon Building Corp** is interested in submitting a proposal to you in connection with the captioned. Please be advised that we have done business with **Haydon Building Corp** since 1990, and during that time we have found them to be both an excellent contractor as well as a firm exhibiting a high degree of integrity in all of their dealings. As their bonding representative, we have executed numerous substantial bid, performance and payment bonds. **Haydon Building Corp** enjoys an excellent relationship with Travelers Casualty and Surety Company of America, who hold an A++ *A. M. Best* rating, with their home office located at One Tower Square, Hartford, CT 06183.

We currently have a bond line in place for single projects of $150,000,000 with an aggregate program of $550,000,000. Should you require that **Haydon Building Corp** furnish performance and payment bonds, please be advised that we know of no reason we would not be in a position to provide bonds for the project when requested to do so. As required, execution of bonds is subject to a review of the contract terms, acceptable financing, and any underwriting requirements at the time of the request. We assume no liability to third parties or to you if for any reason we do not execute said bonds.

Haydon Building Corp is a valued client of *CBI Bonding, Inc*. Should you have any questions or require further information, please do not hesitate to contact me.

Regards,

Gregory P. Griffith, Senior Vice President
CBI BONDING, INC.

GPG:sb

Lovitt & Touché
A Marsh & McLennan Agency LLC Company

March 18, 2020

Attn: Debby Fasano
City of Buckeye
530 East Monroe Avenue
Buckeye, AZ 85326

RE: Request for Qualifications RFQ 2020003
Job Order Contracting for Road Construction

RE: Haydon Building Corp
4640 East Cotton Gin Loop Road
Phoenix, AZ 85040

Dear Ms. Fasano:

As the Commercial Insurance Agent for Haydon Building Corp, I can confirm the ratings of their insurance carriers, as follows:

Line of Coverage	Insurance Carrier	A.M. Best Rating
General Liability, Commercial Automobile, Work Comp	Zurich American Insurance	A + XV
Excess Liability	XL Specialty	A + XV

Should you have any questions, please call.

Sincerely,

Jackie Wanta
Construction Account Manager
Lovitt-Touche, Inc.
Direct Line: 602-778-7038
Email: jwanta@lovitt-touche.com

CURRENT BACKLOG / PROJECT LIST

Please see the chart below for Haydon's Heavy Civil division current backlog / project list.

Westpark Parcel 14 Off-Site Water Line Improvements CMAR – *Buckeye, AZ*
Construct off-site water system improvements for a residential subdivision known as Parcel 14 in the Westpark master planned community.

North Miller Rd Trunk Sewer Extention CMAR – *Buckeye, AZ*
New trunk sewer from the Roosevelt Irrigation District Canal to an area just south of the I-10, and approximately 200 feet on Durango Street, east of Miller Road.

Orangewood Avenue Water Main Replacement – *Litchfield Park, AZ*
Installation of 2100 LF of 24" water main, 2-30" butterfly valves, 2-24" butterfly valves and pavement restoration.

Colcord Road Bridge, Gordon Canyon Creek – *Gila County, AZ*
New single span bridge using Accelerated Bridge Construction (ABC) with Pedestrian Bridge Elements (PBE).

Rittenhouse Rd At Queen Creek Wash Bridge Replacement and Via De Palmas & 224th St Improvements – *Queen Creek, AZ*
Two lane bridge that will be removed and replaced with an expanded 11 barrel cast-in-place box culvert.

Water Tank to Gilbert Rd Waterline – *Gilbert AZ*
Replace aging water infrastructure including 8" and 12" ACP lines through the intersection at Ellliot & Gilbert Rd with ductile iron.

64th Street Traffic Light – *Phoenix AZ*
Add traffic signal at 64th St & Mayo Blvd.

Historic Avondale PH 1 Improvements – *Avondale, AZ*
Street and Infrastructure Improvements

1ST Avenue Right Of Way Improvements Phase – *Mesa AZ CMAR GMP 1*
Complete roadway reconstruction.

Val Vista Dr Improvements CMAR – *Gilbert AZ*
Constructing 3 miles of new roadway including grading, paving, wet utilities, traffic signals, street lights, and landscaping.

163rd Avenue & Jomax Rd Improvements CMAR – *Surprise, AZ*
Roadway reconstruction, widening, dedicated left-turn lanes, and increased storage length for the existing dedicated right-turn lane on the west leg of Jomax Road.

Mesa Drive Improvements Ph II, 8th Avenue to Main St Construction – *Mesa, AZ*
Reconstruct existing traffic through lanes, install raised landscaped medians, and the proposed Light Rail improvements, approximately 100' south of Main Street.

Cavasson Phase 1 Infrastructure – *Scottsdale, AZ*
Hayden Roadway Improvements and site infrastructure for Nationwide Realty's new $1 Billion, 120 Acre, business development.

Town of Gilbert Gilbert Regional Park Phase 1B CMAR – *Gilbert, AZ*
Comprised of 24 acres and will include a seven-acre lake, amphitheater, 10-acre event lawn, food truck area, corporate ramada, 16 pickleball courts, six tennis courts, two basketball courts, six sand volleyball courts, and two additional restrooms.

Crossroads East Drainage Improvements – *Scottsdale, AZ*
Complete major drainage infrastructure improvements and roadway widening near Loop 101 and Hayden Road.

Glendale Pavement Improvements CMAR – *Glendale AZ*
Approximately 3.1 miles of pavement improvements including five-lane concrete road and raised median islands.

Apache Rd Water Treatment Facility JV Kiewitt Design Build – *Buckeye, AZ*
8 MGD Water Treatment Facility

Downtown Sewer Outfall Relocation CMAR – *Kingman, AZ*
2,700 LF of gravity sewer, 8,000 LF of sewer force main and two sewer lift stations.

Waterline Replacement Improvements GMP 1 – *Tempe, AZ*
Approximately seven miles of 6", 8" and 12" waterline replacements.

Lindsay TI Utility Relocates – *Lindsay Rd and SR 202, Gilbert AZ*
Modification/relocation of the existing utilities that will be affected by construction of ADOT's future Lindsay Road and Loop 202 Traffic Interchange Project.





WATSON RD & LOWER BUCKEYE JOC

Project Description: *Buckeye,AZ.* Widening of existing road to add one southbound right turn only lane on Watson Rd at Lower Buckeye. Removing Curb, Gutter, Landscape Area widen road and add southbound right turn only lane.

Project Owner: City of Buckeye

Firm Role: Job Order Contractor (Prime)

Construction Cost: $75,617 (Completed on Budget)

Construction Dates: 5/15/19 – 7/15/19





CITY OF MESA SKYVIEW DRAINAGE JOC

Project Description: *Mesa, AZ.* Project scope included installation of 1600 LF of storm drain pipe and catch basins through caliche, running through an existing retention basin that we expanded from 500 CY to 7000 CY.

Project Owner: City of Mesa

Firm Role: Job Order Contractor (Prime)

Construction Cost: $944,069

Construction Dates: 02/2018 - 06/2018





REACH 11 DOG PARK JOC

Project Description: Phoenix, AZ. This new three-pen dog park includes accessible parking with auto-gate access and new access routes through the Reach 11 Sports Complex. Scope also included offsite utility extensions, a drinking fountain, landscaping, ramada shade structures, and preparation for a future restroom building.

Project Owner: City of Phoenix

Firm Role / % Self-Performed: Job Order Contractor (Prime)

Construction Cost: $1.9M (Completed on Budget)

Construction Dates: 12/2017 - 10/2018





ASU DOWNTOWN BANK OF AMERICA TEMP ATM JOC

Project Description: *Phoenix, AZ.* New construction. Project included heavy coordination with adjacent construction and was fast tracked to meet important milestones for ASU and Bank of America.

Project Owner: Arizona State University (ASU)

Firm Role: Job Order Contractor (Prime)

Construction Cost: $248,366 (Completed on Budget)

Construction Dates: 11/2019 - 12/2019 (Completed on Schedule)





GILBERT ROAD IMPROVEMENTS, BASELINE TO GUADALUPE CMAR

Project Description: *Gilbert, AZ.* This 1-mile project includes major re-construction of deteriorated asphalt pavement, updates to the pedestrian ramps and driveways for ADA compliance, addition of bike lanes and medians, and 4,700 lf of 16"DIP waterline. This roadway is the gateway from the US-60 Freeway to Gilbert's downtown Heritage District. As a result, a unique component of this project was the requirement to maintain five (5) lanes of traffic at all times while improving the overall seven (7) lane roadway configuration. We successfully achieved this approach by utilizing innovative phasing and temporary striping throughout the project.

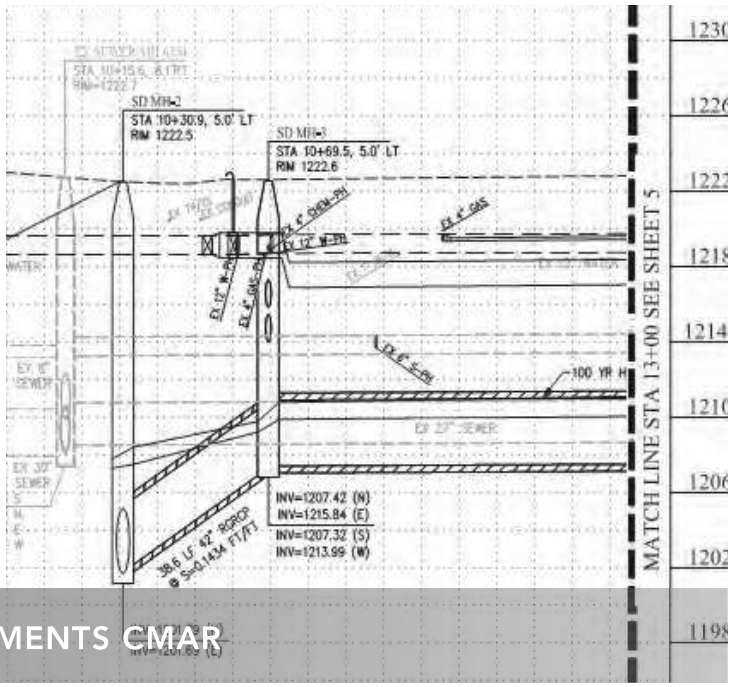
Project Owner: Town of Gilbert

Firm Role: CMAR

Construction Cost: $6.5M

Construction Dates: 12/2018 - 09/2019 (Completed on Schedule)





HORNE UTILITY AND DRAINAGE IMPROVEMENTS CMAR

Project Description: *Mesa, AZ.* This project involves the modification and relocation of aging water and gas infrastructure, a new sewer chemical feed line, gravity sewer, major storm drain improvements (42" storm drain pipe over 20' depth), overhead to underground 12kv conversion, and all associated roadway work. As a narrow right-of-way corridor with congested utilities, significant coordination efforts and phasing were an important part of this project. In order to accomplish the full scope of work proposed in an organized, efficient and constructible manner, a project phasing plan was a critical element of our scope of work. Project phasing considered adjacent property owner access, continuity of utility services, and pedestrian accessibility, etc.

Project Owner: City of Mesa

Firm Role: CMAR

Construction Cost:
$6.3M / $6.3M (Completed on Budget)

Construction Dates: 12/2018 - 10/2019
(Completed on Schedule)





163RD & JOMAX ROAD IMPROVEMENTS CMAR

Project Description: *Surprise, AZ.* This project was previously a stop-controlled rural road with one lane in each direction, which was then designed to increase capacity in an interim condition. The scope of work includes roadway reconstruction, widening along each leg of the intersection to provide two through-lanes in each direction, dedicated left-turn lanes for all 4 approaches, and increased storage length for the existing dedicated right-turn lane on the west leg of Jomax Road. The intersection will also be signalized with a mix of ultimate and interim traffic signal equipment. In these locations, drainage inlets and temporary retention basins will be provided. The scope of work also included adjustment of private and public utilities and street light relocations.

Project Owner: City of Surprise

Firm Role: CMAR

Construction Cost:
$2.18M (Completed Under Budget)

Construction Dates: 10/2019 - 01/2020
(Completed on Schedule)

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 12-0819-01
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Watson Rd & Lower Buckeye JOC
Contract Location: Buckeye, AZ

Award Date (mm/dd/yy): 05/15/2019
Contract Completion Date: 07/2019
Actual Completion Date : 07/2019
Explain Differences:

Original Contract Price (Award Amount): $75,617.78
Final Contract Price *(to include all modifications, if applicable)* : $75,617.78
Explain Differences:

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Widening of existing road to add one southbound right turn only lane on Watson Rd at Lower Buckeye. Removing Curb, Gutter, Landscape Area widen road and add southbound right turn only lane.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Chris Williams
Phone Number: (623) 249-8750
Title: Manager, Contracting and Purchasing
Email Address: cwilliams@buckeyeaz.gov

6. Describe the client's role in the project:

Contracts / Project Manager

Client Signature: Christopher Williams **Date:** 03/26/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

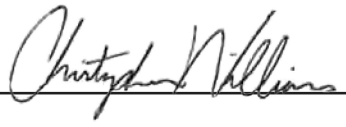
PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	VG	S	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	VG	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E	VG	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	Yes				No	
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes				No	
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes				No	
6. SAFETY/SECURITY						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E	VG	S	M	U	N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E	VG	S	M	U	N
7. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E	VG	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E	VG	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*	Yes				No	
d) In summary, provide an overall raiting for the work performed by this contractor.	E	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature:  **Date:** 03/26/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 16000388R2 JOC-L15
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Mesa Skyview Drainage JOC
Contract Location: Mesa, AZ

Award Date (mm/dd/yy): 04/23/2018
Contract Completion Date: 06/2018
Actual Completion Date : 06/2018
Explain Differences:

Original Contract Price (Award Amount): $899,130
Final Contract Price *(to include all modifications, if applicable)* : $944,069
Explain Differences: Owner added scope

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Project scope included installation of 1600 LF of storm drain pipe and catch basins through caliche, running through an existing retention basin that we expanded from 500 CY to 7000 CY.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: TJ Welsh
Phone Number: (480) 644-3972
Title: Project Manager
Email Address: TJ.Welsh@mesaaz.gov

6. Describe the client's role in the project: The City of Mesa set the scope of work and budget for this project. The City managed the design and construction of the storm drain and basin improvements.

Client Signature: TJ Welsh **Date:** 03/26/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	(S)	M	U	N
b) Ability to meet quality standards specified for technical performance	E	(VG)	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	(VG)	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	(VG)	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	(VG)	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	(VG)	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	E	(VG)	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	(VG)	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	(VG)	S	M	U	N
c) Government Property Control	E	VG	(S)	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	(VG)	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	(N)
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	(S)	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	(VG)	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	(S)	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	VG	(S)	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	(VG)	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E)	VG	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*		(Yes)			No	
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*		Yes			(No)	
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*		Yes			(No)	
6. SAFETY/SECURITY						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E)	VG	S	M	U	N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E	VG	S	M	U	(N)
7. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E	VG	S	M	U	(N)
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E	(VG)	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*		(Yes)			No	
d) In summary, provide an overall raiting for the work performed by this contractor.	E	(VG)	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature:  **Date:** 03/26/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 4108JOC148
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Reach 11 Dog Park JOC
Contract Location: Phoenix, AZ

Award Date (mm/dd/yy): 01/30/18
Contract Completion Date: 10/2018
Actual Completion Date : 10/2018
Explain Differences:

Original Contract Price (Award Amount): $1.8M
Final Contract Price *(to include all modifications, if applicable)* : $1.9M
Explain Differences: Owner Directed Changes

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* New three-pen dog park that includes accessible parking with auto-gate access and new access routes through the Reach 11 Sports Complex. Scope included offsite utility extensions, a drinking fountain, landscaping, ramada shade structures, and preparation for a future restroom building.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Renee Gillespie
Phone Number: (602) 261-8691
Title: Project Manager
Email Address: renee.gillespie@phoenix.gov

6. Describe the client's role in the project:

Project Manager

Client Signature: Renee Gillespie **Date:** 3/23/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	(VG)	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	(VG)	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E)	VG	S	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E)	VG	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E	VG	S	M	U	(N)
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes)				No	
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes				(No)	
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes				(No)	
6. SAFETY/SECURITY						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E)	VG	S	M	U	N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E)	VG	S	M	U	N
7. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E)	VG	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E)	VG	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes)				No	
d) In summary, provide an overall raiting for the work performed by this contractor.	(E)	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: Reed Gillespie **Date:** 3/23/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp Email : fbehrhorst@haydonbc.com

Address: 4640 East Cotton Gin Loop, Phoenix , AZ 85040 Contact Name: Fritz Behrhorst

Phone Number: (602) 296-1496 Contact Phone: (602) 809-5932

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 2015-16000

Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):

Contract Title: Downtown Bank of America Temp ATM Contract Location: Phoenix, AZ

Award Date (mm/dd/yy): 11/2019

Contract Completion Date: 12/2019 Actual Completion Date : 12/2019

Explain Differences:

Original Contract Price (Award Amount): $248,366

Final Contract Price *(to include all modifications, if applicable)* : $248,366

Explain Differences:

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* New construction of a temporary drive-through ATM for Bank of America to use during construction of Downtown Phoenix Residence Hall and Entrepreneurial Center.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Chris Thrash Phone Number: (480) 727-0536

Title: Project Manager Email Address: Christopher.Thrash@asu.edu

6. Describe the client's role in the project:

Define scope and schedule. Hire DP's (civil & electrical). Coordinate w/ Bank of America and reps (JLL, Lechner Const.) for user requirements.

Client Signature: [signature] **Date:** 26 March 2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	(VG)	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	(N)
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: _____ **Date:** 26 March 2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 2018-2106-0096
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Gilbert Road Improvements, Baseline to Guadalupe CMAR
Contract Location: Gilbert, AZ
Award Date (mm/dd/yy): 11/08/2017
Contract Completion Date: 09/2019
Actual Completion Date : 09/2019
Explain Differences:

Original Contract Price (Award Amount): $6.5M
Final Contract Price *(to include all modifications, if applicable)* :$6.5M
Explain Differences:

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* This 1-mile project includes major re-construction of deteriorated asphalt pavement, updates to the pedestrian ramps and driveways for ADA compliance, addition of bike lanes and medians, and 4,700 lf of 16"DIP waterline.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Ryan Blair
Phone Number: (480) 503-6906
Title: Project Supervisor
Email Address: Ryan.Blair@gilbertaz.gov

6. Describe the client's role in the project:

Project Manager over the project

Client Signature: Ryan Blair Digitally signed by Ryan Blair DN: C=US, E=ryan.blair@gilbertaz.gov, O=Town of Gilbert, OU=Engineering, CN=Ryan Blair Date: 2020.03.24 12:58:41-07'00'
Date: 03/26/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	(VG)	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	(VG)	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	(VG)	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	(VG)	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	(VG)	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	(S)	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	(VG)	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	(VG)	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	(VG)	S	M	U	N
d) Overall customer satisfaction	E	(VG)	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	(VG)	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	(S)	M	U	N
c) Government Property Control	E	(VG)	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	(VG)	S	M	U	N
e) Utilization of Small Business	E	(VG)	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	(VG)	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	(VG)	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	(VG)	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E (VG) S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E (VG) S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E (VG) S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E (VG) S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E (VG) S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E (VG) S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: Ryan Blair Digitally signed by Ryan Blair DN: C=US, E=ryan.blair@gilbertaz.gov, O=Town of Gilbert, OU=Engineering, CN=Ryan Blair Date: 2020.03.24 12:58:20-07'00' **Date:** 03/26/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: CP0366 and CP0557
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Horne Utility and Drainage Improvements CMAR
Contract Location: Mesa, AZ
Award Date (mm/dd/yy): 12/04/2018
Contract Completion Date: 10/2019
Actual Completion Date : 10/2019
Explain Differences:

Original Contract Price (Award Amount): $6.3M
Final Contract Price *(to include all modifications, if applicable)* : $6.3M
Explain Differences:

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* This project invovles the modification and relocation of aging water and gas infrastructure, a new sewer chemical feed line, gravity sewer, major storm drain improvemenst (42" storm drain pipe over 20' depth), overhead to underground 12kv conversion, and all associated roadway work.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Ryan Nichols
Phone Number: (480) 644-2650
Title: Supervising Engineer
Email Address: ryan.nichols@mesaaz.gov

6. Describe the client's role in the project:

Project Manager for design and construction.

Client Signature: Ryan Nichols
Date: 03/26/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	(VG)	S	M	U	N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	(VG)	S	M	U	N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E	(VG)	S	M	U	N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*		(Yes)			No	
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*		Yes			(No)	
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*		Yes			(No)	
6. SAFETY/SECURITY						
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E	(VG)	S	M	U	N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E	VG	S	M	U	(N)
7. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E	(VG)	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E	(VG)	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*		(Yes)			No	
d) In summary, provide an overall raiting for the work performed by this contractor.	E	(VG)	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Contractor Superintendent was excellent and was able to easily adjust to third party (private utility) schedule delays, identify potential construction issues, and propose alternative solutions. All contractor staff were asy to work with. Some of the crews assigned near the beginning were less experienced and that required a little extra effort on the part of the Superintendent and City inspection staff, but it was managed well. Overall, this is a great contractor that I would love to work with again.

Client Signature: **Date:** 03/26/2020

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Haydon Building Corp
Email : meklund@haydonbc.com
Address: 4640 E. Cotton Gin Loop, Phoenix, AZ
Contact Name: Mark Eklund, Vice President
Phone Number: (602) 296-1496
Contact Phone: (602) 695-9931

2. Work Performed as: [X] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: 319000258C
Contract Type: [X] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: 163rd & Jomax Road Improvements CMAR
Contract Location: Suprise, AZ

Award Date (mm/dd/yy): 07/16/2019
Contract Completion Date: 01/2020
Actual Completion Date : 01/2020
Explain Differences:

Original Contract Price (Award Amount): $2.2M
Final Contract Price *(to include all modifications, if applicable)* : $2.18M
Explain Differences: Completed under Budget.

4. Project Description:

Complexity of Work: [X] High [ ] Med [ ] Routine

How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* The scope of work includes roadway reconstruction, widening along each leg of the intersection to provide two through-lanes in each direction, dedicated left-turn lanes for all 4 approaches, and increased storage length for the existing dedicated right-turn lane on the west leg of Jomax Road.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Michael Boule
Phone Number: (602) 222-7040
Title: Public Works Assistant Director
Email Address: michael.boule@surpriseaz.gov

6. Describe the client's role in the project:

Project Manager - direct oversight

Client Signature: [signature] **Date:** 03/26/2020

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
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(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	Yes No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes No
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	Yes No
d) In summary, provide an overall raiting for the work performed by this contractor.	E VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature:  **Date:** 03/26/2020

a. JOE MCGHEE
JOC Director / Account Manager

b. **PROJECT ASSIGNMENT**
JOC Account Manager

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
3 Years at Haydon /
17 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
Job Order Contracting Professional through Alliance for Construction Excellence at Arizona State University

Construction Quality Management (CQM)

Leadership Development Forum through Arizona Builders Alliance

CPR/First Aid

OSHA 30-Hour

Arizona DPS
Level 1 Clearance

LEED AP

Please see the project list to the right.

g. **EDUCATION**
BS, Construction Management
Arizona State University, 2003

SELECT PROJECT EXPERIENCE:

SRP Storage Yard JOC - *Glendale, AZ*
Haydon Building Corp proposed to provide all labor, materials, and equipment to construct a Aqua Fria Steam Plant Equipment Storage Yard Locations A&B. Project included concrete equipment pads, masonry walls, steel gates, aggregate base course, electrical and security. Built in an active power plant. $2.1M

ASU Student Services Building Renovations JOC - *Tempe, AZ*
17,460 SF first and second floor renovation of the existing financial aid office, admissions, study abroad, including installation of new ceiling, walls, doors, flooring, paint, updated power, and mechanical systems. $2.3M

Downtown Bank of America Temp ATM - *Phoenix, AZ*
New construction of a temporary drivethrough ATM for Bank of America to use during construction of Downtown Phoenix Residence Hall and Entrepreneurial Center. $248,366

Buckeye Water Resources Administrative Tenant Improvement JOC - *Buckeye, AZ*
7,304 SF tenant improvement of suites 106 and 107 for the Buckeye Water Resources Department included a storage mezzanine, offices, conference rooms, transaction counters, and break rooms. $1.0M

Buckeye Council Chamber Security Upgrades JOC - *Buckeye, AZ*
Construction of a bullet-resistant perimeter of Council Chambers and a conference room in an occupied facility, including new doors, window films, bullet resistant board, and wall assemblies. $163,833

Mesa Evergreen Park Softball Improvements JOC - *Buckeye, AZ*
Improvements include replacement of softball field backstop and dugouts, demolition and removal of the existing restroom building, and updates to the ADA parking stalls. $180,637

Mesa Escobedo Park Playground Improvements JOC - *Buckeye, AZ*
This project included the removal of playground structures to accommodate new structures, as well as rerouting underground electric and water, and conversion of existing parking stalls to be handicap accessible. $194,597

ASU Signage Standardization JOC - *Tempe, Mesa, Glendale, and Phoenix, AZ*
Scope included preparing various locations on all four ASU campuses to standardize all parking lot signage. Site preparations included landscape alterations, concrete footings, and signage installation. $1.0M

ASU Facilities Management Services Renovation JOC - *Tempe, AZ*
7,245 SF tenant improvement project expanding the existing Facilities Management Services (FMS) space and adding a breakroom, restrooms, private and open offices, and conference rooms. $453,000

a. STEVE SEIVERT
Project Manager

b. **PROJECT ASSIGNMENT**
Project Manager

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
28 Years at Haydon /
33 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
Please see the project list to the right.

g. **EDUCATION**
BS, Industrial Technology
Building Construction
University of Wisconsin, 1985

SELECT PROJECT EXPERIENCE:

Tempe Waterline Replacement Improvements CMAR - *Tempe, AZ*
Seven miles of 6", 8", and 12" waterline replacements throughout neighborhoods and three miles of 12", 14", and 24" waterline and transmission mains along four high volume arterial streets. Trenchless technology is being considered for the 12" water mains. $20.4M

Gilbert Heritage District Waterline Replacement CMAR - *Gilbert, AZ*
Installation of two 12" waterlines which parallel Gilbert Road through the Heritage District from Elliot Road north to Olive Avenue. $7.8M

Gilbert Road & Guadalupe Road Intersection Improvements CMAR - *Gilbert, AZ*
Includes 1 mile of roadway and intersection improvements, widening dual left turn lanes in all four directions, through and right turn lanes, drainage improvements, traffic signals, street lighting modifications, and relocate SRP irrigation. $6.4M

Cooper & Warner Intersection Improvements CMAR - *Gilbert, AZ*
Intersection improvements and widening with curb, sidewalk, pavement, sewer laterals, extensive waterline, landscape, traffic signals, street lights, 18" -54" SRP irrigation, irrigation cast-in-place junction structure, grading, and drainage. $4.1M

Continuum Infrastructure - *Chandler, AZ*
Project scope included new utilities, roads, a roundabout, lakes, and landscaping in support of future technology companies leasing space. Work for this 58-acre phase includes mass earthwork, lake excavation, new sewer, reclaimed water, domestic water, storm drain, street lights, and all dry utilities including SRP power, AT&T fiber, CenturyLink, and Southwest Gas lines. $9.1M

Price Road Improvements, Germann Road to Loop 202 CMAR - *Chandler, AZ*
1 mile of new roadway and utilities built to full arterial standards. Project includes road construction, concrete, asphalt, water, sewer, storm drain, street lighting, signing & striping. $7.9M

Germann Road Improvements Phase 1, Dobson Road to Alma School Road CMAR - *Chandler, AZ*
Improvements to the roadway to widen Germann Road with three traffic lanes for both eastbound and westbound traffic and construct raised landscaped medians, bike lanes, storm drainage, underground SRP irrigation facilities, street lights, traffic signal modifications, domestic water lines, and reclaimed waterlines. $4.5M

Germann Road Improvements Phase 2, Dobson to Arizona Avenue CMAR - *Chandler, AZ*
New and rehab/replacement of existing water/sewer/ stormdrain; 2,655 LF of 12" & 16" DIP waterline; 3,445 LF of 8" & 12" DIP reclaimed waterline; and 3,289 LF of 60" & 66" concrete pressure irrigation pipe. $8.5M

a. RICK ANDREATOS
Project Manager

b. **PROJECT ASSIGNMENT**
Project Manager

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
1 Year at Haydon /
17 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
CPR Certified

Rescue Training Certified

Please see the project list to the right.

g. **EDUCATION**
BS, Civil Engineering
University of Arizona, 2003

SELECT PROJECT EXPERIENCE:

Buckeye North Miller Road Trunk Sewer CMAR - *Buckeye, AZ*
New trunk sewer will run from a location just south of the Roosevelt Irrigation District Canal to an area just south of the I-10, outside of ADOT's right-of-way. In addition, approximately 200 feet on Durango Street, east of Miller Road. The trunk sewer will also be installed on Lower Buckeye Road, approximately one-half mile east of Miller Road. $9.0M

Buckeye FRS Buckeye Rehabilitation Project, Phase2A, CMAR (FCDMC) - *Buckeye, AZ*
Rehabilitation of existing Flood Retarding Structure to meet current requirements. Scope included excavation and replacement of centerline filter trench, dam embankment, rock mulch, geotextile fabric, borrow excavation. $23.6M*

I-10 - SR 87 to Town of Picacho (ADOT) - *Picacho, AZ*
Realign I-10 and reconstruct SR 87 TI, including the four ramps, westbound frontage road, two new bridges along SR 87 over Union Pacific Railroad and I-10, and removal of eight existing bridges. $57.0M*

I-15 Cajon Pass Rehabilitation Design-Build (Caltrans) - *San Bernardino, CA*
Repair existing PCCP by replacing two outer lanes in each direction, HMA shoulders and patched areas, grinding and random slab replacement of inside lanes with rigid pavement, while optimizing traffic flow during construction. $116.5M*

Agua Fria Freeway (SR 101L) Maryland Ave-Design Build (ADOT) - *Glendale, AZ*
Repair existing PCCP by replacing two outer lanes in each direction, HMA shoulders and patched areas, grinding and random slab replacement of inside lanes with rigid pavement, while optimizing traffic flow during construction. $23.0M*

Ellsworth Road Improvements, Hunt Highway - Cloud - *Queen Creek, AZ*
Excavation of several linear retention basins and reconstructed a two-lane highway into a six-lane divided highway. Also included reconstruction of an existing two-barrel box culvert into a five-barrel box culvert and adding 218' of length. $25.0M*

McQueen Road Improvements, Queen Creek Riggs - Cloud - *Chandler, AZ*
Excavation of several linear retention basins and reconstructed a two-lane highway into a six-lane divided highway. Also included reconstruction of an existing two-barrel box culvert into a five-barrel box culvert and adding 218' of length. $25.0M*

Price Freeway SR 101, Loop 202 Red Mountain - Loop 202 San Tan (ADOT) - *Chandler, AZ*
Construct new HOV lanes, relocate existing drainage facilities, ARACFC paving, and PCCP paving $50.0M.*

*Performed prior to employment with Haydon Building Corp.

a. DAVID LAUGHLIN
Pre-Construction Director

b. **PROJECT ASSIGNMENT**
Pre-Construction Director

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
18 Years at Haydon /
18 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
Please see the project list to the right.

g. **EDUCATION**
MBA, Eller School of Business
University of Arizona, 2010

BS, Construction Management
Arizona State University, 2003

SELECT PROJECT EXPERIENCE:

Gilbert Road Improvements, Baseline to Guadalupe - *Gilbert, AZ*
1-mile project includes major reconstruction of deteriorated asphalt pavement, updates to the pedestrian ramps and driveways for ADA compliance, addition of bike lanes and medians, and 4700 LF of 16" DIP waterline. $6.5M

Horne Utility and Drainage Improvements CMAR - *Mesa, AZ*
Modification and relocation of aging water and gas infrastructure, a new sewer chemical feed line, major storm drain improvements (42" storm drain pipe over 20' depth), overhead to underground 12kv conversion, and all associated roadway work. $6.3M

Buckeye Industrial Park Force Main - *Buckeye, AZ*
180-acre mixed use site for retail, office and industrial usage included 13,000 LF of 8" force main sewer, 1,500' of 12" water line, 280' of jack and bore, 210' of jack and bore, 2000' of 30" RID irrigation pipe. $10.9M

1st Avenue Improvements, Hibbert to LeSueur Phase 1 CMAR - *Mesa, AZ*
1,700 LF of 8" and 10" PVC sewer. Depth averages are approximately 18' and include 8 manholes (two manhole tie-ins to existing sewer infrastructure). $5.1M

Power Road Improvements, Pecos Road to Santan Freeway CMAR - *Mesa, AZ*
3 miles of new roadway and re-construction, 4 bridges, box culverts, and major intersection construction. $30.3M

Airport Well #2 Water Treatment Facility JOC - *Buckeye, AZ*
Rehabilitating Airport Well # 2 including new pump and electrical components (control panel, electrical gear, lighting, instrumentation, commissioning), water distribution system, chemical feed building, 6,300 LF of 16" DIP waterline, and other applicable site improvements. $3.3M

Well #8 Equipping JOC - *Buckeye, AZ*
This project included total refurbishment of well site and installation of piping components, chemical treatment of the existing well, electrical, programming, and security upgrades, and repair of the existing generator. $844,000

Gilbert Heritage District Waterline Replacement CMAR - *Gilbert, AZ*
Installation of two 12" waterlines which parallel Gilbert Road through the Heritage District from Elliot Road north to Olive Avenue. $7.8M

Gila Bend Highway Sewer Interceptor CMAR - *Casa Grande, AZ*
Project included the construction of approximately 4,550 LF of 21" gravity sewer pipeline. It was installed within a proposed easement in the south side of the Gila Bend Highway from the existing 36" sewer in Burris Road East to Adams Avenue. $2.4M

Apache Road Water Treatment Plant D/B - *Buckeye, AZ*
Fast-tracked project that includes a service area master plan, 8 MGD water treatment facility, new wells, re-drilling existing wells, offsite piping, onsite piping, water storage tanks, booster pumps, hydro-pneumatic tanks, arsenic treatment, reverse osmosis treatment, wastewater treatment, chlorination facilities, and SCADA. $5.3M

a. DREW WILSON
Estimator

b. **PROJECT ASSIGNMENT**
JOC Estimator

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
1 Year at Haydon /
13 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
OSHA Authorized Construction Trainer

Construction Safety Certification

Trench Safety Certification

Competent Person and Confined Space Entry Certification

First Aid / CPR

Supervisory School

Survey School

Scheduling School

Formwork School

Certified of Attendance to the Weatherization Assistance Program (WAP) Boot Camp

Please see the project list to the right.

g. **EDUCATION**
BS, Construction Management
Northern Arizona State University, 2005

SELECT PROJECT EXPERIENCE:

Buckeye North Miller Road Trunk Sewer CMAR - *Buckeye, AZ*
New trunk sewer will run from a location just south of the Roosevelt Irrigation District Canal to an area just south of the I-10, outside of ADOT's right-of-way. In addition, approximately 200 feet on Durango Street, east of Miller Road. The trunk sewer will also be installed on Lower Buckeye Road, approximately one-half mile east of Miller Road. $9.0M

Mesa Drive Improvements Phase II CMAR - Mesa, AZ
Reconstruction of existing traffic through-lanes and installation of raised landscaped medians connecting to Mesa Drive south of 8th Avenue and the proposed Light Rail improvements. $14.0M

Gilbert Road Improvements, Baseline to Guadalupe - *Gilbert, AZ*
1-mile project includes major reconstruction of deteriorated asphalt pavement, updates to the pedestrian ramps and driveways for ADA compliance, addition of bike lanes and medians, and 4700 LF of 16" DIP waterline. $6.5M

Val Vista Drive Improvements CMAR - *Gilbert, AZ*
3 miles of roadway, multiple GMP phasing, mass earthwork balancing, stakeholder coordination, structures, underground utilities, grading and paving, and corridor beautification. $11.1M

Horne Utility and Drainage Improvements CMAR - *Mesa, AZ*
Modification and relocation of aging water and gas infrastructure, a new sewer chemical feed line, major storm drain improvements (42" storm drain pipe over 20' depth), overhead to underground 12kv conversion, and all associated roadway work. $6.3M

1st Avenue Improvements, Hibbert to LeSueur Phase 1 CMAR - *Mesa, AZ*
1,700 LF of 8" and 10" PVC sewer. Depth averages are approximately 18' and include 8 manholes (two manhole tie-ins to existing sewer infrastructure). $5.1M

Hayden Roadway Improvements / Cavasson Onsite Infrastructure - *Scottsdale, AZ*
Includes major drainage infrastructure (1 mile of concrete lined channel and 300,000 CY of basin earthmoving), widening of Hayden Roadway, and onsite interior infrastructure/streets for the 134 acre master development (Hayden and Loop 101) $15.0M

Gilbert Watertank Road JOC - *Gilbert, AZ*
Replace the existing ACP waterlines in Gilbert and Watertank Road in a fast-paced project ahead of the Gilbert Centennial. The existing lines are 8-in and 12-in and shall be replaced by a single 12" waterline. $3.0M

Scottsdale Drainage Infrastructure - *Scottsdale, AZ*
Drainage improvement to Basin 53R including 275,000 CY of earthwork haul-off, 1 mile of soil cement drainage channel and dual 60" storm drain piping system. This infrastructure project is critical to the surrounding scottsdale community and adjacent Cavasson development project. $8.0M

a. BRETT HAENDEL
Project Superintendent

b. **PROJECT ASSIGNMENT**
Project Superintendent

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
13 Years at Haydon /
17 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
OSHA 30-Hour

310 Dust Coordinator

Please see the project list to the right.

g. **EDUCATION**
N/A

SELECT PROJECT EXPERIENCE:

Gilbert & Guadalupe Intersection Improvements CMAR - *Gilbert, AZ*
Intersection improvements include widening dual left turn lanes in all four directions, through and right turn lanes, drainage improvements, traffic signals, street lighting modifications, and relocating SRP irrigation. $7.1M

75th Avenue Intersection Improvements CMAR - *Peoria, AZ*
Includes three miles of new roadway and widening of Power Road, a minimum of three lanes in each direction with raised medians and includes intersection improvements, a new bridge over the EMF/RWCD and widening of existing EMF/RWCD bridges and box culverts. The project also includes storm drain,curb, gutter, water line, sidewalk, catch basins, street lights, traffic signals, landscaping, and pavement markings. $28.6M

Southern Avenue Phase 1 CMAR - *Mesa, AZ*
Streetscapes, monument signage, water, sewer, storm drain, grading, paving, architecturally finished concrete, and stamped asphalt. $9.8M

Southern Avenue Phase 2 CMAR - *Mesa, AZ*
Visually iconic corridor, installation of custom bus shelters, custom median monuments, waterline installation, gasline installation, AC stamping, concrete paving, installation of custom street lighting, and storm drain improvements. $10.0M

ADOT Agua Fria Freeway (SR101L) SR101L, Beardsley Rd & Union Hills - *Phoenix, AZ*
The project includes the construction of a new frontage road on the west side of SR 101L, a U-turn bridge across SR 101L just north of the Union Hills Drive traffic interchange, on and off-ramps, and widening of the Union Hills Drive traffic interchange. $16.4M

Gila Bend Highway (SR-85) at Gila Bend, Phase I - *Gila Bend, AZ*
Realignment of Business 8 from MP 120.42 to 120.76, Realignment of Pima & Maricopa Rd, demolition of SR-85/B-8 interchange, construct Pima/B-8 intersection, removal of existing bridges & box culvert and asphalt, construct new asphalt, curb and gutter, box culvert, concrete drainage channel, pipe culverts, storm drain pipe, catch basins, retaining walls, one new bridge over UPRR, lighting, landscape improvement, pavement marking, signing. $13.5M

City of Mesa Power Road Improvements, Pecos Road to Santan Freeway CMAR - *Mesa, AZ*
3 miles of new roadway and re-construction, 4 bridges, box culverts, and major intersection construction. $30.3M

Bagdad Solar Facility (Recurrent Energy) - *Bagdad, AZ*
24 acres of clearing and site grading for photovoltaic solar array. $2.3M

Deer Valley Road Improvements CMAR - *Phoenix, AZ*
Construction of roadway improvements, including new drainage structures, six traffic lanes, raised medians, bike lanes, sidewalks, landscaping, streetlights, and traffic signals. $10.0M

a. DREW PERRYMAN
Project Superintendent

b. **PROJECT ASSIGNMENT**
Project Superintendent

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
7 Years at Haydon /
11 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
OSHA 30-Hour

Please see the project list to the right.

g. **EDUCATION**
N/A

SELECT PROJECT EXPERIENCE:

Deer Valley Roadway Improvements - *Phoenix, AZ*
1.5 mile roadway widening and improvements from Black Mountain to Cave Creek near Desert Ridge. Scope included construction of improvements, including new drainage structures, six traffic lanes, raised medians, bike lanes, sidewalks, landscaping, streetlights, and traffic signals. $10M

163rd Avenue & Jomax Road Improvements - *Surprise, AZ*
This project is currently a stop-controlled rural road with one lane in each direction, which will increase capacity in an interim condition. The scope of work includes roadway reconstruction, widening along each leg of the intersection to provide two through-lanes in each direction, dedicated left-turn lanes for all 4 approaches, and increased storage length for the existing dedicated right-turn lane on the west leg of Jomax Road. In these locations, drainage inlets and temporary retention basins will be provided. The scope of work may include adjustment of private and public utilities and street light relocations. $2.18M

Power Road Improvements, Pecos Road to Santan Freeway CMAR - *Mesa, AZ*
3 miles of new roadway and re-construction, 4 bridges, box culverts, and major intersection construction. $30.3M

Drinkwater Bridge Improvements CMAR - *Scottsdale, AZ*
This bridge repair and interim park improvements project includes bridge shoring, new abutment walls, new box beam girders, topping slab repairs, column repairs, a new water proofing membrane, hardscape elements, and master planning for the next Civic Center Plaza/Park phase. $5.5M

ADOT Apache Trail & Superstition Boulevard - *Apache Junction, AZ*
Scope included removing the existing intersection and constructing a new roundabout at the intersection of SR-88 and Superstition Boulevard, and pavement rehabilitation and ADA improvements at the intersections of SR-88 and Idaho Road. $3.3M

ADOT El Mirage Road & SR303L Traffic Interchange - *Phoenix, AZ*
Construction of a new diamond traffic interchange, including overpass bridges, ramps, and crossroads. $19.8M

Town of Queen Creek Mansel Carter Oasis Park CMAR - *Queen Creek, AZ*
44-acre regional park. $23.5M

City of Maricopa Copper Sky Regional Park D/B - *Maricopa, AZ*
110-acre regional park. $22.4M

Sonoran Boulevard CMAR - *Phoenix, AZ*
Project consists of 7.5 miles of new roadway constructed within a 150-foot section of ROW and will consist of one 12-foot lane in each direction with 8-foot (min) paved shoulders and a raised or paved-flush median to handle two-way traffic; scope also included three roadway bridges, a concrete shared use path, and steel truss pedestrian bridges over the existing washes. $40.7M

a. JUAN RAMIREZ
Quality Control Manager / Inspector

b. **PROJECT ASSIGNMENT**
Quality Control Manager / Inspector

c. **NAME OF FIRM**
Haydon Building Corp

d. **YEARS OF EXPERIENCE**
11 Years at Haydon /
19 Years Total Experience

e. **ACTIVE PROFESSIONAL REGISTRATION / YEAR FIRST REGISTERED**
N/A

f. **OTHER EXPERIENCE & QUALIFICATIONS**
OSHA 30-Hour
Certified Associate Construction, American Institute of Constructors

Bullet Proof Manager, Management & Leadership Strategies Seminar, Crestcom International

Please see the project list to the right.

g. **EDUCATION**
BS, Construction
Arizona State University, 2001

SELECT PROJECT EXPERIENCE:

ADOT San Luis Port of Entry Improvements CMAR - *San Luis, AZ*
Reconstruction of Archibald St, Main St, Urtuzuastequi St, D St and San Luis Port of entry's Customer Entrance. Milling and replacing the existing asphaltic concrete on Main St and 1st Ave, constructing raised median, constructing roundabouts and relocating the San Luis Port of entry's Customer Entrance Exit and employee entrance. Drainage improvements, retaining walls, sidewalks, bicycle lines, traffic signals, landscaping decorative pavement, irrigation system, and signing. $8.0M

Town of Gilbert Williams Field & Recker Road Intersection Improvements CMAR - *Gilbert, AZ*
Includes 3.5 miles of roadway widening, 8 miles of sidewalk, potable water line, reclaimed water line, 69kV ductbank, retention basins, curb & gutter, lighting, and landscaping. The intersection of the two roadways features decorative stamped paving. $23.8M

City of Chandler Park & Ride Lot CMAR - *Chandler, AZ*
3-acre park and ride facility with bus bays, loading platforms, site lighting, extensive landscaping, security building with restroom, grading, drainage, signing, and striping. $6.4M

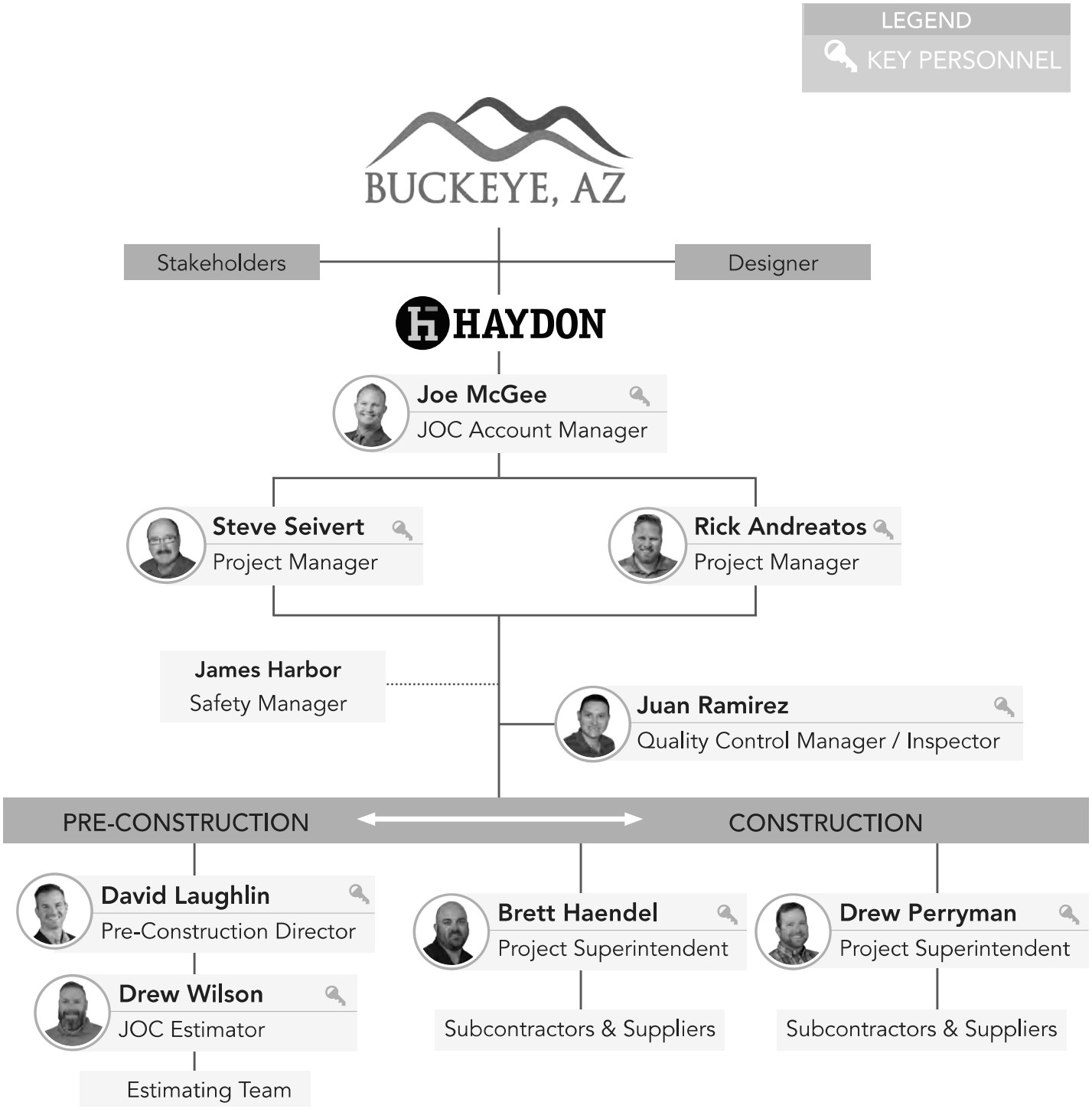
Town of Gilbert Park & Ride Restroom - *Gilbert, AZ*
Construction of a freestanding, public ADA compliant restroom facility that included four bathroom stalls, outside sitting bench, hand washing station with hand dryer, and retro look design. $324,000

CFS 2907 Phoenix, LLC, Parking Spot Repair & Upgrade Improvements - *Phoenix, AZ*
Site Repair and Upgrades. $734,784

MCDOT Old US80 Gila River Bridge (Gillespie Dam Bridge) - *Old US 80 between Arlington and Gila Bend, AZ*
Winner of the 2013 Marvin M. Black Excellence in Partnering Award. Rehabilitating the Historic Old US80 Gila River Bridge (Gillespie Dam Bridge) including bridge deck repairs, truss bearing replacement, heatstraightening bent steel member, abutment bank protection, pier scour stabilization, self-weathering guard rail, temporary at grade contractors access roadway, maintenance and protection of traffic, Interpretive Center with historic markers, protective entrance beams, asphalt paving and miscellaneous items. $4.0M

EXPERIENCE OF KEY PERSONNEL

ORGANIZATION CHART



GENERAL PROJECT APPROACH

Haydon approaches JOC work as an extension of the City of Buckeye staff. We use a "best value" approach that focuses on project goals, educated decision-making, and minimizing unforeseen conditions. When using a "best value" approach on a JOC project, project cost and time must be well spent. Haydon concentrates on minimizing management and temporary construction, so that more of the project budget can go into the finished construction project. Haydon coordinates with the owner to understand project goals and expectations to guide decision-making and add project value. With this information, we work with the entire project team to make educated decisions on the options. Haydon also knows that surprises or unforeseen conditions can devastate a project with cost, schedules, and design impacts. Because Haydon can be involved early in the process, we can provide comprehensive site investigations to identify existing conditions and compare existing conditions to the design. If there is a conflict, this can be identified early in the project process, and solutions can be worked out prior to construction without cost or schedule impacts.

This process helps the team focus on our objective: **maximizing the scope within the budget from the very beginning to avoid missteps and budget problems,** resulting in the team being able to meet the schedule. We understand the importance of design and pre-construction and our responsibility to manage this process in a way that provides a cohesive team atmosphere between Haydon and the owner.

Haydon has successfully completed over 220 design/build and CMAR projects and 49 JOC projects. We perform 80% of our work using these delivery methods and have guided many clients through their first process. Our value engineering and frequently-updated schedules result in projects completed under budget and often ahead of schedule, without sacrificing quality. The Haydon team will use this experience to assure that your projects are completed to the highest standards and within budget.

1) Overall Commitment to Responding to the City's Requests for Services

Our role as your Job Order Contractor will be to provide proactive and dependable support to the City of Buckeye to ensure decisions are made based on accurate and timely information. Foremost throughout the entire process is the open and honest exchange of information. We inform each team member of project status and allow everyone to stay involved in all aspects of the process.

The Haydon project team will work consistently with City of Buckeye staff, businesses, utility companies, and all other stakeholders associated with your job order contract. Through careful planning, scheduling, and proactive management techniques, Haydon guides every aspect of the project from pre-construction site investigation to final punch list and close-out. **Because we are committed to our project management system, we can assure you that every project derived from this job order contract will be well planned and successfully completed.**

2) Cost Control, Scheduling, and Cost Overruns

Cost Control (Daily, Monthly, and Completion Tracking / Reporting)

We view budget control as a critical part of the entire design and construction process. Our pre-construction team will work collaboratively with City of Buckeye staff in the important give-and-take process of budget control during design, pre-construction, and construction. The best value of a particular approach is brought about through a balance of using space and allotted time, achieving the lowest construction cost, and realizing a low life cycle cost. Our contribution to the process is to suggest approaches to systems and solutions to challenges, to provide timely and accurate information, and to evaluate all the possibilities in terms of cost and time benefits.

Haydon will develop and implement our completely open book estimating and cost control system for any JOC project. Each member of the team will have complete access to all information. During pre-construction, Haydon's project manager and team estimators will work closely with the City of Buckeye to establish a qualified Baseline Budget. The in-house estimates we develop will contain detailed information broken down by scope to include units of labor, materials, equipment, and other associated costs. Similarly, all consultant and trade estimates are accompanied by a full detail of the estimate. Each subsequent estimate, based upon more current design information, will be revised and tracked against the Baseline Budget and the last budget revision.

Revised estimates are summarized in the same format as the Baseline Budget and can be easily compared side-by-side with each previous estimate. This straightforward process allows the project team to visualize and understand the significance of a system or material design change and its direct cost impact to the project budget. Haydon's system is easily understood and completely open to the entire team on a daily and continual basis. There are no surprises or secrets in our pre-construction cost control system.

HAYDON BUILDING CORP
4640 E. Cotton Gin Loop
Phoenix, Arizona 85040
Office: 602-296-1496/ Fax: 602-297-6972

PROJECT:
95% Cost Estimate
10/25/16

HAYDON

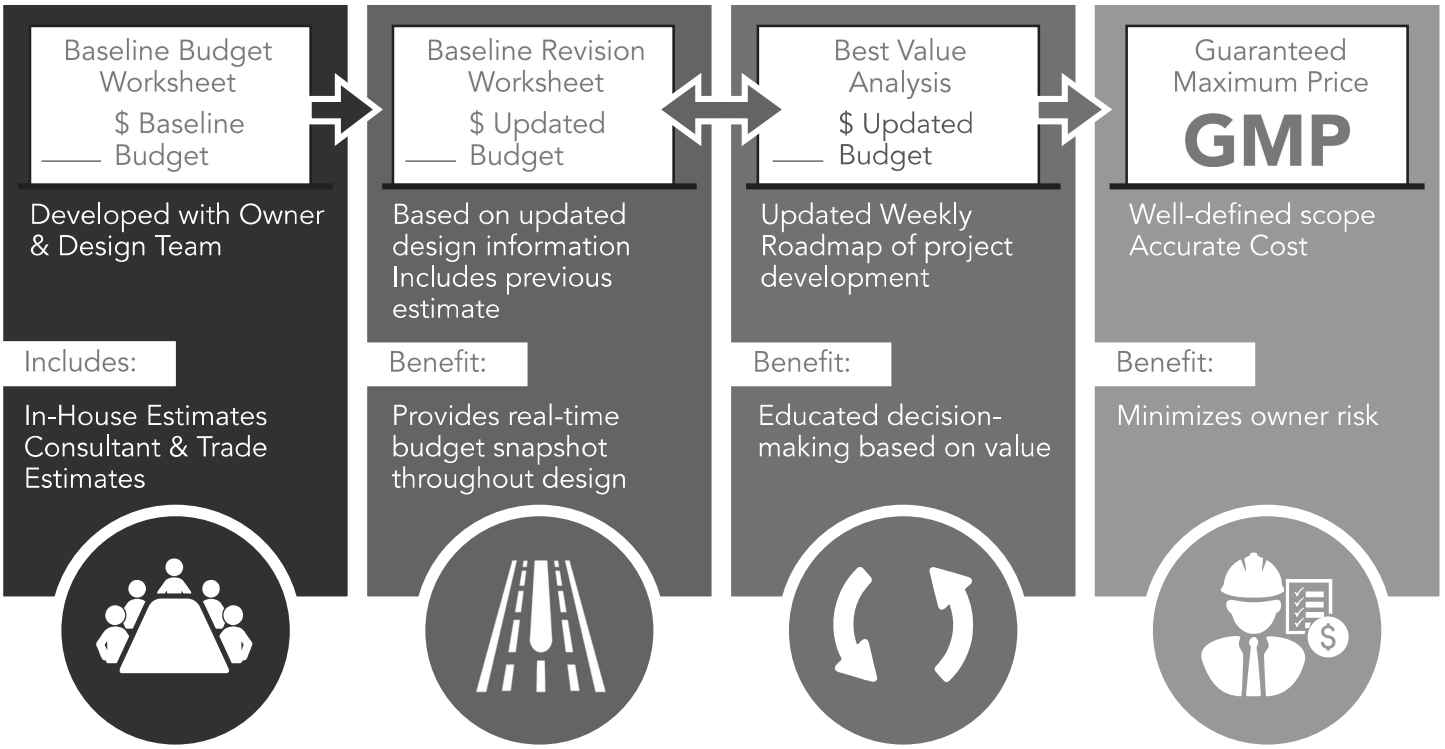
TREND TRACKING

VARIANCE ANALYSIS

Bid Item/ Client Number	Work Description	UM	60% Plans Quantity	60% Plans Unit Price	60% Plans Total Price	95% Plans Quantity	95% Plans Unit Price	95% Plans Total Price	Qty Variance (60% to 95%)	Unit Price Variance	Price Variance (60% to 95%)
	Unit 1: General										
1	Remove Sidewalk	SF	41,451.00	$ 1.20	$ 49,741.20	48,550.000	$ 1.20	$ 58,260.00	7,099.00	$ -	$ 8,518.80
2	Remove ADA Ramp	EA	40.00	$ 270.00	$ 10,800.00	37.000	$ 270.00	$ 9,990.00	(3.00)	$ -	$ (810.00)
3	Remove Concrete Drive	SF	20,697.00	$ 2.85	$ 58,986.45	26,626.000	$ 2.85	$ 75,884.10	5,929.00	$ -	$ 16,897.65
4	Remove Fence	LF	358.00	$ 8.10	$ 2,899.80	358.000	$ 8.10	$ 2,899.80	0.00	$ -	$ -
5	Remove Wall <4'	LF	362.00	$ 41.00	$ 14,842.00	262.000	$ 40.00	$ 10,480.00	(100.00)	$ (1.00)	$ (4,362.00)
6	Remove Conc Pvmt	SY	2,587.00	$ 14.40	$ 37,252.80	2,375.000	$ 14.40	$ 34,200.00	(212.00)	$ -	$ (3,052.80)
7	Remove Asphalt Pvmt	SY	37,097.00	$ 18.25	$ 677,020.25	35,702.000	$ 18.25	$ 651,561.50	(1,395.00)	$ -	$ (25,458.75)
8	Remove Brick Pavement	SY	141.00	$ 10.75	$ 1,515.75	141.000	$ 10.75	$ 1,515.75	0.00	$ -	$ -
9	Remove Conc Curb&Gutter	LF	12,770.00	$ 3.35	$ 42,779.50	8,511.000	$ 3.35	$ 28,511.85	(4,259.00)	$ -	$ (14,267.65)
10	Remove Conc Valley Gutter	SY	533.00	$ 12.50	$ 6,662.50	830.000	$ 12.50	$ 10,375.00	297.00	$ -	$ 3,712.50
11	2" SURFACE MILLING	SY				2,470.000	$ 5.40	$ 13,338.00	2,470.00	$ 5.40	$ 13,338.00
12	Remove Steel Bollard	LS	6.00	$ 225.00	$ 1,350.00	6.000	$ 225.00	$ 1,350.00	0.00	$ -	$ -
13	Storm Line Grouting	CY	18.00	$ 310.00	$ 5,580.00	6.000	$ 382.00	$ 2,292.00	(12.00)	$ 72.00	$ (3,288.00)
14	Remove 21" Storm Line	LF	10.00	$ 31.00	$ 310.00	30.000	$ 31.00	$ 930.00	20.00	$ -	$ 620.00
15	Remove 24" Storm Line	LF	333.00	$ 19.50	$ 6,493.50	333.000	$ 19.50	$ 6,493.50	0.00	$ -	$ -
16	Remove 27" Storm Line	LF	105.00	$ 22.00	$ 2,310.00	105.000	$ 22.00	$ 2,310.00	0.00	$ -	$ -

Figure 1: *Cost Estimate Example*

Figure 2: *Haydon's Estimating and Best Value Analysis process is not simply a way to reduce cost, but analyzes project functions directed at improving performance, reliability, quality, safety, and life cycle cost.*



During the fast-moving design process, it is often not enough to simply update the estimate periodically to maintain good control. For that reason, Haydon will implement its dynamic **Best Value Analysis (BVA)** tracking process. With the baseline estimate as the starting point, each decision or option that can affect the budget is entered into the BVA tracking chart. The potential impact on the budget is included along with a description.
Each decision that is implemented is entered into the "accepted" column of the spreadsheet. All of the accepted cost impacts are totaled and that total is applied to the latest comprehensive estimated budget. This document is updated weekly as the design progresses.
All major decisions and their associated cost are recorded and tracked, and their impact on the budget is reflected as the decisions are made. It provides a road map for project development as well as an accurate picture of exactly where the budget is set at any stage of the design.

Once construction commences, Haydon will use **Viewpoint®** and **Procore** cost control/document control to track each item on a daily basis, as established in the budget. As outlined, the breakdown of costs aligns with detailed estimates, which parallel the procurement process used to track and audit the budget. Prior to payment, each supplier and subcontractor will be required to submit unconditional progress waivers that match the previous month's billing. In this manner, the City is assured of current costs and that all trade partners and vendors are being paid. Finally, upon completion, all commitment and payment records are available for review.

Scheduling (Initial and Progress Schedules):

The most important thing to know about Haydon's scheduling procedure is that we track any and every component that can affect the schedule. Even if an item is outside of our scope, we track it from the very beginning to ensure that nothing gets in the way of a project being completed on time. The schedule is the driving force behind the successful management of a project, and our team members consistently complete projects ahead of schedule.

The Haydon team will utilize **Primavera P6®** to guide and monitor your projects. Through the collaborative efforts of all team members, we will produce a master schedule encompassing construction and project completion. Inherent in this initial schedule will be the identification of long-lead items for materials or equipment. Through research of this project's work items, we will develop a procurement schedule that is integrated into the overall project schedule and is tracked to assure timely delivery of key equipment and materials.

During pre-planning, JOC Account Manager Joe McGhee will work together with the Haydon team and subcontractors to develop a **Critical Path Method (CPM) schedule**, which will be updated weekly. This will include complete analysis of phasing, utility coordination, and sequence planning for trades to provide maximum quality without rework. JOC Account Manager Joe McGhee will also utilize the CPM schedule to identify design milestones, approvals, permitting, right-of-way and easement acquisitions, and long-lead items which may impact project start-up. Material suppliers will be involved to develop the plan around manufacturing and delivery of materials. As the project moves into construction, Haydon's project superintendents will provide **3-Week Look-Ahead Schedules** weekly for the team, work crews, and subcontractors. Haydon also holds **Pre-Activity Construction Meetings** with the team and Haydon's supervisors or subcontractors prior to the start of a new type of work. We discuss plans, specifications, details, survey needs, testing, safety issues, and schedule at these meetings, ensuring that everyone is clear on their responsibilities and expectations, and mitigating costly re-work and project delays.

HAYDON BUILDING CORP

Schedule No.: 1 X = Work Day
From: 4/1/13 W = Weather Day
To 4/26/13

Name: Southern Avenue Streetscapes
Project No.: 10-453-002

		WeekNo.	Current Week						1						2						3					
HBC Job#1007-0953-01		DAY	M	T	W	TH	F	S	M	T	W	TH	F	S	M	T	W	TH	F	S	M	T	W	TH	F	S
		CAL	4/1	4/2	4/3	4/4	4/5		4/8	4/9	4/10	4/11	4/12		4/15	4/16	4/17	4/18	4/19		4/22	4/23	4/24	4/25	4/26	
		WKG		X	X	X	X			X	X	X	X			X	X	X	X			X	X	X	X	
Activity Description	**Responsible**																									
Administration/General																										
Project Meeting	HBC	X																								
Long Lead Items - Signage/Monuments/Shelters/Lighting/Specialty Itmes	HBC	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Dust Control/Project Signage	HBC	X	X																							
Mobilization of Yard & Equipment	HBC	X	X	X	X	X		X	X	X	X	X														
Establish S.W.P.P.P.	HBC			X	X	X		X	X	X	X	X														
S.W.P.P.P. Inspection	HBC											X														
Phase 1																										
Set Traffic Control	Traffic Control Sub							X	X	X																
Traffic Control	Traffic Control Sub							X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Cut & Cap Existing Irrigation	Landscape Sub							X	X	X	X	X														
Demo Existing Center Median and Lane 1 - East & West Bound	HBC										X	X		X	X	X	X	X								
Install Sleeves under new subgrage/median for landscape irrigation	Landscape Sub													X	X	X	X									
Rough Grade -Subgrade/Cut Curb Grade	HBC																X	X		X	X					
F/P/S Single Curb	HBC																				X	X	X	X		
UTILITIES																										
SRP 12kV Undergrounding	SRP/Electrical Sub	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Telecommunication relocations	Cox/Qwest	X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		
Water/Reclaimed water relocation	HBC										X	X		X	X	X	X	X								
Storm Drain Installation	HBC																			X	X	X				
The Paseo																										
Cut & Cap Irrigation (No Pedestrian Impact)	Landscape Sub							X	X	X	X	X		X	X	X	X	X		X	X	X	X	X		

Figure 3: *Haydon's 3-Week Look-Ahead Schedules help keep the team informed and on-track to successfully complete any project.*

Identifying and Mitigating Cost Overruns:

In the case of a change of conditions, City of Buckeye representatives will be made aware of the change as soon as it is discovered. Haydon's project manager will work with City of Buckeye personnel to implement a solution to the change and offer any possible avenues to resolve the change. The Haydon team will identify any non-cost schedule modifications to work around the change of conditions, so that the overall schedule is not affected. If applicable, the Haydon team will include pricing in terms of unit rates and costs for approval prior to the start of work. Any minor variations in conditions will only require agreement on in-place units to be billed or manpower/ equipment hours associated with the change. **With our detailed Viewpoint® accounting system, potential cost overruns are identified early, and mitigation measures are implemented both in design and throughout construction to provide best overall value to the City of Buckeye.**

3) Conflict Communication Plan

Haydon is dedicated to creating the most positive experience possible for all parties involved in our projects. Haydon has successfully completed over 220 JOC, CMAR, and alternative delivery projects. Our track record for projects completed on time, within budget, and with no associated owner litigation is a testament to this way of thinking and delivering.

This experience has taught us that the key to success in alternative delivery arrangements is team dedication to a "win-win-win" project. To achieve this, each team member must fulfill their obligations. It is through the full understanding and disclosure of what the project goals are and the team members' responsibility to meet those goals, that each member is held accountable for performance. **Proposed Escalation Ladder:** Haydon is structured to deal with project issues before they become disputes. These issues are always handled at the project manager level. In the unlikely event that an issue becomes a dispute, Haydon's project manager will assist in the dispute resolution. If the dispute requires further attention, Mark Eklund, Vice President will become involved to ensure that the dispute is resolved quickly and fairly to minimize disruption to the project. As a Haydon principal, Mark is authorized to make decisions on behalf of the company. The following includes some of the steps Haydon takes to minimize potential conflict:

- All team members should understand and agree to: scope, schedule, budget, constructability issues, and project procedures.
- All team members should have clear, concise, and focused goals.
- Project schedule and status reports will be kept up-to-date.
- Intermediate goals will be set and checked to ensure goals are achieved.
- Project debriefings will be conducted after each job and attempts should be made to incorporate "learned lessons" on the next job.

4) Project Closeout and Final Documentation Process

Haydon will prepare a punch list of all items required for close-out of each JOC project. Every item is collected and recorded prior to final payment of any subcontractor or supplier. Upon notice of substantial completion, Haydon will jointly inspect the site with City of Buckeye personnel to verify that construction quality has been met. Complete close-out will involve collecting all warranties, product information, commissioning reports, operating manuals, and as-built drawings. Haydon takes pride in its ability to work efficiently through the final punch list items to successfully deliver a project.

Haydon's commitment extends past project close-out and ensures that our clients know they will receive the best quality warranty service, quickly and comprehensively. Using our **Web-Integrated Client Warranty Portal**, we have an established 1/3/5 Rule: respond to calls within 1 day, evaluate the concern within 3 days, and correct it within 5 days. Haydon's Project Manager will manage the entire project through warranty. He will be your point of contact, who will respond to and answer your questions during the entire process.

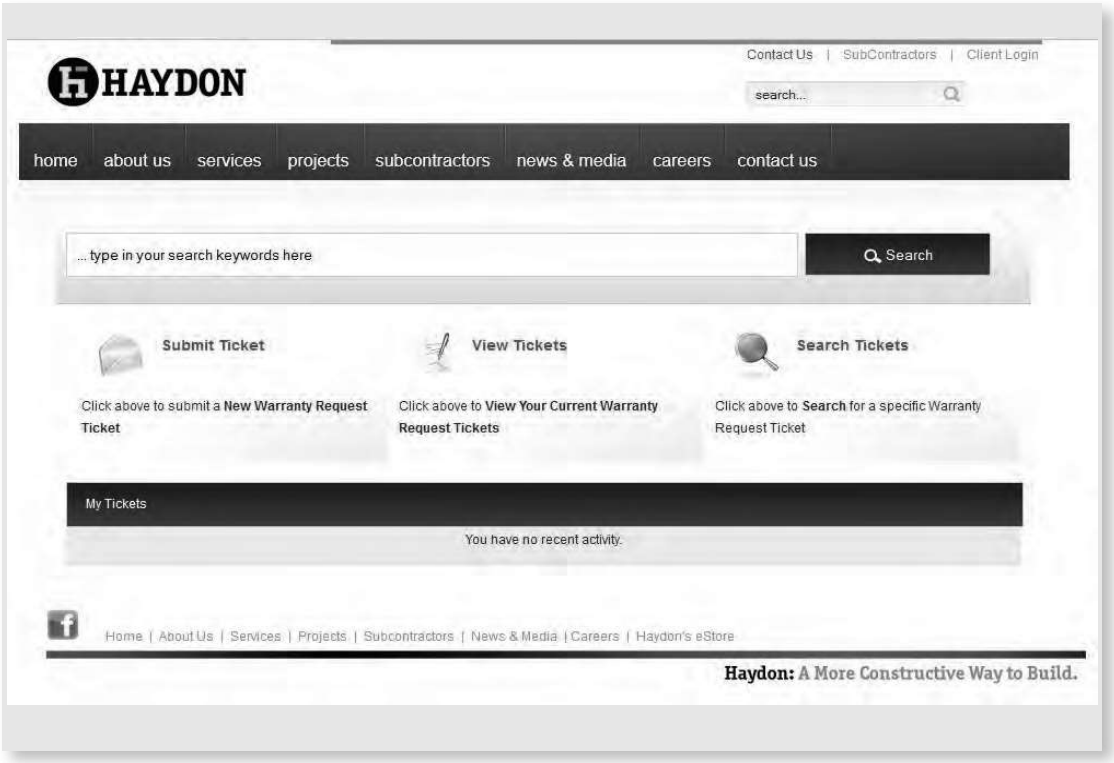


Figure 4: *With Haydon's Web-Integrated Client Warranty Portal, clients will continue to receive the best service, even after project close-out.*

JOB ORDER MANAGEMENT

(1) Days Required to Process and Complete All Necessary Paperwork and Return a Proposal to the City

Immediately upon receipt of a job order request for proposal from the City of Buckeye, the Haydon team will begin the process to provide a cost estimate and complete all necessary paperwork. Typically this process would take about one week, depending upon the complexity of the project. In emergency situations, Haydon will accelerate this process to meet the City of Buckeye's schedule.

(2) Days Required to Mobilize Forces and Start Construction

With Haydon's expansive manpower and equipment resources, we are available to mobilize to your project immediately in emergencies. In other cases, we will mobilize following the acquisition of Permits (i.e. SWPP, Dust Control Right-of-Way, etc.), which typically take 10 to 15 days for approval.

Haydon maintains all the GPS equipment, software, and estimating resources to provide the City of Buckeye with accurate cost information and options, including real-time conceptual estimates. Haydon will provide all of the manpower, equipment, and expertise to build a JOC project on schedule and on budget to the highest level of quality.

(3) Change Request Procedure and How Change Requests are Communicated with the City

Changes on a project generally result from two circumstances: An increase in scope requested by the owner or a change in conditions. Managing these changes is foremost a communication process. Haydon's processes reflect our belief that all project parties must be adequately informed of changes as they develop.

In the case of an owner-requested change, a Proposal Request (PR) is issued by the architect, which outlines the scope of the proposed work. This information is transmitted to the appropriate subcontractors with a required date for submission of the cost impact. Each response from the subcontractors is required to be submitted in a prescribed format, which will allow value analysis by the management team. The resulting submissions from the subcontractors are verified by Haydon's estimating staff, tabulated, and submitted to the owner as a change request. **Part of our job is to eliminate change requests generated by subcontractors.**

We will work with the City of Buckeye and the design team in plan coordination and constructability review to help assure that the project goes to bid with a complete and buildable set of documents. For the few plan clarifications that are bound to occur, the most effective tools for facilitating communication are the **Request for Information (RFI)** and the regular project meeting.

Any issues requiring design clarification are submitted in RFI form. All RFI issues and pending changes are discussed in detail at the project meeting, and the impact is assessed before the change is approved. The Haydon estimating team will evaluate any cost impact of a change, and the management team will evaluate any schedule impact prior to approval.

In the event of a change in site conditions, Haydon will inform the project team and discuss ways to solve the change in conditions. Haydon will provide information so that the project team can make an educated decision to resolve the issue.

VALUE ANALYSIS / VALUE ENGINEERING / RISK MITIGATION

Our pre-construction team will work collaboratively with the City and design team in the important give-and-take process of budget control during the design phase. We understand that throughout design development, decisions are dependent on the quality of information available to the team. Our role in Value Engineering and Analysis is to add several dimensions of information quality to the decision making process. We feel the value of a particular approach is brought about through a balance in using space, using allotted time, achieving the lowest construction cost, realizing a low life cycle cost, and creating the desired aesthetic effect. **Our contribution to the VE / Analysis process is to suggest approaches to systems and solutions to challenges, to provide timely and accurate information, and to evaluate all the possibilities in terms of cost and time benefits.**

1) Capabilities to Provide Additional Value Analysis / Value Engineering to Job Orders of Limited Design Prior to Construction / Willingness to Provide Services as Part of Job Order Quotation

A contract of this size presents a great opportunity to incorporate a formal Best Value Analysis (BVA) process. This process differs from the conventional contractor-only value engineering because it is a systematic, function-based, result-oriented, team approach. **Haydon will add value to any JOC project though our BVA process.** Adding value through options analysis is often taken for granted and an informal process. Specifically, the process steps are as follows:

- Information Phase: Gather information to better understand the project as well as the owner's goals.
- Function Analysis Phase: Analyze the project to understand and clarify the required functions.
- Creative Phase: Generate ideas on all the possible ways to accomplish the required functions.
- Evaluation Phase: Synthesize ideas and concepts to select feasible ideas for development into specific value improvement.
- Development Phase: Select and prepare the "best" alternative(s) for improving value.
- Presentation Phase: Present the value recommendation to the project stakeholders.

BVA is not simply a way to reduce cost. It is defined as an analysis of a project's functions directed at improving performance, reliability, quality, safety, and life cycle cost.

2) Capabilities to Identify and Communicate Various Opportunities for Risk Mitigation with the City at the Time of Job Order Development / Risk Avoidance Strategies Employed and Shared with Owners to Reduce Threats to the Project's Success

Haydon will utilize comment forms, such as the Constructability Review Comment Form in **Figure 5 to the right**, to identify and communicate various opportunities for risk mitigation to the City. The following are risk avoidance and mitigation procedures Haydon has implemented on past projects, and which we will incorporate into any project that results from a Job Order Contract:

- Set clear objectives for all stakeholders; milestones will be included on a CPM schedule developed during pre-construction.
- Develop a clear and jobsite-specific safety plan, which will include all tasks and work phases.
- Assess risks to the community and traveling public, and implement safe traffic control and protection of public measures.
- Develop accurate plans through detailed constructability reviews.
- Superintendents and subcontractors will perform constructability reviews by taking the current plan documents to the site and examining each work component to identify potential field conflicts and risks.
- Develop work plans based upon the current design and physical constraints, including required and specialty equipment.
- Implement sub-surface investigations using Haydon's in-house soft dig capabilities.
- Utilize CAD and Civil Information Modeling (CIM) capabilities to develop concepts and engineering details for broader review and finalization by the design team, as well as identifying potential utility conflicts and utilizing clash avoidance techniques.
- Review documents at each design phase and prior to bidding, and check for coordination of items between disciplines and the constructability of systems detailed by the designer.

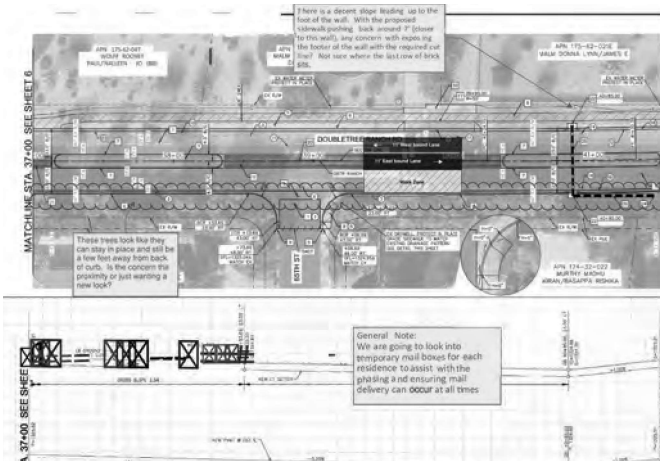


Figure 5: *Sample Bluebeam Comment Review*

SUBCONTRACTOR SELECTION PROCESS

We believe that the best way to achieve the balance between cost and quality is to partner with the best subcontractors for the project. We also understand that a large part of this project's success will depend on the selection and management of our subcontractors and vendors. Accordingly, **our subcontractors will be selected through a qualifications and pricing competition.** Due to the complex nature of this project, we may recommend that some major or specialized subcontractors be selected early in the design phase. The benefit of this approach is two-fold: 1) the input of these key subcontractors can be an invaluable aid in producing an efficient and well-coordinated design, and 2) the early selection of some key trades can expedite the project by facilitating the preparation of shop drawings and the early procurement of long-lead items. Haydon's method to ensure competition and City of Buckeye involvement during design and construction phases will include the following seven steps **(see Figure 6 below)**:

Figure 6: *Haydon's Seven-Step Subcontractor Selection Plan*

1 ASSESSMENT

The process begins with identifying local contractors and suppliers who have an interest in the project and a capability to execute the work. **Some of the qualifications the team will review include:** safety record, financial data, bond rate, current workload, manpower, team commitments, pending litigation, backlog, revenue, and cash flow.

2 APPROVAL

Our team will submit a listing of those subcontractors which we believe to be the best suited for the project. The focus of the list will be to receive 3 to 5 qualified bids in each category of work. **The process allows the City to proactively participate in the selection of sub bidders for the project.**

3 DOCUMENTATION

After approval of the list of subcontractors and vendors, we will issue bid documents including plans, specifications, project schedule, detailed bid instructions, and scope of work to the subs/ vendors for review and pricing. We will hold a pre-bid meeting for critical trades to discuss project specifics and highlight items that require special attention when preparing their bids.

4 RESPONSE

After the bids are received, our team will review and analyze the quotations for completeness. The bids for each scope of work are tabulated on our **Subcontractor Bid Tabulation Form** that clearly compares scope and pricing for all of the sub bidders side by side to facilitate the decision-making process. This ensures the City is receiving the best overall project value.

5 BIDDERS MEETING

Depending upon subcontractor/vendor scope and complexity, we will conduct interviews with selected bidders to discuss the scope of work, the cost proposal completeness, and analyze the bid figures.

6 NOTIFICATION

After the interview, our team will make a recommendation of the subcontractors which we believe will provide the best overall value to your project considering each subcontractor's qualifications and price, and make our final recommendation for selection.

7 CONTRACT

After final team and City approval, we will prepare and execute subcontracts or purchase orders with the best valued subcontractor and suppliers.

SAFETY

Haydon strives for the highest of safety standards within our organization. It is the result of careful attention to all company operations by those who are directly and indirectly involved. Employees at all levels must work diligently to execute the company's policies of maintaining safety and occupational health.

1) SAFETY MANAGER / 2) CERTIFICATIONS/TRAINING

James Harbor, Haydon's Safety Director, will ensure our team operates at the highest level of safety at all times. His list of major certifications / training include:

- Accident Investigation
- OSHA Compliance and Record Keeping
- Hazard Recognition, Evaluation, and Control
- Workers' Compensation
- Crane Safety
- Inspection Procedures
- UT 40 Hour Instructor Mine Safety (MSHA)
- OSHA 30
- World Safety Organization WSI Certified
- ASSE Gulf Coast Chapter Member, AGC Safety Committee Chair, and AGC National Safety Committee Member

He will be involved during the design phase to assist in the safety layout of walkways for pedestrian traffic and safe access through construction work zones. As our Safety Director, his responsibilities include:

- Overall Site and Safety Program
- Maintaining a Safe Work Site
- Proactive Public Relations
- On Site Coordination
- Hazardous Materials Plans
- Mentoring Subcontractors

Figure 7: *Haydon's Mobile Training Unit Trailer*



3) SAFETY TRAINING PROTOCOL PROVIDED TO FIELD STAFF

Analysis and inspection are critical aspects of our team's Safety Plan, as well as communicating the safety message, fall protection and injured person recovery, wind speed monitoring for crane operations, trench safety, and traffic flow from site entrances and exits. Our team will use the **Job Hazard Analysis (JHA)** and **Daily Safety Refreshers** as tools to inform and educate employees about potential safety hazards. Job Hazard Analysis is an important safety tool we employ to educate our employees. Working together, our foremen, superintendents, engineers, and safety professionals will perform a detailed hazard analysis for every work activity. This process breaks down the work tasks to be performed, identifies the hazards associated with the task, and develops a plan to mitigate the identified hazards to allow safe execution of the work. Sharing the Job Hazard Analysis with all crew members takes place daily through our daily safety refresher. This occurs separately for each crew and is led by the foreman and project superintendent.

Safety Training: Our philosophy is that safety is everyone's job and everyone on the project is responsible for reporting unsafe conditions. To achieve this, we develop and implement a safety training program for all workers. Our team invites and encourages the City of Buckeye to participate in all jobsite safety meetings. Moreover, we plan to create a partnership between the Haydon team and the City of Buckeye's safety and public information personnel. Prior to the start of construction, we will meet to establish a collaborative approach for protecting the workers and the traveling public, preventing damage to equipment and material, and preventing damage to public or private property.

COVID-19 Approach: We have established a COVID-19 Task Force, a small group, to work on the issues surrounding this period in a timely and productive manner. Upon request, Haydon's full COVID-19 Plan will provided to the City of Buckeye.

4) CURRENT EXPERIENCE MODIFICATION RATE

To maintain a safe and healthy work environment, Haydon's Safety Program clearly defines the duties and responsibilities of all employees. Our Safety Program has been developed to assure compliance with all Federal, State and local regulations with particular emphasis on the Occupational Health Act of 1970 (OSHA), and the OSHA requirements that apply to our construction operations. Haydon maintains **an excellent E-MOD factor of 0.89,** which is a very low rate in the construction industry.

We will ensure all employees and subcontractor's employees are knowledgeable of the standards established by these agencies and to implement the rules and regulations contained therein on projects under their direction. Haydon's safety policies and practices are spelled out in our corporate safety manual. Our manual is the result of many years of training and research into the requirements of the law and best safety practices.

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
HAYDON BUILDING CORP.

CONTRACT NO. 2020003.02
CHANGE ORDER #1

Pursuant to the Job Order Contract for Road Construction Services between the City of Buckeye, an Arizona municipal corporation (the "City") and Haydon Building Corp, an Arizona Corporation (the "Contractor"), dated May 19, 2020, the following changes apply:

The following changes shall be made:

1. The contract term shall be extended from May 20, 2021 through May 19, 2022.

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

[Signature page to follow.]

THEREFORE, the City of Buckeye by its Manager, Construction and Contracting has hereunto subscribed his name Apr 28, 2021.

CITY OF BUCKEYE

CA Williams

Christopher A. Williams, Manager
Construction and Contracting Division

CONTRACTOR:
HAYDON BUILDING CORP.

Mark Eklund

Mark Eklund, Vice President

Adobe Sign Transaction Number: CBJCHBCAABAA4s4IvMLGEUsS2q2t8tRxdTQYLk-XEpM_

JOC Contract 2020003.02, CO#1, Haydon

Final Audit Report 2021-04-28

Created:	2021-04-28
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAA4s4IvMLGEUsS2q2t8tRxdTQYLk-XEpM_

"JOC Contract 2020003.02, CO#1, Haydon" History

Document created by Purchasing Buckeye (purchasing@buckeyeaz.gov)
2021-04-28 - 2:28:15 PM GMT- IP address: 174.78.95.30

Document emailed to Mark Eklund (meklund@haydonbc.com) for signature
2021-04-28 - 2:29:15 PM GMT

Email viewed by Mark Eklund (meklund@haydonbc.com)
2021-04-28 - 2:30:11 PM GMT- IP address: 72.177.86.67

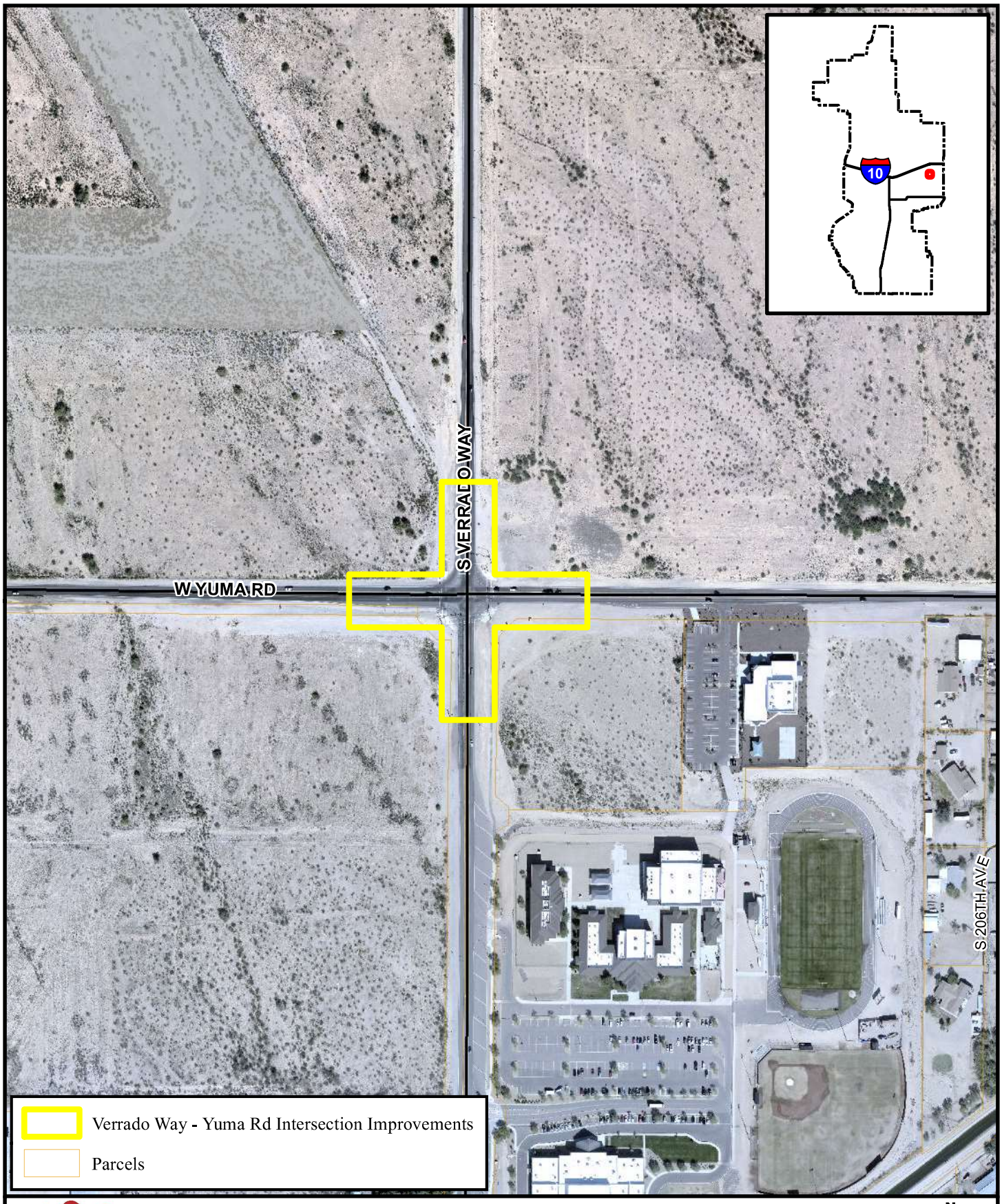
Document e-signed by Mark Eklund (meklund@haydonbc.com)
Signature Date: 2021-04-28 - 2:33:27 PM GMT - Time Source: server- IP address: 72.177.86.67

Document emailed to CA Williams (cwilliams@buckeyeaz.gov) for signature
2021-04-28 - 2:33:30 PM GMT

Email viewed by CA Williams (cwilliams@buckeyeaz.gov)
2021-04-28 - 3:45:32 PM GMT- IP address: 104.47.64.254

Document e-signed by CA Williams (cwilliams@buckeyeaz.gov)
Signature Date: 2021-04-28 - 3:45:56 PM GMT - Time Source: server- IP address: 174.78.95.30

Agreement completed.
2021-04-28 - 3:45:56 PM GMT



CIP 101150 Verrado Way and Yuma Rd Improvements

BUCKEYE, AZ

While every effort has been made to ensure the accuracy of this information, the City of Buckeye makes no warranty, expressed or implied, as to its absolute accuracy and expressly disclaims liability for the accuracy thereof.

0 150 300 600 Feet

N

Date: 2/1/2022

Document Name: CIP101150_VerradoWayYumaRdImprovements_8x11

JOB ORDER CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
HAYDON BUILDING CORP.

CONTRACT NO. 2020003.02
DELIVERY ORDER #1

THIS JOB ORDER CONTRACT AGREEMENT (this "Agreement") is entered into as of May 19, 2020, between the CITY OF BUCKEYE, an Arizona municipal corporation (the "City") and Haydon Building Corp., an Arizona corporation (the "Contractor").

RECITALS

In accordance with the Job Order Contract 2020003.02 (the "Contract") between the City and Contractor, dated May 19, 2020, the Contractor will perform the following Scope of Work as detailed in Article 1, subject and pursuant to the terms and conditions of the Job Order Contract.

ARTICLE 1
SCOPE OF WORK

The Contractor shall furnish all labor, materials, and equipment required for Intersection Improvements at Verrado Way – Yuma Road to Van Buren Street, as indicated in the Contractor's proposal, which is attached as Exhibit A, and in the drawings and specifications which are attached as Exhibit B.

ARTICLE 2
SCHEDULE OF COMPLETION OF WORK

The Contractor shall commence work within ten (10) days from issuance of the Notice to Proceed and complete the work identified in the Scope of Work within **One Hundred Eighty (180) calendar days.** In view of the difficulty or impossibility of determining the City's damages from delay, should the Contractor fail to achieve Substantial Completion by the date, as extended by any City approved Change Orders, the Contractor agrees to pay and will pay to the City, In addition to all other sums pursuant to the Contract Documents, the sum of **One Thousand Seventy Dollars and Zero Cents ($1,070.00)** for each calendar day of delay as liquidated damages for such delay and not as a penalty. This sum may be withheld from the balance of the Contract Price as it becomes due. Should liquidated damages exceed the Contract Price due or to become due, then the Contractor shall pay the City the difference within 3 days of receipt of written demand.

ARTICLE 3
COST OF CONSTRUCTION

The total cost to complete the Scope of Work under this Job Order Contract Delivery Order #1 identified in Article 1 as set forth in Exhibits A and B is **Three Million, Nine Hundred Twenty-Two Thousand Eight Hundred Ninety-Six Dollars and Zero Cents ($3,922,896.00)**.

ARTICLE 4
INSURANCE & BONDS

In accordance with Article 19 of the Contract, the Contractor agrees to issue the required insurance ACORD form. Payment and Performance Bonds shall be required for this project. This Job Order Contract Delivery Order is subject to the terms and conditions of the Contract and may be cancelled pursuant to the provisions of the Arizona Revised Statutes Section 38-511. If there is a discrepancy between the terms and conditions of the Contract and Scope of Work in Exhibit A, the Contract supersedes the Scope of Work.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk has hereunto subscribed their name _____.

THE CITY OF BUCKEYE, ARIZONA:
an Arizona municipal corporation

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

CA Williams
_____
Chris Williams, Manager, Manager
Construction and Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
Haydon Building Corp.
an Arizona corporation

Mark Eklund
_____
Mark Eklund, Vice President

Adobe Sign Transaction Number: CBJCHBCAABAANPPA2oIji8FqzjTzJ4outTXBxHAUFGwY

EXHIBIT A

CONTRACTOR FEE PROPOSAL

BUCKEYE, AZ

CITY OF BUCKEYE

DELIVERY ORDER
REQUEST FOR PROPOSALS
FOR
JOC CONTRACT #'s 2020003 (.01 - .05)

DORFP# 1

VERRADO WAY -YUMA ROAD TO VAN BUREN STREET INTERSECTION IMPROVEMENTS

IN BUCKEYE ARIZONA

CONTACT PERSON

Pat Glasmann, Contracting Officer
Construction & Contracting Division
623.349.6173
pglasmann@buckeyeaz.gov

SCHEDULE OF EVENTS

Date Issued DORFP:	December 2, 2021
Last Day for Questions:	December 22, 2021 no later than 5:00 p.m., MST
DORFP Due Date:	January 10, 2022 no later than 3:00 p.m., MST

EXHIBIT A
PROPOSAL SUBMISSION SHEETS

PROPOSAL SUBMISSION

City Project Name: **VERRADO WAY -YUMA ROAD TO VAN BUREN STREET ROADWAY IMPROVEMENTS**

Solicitation No: **DORFP # 1; JOC Contract 2020003 (.01 - .05)**

Date: January 10, 2022

Proposal from: Haydon Building Corp
(Name of Firm)

To: City of Buckeye, Construction & Contracting Division

The following proposal is made for construction services for the City of Buckeye, Arizona, in accordance with Construction Documents. The undersigned certifies that the Construction Documents, as well as the proposed construction site and conditions affecting the Work have been carefully examined; that the amount and nature of the Work to be done is thoroughly understood; and that at no time will misunderstanding of the drawings, specifications, or conditions to be overcome be pleaded.

The undersigned certifies that he or his firm is currently licensed under the provisions of ARS Sections 32-1151 and 32-1169. The undersigned further certifies that he or his firm has a privilege license pursuant to ARS Section 42-5005.

The undersigned has/will execute the Job Order Contract Delivery Order if awarded the Contract. Any exceptions to the terms and conditions have been stated in writing and submitted on a separate sheet with this price proposal. The undersigned understands that any exceptions taken to the Construction Contract which are not accepted and/or approved by the City may be a basis for rejection of the Price Proposal as nonresponsive.

RECEIPT BY THE UNDERSIGNED OF THE FOLLOWING ADDENDA IS HEREBY ACKNOWLEDGED:

AMENDMENT NUMBER: 1 DATED: 12/16/21

AMENDMENT NUMBER: 2 DATED: 12/22/21

AMENDMENT NUMBER: 3 DATED: 12/22/21

4 1/3/22

5 1/5/22

6 1/9/22

7 1/12/22

8 1/19/22

9 1/24/22

LUMP SUM PROPOSAL:

The undersigned proposes to complete all of the Work in accordance with said Construction Documents, plans, specification and all associated addenda for the lump sum of:

THREE MILLION NINE HUNDRED TWENTY TWO THOUSAND EIGHT HUNDRED NINETY SIX Dollars ($ 3,922,896.00).

(Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.)

City of Buckeye

Intersection Improvement

Item No.	Item Description	Unit	Quantity	Price	Amount
1	REMOVE EXISTING ASPHALT PAVEMENT (2' MIN)	SY	19740	$4.50	$88,830.00
2	REMOVE CONCRETE CURB AND GUTTER	LF	265	$12.00	$3,180.00
3	REMOVE DIRECTIONAL RAMP	SY	60	$100.00	$6,000.00
4	REMOVE POLE AND FOUNDATIONS	EA	1	$2,145.00	$2,145.00
5	REMOVE ASPHALT SIDEWALK	SF	3820	$2.00	$7,640.00
6	ASPHALT CONCRETE PAVEMENT	TON	9011	$141.00	$1,270,551.00
7	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	3430	$15.00	$51,450.00
8	CONSTRUCT DIRECTIONAL RAMPS, PER COB STD DTL 63240	EA	6	$4,244.00	$25,464.00
9	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	4555	$24.00	$109,320.00
10	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222.	EA	14	$155.00	$2,170.00
11	INSTALL SAFETY RAIL PER COB STD DTL B-110	LF	250	$155.00	$38,750.00
12	INSTALL TRASH RACK PER COB STD DTL B-508	EA	2	$17,156.00	$34,312.00
13	CONSTRUCT CONCRETE SIDEWALK, PER COB STD DTL 230	SF	5,600	$7.50	$42,000.00
14	ADJUST WATER VALVE BOX TO GRADE PER MAG STD DTL 391-2	EA	5	$814.00	$4,070.00
15	ADJUST MANHOLE FRAME AND COVER TO GRADE, PER MAG STD DTL 422	EA	8	$968.00	$7,744.00
16	ADJUST TRAFFIC SIGNAL PULLBOX TO GRADE	EA	3	$950.00	$2,850.00
17	CONSTRUCT PASS THROUGH CURB PER DETAIL ON SHEET 25	EA	3	$8,180.00	$24,540.00
18	POLE (TYPE A)	EA	2	$2,214.00	$4,428.00
19	POLE FOUNDATION (TYPE A)	EA	2	$930.00	$1,860.00
20	POLE (PEDESTRIAN POST)	EA	5	$909.00	$4,545.00
21	POLE FOUNDATION (PEDESTRIAN POST)	EA	5	$817.00	$4,085.00
22	ELECTRICAL CONDUIT (2") (PVC)	LF	170	$101.00	$17,170.00
23	TRAFFIC SIGNAL FACE (TYPE R)	EA	4	$822.00	$3,288.00
24	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE V)	EA	2	$770.00	$1,540.00
25	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE VI)	EA	2	$765.00	$1,530.00
26	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE II)	EA	2	$189.00	$378.00
27	PEDESTRIAN CROSSING HEAD	EA	2	$649.00	$1,298.00
28	PUSH BUTTON	EA	6	$695.00	$4,170.00
29	EROSION CONTROL (WATTLES) (20")	LF	160	$11.00	$1,760.00
30	ROADWAY EXCAVATION	CY	3000	$48.00	$144,000.00
31	AGGREGATE BASE CLASS 2	CY	9207	$72.00	$662,904.00
32	STRUCTURE BACKFILL	CY	5890	$7.00	$41,230.00
33	PIPE REINFORCED CONCRETE, CLASS V, 36"	LF	1278	$283.00	$361,674.00
34	INSTALL 22.5° FACTORY FITTED WYE CONNECTION 36" RGRCP	EA	1	$9,329.00	$9,329.00
35	CONSTRCUT HEADWALL PER COB STD DTL 51200.	EA	2	$19,563.00	$39,126.00
36	PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC)(0.090")	LF	15750	$1.00	$15,750.00
37	PAVEMENT MARKING (YELLOW EXTRUDED THERMOPLASTIC)(0.090")	LF	17250	$1.00	$17,250.00
38	PAVEMENT MARKING (TRANSVERSE) (THERMOPLASTIC) (ALKYD) (0.090")	LF	605	$4.00	$2,420.00
39	PAVEMENT LEGEND (EXTRUDED THERMOPLASTIC)(ALKYD)(0.090")	EA	10	$293.00	$2,930.00
40	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC)(ALKYD)(0.090")	EA	25	$269.00	$6,725.00
41	OBLITERATE PAVEMENT MARKING (ARROW SYMBOL OR LEGEND)	EA	18	$98.00	$1,764.00
41A	OBLITERATE PAVEMENT MARKING (STRIPE)	LF	340	$3.50	$1,190.00
42	TYPE "D" RPMs SPACING YELLOW MARKERS	LF	865	$5.00	$4,325.00
43	TYPE "G" RPMs SPACING WHITE MARKERS	LF	370	$5.00	$1,850.00
44	NEW SIGN PANEL	EA	7	$395.00	$2,765.00
45	REMOVE AND RELOCATE SIGN	EA	9	$244.00	$2,196.00
46	REMOVE TRAFFIC SIGNALS	LS	1	$450.00	$450.00
47	INSTALL SIGN POST	EA	18	$285.00	$5,130.00
48	INSTALL SIGN POST FOUNDATION	EA	18	$363.00	$6,534.00
49	POLE (SPECIAL)(APS ARCHITECTURAL SQUARE TUBE WITH 8X8 MAST ARM)	EA	13	$5,631.00	$73,203.00
50	FOUNDATION (APS ARCHITECTURAL SQUARE TUBE)	EA	13	$1,670.00	$21,710.00
51	ELECTRICAL CONDUIT (2 1/2") (PVC)	LF	3930	$25.00	$98,250.00
52	PULL BOX (CONTRACTOR INSTALLED)(APS FURNISHED)	EA	13	$596.00	$7,748.00
53	TRAFFIC SIGNAL CONDUCTORS (ROADWAY LIGHTING)	LS	1	$10,817.00	$10,817.00
54	LUMINAIRE (LED)(250W HPS EQUIVALENT)	EA	13	$1,205.00	$15,665.00
55	PROTECT EXISTING WATER/SEWER LINES	LF	75	$202.00	$15,150.00
56	INSTALL RIP RAP 12" DEPTH PER SHT 25 DETAIL B	SF	3174	$22.00	$69,828.00
57	INSTALL AREA INLET PER SHT 25 DETAIL C	EA	1	$23,551.00	$23,551.00
58	SHOTCRETE	SY	1550	$31.00	$48,050.00
59	INTERNALLY ILLUMINATED SIGNS	EA	4	$9,926.00	$39,704.00
60	MOBILIZATION/DEMOBILIZATION	LS	1	$62,610.00	$62,610.00
61	TRAFFIC CONTROL ALLOWANCE	LS	1	$40,000.00	$40,000.00
62	APS ALLOWANCE	LS	1	$150,000.00	$150,000.00
63	OWNER'S CONTINGENCY	LS	1	$150,000.00	$150,000.00
		TOTAL CONSTRUCTION COST			$3,922,896.00

Submitted by:	Haydon Building Corp
SIGNATURE:	
NAME:	Mark Eklund
TITLE:	VP
Principal Office:	Haydon Building Corp
Address:	4640 E Cotton Gin Loop
	Phoenix AZ 85040
Telephone:	602-296-1496
Email Address:	meklund@haydonbc.com
DUNS or Cage No.	035910202

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

Mr. Mark Eklund being duly sworn deposes and says that he/she is the VP of Haydon Building Corp Contractor(s), and that answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn before me this 10 day of January, 2022

Notary Public: Debbie A O'Conner

My Commission Expires: 1 day of March, 2022

SIGNATURE: Debbie A O'Conner

DEBBIE A. O'CONNER
Notary Public - State of Arizona
MARICOPA COUNTY
My Commission Expires
March 1, 2022

EXHIBIT B
SURETY BOND

SURETY BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, Haydon Building Corp
(Contractor's Name)
as Principal, and Travelers Casualty and Surety Company of America, as Surety, are hereby held and firmly bound into City of Buckeye as OWNER in the penal sum of Ten Percent of Amt Bid (10%) for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this 10th day of January, 2022.

The Condition of the above obligation is such that whereas the Principal has submitted a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for: **DORFP #1 JOC CONTRACT #2020003 (.01 - .05) VERRADO WAY - YUMA ROAD TO VAN BUREN STREET ROADWAY IMPROVEMENTS.**

Now, therefore, if the obligee accepts the proposal of the principal and the principal enters into a contract with the obligee in accordance with the terms of the proposal and gives the bonds and certificates of insurance as specified in the standard specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the principal to enter into the contract and give the bonds and certificates of insurance, if the principal pays to the obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of § 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

HAYDON BUILDING CORP INCORPORATED 1995 ARIZONA

Haydon Building Corp

By: _____ (L.S.)
(Principal) Mark D. Eklund, VP

Travelers Casualty and Surety Company of America
(Name of Surety)

By: _____
(Signature)
Stephanie L. Bucholz, Attorney-in-Fact

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA HARTFORD, CONN.

TRAVELERS

SURETY BOND SEAL ADDENDUM
TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA

Due to logistical issues associated with the use of traditional seals during the COVID-19 pandemic, Travelers Casualty and Surety Company of America ("Travelers") has authorized its Attorneys-in-Fact to affix Travelers' corporate seal to any bond executed on behalf of Travelers by any such Attorney-in-Fact by attaching this Addendum to said bond.

To the extent this Addendum is attached to a bond that is executed on behalf of Travelers by its Attorney-in-Fact, Travelers hereby agrees that the seal below shall be deemed affixed to said bond to the same extent as if its raised corporate seal was physically affixed to the face of the bond.

Dated this 16th day of March, 2020.

Travelers Casualty and Surety Company of America



By: _____
Robert L. Raney, Senior Vice President

TRAVELERS

Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **STEPHANIE L BUCHOLZ** of **MESA**, **Arizona**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April, 2021.**

State of Connecticut

City of Hartford ss.

By: _____
Robert L. Raney, Senior Vice President

On this the **21st** day of **April, 2021**, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June, 2026**

_____
Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **10th** day of **January**, **2022**.

_____
Kevin E. Hughes, Assistant Secretary

To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 1

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 13, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 13, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Will the Shotcrete on the slope of the inlet headwall be incidental, or will there be a bid item added?

A1. Incidental.

Q2. The profile of the Left Edge of Pavement on Yuma Rd does not line up when PP-02 and PP-03 are placed next to one another at STA 41+00. There looks to be about a 9" difference, where the profile on Page PP-03 is 9" higher in elevation. There is also an inconsistency in the slopes at STA 41+00; PP-02 states that S=0.54% and PP-03 states that S=0.48%.

- Can you clarify which sheet has the correct elevations and slopes?

A2. Attached and incorporated are revised sheets PP-02 and PP03.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 1
ADDENDUM ISSUE DATE: December 16, 2021

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature:

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

Print Name and Title: Mark D Eklund, VP

Date: 12/16/2021

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 2

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 13, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 13, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Can the bid results of the bidders be published to all bidding contractors?

A1. The Contractors names who bid will be published, but not the bid amount.

Q2. What is the anticipated construction schedule?

A2. Six (6) months, but is negotiable.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 2
ADDENDUM ISSUE DATE: December 22, 2021

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature: _____

Print Name and Title: Mark Eklund, VP

Date: 12/22/21

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 3

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 10, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 10, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Is the DORFP due date January 10, 2022 or January 13, 2022?

A1. Bids are due for this DORFP on January 10, 2022 no later than 3:00 p.m. MST. This was stated on the DORFP, however both Addendum #1 and Addendum #2 incorrectly listed the bid due date as January 13, 2022.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 3
ADDENDUM ISSUE DATE: December 22, 2021

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature: _____

Print Name and Title: Mark Eklund, VP

Date: 12/22/21

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 4

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. We would like to request that the bid date for this project be pushed two to three weeks. We would also like to request that the date for questions be pushed as well.

With the holiday season, and the current workload of our subcontractors and suppliers, extending the bid date would allow them a better opportunity to provide competitive pricing on this project.

A1. Yes, the bid date can be pushed two to three weeks to allow for a better opportunity to provide competitive pricing on this project. **The last day for questions is hereby revised to January 20, 2022** no later than 5:00 p.m. MST and the **Bid due date is hereby revised to January 27, 2022 no later than 3:00 p.m. MST.**

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 4
ADDENDUM ISSUE DATE: January 3, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature: [signature]

Print Name and Title: Mark Eklund, VP

Date: 1/3/22

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 5

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Bid Schedule line item 18 – Construct spillway; there is no call out anywhere on the plans. Was this bid item missed or has it been removed?

A1. See attached Revised Schedule of Values and Final Specifications.

Q2. Plan sheet PP-01, PP-02, & PP-04
Construction note 14 – call for a pass through curb per special detail – 3 EA
There is not a bid item for this scope of work in the bid schedule, and the special provisions don't provide any information. Can we find out if there should be an additional bid item or if this item is incidental to the curb and gutter line item?

A2. See attached Revised Schedule of Values and Final Specifications.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 5
ADDENDUM ISSUE DATE: January 5, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature:

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

Print Name and Title: Mark Ekund, VP

Date: 1/5/22

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 6

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Are we able to close the intersection of Yuma and Verrado for paving?

A1. No, not completely – school is there.

Q2. Can a bid item for 4 each internally illuminated signs be added to the bid schedule?

A2. Yes, added in the revised Schedule of Values dated 1/6/22 (attached).

Q3. Is the shotcrete channel incidental to bid item 36, Construct Headwall Per COB Std Dtl 51200?

A3. No, shotcrete added to revised Schedule of Values dated 1/6/22 (attached).

Q4. Per Addendum #5, Asphalt Pavement and Aggregate Base Class 2 has a quantity of 0. Is this correct?

A4. No, a formula off to the side that was removed was tied to those lines – it has been corrected (See revised Schedule of Values dated 1/6/22 attached).

Q5. Bid item 13, Safety Rail has a quantity of 1 EA on SOV, however it cannot be found on the plans. Please advise.

A5. Current plans have safety rail. Safety rail is to City of Buckeye standard exists in multiple locations. 250' has been verified and put in the revised Schedule of Values dated 1/6/22 (attached).

NOTE: Please be sure to use the correct Schedule of Values when submitting your bids – which is the revised Schedule of Values dated 1/6/22 (attached). Thank you.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 6
ADDENDUM ISSUE DATE: January 6, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature: _____

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

Print Name and Title: Mark Eklund, VP

Date: 1/7/2022

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 7

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Could you please clarify the RGRCP will be class V or class IV? Class V is shown on the plans but class IV is listed on the schedule of values.

A1. Quantity of A poles have been adjusted on the attached revised 1/11/22 SOV. Quantity 1 is correct.

Q2. Please verify quantity of Pole (Type A). TS Plans only show 1

A2. PB pole quantities have been verified on attached revised 1/11/22 SOV. Quantity 5 is correct.

Q3. Please verify quantity of Pole (Pedestrian Post). TS Plans show 5

A3. IISNS are included in qtys/specs as bid item #59. Thus they will be furnished/installed by contractor.

Q4. Traffic Signal plans show new Illuminated Street Name Signs. Are these to be furnished and installed by Contractor? There is no bid item for these.

A4. Traffic signal conductors are included in item #53. Previously just called 'conductors,' has been renamed to 'Traffic signal conductors' for clarity.

Q5. What bid item should the Traffic signal conductors be included in?

A5. The dual mast arm light fixtures are part of the ultimate roadway lighting plan. The current plan set does not show these.

Q6. There are street lighting photometric plan sheets included in the bid package. Those plans show dual mast arms and fixtures. Are these plans part of this project?

A6. The RCRCP's are to be class V. The qtys had class IV mistakenly and has been revised to say that.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

NOTE: REVISED Schedule of Values (SOV) dated 1/11/22 is attached and incorporated into this Addendum #7. Please be sure to bid from this final SOV. Thank you.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 7
ADDENDUM ISSUE DATE: January 12, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company:	Haydon Building Corp
Authorized Signature:	
Print Name and Title:	Mark Eklund, VP
Date:	1/12/2022
Address:	4640 E Cotton Gin Loop
City, State, Zip Code:	Phoenix AZ 85040
Telephone Number:	602-296-1496
Email Address:	meklund@haydonbc.com

HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 8

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. In Addendum #6 it states that the current plans have safety rail that is in multiple locations for a total of 250', but myself and as another person have looked at the plans several times and have yet to find the safety rail locations.
Can we please get clarity on where these locations are as well as LF per location?

A1. Along the edge of the sidewalk by the channel and at each headwall.

Q2. We've been looking carefully for the verified 250 LF of safety rail, but can only account for up to about 173 LF as follows:

a. Headwalls on sheet DR-01, adding up to 98 LF.
b. Sheet DR-02 mentions 11.5 LF of handrail, but no callout is shown on the plan.
c. If the pass-through curbs on sheets PP-01, PP-02, and PP-04 are to be considered similarly to scuppers, then they might get 21 LF of handrail each, for a total of 63 LF.
d. These would sum to 172.5 LF. Can you confirm this is correct, or provide locations for the additional 77.5 LF?

A2. Sheet PP-04 has 200' of handrail and sheet DR-01 has 50' of handrail. New set has this information (attached). Thus, the quantity of 250' of handrail is correct.

Q3. Sidewalk quantity in the bid schedule doesn't appear to be adequate, as follows:

a. Sheet PP-04 lists a quantity of 3,330 SF, but doesn't specify where it ends near the intersection. The two straight runs account for only about 2,970 SF.
b. Sheet RAMP DETAIL includes long sidewalks connecting the ramps, totaling about 2,400 SF, but these are not included in the sidewalk totals.
c. Can you confirm 5,360 SF of sidewalk will be required, or clarify what is considered sidewalk for purposes of the bid?

A3. Yes the sidewalk quantity is off. First, the area measured is 3200 SF, not 3330. The ramps were previously counted as though the concrete connecting them was incidental, however it would be more practical to count the sidewalk connecting them with the rest of the sidewalk. Thus the sidewalk connecting the ramps (which is almost exactly 2400 SF) should be included in the sidewalk quantity. Thus the total sidewalk qty is 5600 SF (Revised SOV attached dated 1/19/22).

Q4. Manhole adjustment quantity in the bid schedule appears to be missing one.

a. Sheet PP-05 mentions only one manhole to be adjusted, but calls out two.
b. Can you confirm the quantity of manhole adjustments?

A4. The number of manhole covers to adjust to grade is 2, correct.

Q5. Riprap quantity in the bid schedule doesn't appear to be adequate, as follows:

a. Sheets G-01 and G-02 show a quantity of about 500 SF of riprap that isn't included in the bid total.
b. Can you confirm the quantity of riprap to be installed?

A5. The area of riprap not accounted for is that of the segment of the drainage channel on the SE corner of the intersection. It comes out to 2,934 SF of rip rap. Thus the final quantity of rip rap needed for the project is 112+128+2934= 3174 SF of rip rap (Revised SOV attached dated 1/19/22).

Q6. Shotcrete quantity appears to have an incorrect unit of measure, as follows:

a. Bid schedule calls for 1,426 SY of shotcrete, but we can only account for about 172 SY.
b. Is it possible the bid schedule should require SF instead of SY?
c. If not, can you provide locations for the additional 1,254 SY of shotcrete to be installed?

A6. It appears that yes, the units were mistakenly shown as SY when it should have been SF. In fact, 1550 SF is more accurate than the most recent quantity shown, which is 172 SY.

Q7. What is the anticipated start date for this project?

A7. Approx. 6 weeks from now.

Q8. What is the thickness of the existing asphalt and is there a Geotech available?

A8. No existing data exists. Geotech not provided.

Q9. What is the thickness of the shotcrete in the channel?

A9. Placement and Thickness-
The thickness of the lining in channels must not be less than 4 inches. Lining must be placed as shown on the Plans or as directed by the City. The appearance of the lining must be neat and uniform conforming to the lines shown on the Plans or as directed by the City. The surfaces must be moistened thoroughly. All surfaces must be free from standing water, mud, and debris and must be firm enough to prevent contamination of the fresh lining by earth or other foreign material. The excavated channel must be approved by the City before the Contractor begins concrete placement. After the concrete has been placed, the surface must be checked with a minimum 10-foot straightedge. Low spots must be filled to finish grade. The finished concrete surface must be smooth and uniformly constructed to the design finish grade.

Reinforcement

The channel lining must be reinforced with 4 by 4 inch – W4 x W4 welded wire fabric conforming to ASTM A185. The welded wire fabric reinforcement must be embedded in the concrete so that it will be a minimum of 1 inch clear from either face of the concrete, unless otherwise shown on the Plans. The wire fabric must be maintained at the required minimum clear distance from the soil through the use of dobies or other methods approved by the City before and during concrete placement.

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

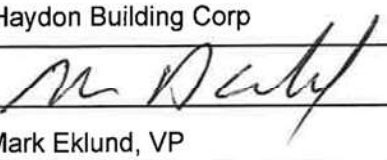
PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 8
ADDENDUM ISSUE DATE: January 19, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature: 



Print Name and Title: Mark Eklund, VP

Date: 1/27/2022

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

DORFP No. 1 for JOC CONTRACT 2020003 (.01 - .05)
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM No. 9

NOTE: Attach to Original DORFP. However, if Proposal has already been returned, complete this amendment and return for attachment to your Proposal by 3:00 p.m., MST, January 27, 2022.

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: pglasmann@buckeyeaz.gov

SOLICITATION: DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Delivery Order Request for Proposal documents prepared by the City of Buckeye.

Bid Due Date and Time: January 27, 2022, no later than 3:00 p.m., MST

THE FOLLOWING QUESTIONS WERE ASKED BY CONTRACTORS:

Q1. Will City establish a Bid Item for Dumped Rip Rap shown on Sheet 28? Similar to new Bid Item 56 for the grouted rip rap detail shown on Sheet 26, Detail B.

A1. All rip rap called out on the plans is grouted. Rip rap previously unaccounted for has been called out to refer to bid item 56.

Q2. Will filter fabric be required for both grouted and dumped rip rap? Current details do not call for filter fabric.

A2. Filter fabric will be required for all rip rap installed in the project. The detail on sheet 26 has been updated to show a callout for this (updated plans attached dated 1-20-22).

Q3. Please provide information for new Bid Item 58 Shotcrete;

a. Thickness?
b. Mix Design?
c. Reinforcing? WWF or Fiber mesh?

A3.

a. Thickness = 4"
d. 3000 psi Class A (New Info)
e. WWF reinforcing

Q4. Will City provide Earthwork Quantity Calculations / Earthwork Cross Sections prior to Bid Date?

A4. Only quantities have been provided for Earthwork.

Q5. How will the two (2) Allowance Bid Items be administered? Is the contractor expected to carry mark ups for these items in our bid? Or – will the allowances be treated as a Time & Material Plus Markup process as set forth in MAG?

A5. APS is not required or needed on this job and traffic control is very minimal because it is adding to an existing that is not in or on the road, carry markups in your bid

Q6. Also, for our understanding, if total traffic control required is more than $40,000.00, will the contractor be additionally compensated? Likewise for the APS Allowance.

A6. APS is not required or needed on this job and traffic control is very minimal because it is adding to an existing that is not in or on the road, carry markups in your bid

The balance of the specifications and instructions remain the same. Offerors must acknowledge receipt and acceptance of this amendment by returning the entire Addendum with the Delivery Order Request for Proposals.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS AMENDMENT BY SIGNING THE ATTACHED SOLICITATION AMENDMENT ACKNOWLEDGEMENT.

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

DORFP No. 1: Verrado Way – Yuma Road to Van Buren Street Intersection Improvements
ADDENDUM No. 9
ADDENDUM ISSUE DATE: January 24, 2022

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Delivery Order Request for Proposals, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company: Haydon Building Corp

Authorized Signature:

Print Name and Title: Mark Eklund, VP

Date: 1/27/2020

Address: 4640 E Cotton Gin Loop

City, State, Zip Code: Phoenix AZ 85040

Telephone Number: 602-296-1496

Email Address: meklund@haydonbc.com

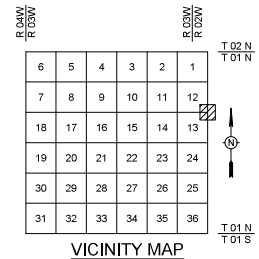
HAYDON BUILDING CORP CORPORATED 1995 ARIZONA

EXHIBIT B

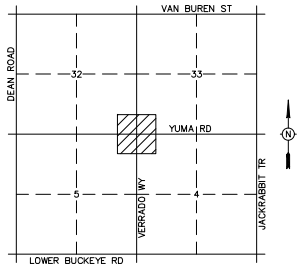
PLANS AND SPECIFICATIONS

VERRADO WAY
AND YUMA ROAD INTERSECTION IMPROVEMENT

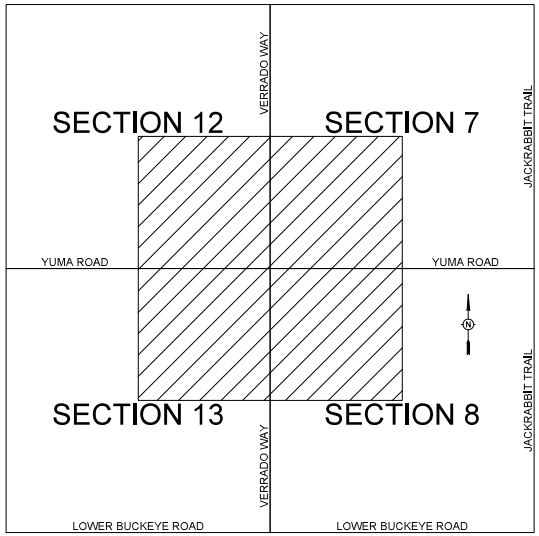
A PORTION OF THE FOUR OF SECTIONS 12, 13, 7, AND 18 TOWNSHIP 1N RANGE 3W AND 2W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS–OF–WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS–OF–WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349–6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS–OF–WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON–SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

UTILITY COMPANIES — DATE SUBMITTED

ELECTRIC	ARIZONA PUBLIC SERVICE	01/15/2021
TELEPHONE	CENTURY LINKS	01/15/2021
CATV	COX COMMUNICATIONS	01/15/2021
WATER	CITY OF BUCKEYE	01/15/2021
SEWER	CITY OF BUCKEYE	01/15/2021
GAS	SOUTHWEST GAS	01/15/2021

STORM WATER DRAINAGE CERTIFICATE

1. THE DEVELOPMENT WILL PROVIDE FOR ON–SITE RETENTION FOR THE RUNOFF FROM A 100–YEAR 2–HOUR STORM.
2. ALL FLOWS FROM THE 10–YEAR STORM WILL BE CONTAINED WITHIN THE STREET (FROM CURB TO CURB).
3. ALL STORM WATER RETENTION WILL BE DRAINED WITHIN 36–HOURS. IF BASINS DO NOT DRAIN WITHIN 36–HOURS, DEVELOPER/OWNER SHALL ENACT MEASURES TO CORRECT.
4. ALL DRAINAGE DESIGN WILL COMPLY WITH THE CITY OF BUCKEYE CURRENT GRADING AND DRAINAGE DESIGN STANDARDS.
5. FINISH FLOOR ELEVATIONS MUST BE A MINIMUM OF 14–INCHES ABOVE THE OUTFALL TOP OF CURB ELEVATION AND 12–INCHES ABOVE THE COMPUTED 100–YEAR WATER ELEVATIONS AND 1–FOOT ABOVE THE EMERGENCY OUTFALL ELEVATIONS AT ANY ADJACENT RETENTION BASIN, WHICH EVER IS GREATER.
6. ALL RETENTION BASINS SHALL HAVE A MINIMUM OF 1–FOOT OF FREEBOARD.

BY: _____
REGISTERED CIVIL ENGINEER — DATE

(REQUIRED ON GRADING AND DRAINAGE PLANS)

OWNER
CITY OF BUCKEYE
MR. STEVE RILEY
530 E MONROE AVENUE

(623)349–6172
SRILEY@BUCKEYEAZ.GOV

DEVELOPER
CITY OF BUCKEYE
MR. STEVE RILEY
530 E MONROE AVENUE

(623)349–6172
SRILEY@BUCKEYEAZ.GOV

ENGINEER
CIVTECH INC.
JAY YENERICH
10605 N. HAYDEN ROAD
SCOTTSDALE,AZ 85260
480–659–4250
480–659–0566
JYENERICH@CIVTECH.COM

SHEET INDEX

SHEET 1 COVER SHEET
SHEET 2 LEGEND
SHEET 3 GENERAL NOTES
SHEET 4–8 DEMO
SHEET 9–14 PLAN/PROFILE
SHEET 15 RAMP DETAILS
SHEET 16–21 TYPICAL SECTIONS
SHEET 22 INTERSECTION LAYOUT
SHEET 23–24 DRAINAGE
SHEET 25–27 GRADING
SHEET 28–33 SIGNING/MARKING
SHEET 34–41 LIGHTING
SHEET 42–43 SWPPP

BASIS OF BEARING

SECTION CORNER TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
110	889568.92	520974.85	1038.61	FD 3 INCH T.O.B. BCF
111	886922.68	520969.28	1016.30	FD 3 INCH T.O.B. BCF
112	886898.46	523445.36	1008.57	FD 3 INCH T.O.B. BCF
116	884278.18	520949.30	1001.47	FD 3 INCH M.C.D.O.T. BCH

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

BY: _____
WESTERN AREA POWER ADMINISTRATION (WAPA) — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS – BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
ARIZONA REGISTERED LAND SURVEYOR — DATE

_____
ARIZONA REGISTRATION NUMBER

_____
TELEPHONE NUMBER

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT — DRAFTED — CHECKED
FIELD SURVEY — DRAFTED — CHECKED
DRAWING SCALES
PLAN TYPE
ENGINEER INFORMATION

CivTech Inc.
10605 N. Hayden Rd., Suite 140
Scottsdale, AZ 85260
480.659.4250 P
480.659.0566 F
info@civtech.com

PROJECT
COB PROJECT PLAN STICKER
REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
SUBMITTAL: 3RD SUBMITTAL SEALED PLANS
AS-BUILT SEAL
DESIGN SEAL



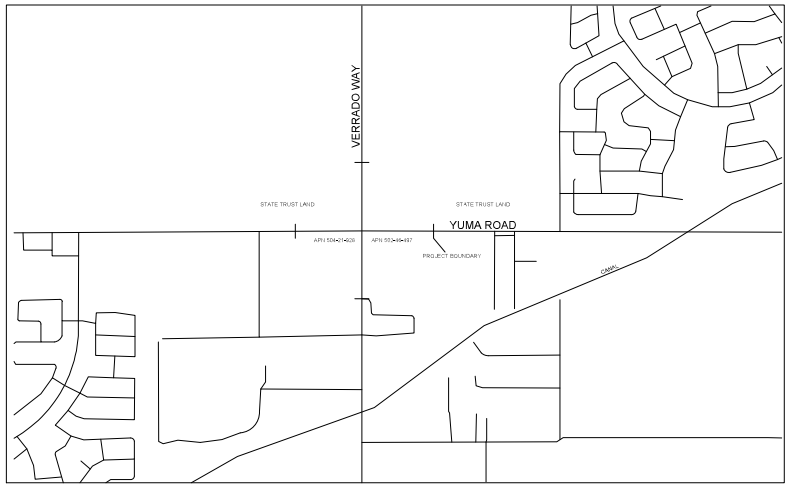
COB PLAN TRACKING #
COB PERMIT # ENG-DP-20-0042
ORIGINAL PLAN DATE 05/24/2021
LATEST REVISION DATE 01/20/2022
PROJECT NUMBER
SHEET NUMBER 1 of 43

LEGEND:

CENTERLINE	
SECTION LINE	
PROPERTY BOUNDARY LINE	
PROPOSED RIGHT OF WAY	
PROPOSED STREETLIGHT CONDUIT	
EXISTING UNDERGROUND POWER	UGE
EXISTING FIBER OPTIC	FO
EXISTING GAS	G
EXISTING SANITARY SEWER	S
EXISTING WATER	12" W
EXISTING IRRIGATION	30" IRR
EXISTING RIGHT OF WAY	
EXISTING STORM DRAIN	SD
EXISTING TELEPHONE	T
EXISTING MINOR CONTOUR	1139
EXISTING MAJOR CONTOUR	1135
PROPOSED MINOR CONTOUR	1139
PROPOSED MAJOR CONTOUR	1135
STUB AND CAP	
SAWCUT PAVEMENT	
PROPOSED CURB AND GUTTER	
EXISTING CURB AND GUTTER	
PROPOSED EASEMENT	
TEMPORARY CONSTRUCTION EASEMENT	

CITY OF BUCKEYE NOTES

ALL CITY OF BUCKEYE GENERAL NOTES AND UTILITY NOTES ARE ACCESSIBLE ON THE CITY'S WEBSITE AT www.buckeyeaz.gov, UNLESS OTHERWISE ATTACHED.



REVISIONS:

1

2

3

PLAN NAME

LEGEND

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
ARIZONA, U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE 05/24/2021

LATEST REVISION DATE 01/20/2022

PROJECT NUMBER

SHEET NUMBER 2 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

COB PLAN TRACKING #

COB PERMIT # ENGCIP-20-10042

Z:\Civtech\Projects\18-0160 B COB Verrado & Yuma Rd Intersection Improvement Design & Plans, Buckeye\Dwg\18-0160B_LEGD.dwg
January 26, 2022 - 9:39am
Joy Yenerich, P.E.

PAVING PLAN NOTES

1. NO PAVING CONSTRUCTION SHALL BE STARTED UNTIL ALL UNDERGROUND UTILITIES WITHIN THE ROADWAY PRISM ARE COMPLETED.
2. THE MAXIMUM STAKE INTERVAL FOR GRADES OF 0.2% OR LESS SHALL BE 25 FOR CONCRETE WORK AND 50 FOR ASPHALT ROADWAY SECTION, EXCEPT ON HORIZONTAL OR VERTICAL CURVES WHERE A MAXIMUM STAKE INTERVAL OF 20 FOR CONCRETE WORK SHALL BE REQUIRED. ALL CURB RETURNS SHALL BE STAKED AT THE P.C., P.T. AND THE MIDPOINT OF THE RETURN. NO GRADE STAKE INTERVAL SHALL EXCEED 50.
3. GUTTERS WILL BE WATER TESTED IN THE PRESENCE OF THE CITY ENGINEER, OR DESIGNEE, TO INSURE PROPER DRAINAGE, PRIOR TO FINAL APPROVAL BY THE ENGINEERING DIVISION.
4. UNDERGROUND STREET LIGHT AND TRAFFIC SIGNAL CIRCUITS SHALL BE INSTALLED AS PART OF THE OFFSITE IMPROVEMENTS. NEW FOUNDATIONS FOR TRAFFIC SIGNAL POLES SHALL BE POURED FAR ENOUGH IN ADVANCE TO ALLOW SUFFICIENT TIME FOR CONCRETE CURING AND FOR SCHEDULING THE RELOCATION OF THE EXISTING TRAFFIC SIGNALS.
5. ADDRESS OVERLAY REQUIREMENTS WHERE OPEN CUTTING IS PERMITTED. FINISHED PAVEMENT SURFACE MATERIALS SUCH AS RUBBERIZED ASPHALT SHALL BE MATCHED IN FIELD.
6. PAVING IMPROVEMENTS SHALL NOT BE ACCEPTED UNTIL 3 MIL MINIMUM DOUBLE MATTE BLACK LINE MYLAR REPRODUCIBLE AS-BUILT PLANS HAVE BEEN SUBMITTED TO AND APPROVED BY THE ENGINEERING DIVISION.

SEWER, WATER and UTILITY PLAN NOTES

1. THE CONTRACTOR SHALL UNCOVER ALL EXISTING LINES BEING TIED INTO TO VERIFY THEIR LOCATION, SIZE, MATERIAL TYPE, ETC. PRIOR TO CONSTRUCTION OF NEW LINES. THE CONTRACTOR WILL LOCATE OR HAVE LOCATED ALL EXISTING UNDERGROUND PIPELINES, TELEPHONE AND ELECTRIC CONDUITS, AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL OBSERVE ALL POSSIBLE PRECAUTIONS TO AVOID DAMAGE TO SAME. CALL BLUE STAKE AT 602-263-1100.
2. SUMMITS IN WATER LINES SHALL BE LOCATED AT FIRE HYDRANTS.
3. BACKFILLING SHALL NOT BE STARTED UNTIL LINES ARE APPROVED BY THE ENGINEERING DIVISION.
4. IF A BACKFLOW PREVENTION ASSEMBLY IS REQUIRED TO BE INSTALLED, THE CONTRACTOR WILL CALL THE DEVELOPMENT SERVICES DEPARTMENT AT 480-350-8341 FOR AN INSPECTION BEFORE BACKFILLING THE ASSEMBLY.
5. ALL PUBLIC WATER LINES SHALL BE CLASS 52 DIP, PROTECTED WITH HIGH DENSITY POLYETHYLENE CORROSION PROTECTION PER MAG SPECIFICATION 610.
6. ALL NEW WATER AND SEWER CONNECTIONS TO EXISTING LINES SHALL BE DONE ONLY BY OPEN-CUT ON MAJOR ARTERIAL STREETS, MAJOR INTERSECTIONS OR THE PRESENCE OF A MAJOR WATER OR SEWER LINE. BORED INSTALLATIONS MUST BE CLEARLY IDENTIFIED AND SPECIFICALLY APPROVED BY THE CITY ENGINEER, OR DESIGNEE.
7. IN ACCORDANCE WITH AAC R18-4-119, ALL MATERIALS ADDED AFTER JANUARY 1, 1993, WHICH MAY COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NATIONAL SANITATION FOUNDATION STANDARDS 60 AND 61.
8. ALL MANHOLE INSTALLATIONS SHALL BE COMPLETE IN PLACE INCLUDING ALL EXCAVATION, BACKFILL, SWEEPS, AND CONDUITS NECESSARY TO COMPLETE THE INSTALLATION OF THE MANHOLE AND CONNECTIONS TO THE MAINLINE CONDUITS.
9. ALL VALVES SHALL BE FLANGED TO FITTINGS, PREFERABLY TEES.
10. THRUST & ANCHOR BLOCKS PER MAG STANDARD DETAIL 301, 380 & 381.
11. SEWER, WATER AND UTILITY IMPROVEMENTS SHALL NOT BE ACCEPTED UNTIL 3 MIL MINIMUM DOUBLE MATTE BLACK LINE MYLAR REPRODUCIBLE "AS-BUILT" PLANS HAVE BEEN SUBMITTED TO AND APPROVED BY THE ENGINEERING DIVISION.
12. WATER, STORM DRAIN & SANITARY SEWER SEPARATION/PROTECTION SHALL BE PER MAG STANDARD DETAIL 404-1, 404-2, AND 404-3 WITH CITY APPROVAL. THE CITY CONSIDERS STORM DRAINS TO BE "SEWER" WHEN CROSSING WATER LINES. THE CITY CONSIDERS STORM DRAINS TO BE "POTABLE WATER" WHEN CROSSING SANITARY SEWER LINES.
13. THE CONTRACTOR SHALL TAKE EVERY PRECAUTION TO PREVENT FOREIGN MATERIAL FROM ENTERING THE PIPE WHILE IT IS BEING STORED.
14. AFTER PRESSURE TESTING AND BEFORE PLACING IN SERVICE, ALL WATER LINES SHALL BE DISINFECTED AND TESTED FOR WATER QUALITY IN ACCORDANCE WITH MAG STANDARD SPECIFICATIONS SECTION 611. IF THE WATERLINE FAILS THE CHLORINE RESIDUAL TEST OR FAILS TO MEET THE WATER QUALITY TEST MORE THAN THREE (3) TIMES, THE CITY OF TEMPE ENGINEERING INSPECTOR RESERVES THE RIGHT TO REQUIRE THE INSTALLED WATER LINE TO BE CLEANED BY PIGGING THE LINE, IN ACCORDANCE WITH STANDARD PROCEDURES, AT NO COST TO THE CITY.

ON SITE DRAINAGE PLAN NOTES

1. A PUBLIC WORKS PERMIT ISSUED BY THE ENGINEERING DIVISION SHALL BE REQUIRED FOR THE ONSITE DRAINAGE OF THE PROJECT.
2. DRYWELLS MUST BE REGISTERED WITH THE ARIZONA STATE DEPARTMENT OF ENVIRONMENTAL QUALITY. AN AQUIFER PROTECTION PERMIT (APP) MAY ALSO BE REQUIRED.
3. PRIOR TO ACCEPTANCE THE OWNER/DEVELOPER SHALL FURNISH THE FOLLOWING:
   a.) DRILLING LOG AND CERTIFICATION OF COMPLIANCE FOR ALL DRY WELLS.
   b.) A 3 MIL MINIMUM DOUBLE MATTE, BLACK AND WHITE REPRODUCIBLE MYLAR COPY OF THE APPROVED PLANS WITH THIS CERTIFICATION SIGNED BY A REGISTERED PROFESSIONAL ENGINEER:
4. "THIS IS TO CERTIFY THAT AN ACTUAL FIELD SURVEY WAS MADE UNDER MY SUPERVISION OF THE SUBJECT SITE AND THAT FINISH FLOOR AND RETENTION ELEVATIONS ARE THE TRUE "AS BUILT" CONDITIONS, AND THEY MEET OR EXCEED THE ORIGINAL RETENTION REQUIREMENTS AS SHOWN ON THIS APPROVED PLAN."

_____ _____ _____
ENGINEER DATE ARIZONA P.E. NUMBER

UNDERGROUND STORM WATER STORAGE SYSTEMS WHEN USED AND SPECIFICALLY APPROVED BY THE CITY ENGINEER, OR DESIGNEE, SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER, INCLUDING THE DESIGN, CONSTRUCTION, INSPECTION, MONITORING AND MAINTENANCE. THE OWNER SHALL BE LIABLE FOR ANY AND ALL CLAIMS RESULTING THERE FROM. THE CITY OF BUCKEYE, BY ALLOWING THIS SYSTEM ASSUMES NO LIABILITY OR RESPONSIBILITY FOR THE DESIGN, CONSTRUCTION, INSPECTION, MONITORING, AND/OR MAINTENANCE OF THE SYSTEM. A DEED RESTRICTION DESCRIBING THE SYSTEM SHALL BE RECORDED. THIS DOCUMENT SHALL STATE THAT THE DEED RESTRICTION CANNOT BE RELINQUISHED OR ABANDONED WITHOUT THE WRITTEN APPROVAL OF THE CITY OF BUCKEYE.

ABBREVIATIONS:

AC	ASPHALT CONCRETE
APN	APS PART NUMBER
B/C	BACK OF CURB
BO	BOTTOM OF, BLANK OUT
BW, BSW	BACK OF WALK
CTV	CABLE TV
CB	CATCH BASIN
CCH	CLOSED CONNECTOR HOUSING
CCTV	CLOSED-CIRCUIT TELEVISION
CHNL	CHANNEL
CL	CENTERLINE
CONC	CONCRETE
CTR	CABLE TV RISER
DE	DRAINAGE EASEMENT
DOT/FHWA	DEPARTMENT OF TRANSPORTATION
DET, DTL	DETAIL
DWG	DRAWING
D/W	DRIVEWAY
E	ELECTRIC
ECB	ELECTRIC CABINET
Ea	ACTIVE SUPERELEVATION (IN INCHES)
EF	EXPOSED FACE
ELEV	ELEVATION
ENT	ENTRANCE
EOP	EDGE OF PAVEMENT
EQNAHD	STATION EQUATION - AHEAD
EQNBK	STATION EQUATION - BACK
EQPT	EQUIPMENT
ETTV	ELECTRIC, TELEPHONE, & TELEVISION JOINT TRENCH
EXP JNT	EXPANSION JOINT
EXST	EXISTING
FC	FACE OF CURB
FF	FINISHED FLOOR
F/O	FIBER OPTIC UTILITY
FFL	FINISH FLOOR LEVEL
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLSH	FLASHING
FO	FIBER OPTIC
FOC	FACE-OF-CURB
FT	FOOT OR FEET
GLM	GAS LINE MARKER
GV	GATE VALVE
GVB&C	GATE VALVE BOX AND COVER
H	HEIGHT
HOR	HORIZONTAL
I	INTERSECTING ANGLE
IBC	INTERNATIONAL BUILDING CODE
IISNS	INTERNALLY ILLUMINATED STREET NAME SIGN
INS	INSTALL
INV	INVERT
IR	IRRIGATION
IS	IRRIGATION SRUCTURE
ISO	ISOMETRIC
IVB	IRRIGATION VALVE BOX
J-BOX	JUNCTION BOX
K	VERTICAL CURVE K VALUE
LCC	LIGHT CONTROL CABINET
LED	LIGHT EMITTING DIODE
L&G	LOCATION AND GRADE
LP	LOW POINT
LS	LANDSCAPE
LT	LEFT
M/A	MAST ARM
MAG	MARICOPA ASSOCIATION OF GOVERNMENTS
MB	METER BOX
MC	MARICOPA COUNTY
MCJ	MECHANICAL CONSTRUCTION JOINT
MH	MANHOLE
MOD	MODIFIED
MOT	MAINTENANCE OF TRAFFIC
MTG	MOUNTING
MV	METER VAULT
NPI	NON PAY ITEM
O/C, OC	ON CENTER
OH	OVERHEAD
PCC	POINT OF COMPOUND CURVATURE
PCCP	PORTLAND CEMENT CONCRETE PAVEMENT
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PPB	PEDESTRIAN PUSH BUTTON
PUFE	PUBLIC UTILITY FACILITY EASEMENT
PVC	POINT OF VERTICAL CURVATURE
R	RADIUS, RIGHT
RPM	RAISED PAVEMENT MARKER
RGRCP	RUBBER GASKET REINFORCED CONCRETE PIPE
R/W, ROW	RIGHT-OF-WAY
RT	RIGHT
SL	SLOPE
SC	SINGLE CURB
SD	STORM DRAIN
SHT	SHEET
SJB	STREET LIGHT JUNCTION BOX
SLT	STREET LIGHT
SLM	STREET LIGHT MAST ARM
STA	STATION
STD	STANDARD
STLT	STREET LIGHT
S/W, SW	SIDEWALK
SW GAS	SOUTHWEST GAS
SWE	SIDEWALK EASEMENT
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION EASEMENT
TOC	TOP OF CURB
TOW	TOP OF WALK
TSJB	TRAFFIC SIGNAL JUNCTION BOX
TSM	TRAFFIC SIGNAL MAST ARM
TSVB&C	TAPPING SLEEVE VALVE BOX AND COVER
TYP	TYPICAL
VPI	VERTICAL POINT OF INTERSECTION
WBP	WATER BACKFLOW PREVENTER

SYMBOLS:

- SURVEY MONUMENT FOUND AS NOTED
- TC 0.00 — EXISTING ELEVATION
- 00.00 FG — NEW ELEVATION
- F.H. — EXISTING FIRE HYDRANT
- G.L.M. — SIGNPOST EXISTING
- SIGNPOST NEW
- TRANSMISSION POLE
- EXISTING WATER VALVE
- EXISTING SANITARY SEWER MANHOLE
- E.C.B — EXISTING ELECTRICAL CABINET
- EXISTING GAY WIRE
- U.P. — EXISTING POWER POLE
- W.M. — EXISTING WATER METER
- G.V. — EXISTING GAS VALVE
- S.L. — EXISTING STREET LIGHT
- EXISTING SIGNAL MAST ARM
- EXISTING AERIAL PANEL
- EXISTING CACTUS
- E.J.B. — EXISTING ELECTRICAL JUNCTION BOX
- T.J.B. — EXISTING TRAFFIC SIGNAL JUNCTION BOX
- T.J.B. — EXISTING TELEPHONE JUNCTION BOX
- S.J.B. — EXISTING SIGNAL JUNCTION BOX
- T.S.M. — EXISTING TRAFFIC SIGNAL MAST ARM
- W.B.P. — EXISTING WATER BACKFLOW PREVENTER
- EXISTING TELEPHONE MANHOLE
- POTHOLE
- I.S. — EXISTING IRRIGATION STRUCTURE
- NEW ASPHALT PAVEMENT
- NEW CONCRETE
- NEW SIDEWALK

REVISIONS:
1
2
3

PLAN NAME: GENERAL NOTES

ENGINEER INFORMATION: CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

AS-BUILT SEAL

DESIGN SEAL: 37474 JAY ALLEN YENERICH, REGISTERED PROFESSIONAL ENGINEER, ARIZONA, U.S.A., EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021

LATEST REVISION DATE: 01/20/2022

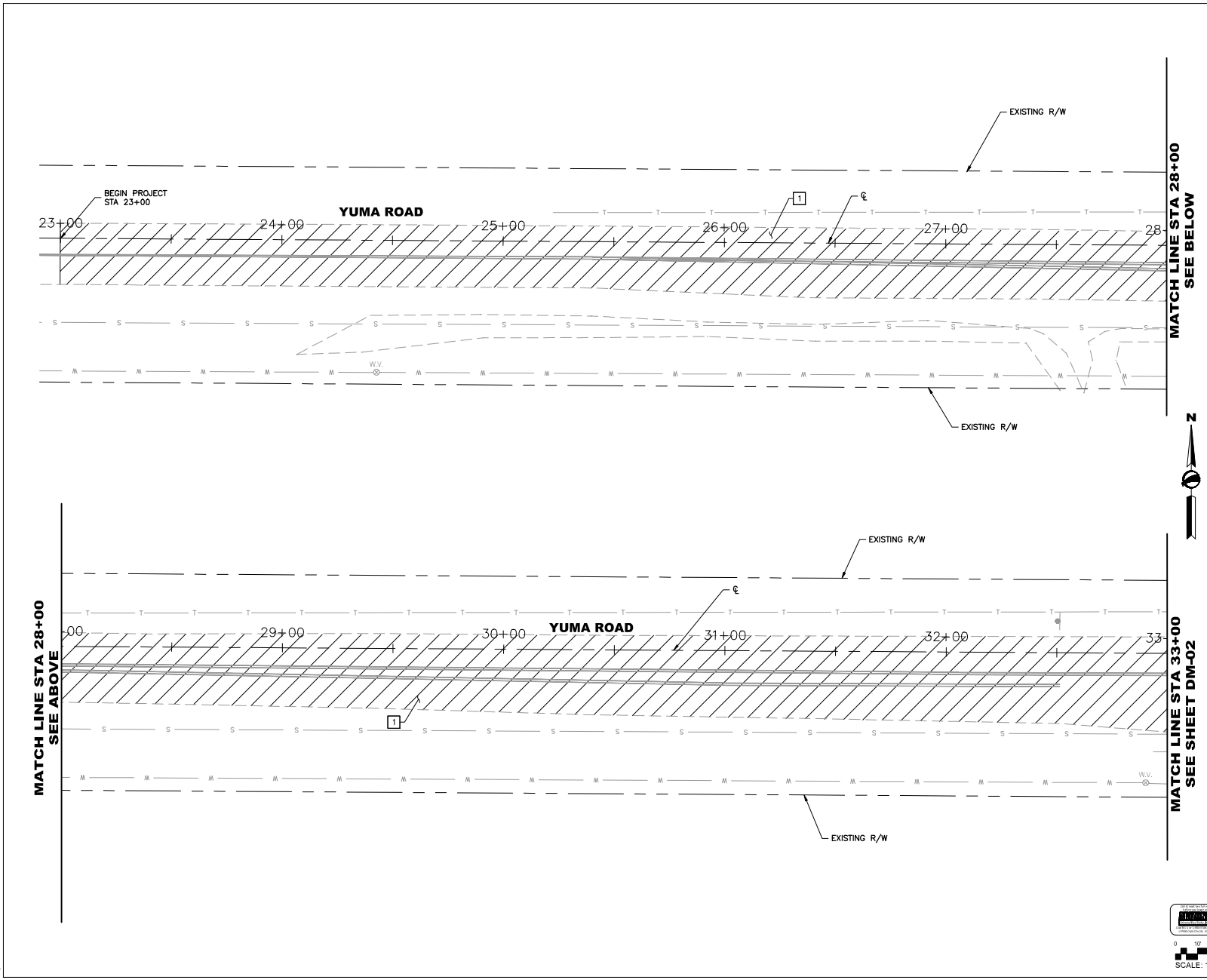
PROJECT NUMBER

SHEET NUMBER: 3 of 43

COB PLAN TRACKING #

COB PERMIT #: ENGCIP-20-10042

Z:\Civtech\Projects\18-0160 B COB Verrado & Yuma Rd Intersection Improvement Design & Plans, Buckeye\Dwg\18-0160B_GENERAL NOTES.dwg
January 26, 2022 - 9:59am
Joy Yenerich, P.E.



DEMOLITION NOTES

	ITEM	UNIT	QTY
1	REMOVE AC PAVEMENT	SY	3,630

NOTE:
1. REFER TO PLAN AND PROFILE SHEETS FOR ALL MANHOLE AND WATER VALVES AFFECTED.
2. REFER TO SIGNAL PLANS FOR SIGNAL ALL SIGNAL EQUIPMENT AFFECTED.

REVISIONS:
1
2
3

PLAN NAME:
DEMOLITION PLAN
DM-01

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

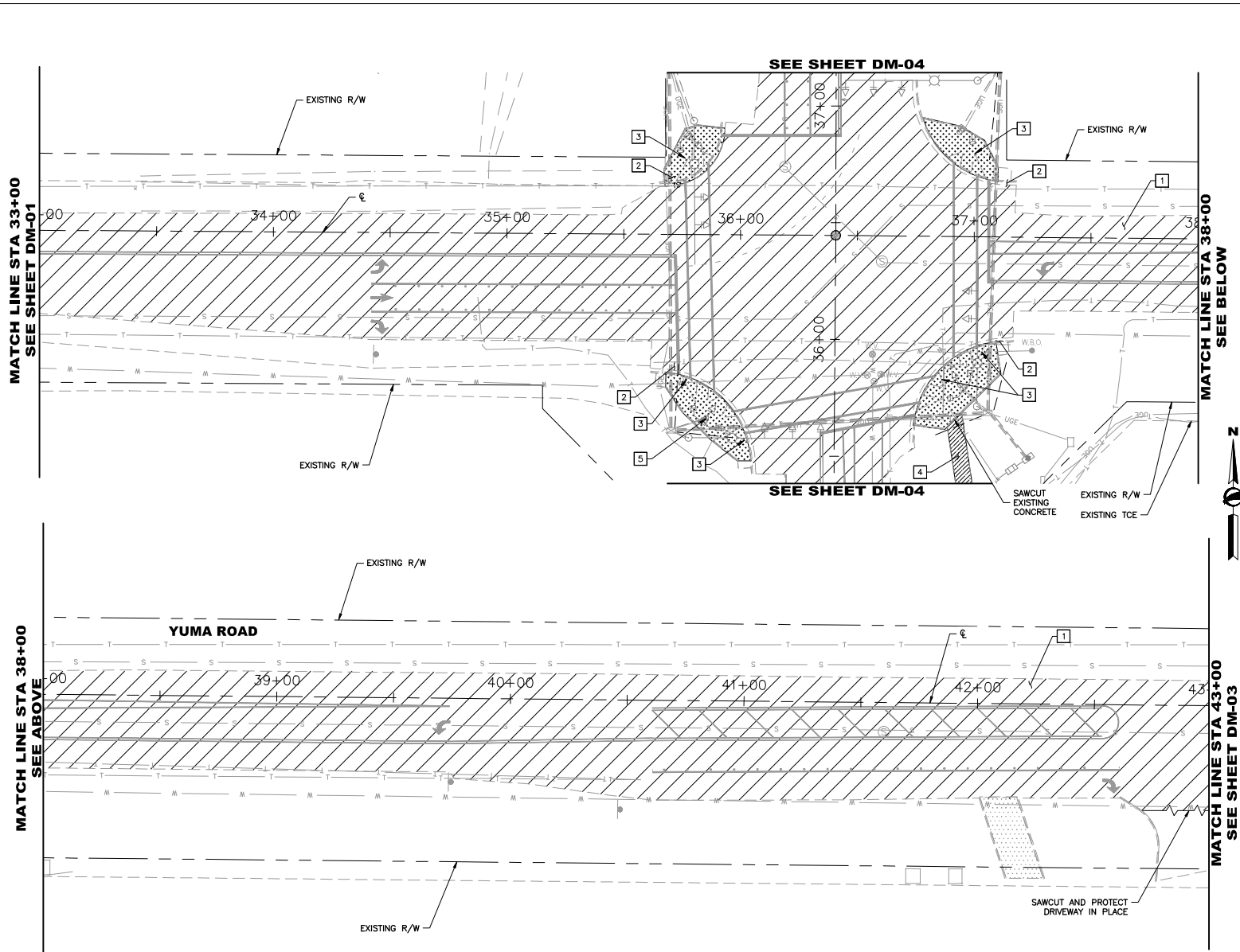
SHEET NUMBER
4 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

Z:\Civtech\Projects\18-0160 B COB Verrado & Yuma Rd Intersection Improvement Design & Plans, Buckeye\Dwg\18-0160B_DM01.dwg
January 26, 2022 - 9:59am
Jay Yenerich, P.E.



DEMOLITION NOTES

	ITEM	UNIT	QTY
1	REMOVE AC PAVEMENT	SY	6,635
2	REMOVE CONCRETE CURB AND GUTTER	LF	265
3	REMOVE DIRECTIONAL RAMP	SY	60
4	REMOVE ASPHALT SIDEWALK	SF	110
5	REMOVE POLE AND FOUNDATION	EA	1

NOTE:
1. REFER TO PLAN AND PROFILE SHEETS FOR ALL MANHOLE AND WATER VALVES AFFECTED.
2. REFER TO SIGNAL PLANS FOR SIGNAL ALL SIGNAL EQUIPMENT AFFECTED.

REVISIONS:
1
2
3

PLAN NAME:
DEMOLITION PLAN
DM-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

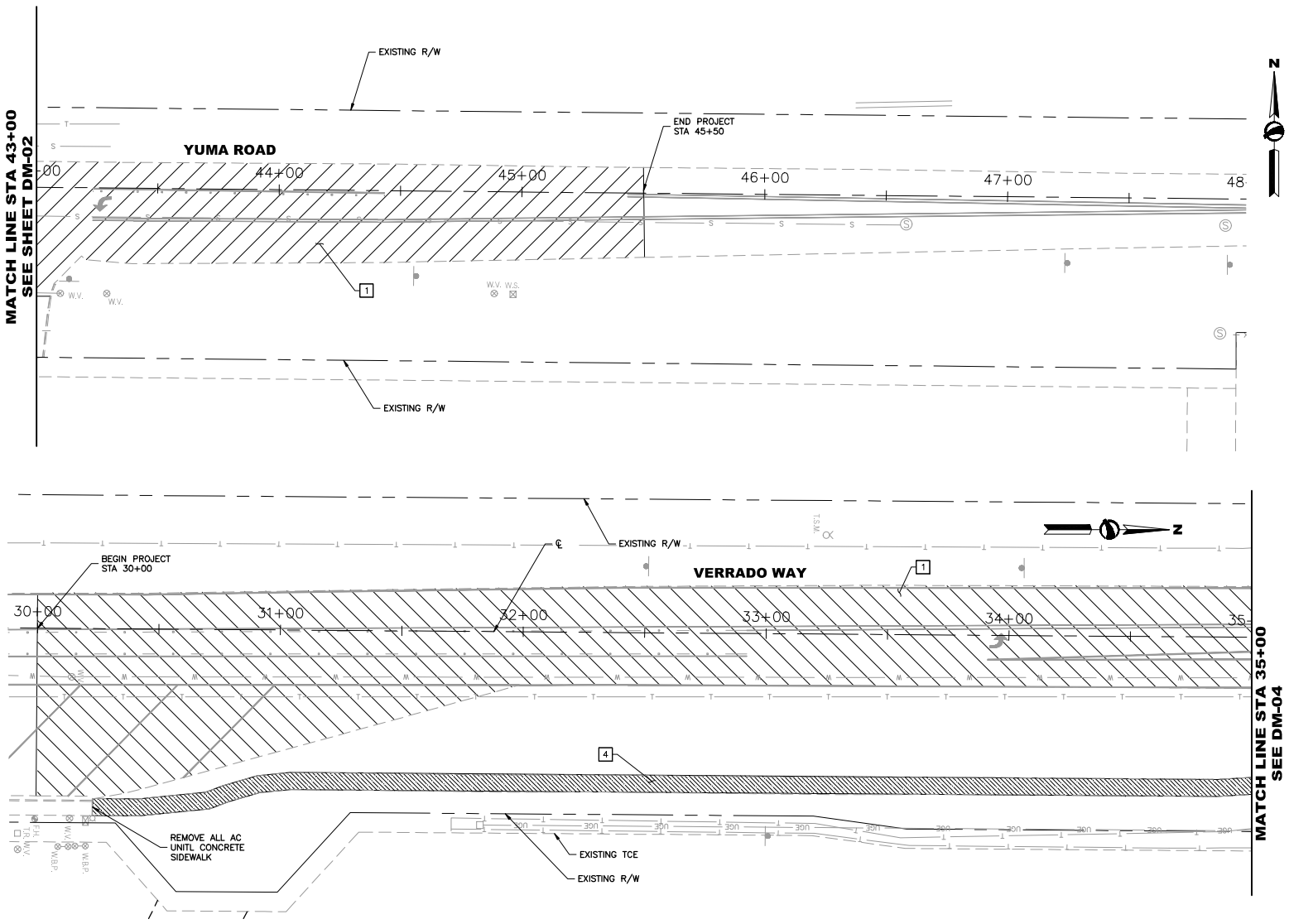
AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021
LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER:
SHEET NUMBER: 5 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #:
COB PERMIT #: ENGCIP-20-10042

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January 26, 2022 - 9:39am
Jay Yenerich, P.E.



SCALE: 1" = 20'

DEMOLITION NOTES

	ITEM	UNIT	QTY
1	REMOVE AC PAVEMENT–YUMA	SY	1,140
1	REMOVE AC PAVEMENT–VERRADO	SY	2,820
4	REMOVE ASPHALT SIDEWALK	SF	3,375

NOTE:
1. REFER TO PLAN AND PROFILE SHEETS FOR ALL MANHOLE AND WATER VALVES AFFECTED.
2. REFER TO SIGNAL PLANS FOR SIGNAL ALL SIGNAL EQUIPMENT AFFECTED.

REVISIONS:
1
2
3

PLAN NAME:
DEMOLITION PLAN
DM-03

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
6 of 43

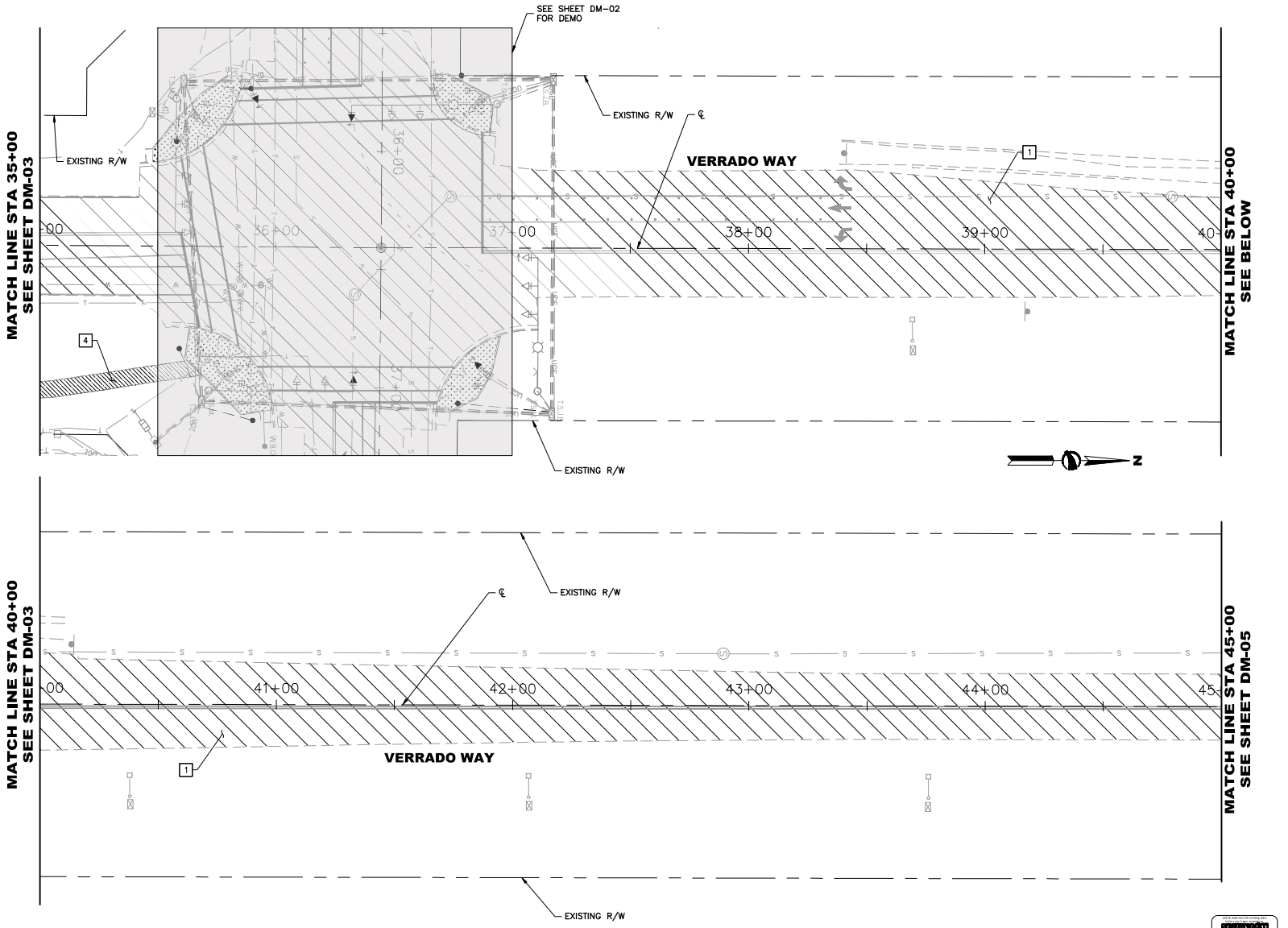
SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 9:59am
Jay Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.



SCALE: 1" = 20'

DEMOLITION NOTES

	ITEM	UNIT	QTY
1	REMOVE AC PAVEMENT	SY	3,440
4	REMOVE ASPHALT SIDEWALK	SF	335

NOTE:
1. REFER TO PLAN AND PROFILE SHEETS FOR ALL MANHOLE AND WATER VALVES AFFECTED.
2. REFER TO SIGNAL PLANS FOR SIGNAL ALL SIGNAL EQUIPMENT AFFECTED.

REVISIONS:
1
2
3

PLAN NAME:
DEMOLITION PLAN
DM-04

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

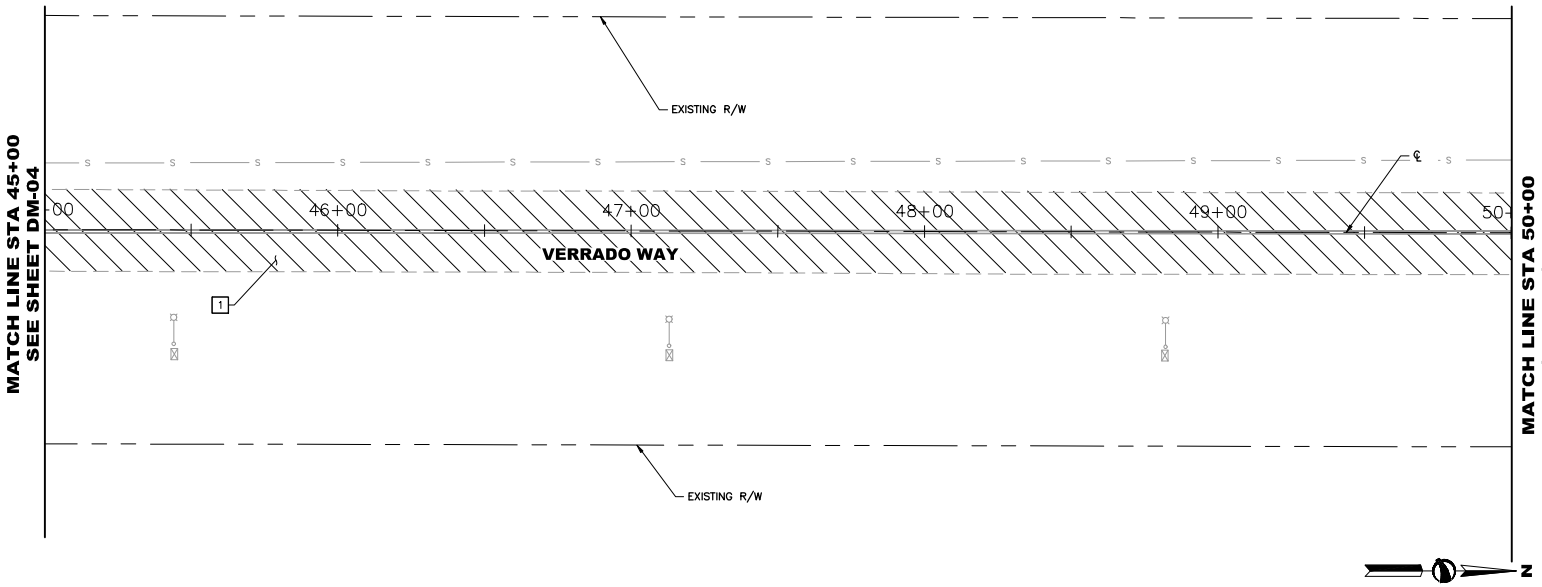
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LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER
SHEET NUMBER: 7 of 43

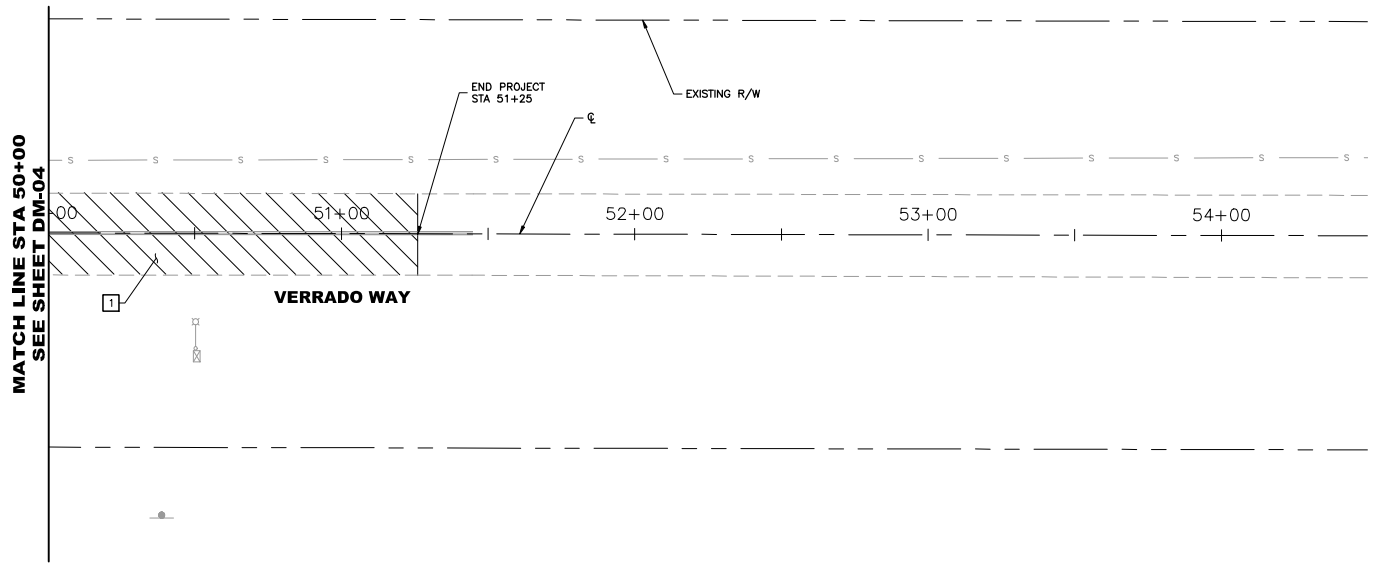
SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #: ENGCIP-20-10042

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January 26, 2022 - 9:39am
Jay Yenerich, P.E.





SCALE: 1" = 20'

DEMOLITION NOTES

	ITEM	UNIT	QTY
1	REMOVE AC PAVEMENT	SY	1,935

NOTE:
1. REFER TO PLAN AND PROFILE SHEETS FOR ALL MANHOLE AND WATER VALVES AFFECTED.
2. REFER TO SIGNAL PLANS FOR SIGNAL ALL SIGNAL EQUIPMENT AFFECTED.

REVISIONS:
1
2
3

PLAN NAME:
DEMOLITION PLAN
DM-05

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

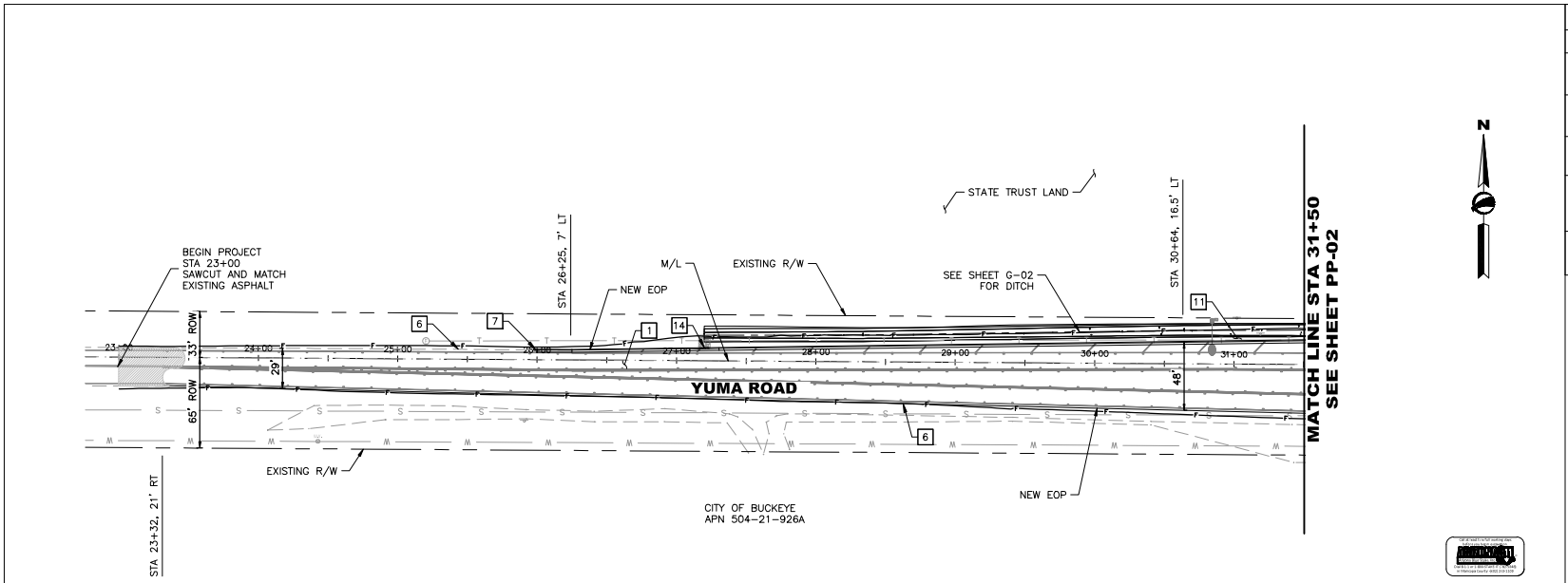
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8 of 43

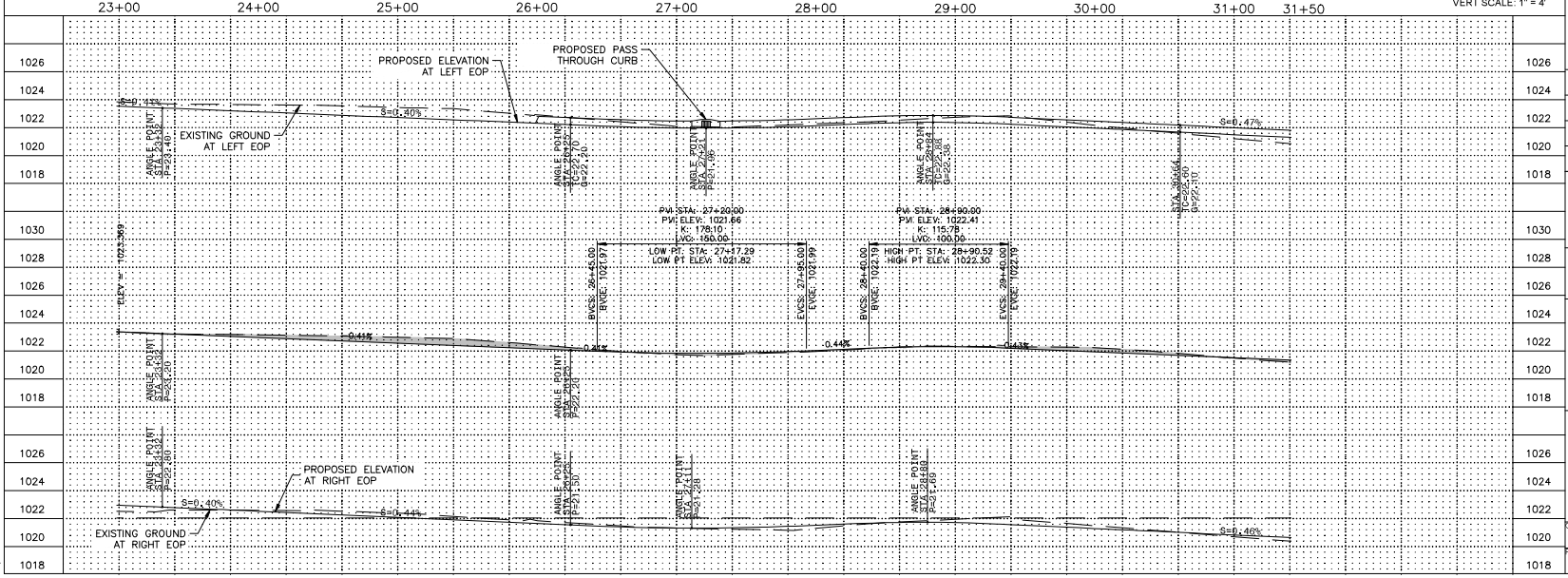
SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 9:39am
Jay Yenerich, P.E.





HORIZ SCALE: 1" = 40'

VERT SCALE: 1" = 4'

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	3,785
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	765
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	1
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	550
14	INSTALL PASS THROUGH CURB DETAIL, SEE SHEET 25	EA	1

REVISIONS:

1

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PLAN NAME:

PLAN AND PROFILE
PP-01

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN
YENERICH
REGISTERED
PROFESSIONAL
ENGINEER
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021

LATEST REVISION DATE: 01/20/2022

PROJECT NUMBER

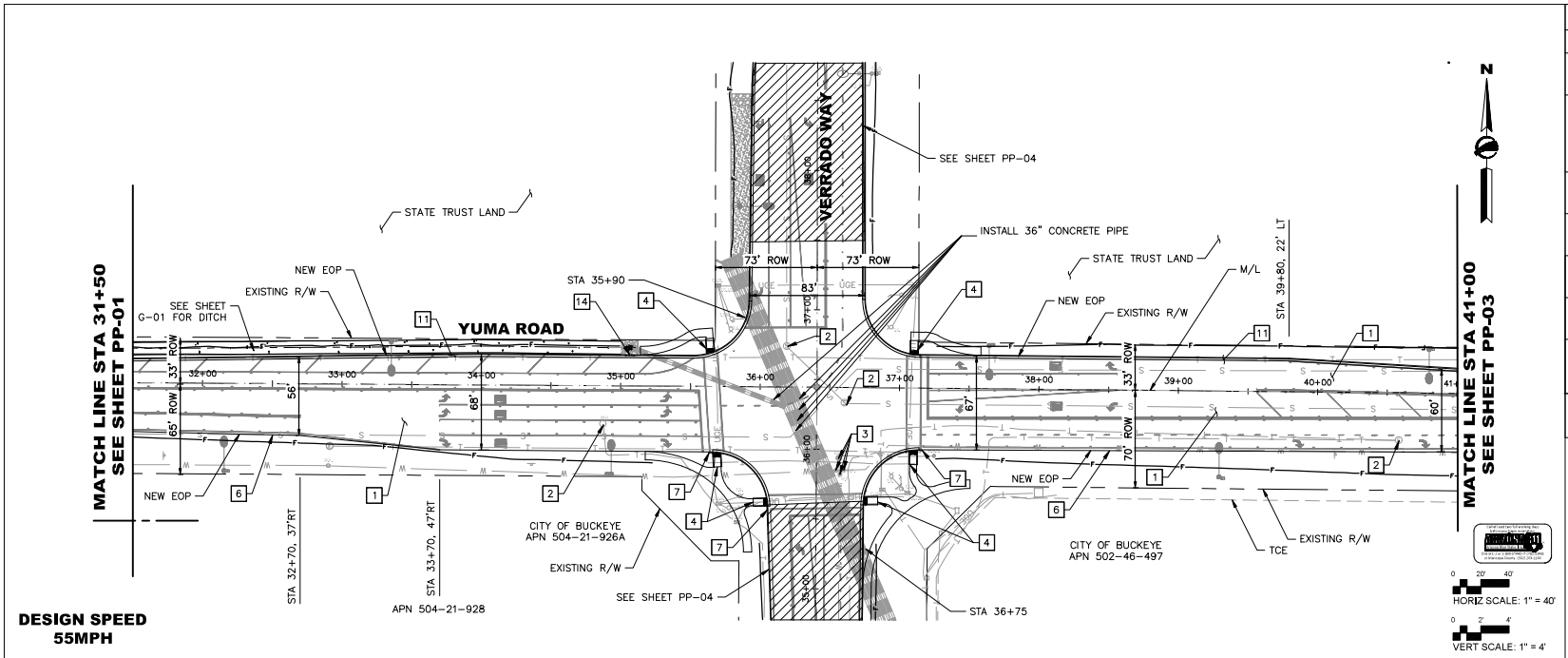
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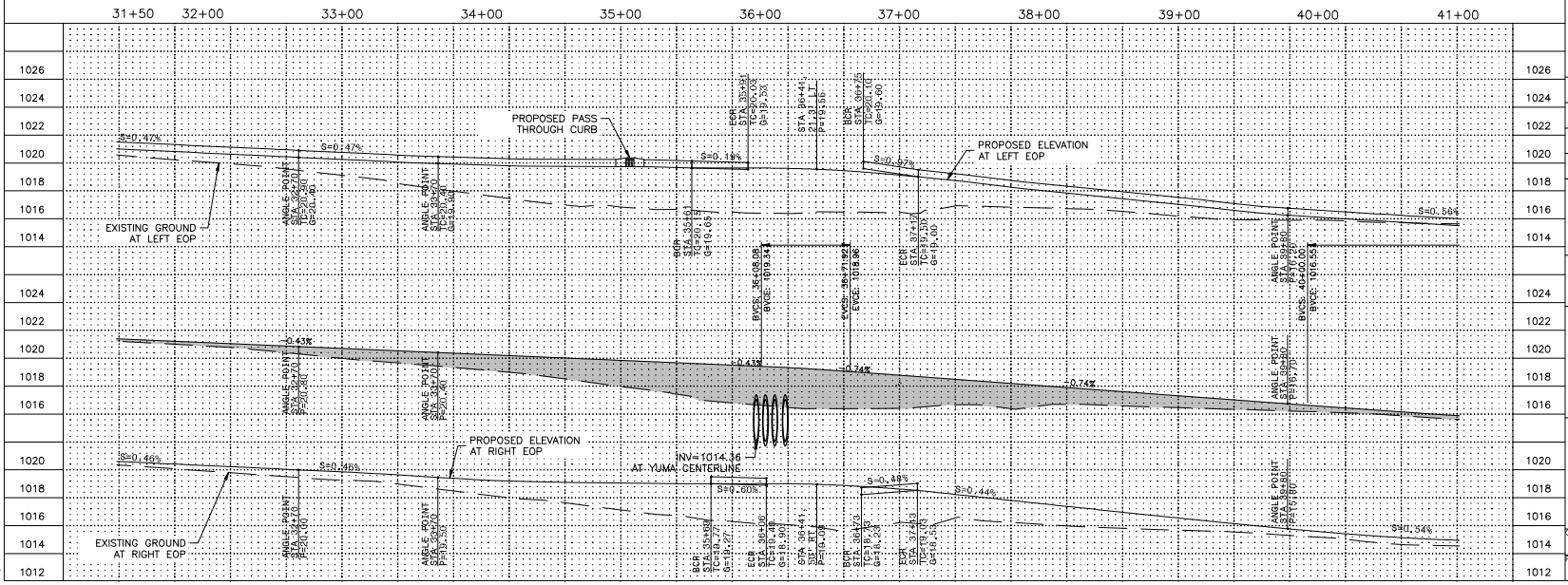
COB PERMIT #: ENGCIP-20-10042

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

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January 26, 2022 - 10:00am
Joy Yenerich, P.E.



DESIGN SPEED
55MPH



CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	7,720
2	ADJUST MANHOLE FRAME COVER TO GRADE, COATED AND RE-VACCUUM TESTED PER MAG STD DTL 422 AND COB EDS DTL 41100 NOTES 10 AND 11	EA	4
3	ADJUST WATER VALVE BOX TO GRADE, PER MAG STD DTL 391-2	EA	4
4	CONSTRUCT DIRECTIONAL RAMPS PER DETAIL ON SHEET 15	EA	6
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	800
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	3
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	900
14	INSTALL PASS THROUGH CURB DETAIL, SEE SHEET 25	EA	1

REVISIONS:
1
2
3

PLAN NAME
PLAN AND PROFILE
PP-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

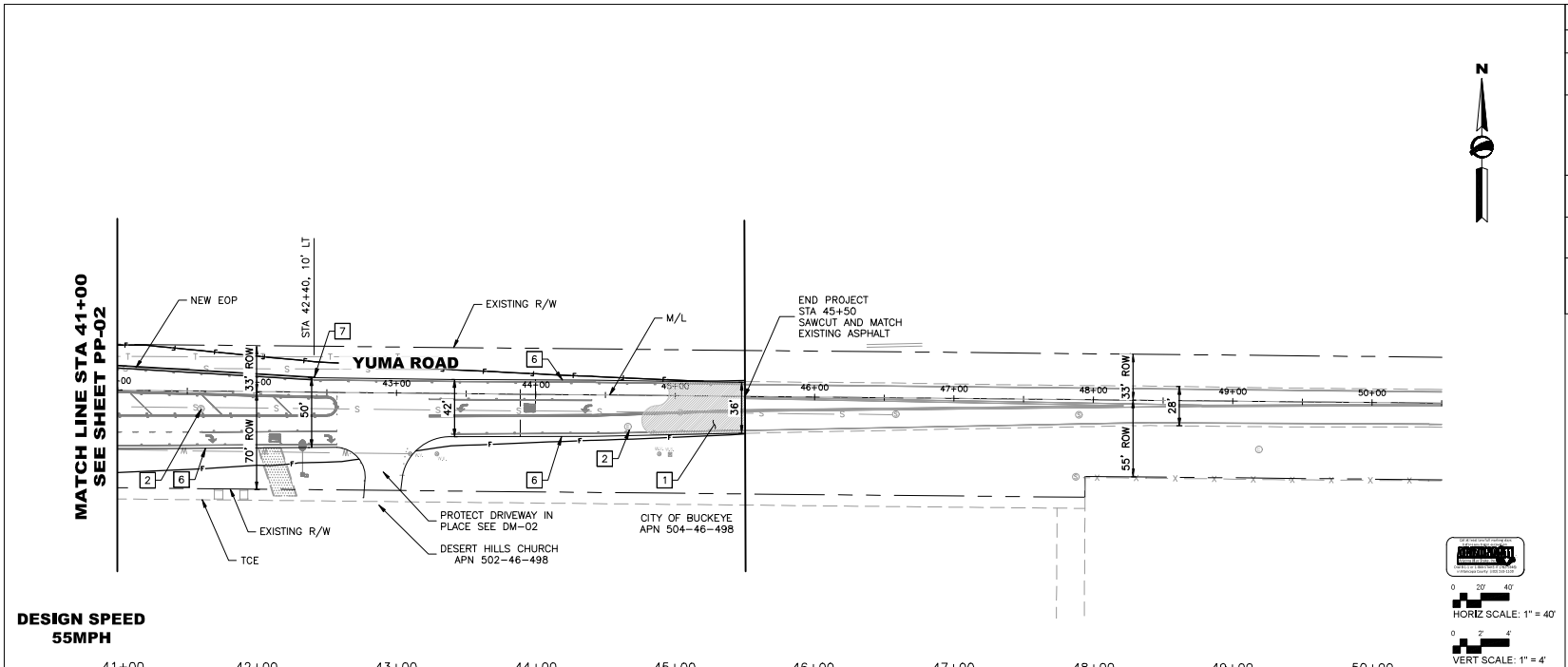
SHEET NUMBER
10 of 43

COB PLAN TRACKING #

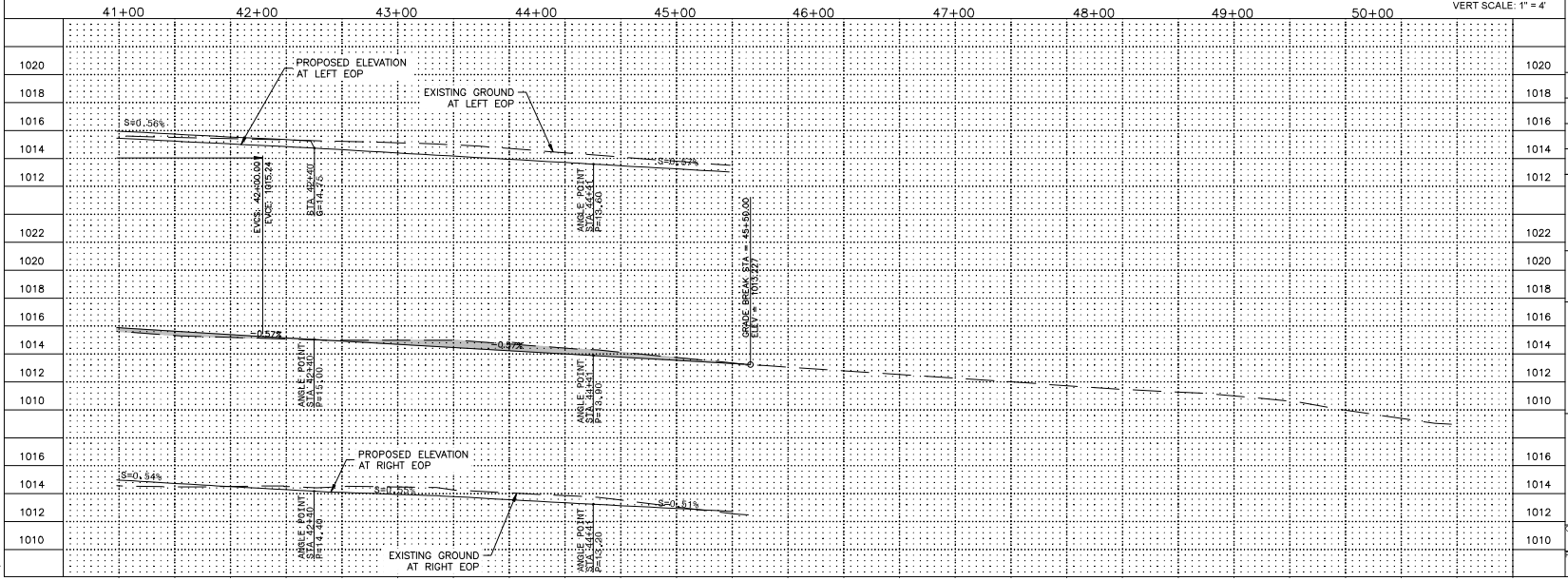
COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 10:00am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Hayden Building Corp.



DESIGN SPEED
55MPH



CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	2,305
2	ADJUST MANHOLE FRAME COVER TO GRADE, COATED AND RE-VACCUUM TESTED PER MAG STD DTL 422 AND COB EDS DTL 41100 NOTES 10 AND 11	EA	2
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	680
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	1
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	140

REVISIONS:
1
2
3

PLAN NAME
PLAN AND PROFILE
PP-03

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

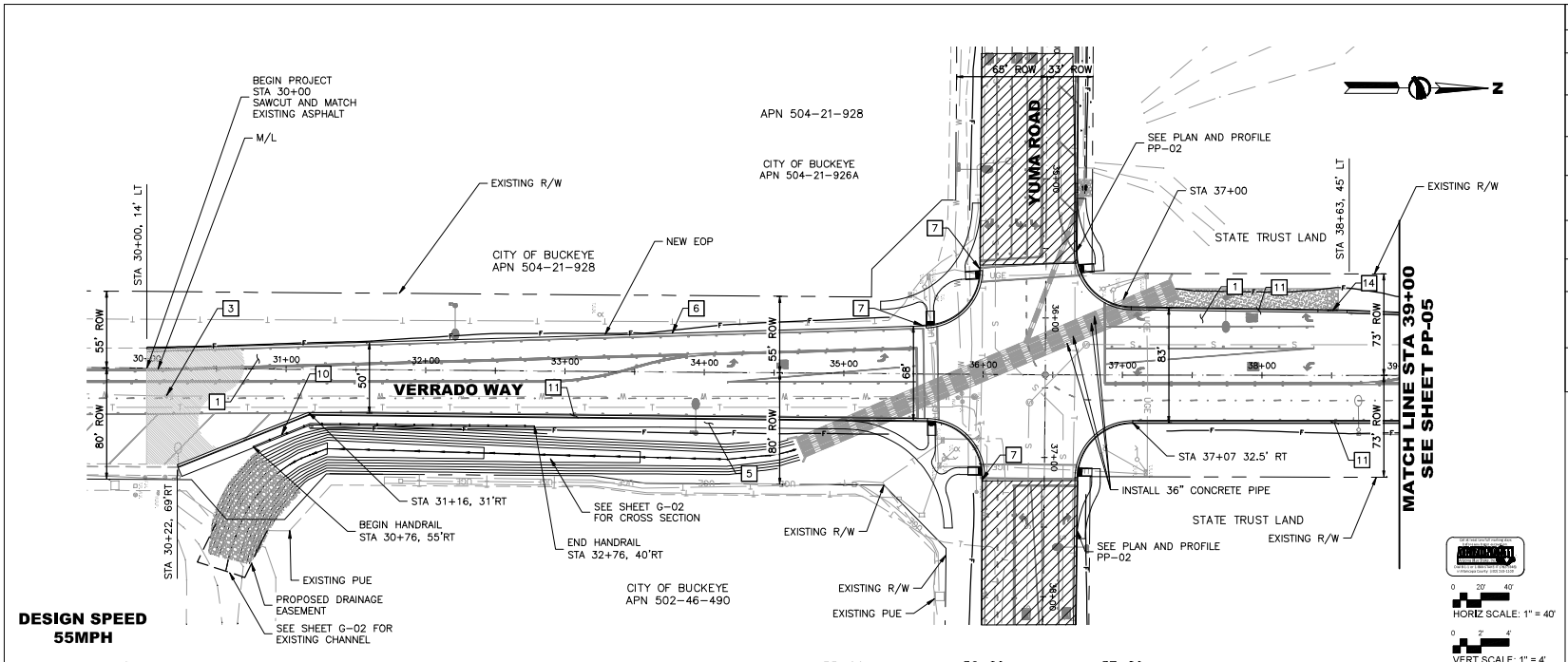
DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

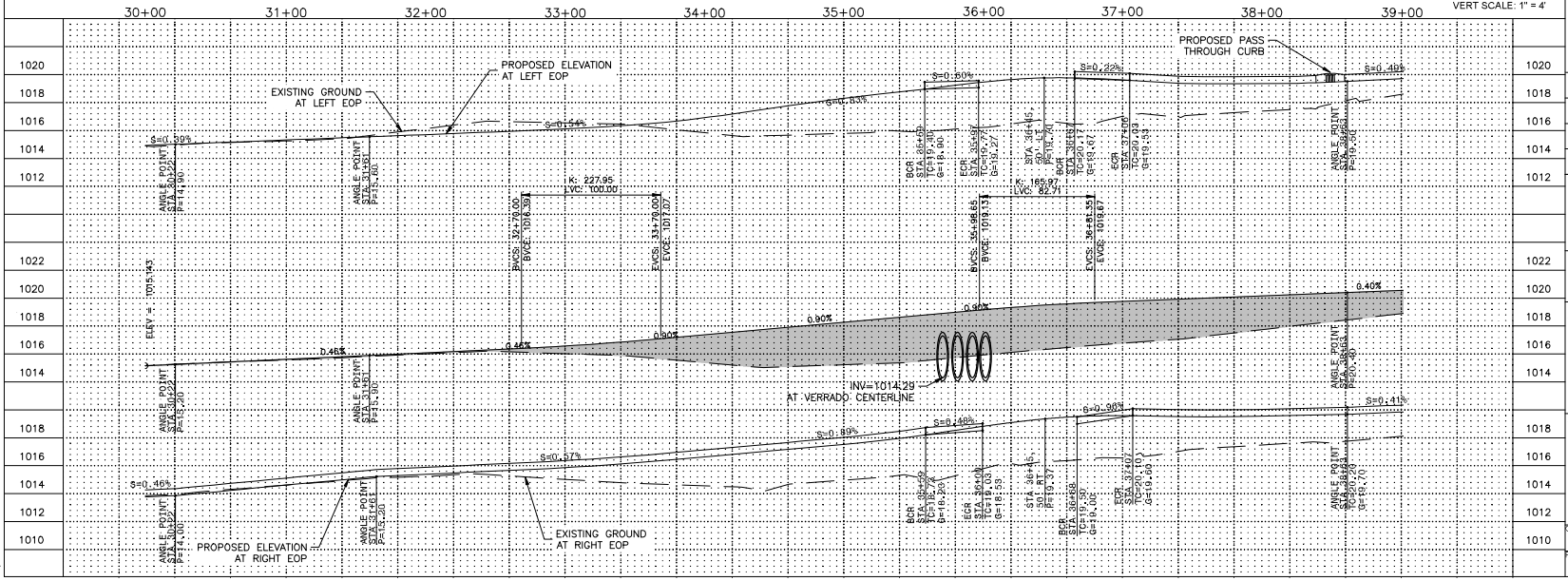
ORIGINAL PLAN DATE 05/24/2021
LATEST REVISION DATE 01/20/2022
PROJECT NUMBER
SHEET NUMBER 11 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #
COB PERMIT # ENGCIP-20-10042

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January 26, 2022 - 10:00am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.





CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	7,410
3	ADJUST WATER VALVE BOX TO GRADE, PER MAG STD DTL 391-2	EA	1
5	CONSTRUCT 7' CONCRETE SIDEWALK, PER MAG STD DTL 230	SF	5,600
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	710
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	3
10	INSTALL SAFETY RAIL PER COB STD DTL B-110	LF	200
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	1,000
14	INSTALL PASS THROUGH CURB DETAIL, SEE SHEET 25	EA	1

REVISIONS:
1
2
3

PLAN NAME
PLAN AND PROFILE
PP-04

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN
YENERICH
EXPIRES 3/31/2023

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
12 of 43

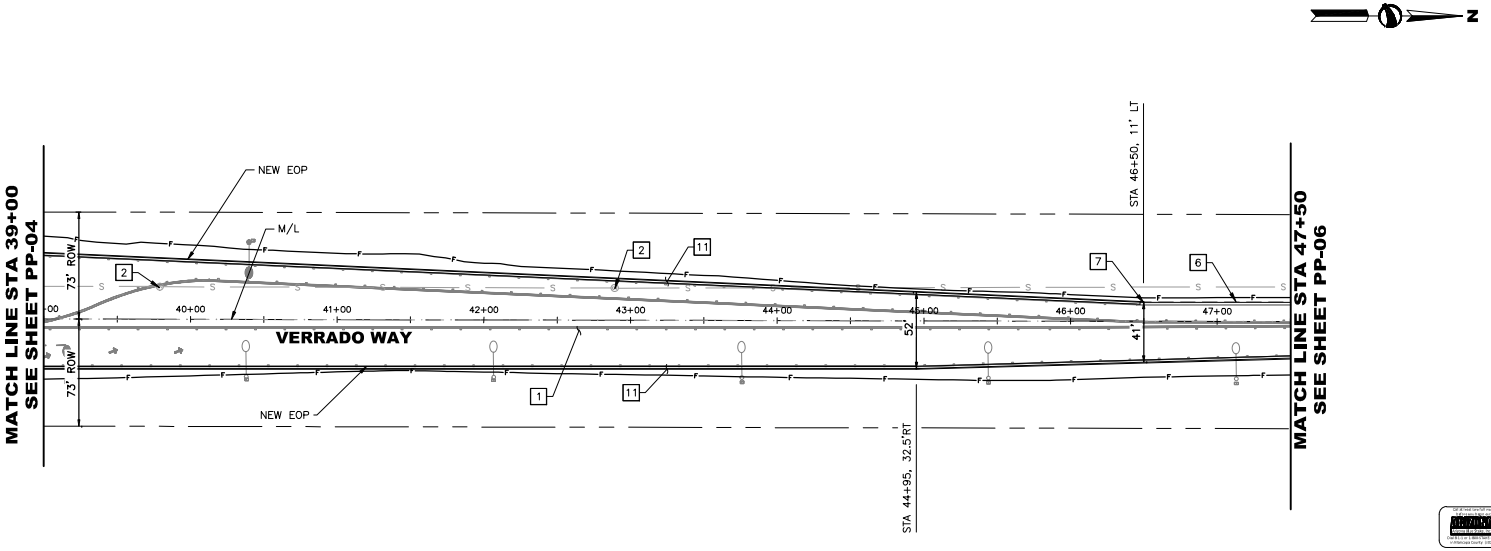
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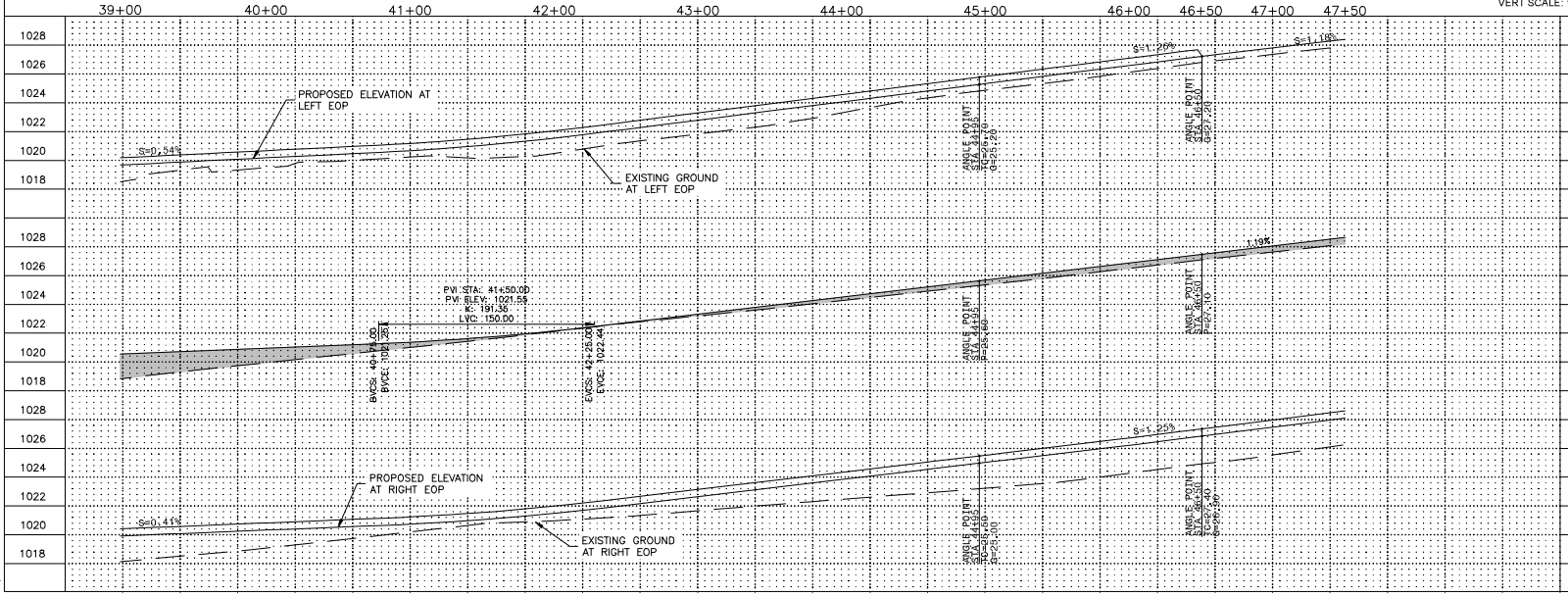
COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 10:00am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

51





HORIZ SCALE: 1" = 40'

VERT SCALE: 1" = 4'

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	5,030
2	ADJUST MANHOLE FRAME COVER TO GRADE, COATED AND RE-VACCUUM TESTED PER MAG STD DTL 422 AND COB EDS DTL 41100 NOTES 10 AND 11	EA	2
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	100
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	1
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	1,590

REVISIONS:
1
2
3

PLAN NAME:
PLAN AND PROFILE
PP-05

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

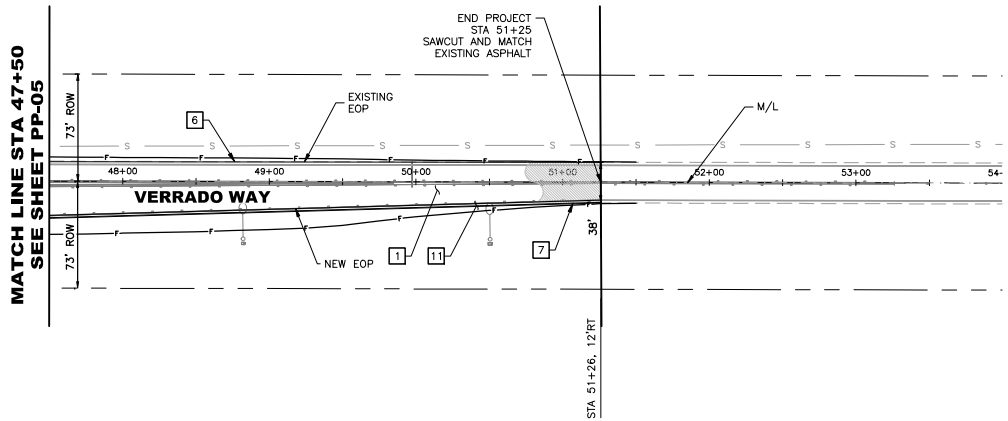
DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021
LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER
SHEET NUMBER: 13 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #
COB PERMIT #: ENGCIP-20-10042

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January 26, 2022 - 10:00am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

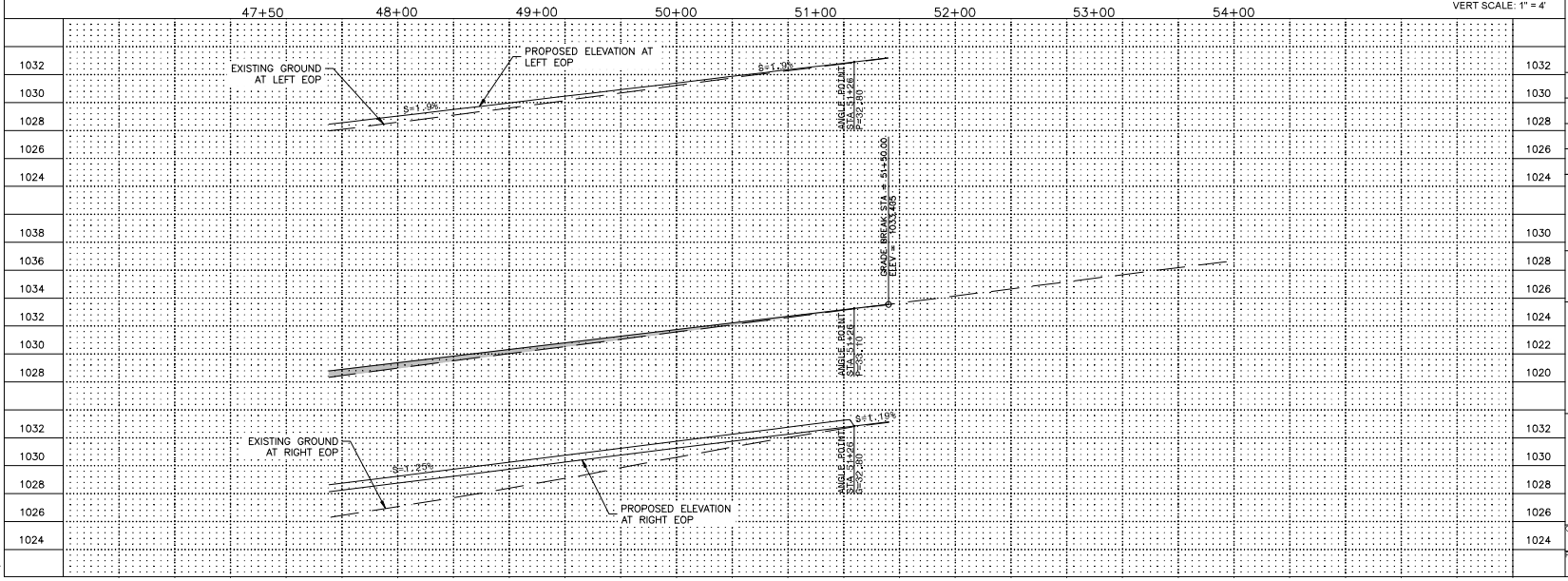


N

HORIZ SCALE: 1" = 40'

VERT SCALE: 1" = 4'

DESIGN SPEED
55MPH



CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	CONSTRUCT PAVEMENT SECTION PER COB STD DTL 63120	SY	1,370
6	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	375
7	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222	EA	1
11	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	375

REVISIONS:
1
2
3

PLAN NAME
PLAN AND PROFILE
PP-06

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN
YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

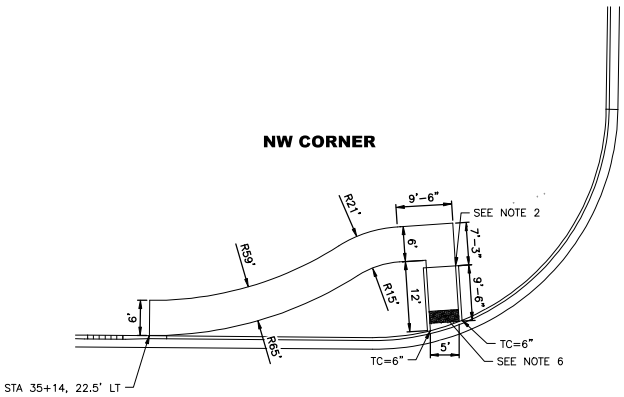
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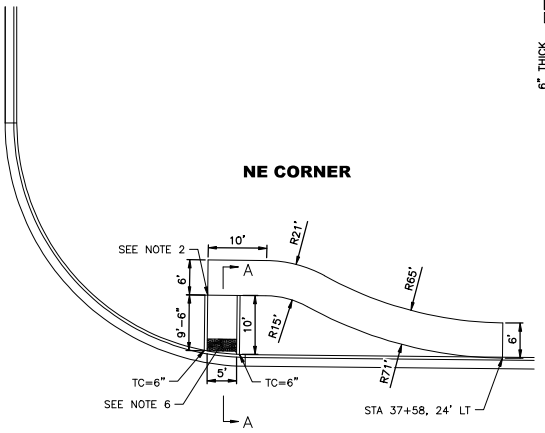
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1ST SUBMITTAL
SEALED PLANS

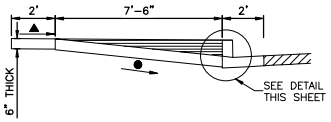
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COB PERMIT #
ENGCIP-20-10042

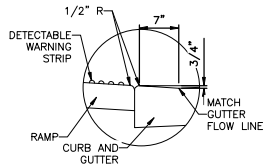
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January 26, 2022 - 10:01am
Joy Yenerich, P.E.







SECTION A-A



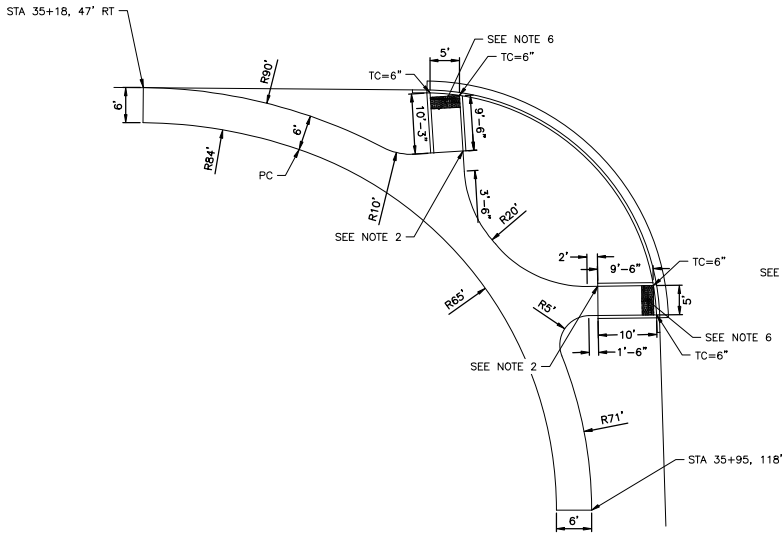
DETAIL "A"

LEGEND

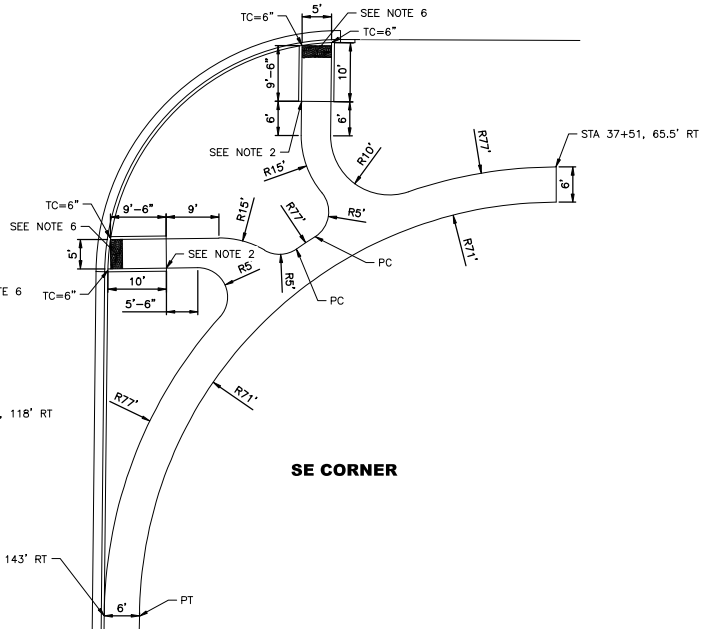
- 12:1 MAXIMUM SLOPE, 15:1 DESIRED SLOPE
- 2% MAXIMUM SLOPE, 1.5% DESIRED SLOPE
- HEAVY ROUGH BROOM FINISH LIMITS

NOTE:

1. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
2. LIMITS OF HEAVY ROUGH BROOM FINISH.
3. ALL EXPANSION JOINTS PER MAG SECTION 729.
4. SUBGRADE PREPARATION PER MAG SECTION 301.
5. 6" SINGLE CURB PER MAG STD. DTL. 222.
6. DETECTABLE WARNING IS TO COMPLY WITH THE JURISDICTIONAL AGENCY'S REQUIREMENTS AND 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.
7. 12:1 OR FLATTER SLOPE
8. MAX CROSS SLOPES FOR SIDEWALKS SHALL BE 2%
9. SEE INTERSECTION LAYOUT FOR STATION AND ELEVATIONS.
10. CURB TERMINATION STATIONING BASED ON YUMA ROAD CENTERLINE.



SW CORNER



SE CORNER

SCALE: 1" = 10'

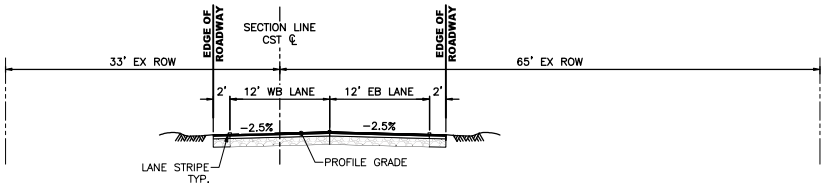
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1	
2	
3	
PLAN NAME	RAMP DETAIL
ENGINEER INFORMATION	CivTech Inc.
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AS-BUILT SEAL	DESIGN SEAL: 37474, JAY ALLEN YENERICH, REGISTERED PROFESSIONAL ENGINEER, ARIZONA, U.S.A., EXPIRES 3/31/2023
ORIGINAL PLAN DATE: 05/24/2021	LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER	SHEET NUMBER: 15 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

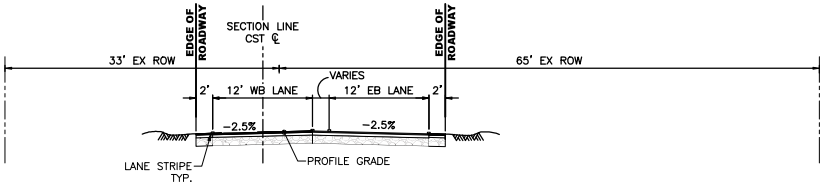
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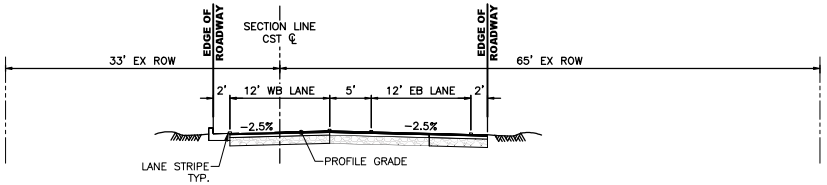
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January 26, 2022 - 10:01am
Joy Yenerich, P.E.



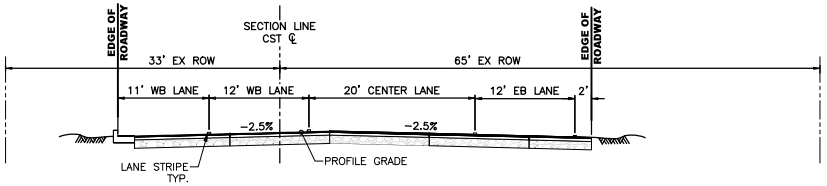
YUMA ROAD
STA 23+00 TO 23+32



YUMA ROAD
STA 23+32 TO 26+00



YUMA ROAD
STA 26+00 TO 26+25



YUMA ROAD
STA 26+25 TO 32+70

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME

CROSS SECTIONS
YUMA ROAD

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

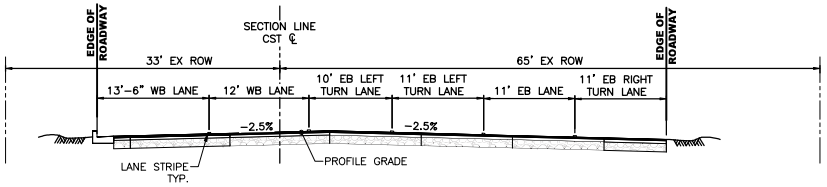
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16 of 43

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

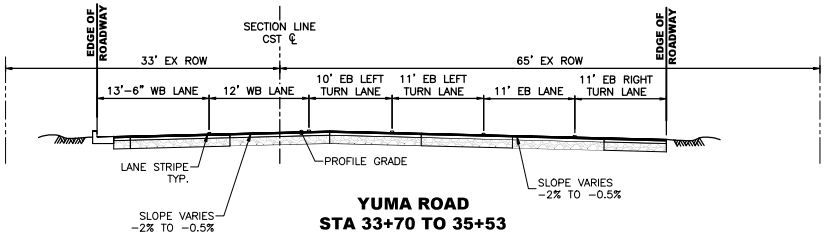
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COB PERMIT #
ENGCIP-20-10042

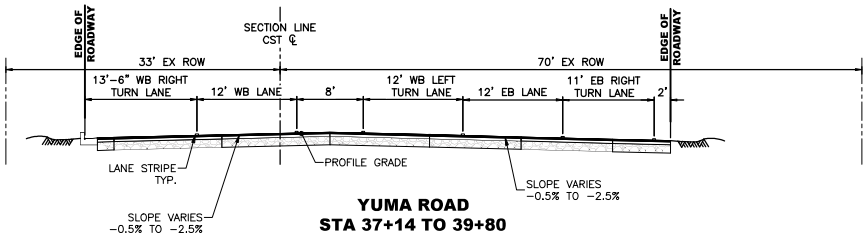
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



YUMA ROAD
STA 32+70 TO 33+70



YUMA ROAD
STA 33+70 TO 35+53



YUMA ROAD
STA 37+14 TO 39+80

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME:

CROSS SECTIONS
YUMA ROAD

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021

LATEST REVISION DATE: 01/20/2022

PROJECT NUMBER

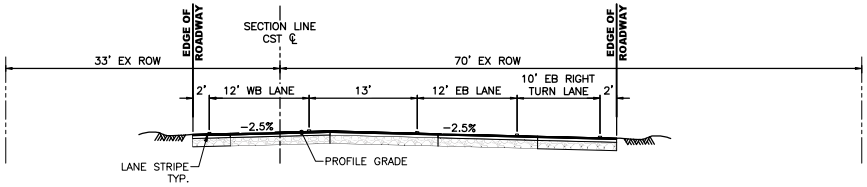
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SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

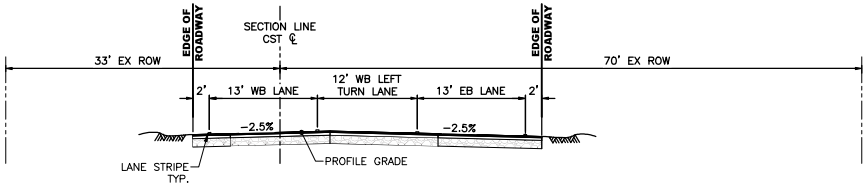
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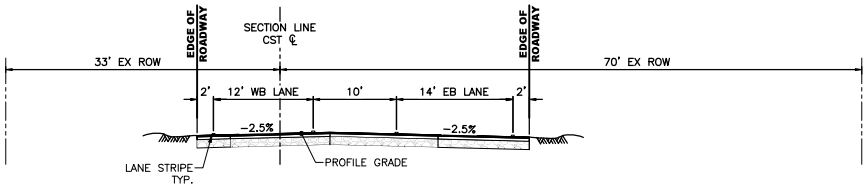
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



YUMA ROAD
STA 39+80 TO 42+40



YUMA ROAD
STA 42+40 TO 43+95



YUMA ROAD
STA 43+95 TO 45+50

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME:

CROSS SECTIONS
YUMA ROAD

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
ARIZONA, U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021

LATEST REVISION DATE: 01/20/2022

PROJECT NUMBER

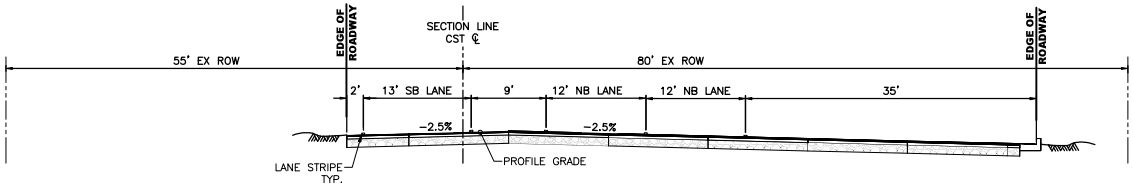
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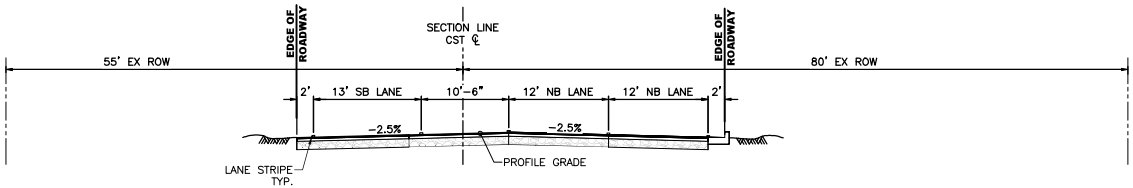
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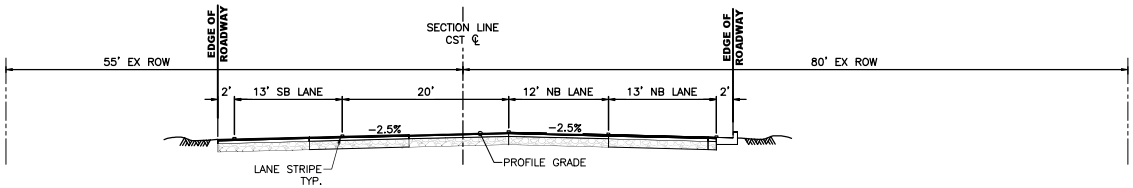
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



VERRADO WAY
STA 30+00



VERRADO WAY
STA 30+00 TO 31+60



VERRADO WAY
STA 31+60 TO 34+13

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME:

CROSS SECTIONS
VERRADO WAY

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

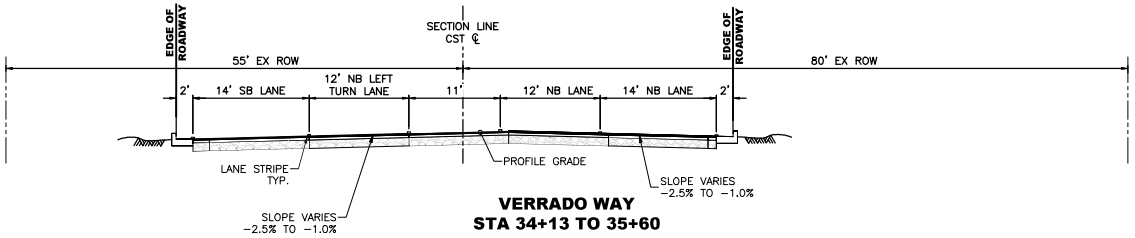
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19 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

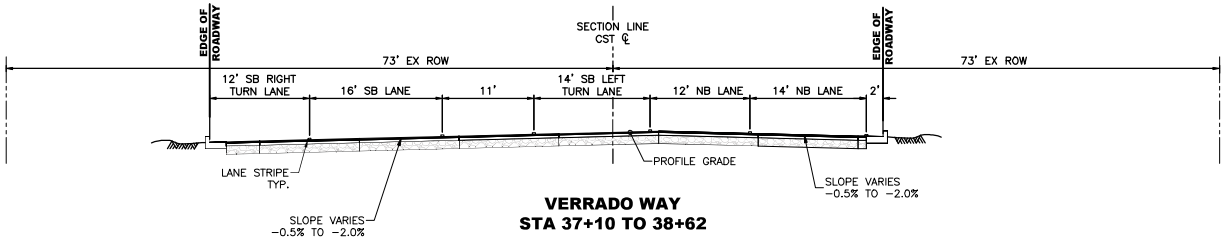
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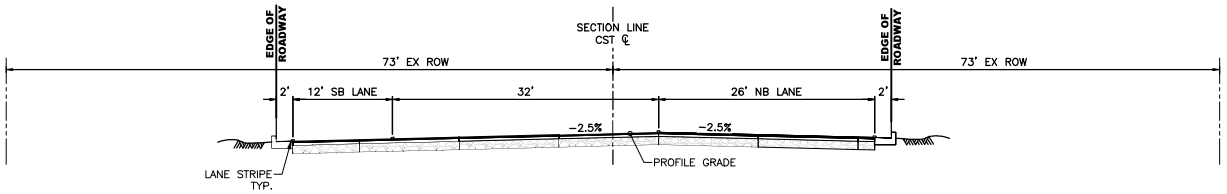
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



VERRADO WAY
STA 34+13 TO 35+60



VERRADO WAY
STA 37+10 TO 38+62



VERRADO WAY
STA 38+62 TO 40+12

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME:

CROSS SECTIONS
VERRADO WAY

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

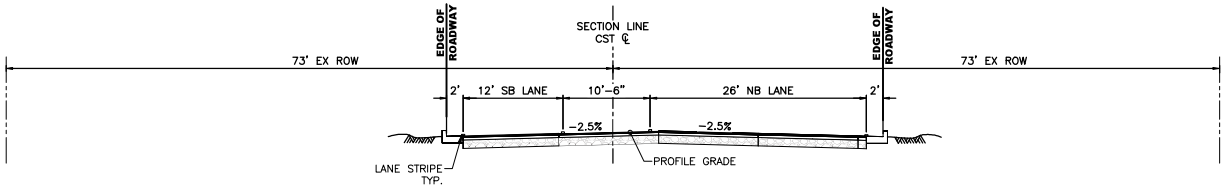
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SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

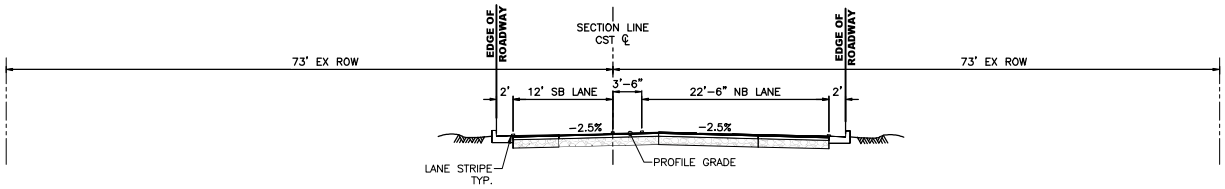
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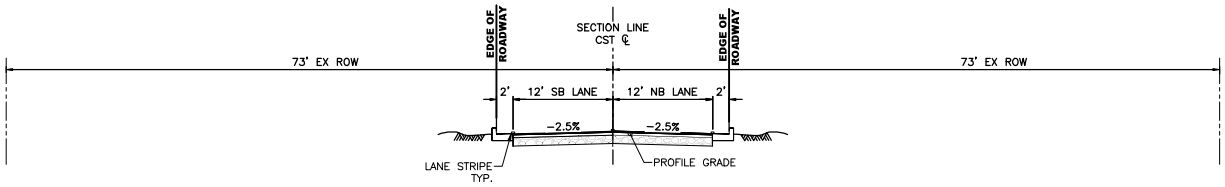
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



VERRADO WAY
STA 40+12 TO 44+95



VERRADO WAY
STA 44+95 TO 46+50



VERRADO WAY
STA 46+50 TO 51+25

NOTE:

1. CROSS SECTIONS MATCH COB STD DTL 63340

REVISIONS:

1

2

3

PLAN NAME:

CROSS SECTIONS
VERRADO WAY

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
21 of 43

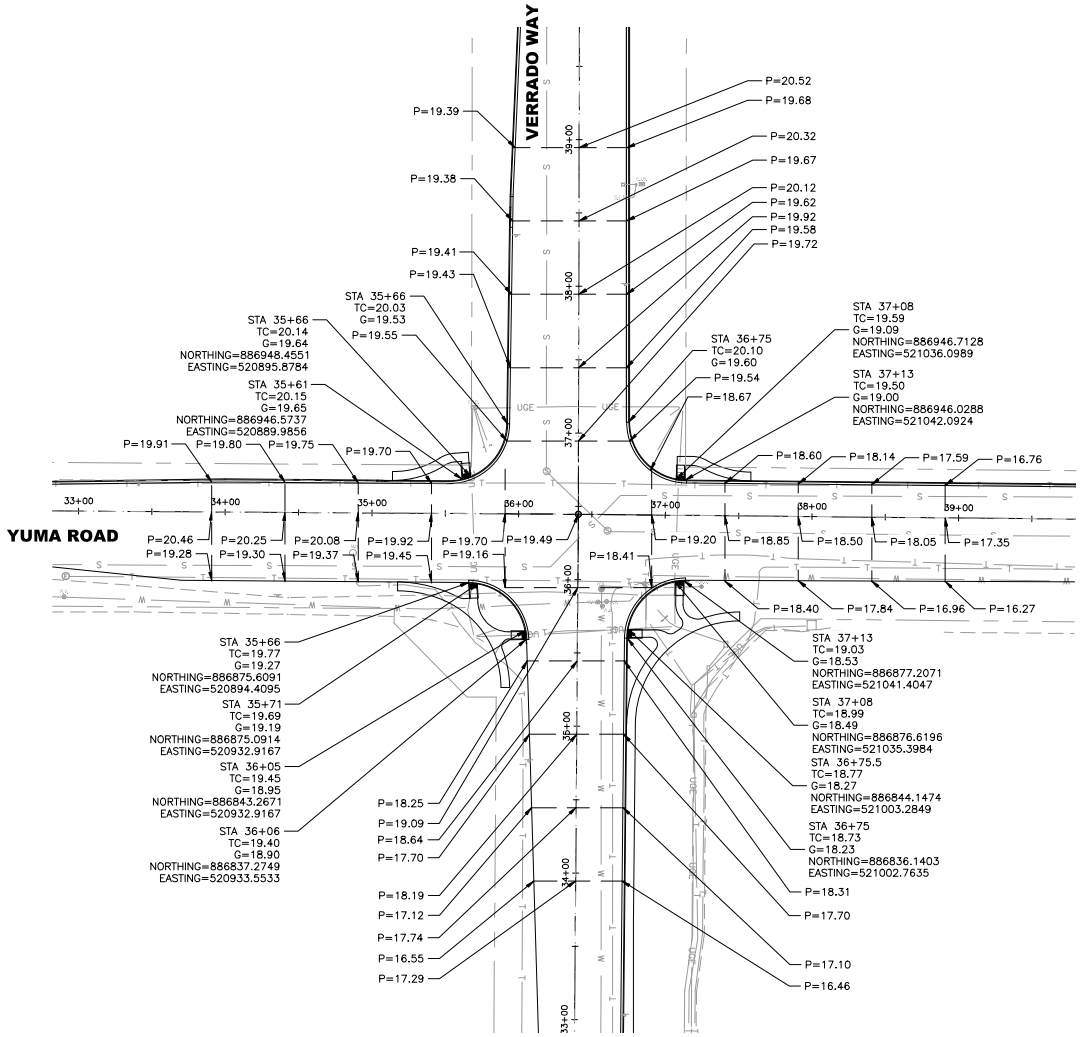
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SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.



0 20' 40'

SCALE: 1" = 40'

REVISIONS:

1

2

3

PLAN NAME

INTERSECTION LAYOUT DETAIL

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

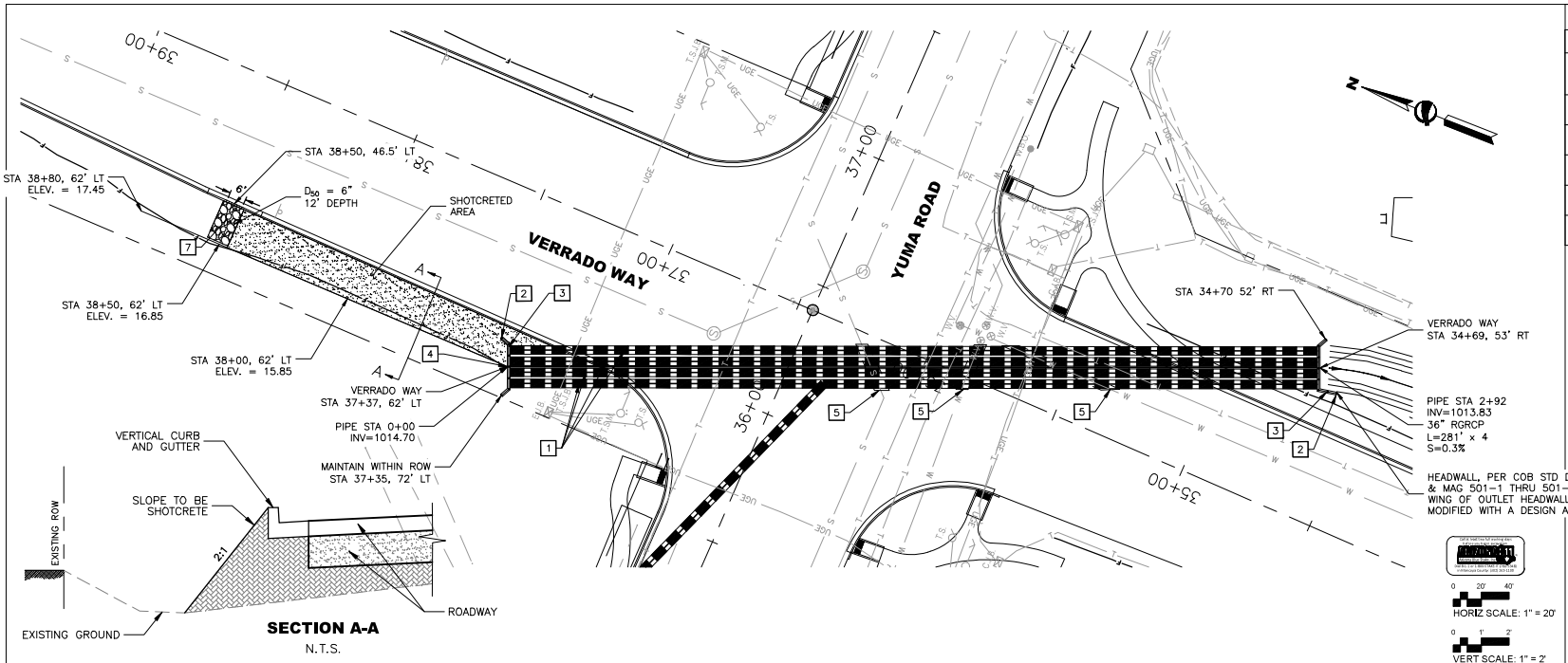
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22 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
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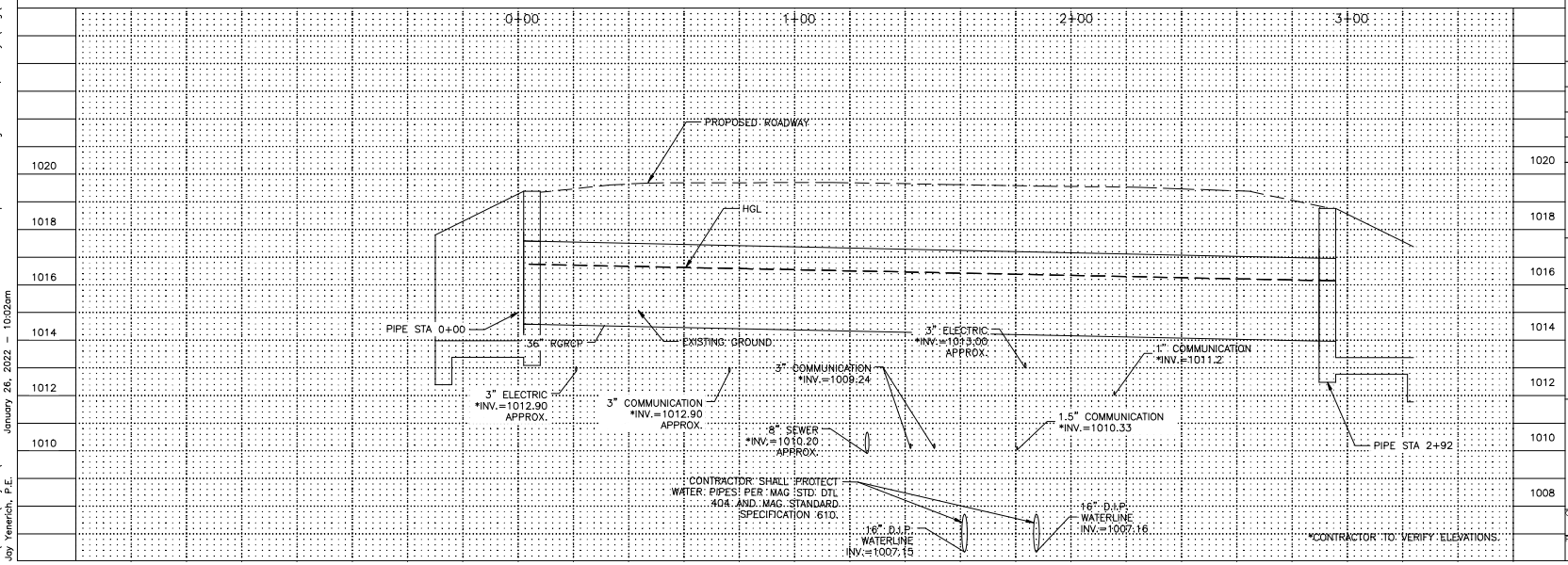
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January 26, 2022 - 10:01am
Jay Yenerich, P.E.



SECTION A-A
N.T.S.

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	36" RGRCP CLASS V STORM DRAIN PER MAG SECTION 735	LF	1160
2	CONSTRUCT HEADWALL, PER COB STD DTL 51200	EA	2
3	INSTALL SAFETY RAIL PER COB STD DTL B-110	LF	50
4	INSTALL TRASH RACKS, PER COB STD DTL B-508	EA	1
5	PROVIDE PROTECTION PER MAG DETAIL 404-3	LF	75
7	INSTALL GROUTED RIP-RAP PER DETAIL B ON SHEET 26	SF	112



REVISIONS:
1
2
3

PLAN NAME
DRAINAGE PLAN
DR-01

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
23 of 43

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

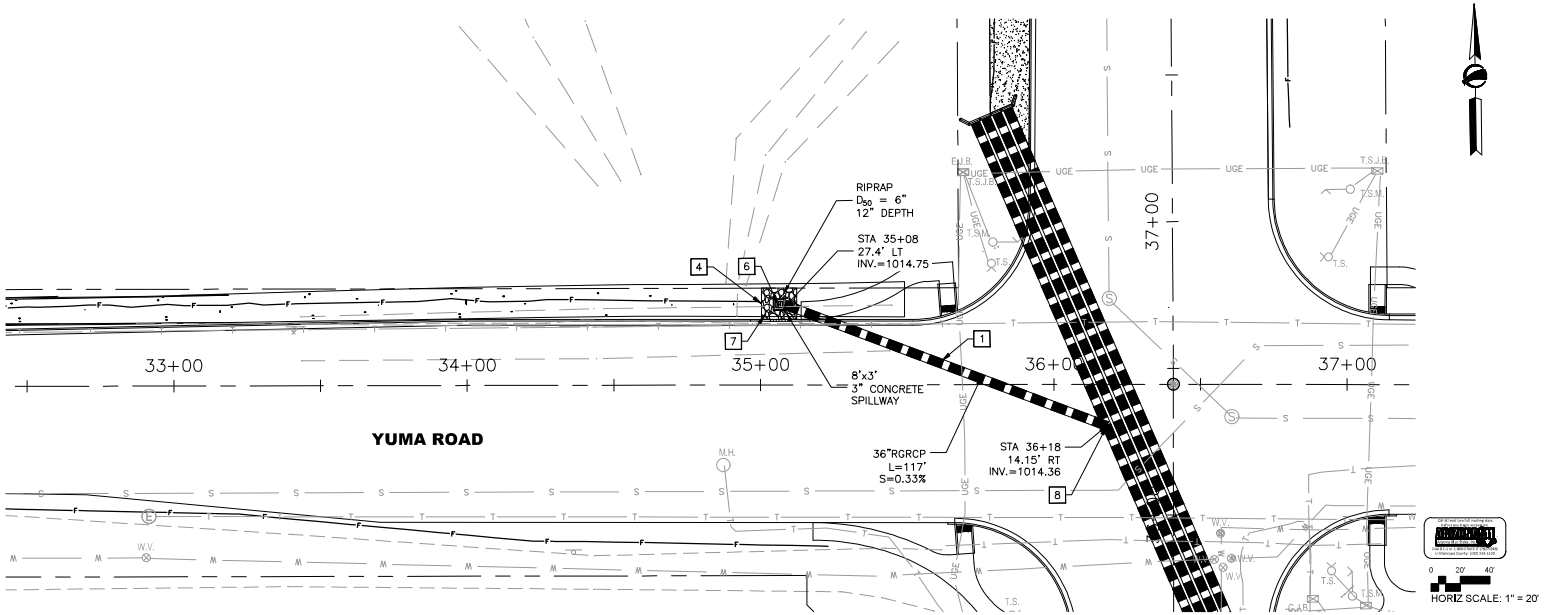
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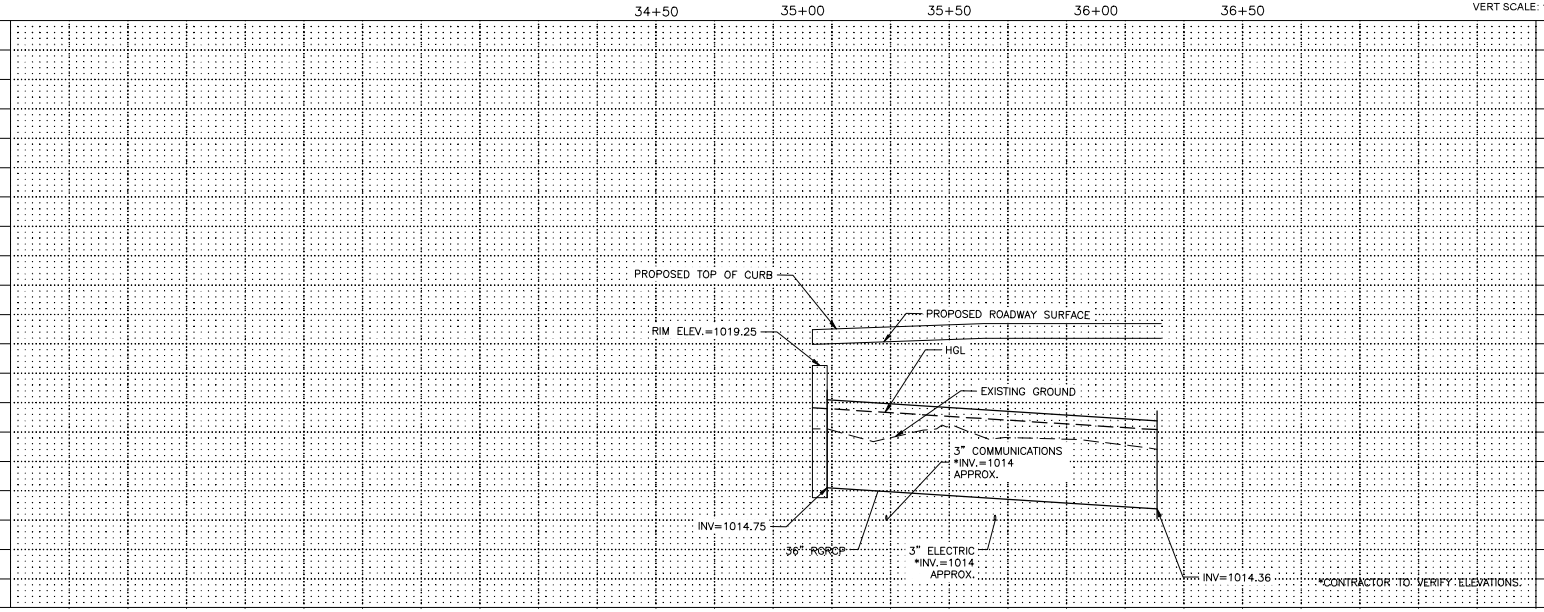
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January 26, 2022 - 10:02am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

62





CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	36" RGRCP CLASS V STORM DRAIN PER MAG SECTION 735	LF	117
4	INSTALL TRASH RACKS, PER COB STD DTL B-508	EA	1
6	INSTALL AREA INLET PER DETAIL C ON SHEET 26	EA	1
7	INSTALL GROUTED RIP-RAP PER DETAIL B ON SHEET 26	SF	128
8	INSTALL 22.5° FACTORY FITTED WYE CONNECTION 36" RGRCP	EA	1

REVISIONS:
1
2
3

PLAN NAME:
DRAINAGE PLAN
DR-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
24 of 43

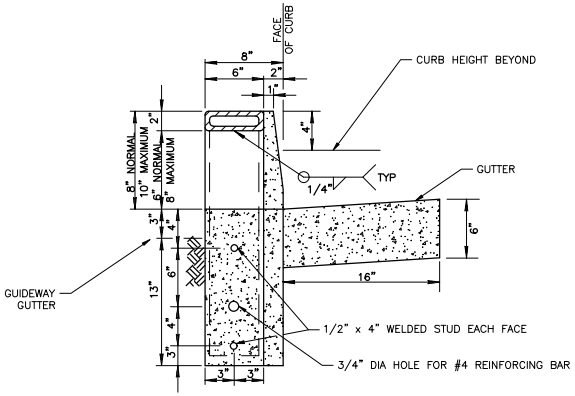
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1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

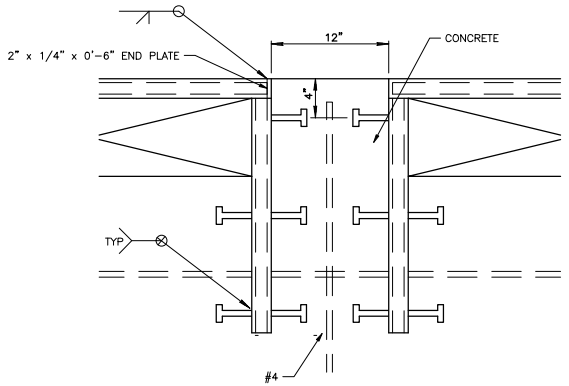
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January 26, 2022 - 10:02am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.



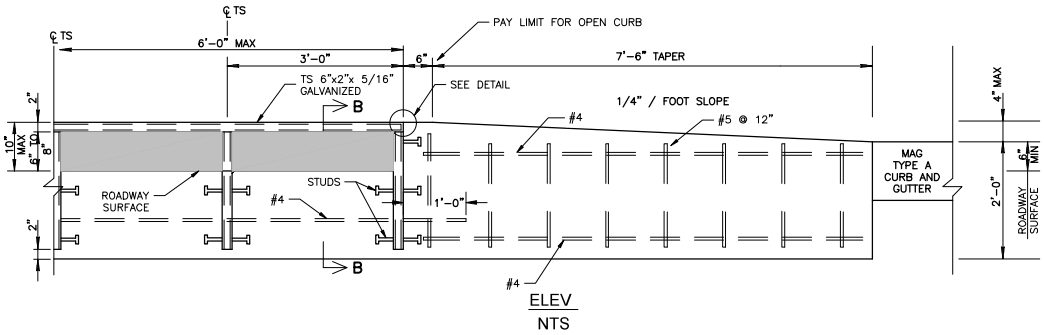
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NTS



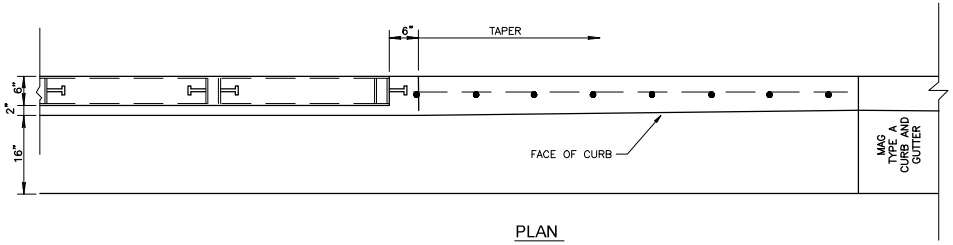
DETAIL FOR ADJACENT UNITS

NTS



ELEV

NTS



PLAN

NTS

NOTES

1. CURB UNITS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A-123 HOT DIPPED GALVANIZING AFTER FABRICATION.
2. SEE PLANS FOR LENGTHS REQUIRED.
3. WHEN MULTIPLE CURB UNITS ARE REQUIRED SPACE ENDS 12" APART WITH CONCRETE BETWEEN.
4. CONCRETE COVER TO REINFORCING SHALL BE 2" UNLESS NOTED OTHERWISE.
5. STEEL REINFORCING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60.

REVISIONS:

1

2

3

PLAN NAME

PASS THROUGH CURB DETAIL

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474 JAY ALLEN YENERICH REGISTERED PROFESSIONAL ENGINEER ARIZONA, U.S.A. EXPIRES 3/31/2023

ORIGINAL PLAN DATE 05/24/2021

LATEST REVISION DATE 01/20/2022

PROJECT NUMBER

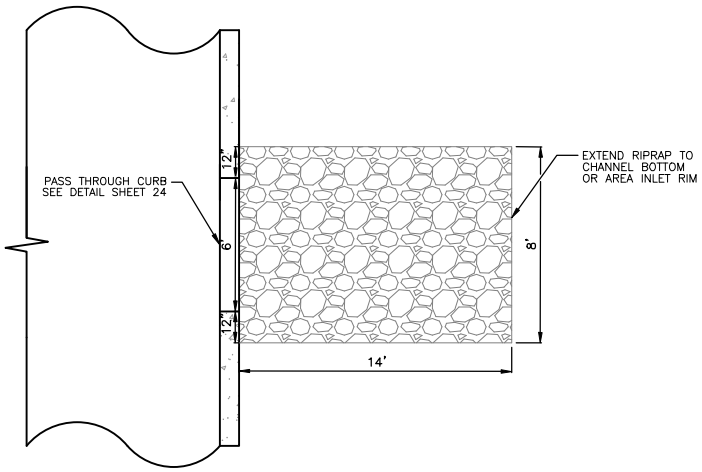
SHEET NUMBER 25 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

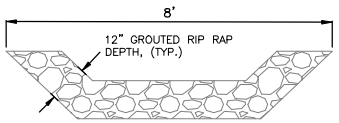
COB PLAN TRACKING #

COB PERMIT # ENGCIP-20-10042

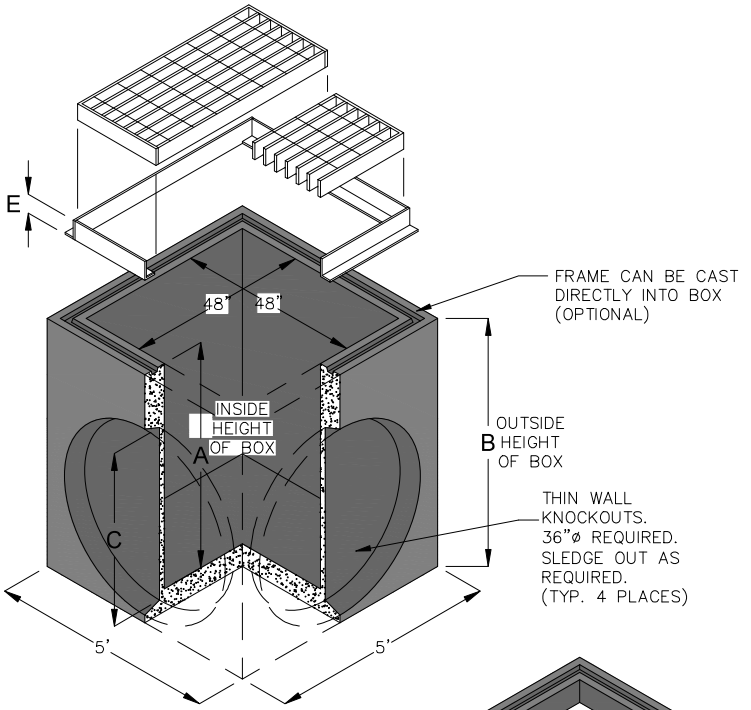
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January 26, 2022 - 10:02am
Joy Yenerich, P.E.

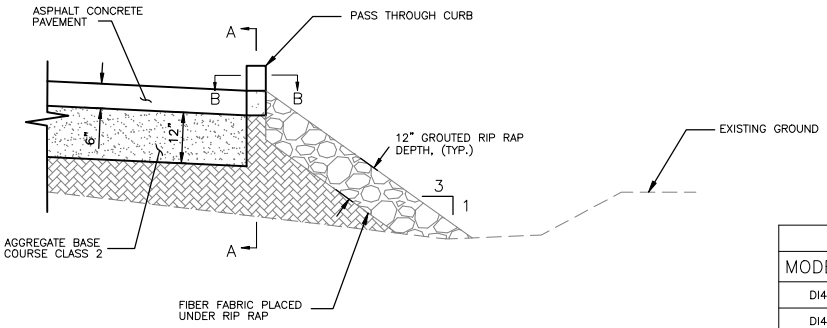


SECTION B-B



SECTION A-A

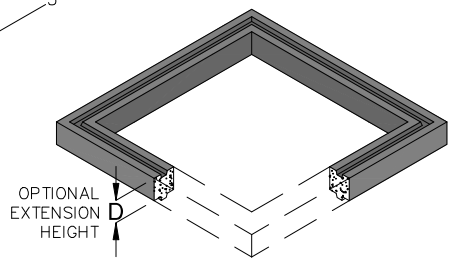




DETAIL "B"
NTS

NOTE:

1. EXCAVATION FOR PLACEMENT OF RIPRAP WILL NOT BE MEASURED FOR PAYMENT.
2. ALL CONCRETE TO BE CLASS "B", MAG SECTION 725.
3. 6" SINGLE CURB PER MAG STD. DTL. 222.



DETAIL "C"
NTS

DROP INLET				
MODEL NO.	A	B	C	*WEIGHT
DI484848	48"	54"	36"	4995 LBS.
DI484860	60"	66"	42"	6433 LBS.
DI484872	72"	78"	42"	7872 LBS.

* BOX ONLY

FRAME AND GRATE			
MODEL NO.	RATING	E	WEIGHT
SG4848-DIP	PEDESTRIAN	1 1/2"	242 LBS.
SG4848-DIT	TRAFFIC	5"	1000 LBS.

EXTENSION		
MODEL NO.	D	WEIGHT
RS484806	6"	675 LBS.
RS484812	12"	1350 LBS.

REVISIONS:

1

2

3

PLAN NAME

RIPRAP AND DRAIN INLET DETAIL

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN
YENERICH
REGISTERED
PROFESSIONAL
ENGINEER
ARIZONA, U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

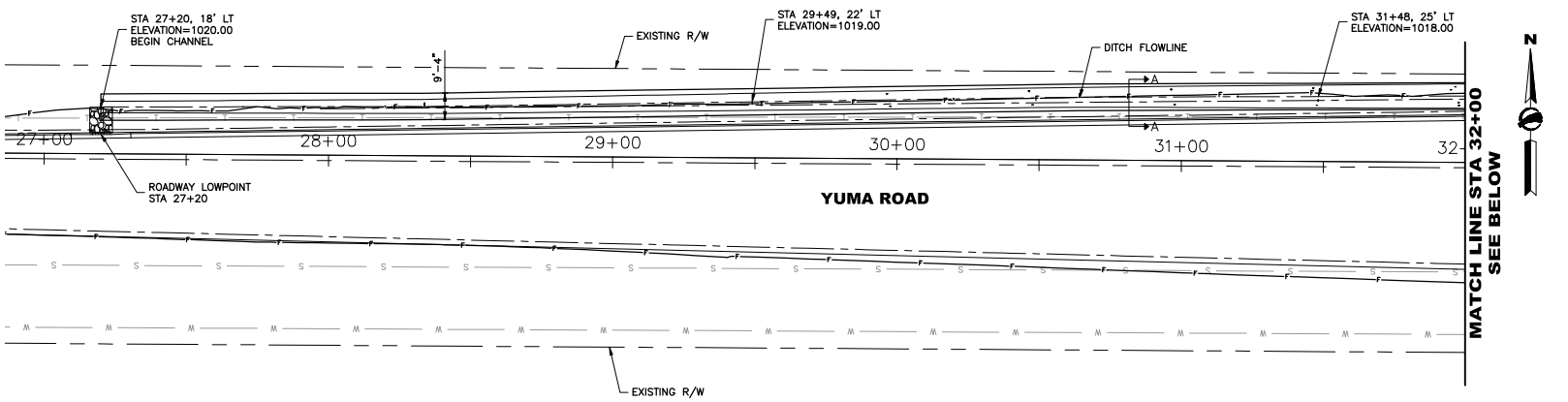
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26 of 43

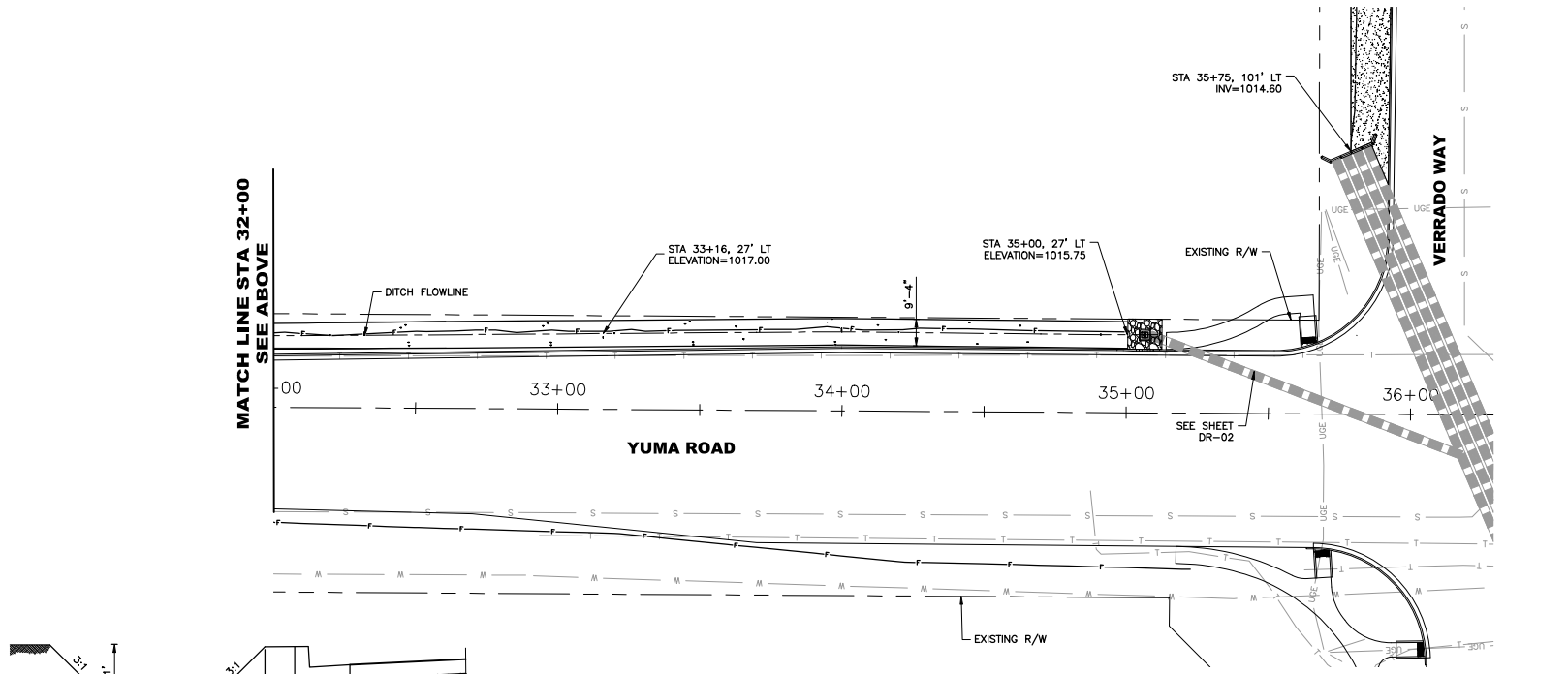
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1ST SUBMITTAL
SEALED PLANS

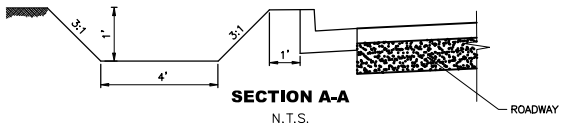
COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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Joy Yenerich, P.E.







SCALE: 1" = 20'

REVISIONS:
1
2
3

PLAN NAME
GRADING PLAN SHEET
G-01

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

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01/20/2022

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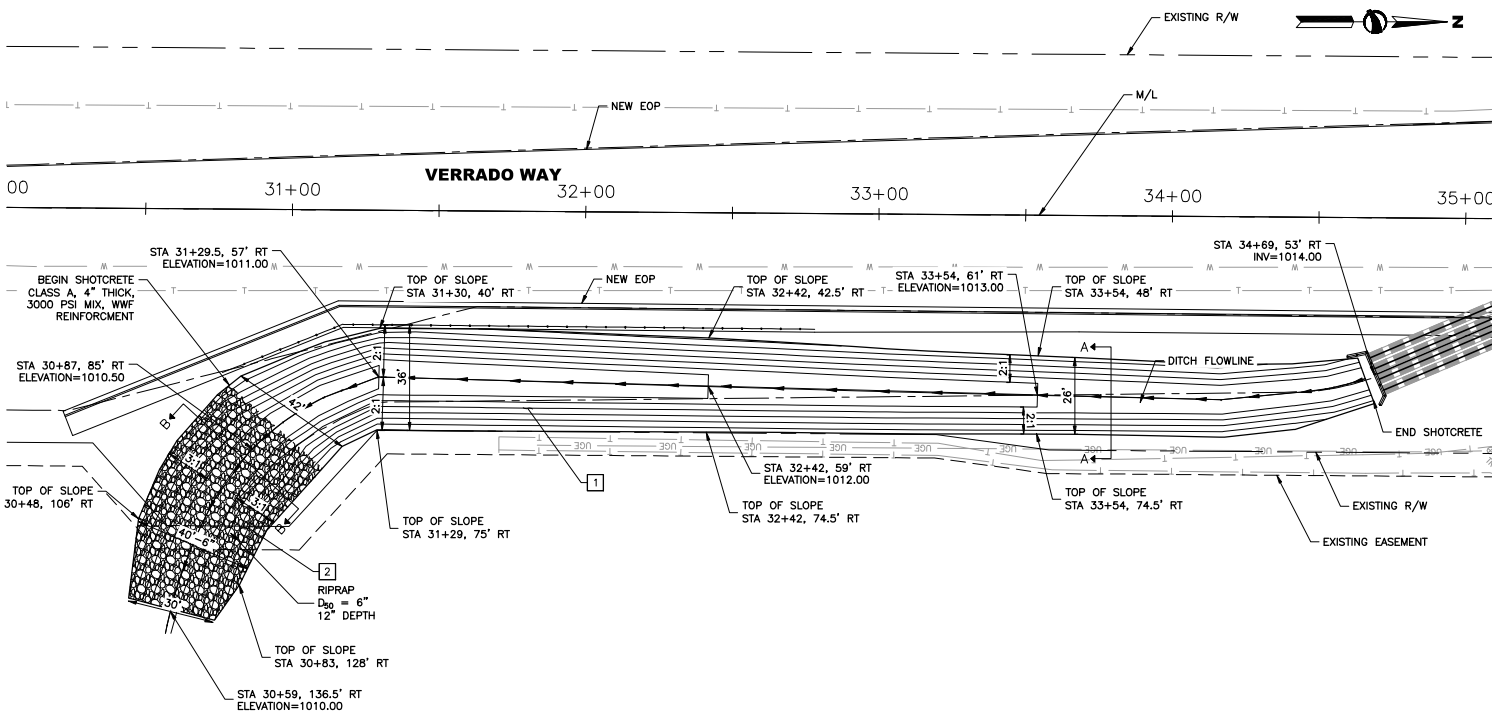
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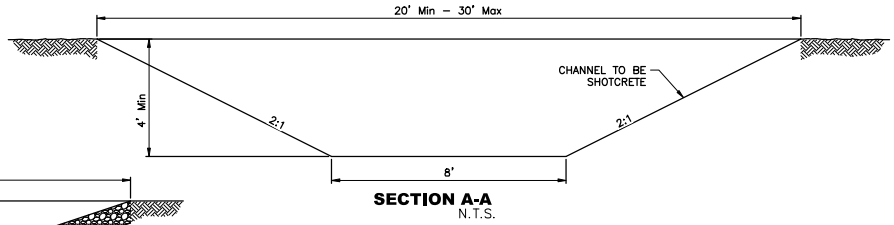
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SEALED PLANS

COB PLAN TRACKING #

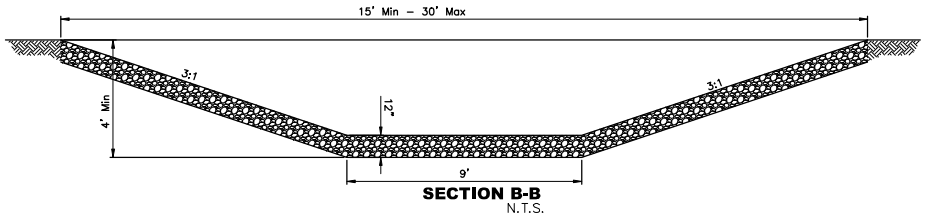
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ENGCIP-20-10042

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SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

SCALE: 1" = 20'

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	INSTALL SHOTCRETE CLASS A, 4" THICK, 3000 PSI MIX, WWF REINFORCEMENT	SF	1,550
2	INSTALL GROUTED RIP–RAP 12" DEPTH PER SHT 25 DETAIL B	SF	2,934

REVISIONS:
1
2
3

PLAN NAME
GRADING PLAN SHEET
G-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
28 of 43

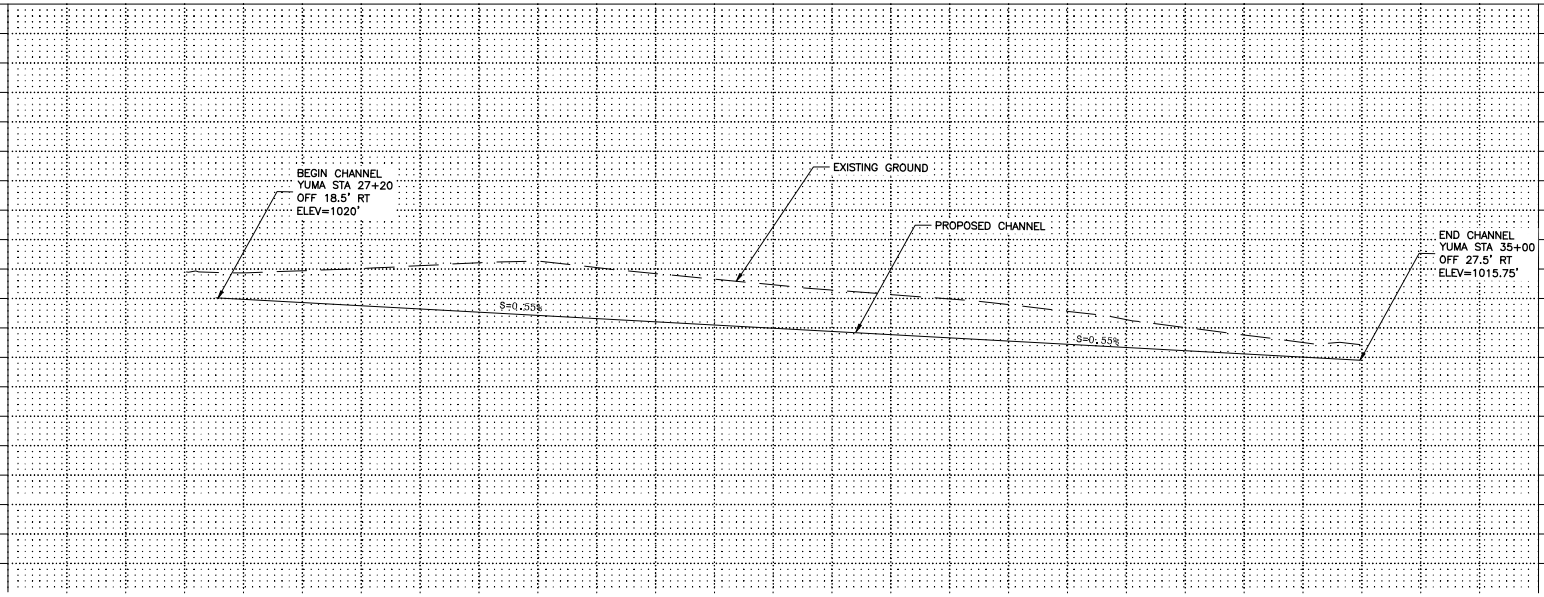
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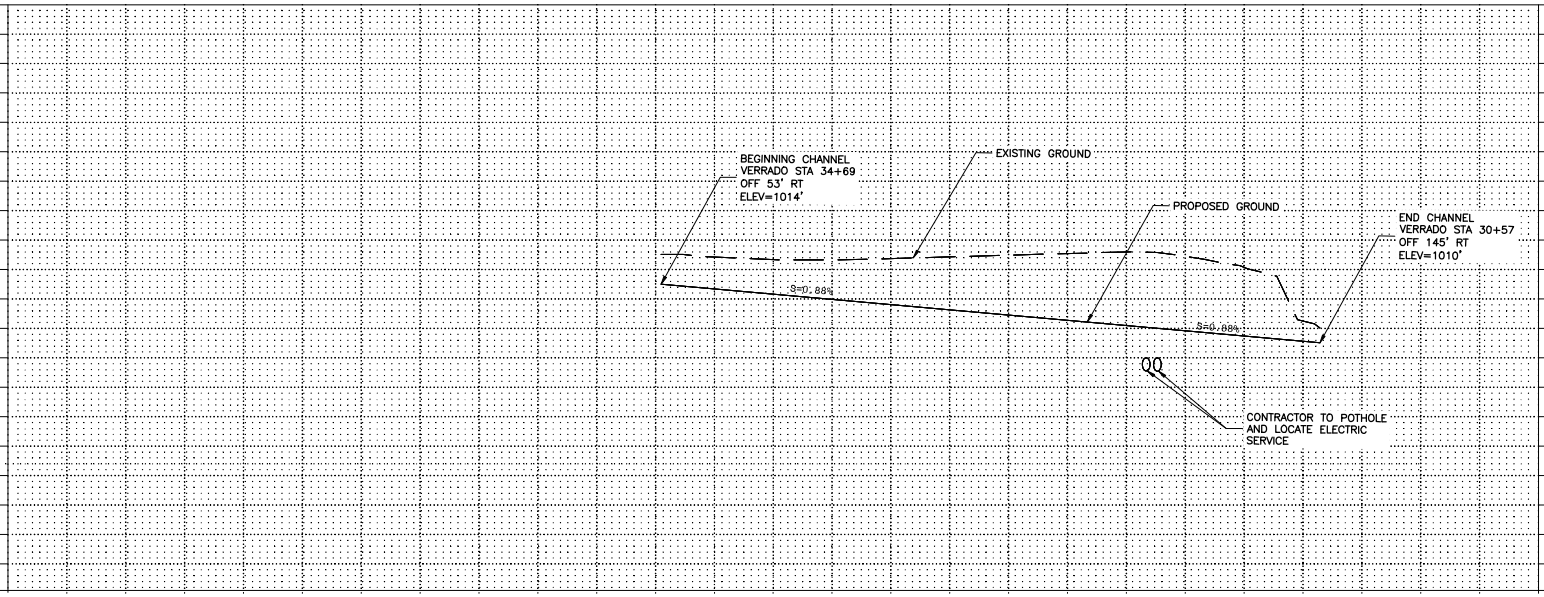
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January 26, 2022 – 10:02am
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NORTHWEST CHANNEL



SOUTHEAST CHANNEL



REVISIONS:

1

2

3

PLAN NAME:

GRADING PROFILE SHEET
G-03

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

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SHEET NUMBER
29 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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PLAN SHEET NOTES:

1. THE CITY'S INSPECTOR SHALL BE NOTIFIED 48 HOURS PRIOR TO STARTING ANY SIGNING OR STRIPING WORK.
2. PERMANENT THERMOPLASTIC STRIPING SHALL NOT BE PLACED ANY EARLIER THAN 30 DAYS AFTER THE PERMANENT PAVEMENT HAS BEEN PLACED. A TEMPORARY PAINT SHALL BE USED AS AN INTERIM STRIPING. IF TEMPORARY PAINT IS USED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT SHALL BE USED FOR OPEN TRENCH AND DIRECTIONAL DRILL APPLICATIONS.
3. DEPTH OF PVC INSTALLATION SHALL BE 36" MINIMUM (TYPICAL) BELOW LIP OF GUTTER AND RUN IN A HORIZONTAL PLANE FROM PULL BOX TO PULL BOX.
4. IF A NUMBER 9 PULL BOX EXISTS NEAR BY A NUMBER 7 PULL BOX FOR A FUTURE SIGNAL, CONNECT THE TWO PULL BOXES WITH A 2" CONDUIT
5. CONDUIT RUN FROM METER PEDESTAL TO ELECTRICAL COMPANY POINT OF DELIVERY FOR SERVICE SHALL BE INSTALLED TO ELECTRICAL COMPANY SIZE AND SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOTIFY THE CITY FOR FIELD REVIEW OF LAYOUT PRIOR TO ANY STRIPING OR MARKINGS OF ANY KIND. ANY STRIPING COMPLETED PRIOR TO THE CITY'S REVIEW MAY BE SUBJECT TO REMOVAL, RE-LAYOUT AND RESTRIPING AT THE CONTRACTORS EXPENSE.
7. THE PAVEMENT MARKING DRAWINGS ARE SCHEMATIC ONLY AND NOT TO SCALE. THE CONTRACTOR SHALL FOLLOW ALL DIMENSIONS, NOTES, DETAILS AND STANDARDS WHEN INSTALLING PAVEMENT STRIPING, MARKINGS AND MARKERS.
8. TEMPORARY TRAFFIC CONTROL SHALL CONFORM TO THE MUTCD AND/OR AS DIRECTED BY THE CITY.
9. UNLESS OTHERWISE DIRECTED, ALL FINAL LOCATION LANE STRIPING INCLUDING CROSSWALKS AND STOP BARS SHALL BE THERMOPLASTIC MATERIAL APPLIED AT A MINIMUM THICKNESS OF 60 MILS FOR LANE STRIPING AND 90 MILS FOR CROSSWALKS AND STOP BARS. ARROWS, AND LETTERING SHALL BE THERMOPLASTIC, TYPE 1 (PERMANENT) PREFORMED PAVEMENT MARKINGS. COLD TAPE MAY BE ALLOWED SUBJECT TO WRITTEN REQUEST BY THE CONTRACTOR AND APPROVAL BY THE CITY. TEMPORARY PAVEMENT MARKINGS TRAFFIC PAINT. TEMPORARY STRIPING OR HALF-STREET ROADWAY STRIPING SHALL BE PAINT.
10. ALL SIGNS SHALL CONFORM TO THE MUTCD AND SHALL BE MADE FROM 0.080 INCH THICK ALUMINUM. SIGN POSTS AND EXTENSIONS SHALL BE GALVANIZED SQUARE PREFORMED STEEL TUBING PER CITY STANDARDS. HEIGHT REQUIREMENTS SHALL COMPLY WITH THE MUTCD.
11. ALL TRAFFIC CONTROL SIGN FACES SHALL BE CONSTRUCTED TO THE CITY OF BUCKEYE'S PERFORMANCE SPECIFICATIONS.
12. ALL SIGNS SHALL HAVE A MINIMUM CLEARANCE FROM THE EDGE OF SIGN TO THE FACE OF THE CURB OF AT LEAST TWO (2) FEET; OR IF NO CURB EXISTS, IT SHALL BE AT LEAST TWELVE (12) FEET FROM THE EDGE OF THE PAVEMENT. ALL SIGNS SHALL BE PLACED SO AS NOT TO INTERFERE WITH PEDESTRIAN MOVEMENT.
13. ANY TRAFFIC CONTROL SIGNAGE, INCLUDING STREET NAME SIGNS, WHICH MAY BE LOCATED WITHIN 10 FEET OF AN EXISTING STREET LIGHT POLE, MAY BE MOUNTED TO THE POLE BY STAINLESS STEEL BANDING WITH APPROVAL FROM THE CITY. IN NO CASE SHALL THE STREET NAME SIGNS BE STACKED ON TOP OF EACH OTHER. A SEPARATE BRACKET WILL BE REQUIRED FOR EACH SIGN. SIGN LOCATIONS AND OFFSETS MAY BE ADJUSTED BY THE CITY TO IMPROVE VISIBILITY.
14. ALL CONCRETE MEDIAN CURB NOSES SHALL BE PAINTED WITH YELLOW REFLECTIVE SAFETY PAINT FROM THE FRONT OF THE BULL NOSE BACK 10 FEET WITH YELLOW OR (WHERE APPLICABLE) WHITE TYPE G RAISED PAVEMENT MARKERS ON BULL NOSE CURB HEADS SUBJECT TO FIELD REVIEW AND FINAL ACCEPTANCE FOR MARKERS.
15. ALL RAISED PAVEMENT MARKERS SHALL BE INSTALLED IN ACCORDANCE WITH ADOT STANDARD DRAWING M-19. TWO-WAY TYPE BB RAISED PAVEMENT MARKERS SHALL BE INSTALLED ADJACENT TO FIRE HYDRANTS PER CITY STANDARDS.
16. ANY EXISTING SIGNAL THAT IS REQUIRED TO BE RELOCATED BY THE CONTRACTOR SHALL BE REMOVED, PROTECTED AND STORED FOR REINSTALLATION BY THE CONTRACTOR. DAMAGED SIGNAGE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ANY EXISTING SIGNS REQUIRED TO BE PERMANENTLY REMOVED BY THE CONTRACTOR SHALL BE SALVAGED AND RETURNED TO THE CITY.
17. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS AND STRIPING IN CONFLICT WITH THE FINAL STRIPING PLAN BY ULTRA HIGH PRESSURE WATER (36,000PSI) OR BY SAND BLASTING. ALL REMOVAL METHODS SHALL BE DONE IN CONFORMANCE WITH EPA REQUIREMENTS. IF THE REMOVAL OF STRIPING CAUSES A DEPRESSION OF 1/8 INCH OR GREATER IN THE PAVEMENT SURFACE THE CONTRACTOR SHALL FILL AND SLURRY SEAL THE AREA PER MAG SPECIFICATIONS 713 AND 715, TYPE II. BLACKOUT PAINT WILL NOT BE ACCEPTED, NO EXCEPTIONS.
18. THE CONTRACTOR SHALL CLEAN THE ROADWAY SURFACE TO THE SATISFACTION OF THE CITY BY POWER BROOM, STREET SWEEPING, AIR JET BLOWING AND/ OR WATER JET/TRUCK PRIOR TO PLACEMENT OF ALL PAVEMENT MARKINGS. THE ROAD PAVEMENT SURFACE SHALL BE ABSOLUTELY DRY. THE AIR AND PAVEMENT TEMPERATURES SHALL NOT BE LESS THAN 55 DEGREES F AND 61 DEGREES F FOR THE PLACEMENT OF THERMOPLASTIC MARKING TYPE I MARKING TAPE, RESPECTIVELY. TEMPERATURE VALUES SHALL BE CONSIDERED RISING AND TAKEN WITHIN THE SHADE.
19. STREET NAME SIGNS LOCATED AT ALL LOCAL, COLLECTOR AND ARTERIAL INTERSECTIONS SHALL HAVE BLOCK NUMBERS. BLOCK NUMBERS SHALL BE ASSIGNED BY THE CITY'S ENGINEERING DEPARTMENT. BLOCK NUMBERS SHALL BE INSTALLED PER CITY REQUIREMENTS. THE CONTRACTOR SHALL PROVIDE MATERIAL CUT SHEETS OF THE SIGN PANELS FOR REVIEW BY THE CITY PRIOR TO INSTALLATION.

REVISIONS:

1

2

3

PLAN NAME

SIGNING AND MARKING NOTES
SM-01

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE: 05/24/2021

LATEST REVISION DATE: 01/20/2022

PROJECT NUMBER

SHEET NUMBER: 30 of 43

COB PLAN TRACKING #

COB PERMIT #: ENGCIP-20-10042

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VERRADO AND YUMA INTERSECTION IMPROVEMENT

		WORK EXISTING			OFFSET FROM EOP			PLAN SIGN SIZE		SHEETING TYPE AREA (SQ. FT.)		GROUND MOUNT POSTS				FOUNDATIONS		REMARKS
SIGN CODE	NEW	RELOCATE	REMOVE & SALVAGE	SEE REMARKS	LT (FT)	RT (FT)	LEGEND	WIDTH (in)	LENGTH (in)	H	D	NO. POSTS	TYPE LENGTH P (FT)	TYPE LENGTH U (FT)	TOTAL LENGTH	F (EA)	U (EA)	
SPECIALTY		X			13		SPECIALTY	48	30			2	11		22	2		
R3-8LSR MOD	X					53	INTERSECTION LANE CONTROL	60	36		15	2	11		22	2		
R2-1	X				26		SPEED LIMIT (45)	24	30			1	10		10	1		
R3-8LSR			X			54	INTERSECTION LANE CONTROL	48	36									
R1-2				X		45	SPEED LIMIT (45)	24	30									EXIST. TO REMAIN
W4-7L	X					49	THRU TRAFFIC MERGE LEFT	36	36			1	11		11	1		
SPECIALTY		X				48	SPECIALTY	48	30									
R3-8LSR MOD	X				30		INTERSECTION LANE CONTROL	60	36		15	2	11		22	2		
R3-5R				X		48	TURN ONLY	24	30									EXIST. TO REMAIN
R3-5f				X		48	RIGHT LANE	30	12									EXIST. TO REMAIN
R1-1				X		39	STOP	24	24									EXIST. TO REMAIN
OM3-L	X					36	OBJECT MARKER	12	36			1	11		11	1		
R8-3a				X		36	NO PARKING	24	24									EXIST. TO REMAIN
R2-1				X		28	SPEED LIMIT (50)	24	30									EXIST. TO REMAIN
W8-103				X		28	DO NOT CROSS WHEN FLOODED	36	36									EXIST. TO REMAIN
R3-4				X	26		NO U-TURN	24	24									EXIST. TO REMAIN
R3-4				X	26		NO U-TURN	24	24									EXIST. TO REMAIN
R3-4				X	26		NO U-TURN	24	24									EXIST. TO REMAIN
M1-1				X		44	INTERSTATE 10	24	24									EXIST. TO REMAIN
M6-3				X		44	AHEAD	24	18									EXIST. TO REMAIN
R3-4		X			40		NO U-TURN	24	24			1	11		11	1		
R2-1		X			40		SPEED LIMIT (45)	24	30			1	10		10	1		
R3-4		X			40		NO U-TURN	24	24			1	11		11	1		
R2-1				X		44	SPEED LIMIT (45)	24	30									EXIST. TO REMAIN
R3-8LSR	X					44	INTERSECTION LANE CONTROL	48	36		12	2	11		22	2		
W11-2		X			41		PEC CROSSING	36	36									
R1-4		X			41		SCHOOL	24	8									MOUNT BELOW W11-2
W4-2R	X				41		LANE ENDS	36	36			1	11		11	1		
R3-8LSR			X		20		INTERSECTION LANE CONTROL	48	36									
SPECIALTY		X					SPECIALTY	48	30			2	11		22	2		
R2-1		X				38	SPEED LIMIT (45)	24	30			1	10		10	1		
W8-103			X		55		DO NOT CROSS WHEN FLOODED	36	36									
										TOTALS	42	18			195	18		

REVISIONS:

1

2

3

PLAN NAME

SIGN SUMMARY
SM-02

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
31 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

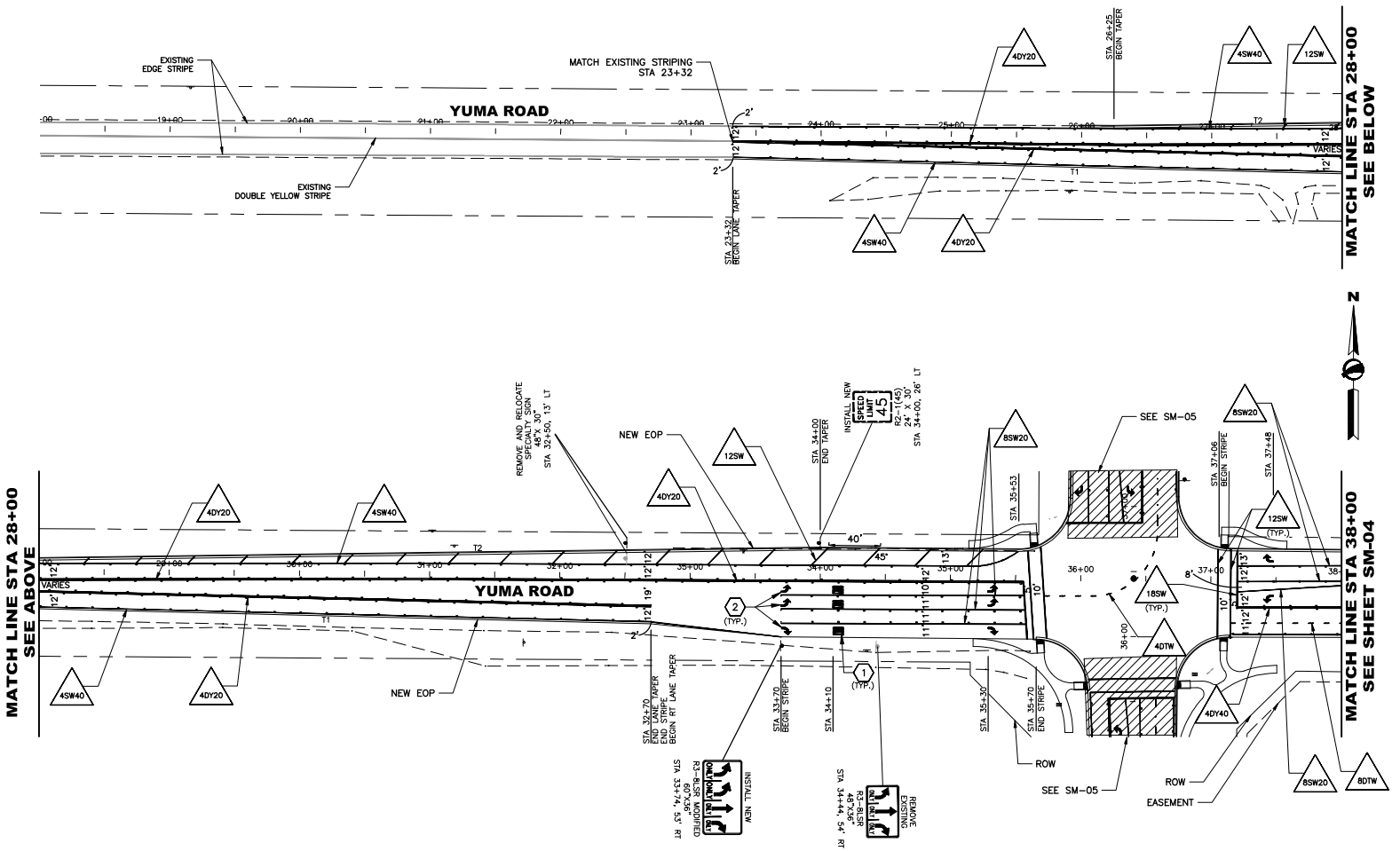
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ENGCIP-20-10042

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Jay Yenerich, P.E.

TAPER CALCS

T1	T2
L = WS	L = WS
L = 20 X 45	L = 10 X 45
L = 900'	L = 450'



PAVEMENT MARKING LEGEND

4SW40	4" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 40' SPACING
8SW20	8" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 20' SPACING
18SW	18" SOLID WHITE LANE LINE
12SW	12" SOLID WHITE LANE LINE
8DTW	8" DASHED WHITE LINE WITH A 3' LINE SEGMENT AND A 9' GAP
4DY20	4" SOLID DOUBLE YELLOW LANE LINE W/ TYPE 'D' RPMs @ 20' SPACING
4SYBM	4" DOUBLE YELLOW LINE, ONE SOLID, ONE BROKEN W/ A 10' LINE SEGMENT AND A 30' GAP WITH TYPE 'D' RPMs @ 40'
8SY	8" SOLID YELLOW LINE

CONSTRUCTION NOTES

1. INSTALL "ONLY" LEGEND PER COB STANDARDS.
2. INSTALL TURN ARROW PER COB STANDARDS.
3. INSTALL MERGE PAVEMENT ARROW PER COB STANDARDS.

REVISIONS:
1
2
3

PLAN NAME
SIGNING AND MARKING
SM-03

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474 JAY ALLEN YENERICH REGISTERED PROFESSIONAL ENGINEER ARIZONA, U.S.A. EXPIRES 3/31/2023

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

ORIGINAL PLAN DATE: 05/24/2021
LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER
SHEET NUMBER: 32 of 43

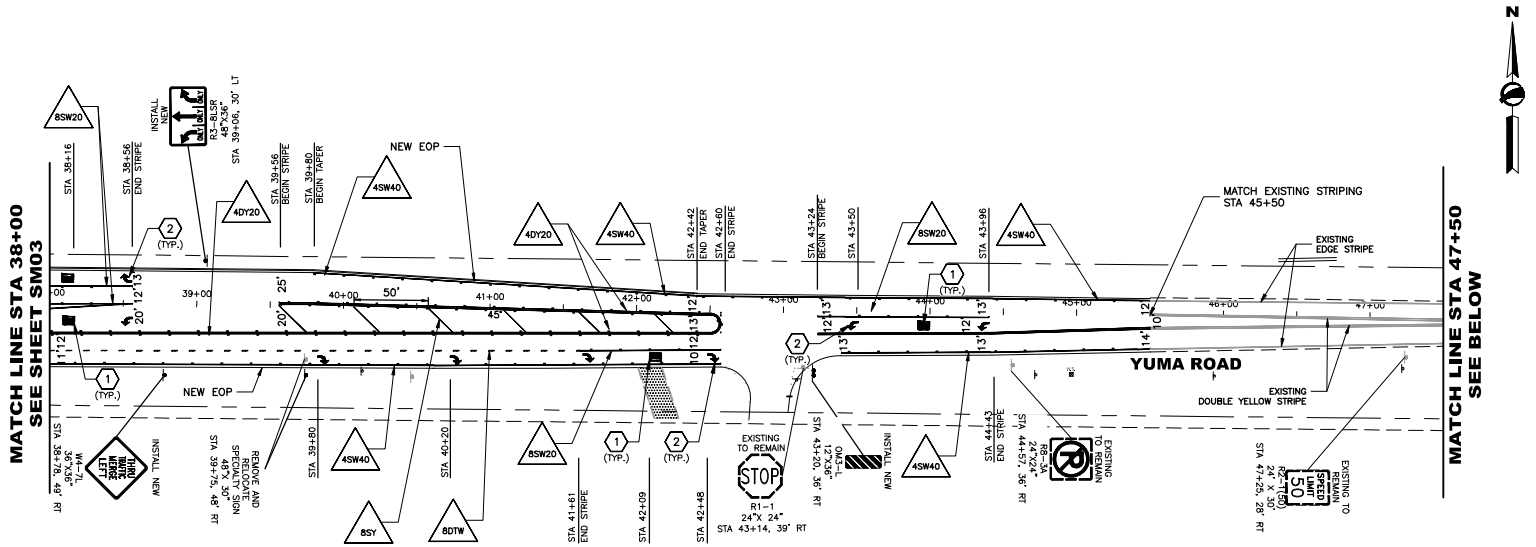
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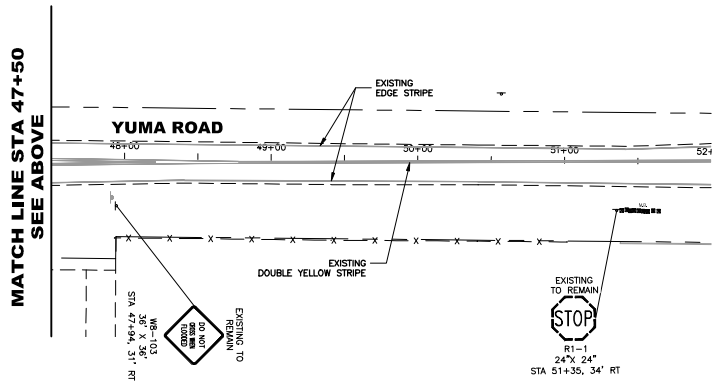
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January 26, 2022 - 10:03am
Jay Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

71

375





PAVEMENT MARKING LEGEND

4SW40	4" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 40' SPACING
8SW20	8" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 20' SPACING
18SW	18" SOLID WHITE LANE LINE
12SW	12" SOLID WHITE LANE LINE
8DTW	8" DASHED WHITE LINE WITH A 3' LINE SEGMENT AND A 9' GAP
4DY20	4" SOLID DOUBLE YELLOW LANE LINE W/ TYPE 'D' RPMs @ 20' SPACING
4SYBM	4" DOUBLE YELLOW LINE, ONE SOLID, ONE BROKEN W/ A 10' LINE SEGMENT AND A 30' GAP WITH TYPE 'D' RPMs @ 40'
8SY	8" SOLID YELLOW LINE

CONSTRUCTION NOTES

1. INSTALL "ONLY" LEGEND PER COB STANDARDS.
2. INSTALL TURN ARROW PER COB STANDARDS.
3. INSTALL MERGE PAVEMENT ARROW PER COB STANDARDS.

SCALE: 1" = 40'

REVISIONS:

1

2

3

PLAN NAME

SIGNING AND MARKING
SM-04

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN
YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

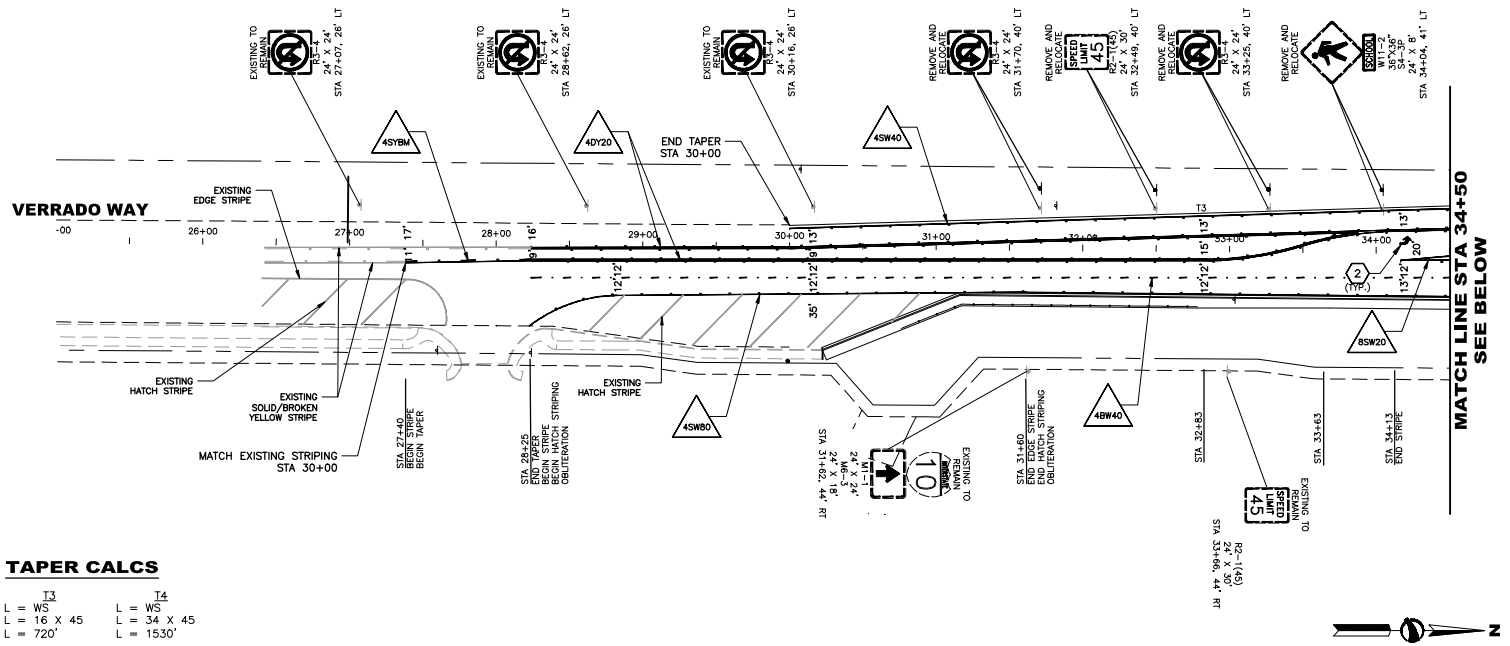
SHEET NUMBER
33 of 43

SUBMITTAL:
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

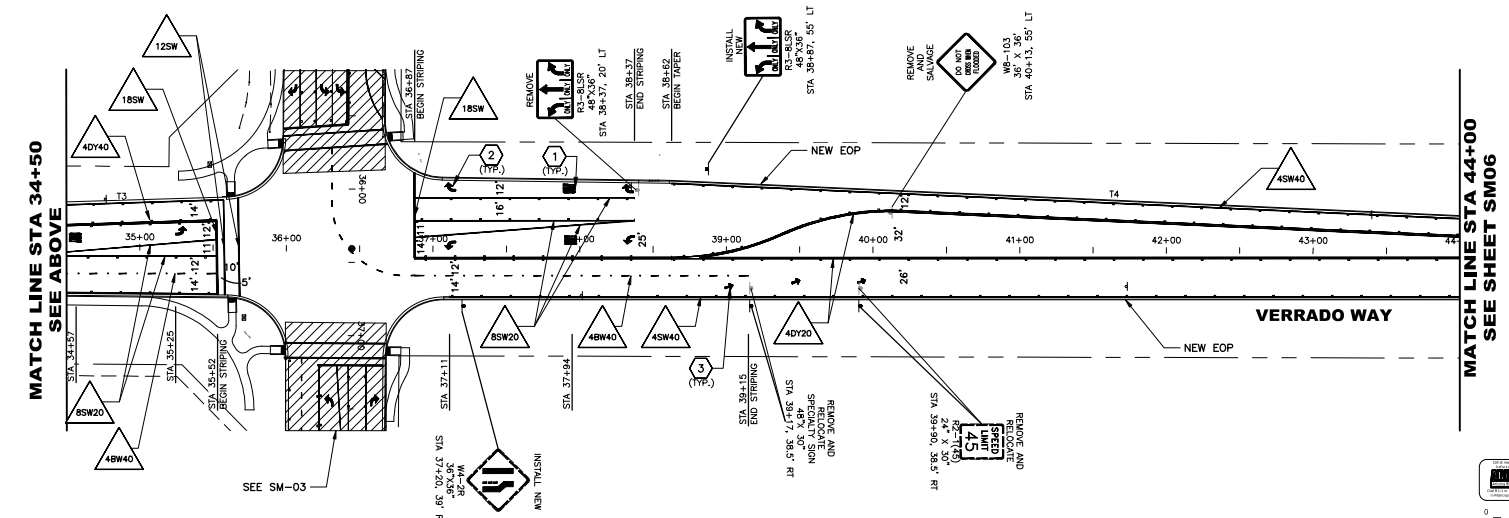
COB PERMIT #
ENGCIP-20-10042

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Jay Yenerich, P.E.
January 26, 2022 - 10:03am



TAPER CALCS

T3	T4
L = WS	L = WS
L = 16 X 45	L = 34 X 45
L = 720'	L = 1530'



SCALE: 1" = 40'

PAVEMENT MARKING LEGEND

- 4SW40 — 4" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 40' SPACING
- 8SW20 — 8" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 20' SPACING
- 18SW — 18" SOLID WHITE LANE LINE
- 12SW — 12" SOLID WHITE LANE LINE
- 8DTW — 8" DASHED WHITE LINE WITH A 3' LINE SEGMENT AND A 9' GAP
- 4DY20 — 4" SOLID DOUBLE YELLOW LANE LINE W/ TYPE 'D' RPMs @ 20' SPACING
- 4SYBM — 4" DOUBLE YELLOW LINE, ONE SOLID, ONE BROKEN W/ A 10' LINE SEGMENT AND A 30' GAP WITH TYPE 'D' RPMs @ 40'
- 8SY — 8" SOLID YELLOW LINE

CONSTRUCTION NOTES

1. INSTALL "ONLY" LEGEND PER COB STANDARDS.
2. INSTALL TURN ARROW PER COB STANDARDS.
3. INSTALL MERGE PAVEMENT ARROW PER COB STANDARDS.

REVISIONS:
1
2
3

PLAN NAME
SIGNING AND MARKING
SM-05

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL

DESIGN SEAL: 27474 JAY ALLEN YENERICH — EXPIRES 3/31/2023

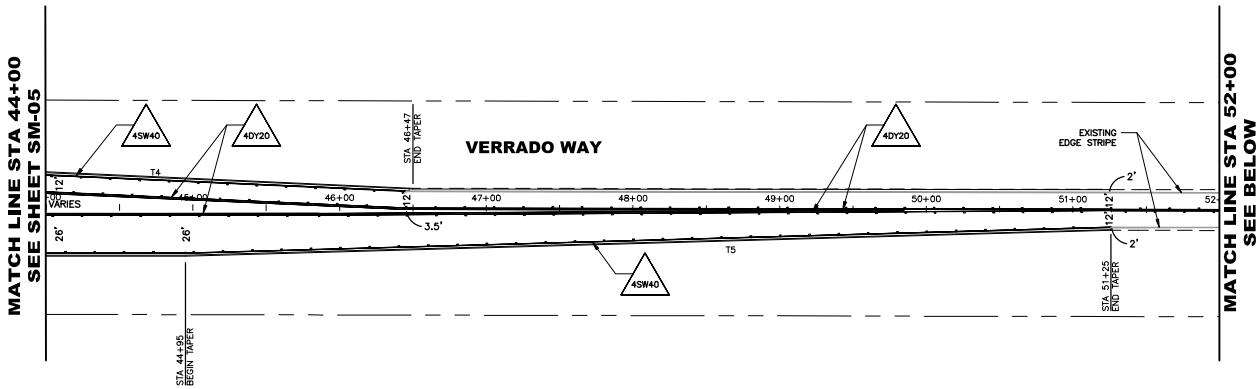
ORIGINAL PLAN DATE	LATEST REVISION DATE
05/24/2021	01/20/2022
PROJECT NUMBER	SHEET NUMBER
	34 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

COB PLAN TRACKING #
COB PERMIT #: ENGCIP-20-10042

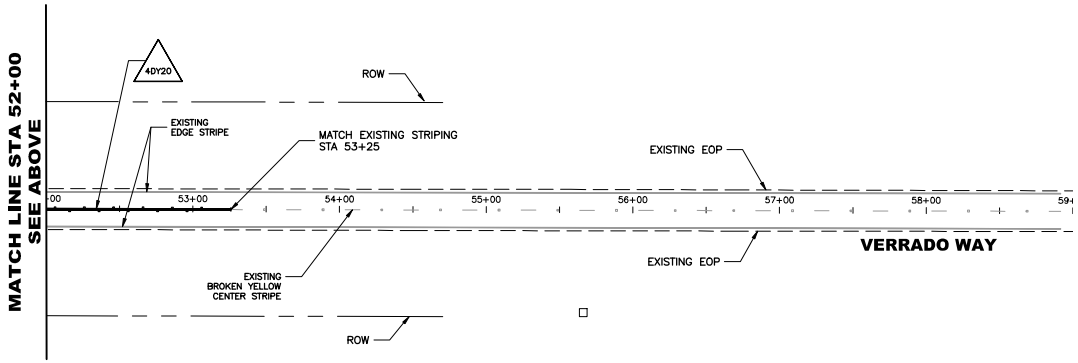
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January 26, 2022 - 10:03am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.



TAPER CALCS

T4	T5
L = WS	L = WS
L = 34 X 45	L = 14 X 45
L = 1530'	L = 630'



PAVEMENT MARKING LEGEND

4SW40	4" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 40' SPACING
8SW20	8" SOLID WHITE LANE LINE W/ TYPE 'G' RPMs @ 20' SPACING
18SW	18" SOLID WHITE LANE LINE
12SW	12" SOLID WHITE LANE LINE
8DTW	8" DASHED WHITE LINE WITH A 3' LINE SEGMENT AND A 9' GAP
4DY20	4" SOLID DOUBLE YELLOW LANE LINE W/ TYPE 'D' RPMs @ 20' SPACING
4SYBM	4" DOUBLE YELLOW LINE, ONE SOLID, ONE BROKEN W/ A 10' LINE SEGMENT AND A 30' GAP WITH TYPE 'D' RPMs @ 40'
8SY	8" SOLID YELLOW LINE

CONSTRUCTION NOTES

1. INSTALL "ONLY" LEGEND PER COB STANDARDS.
2. INSTALL TURN ARROW PER COB STANDARDS.
3. INSTALL MERGE PAVEMENT ARROW PER COB STANDARDS.

SCALE: 1" = 40'

REVISIONS:
1
2
3

PLAN NAME
SIGNING AND MARKING
SM-06

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
35 of 43

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 10:03am
Joy Yenerich, P.E.

STREET LIGHT NOTES

1. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION.
2. POLE SHALL COMPLY WITH CURRENT AASHTO LOADING REQUIREMENTS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS.
3. REFER TO BUCKEYE DETAIL FOR ANCHOR BOLT DETAILS.
4. THE FOUNDATION HOLE SHALL BE AUGERED AND MAG CLASS "A" (3,000 PSI) CONCRETE, POURED AGAINST UNDISTURBED COMPACTED EARTH.
5. UNSTABLE SOIL AND / OR A STEEP SLOPE WILL REQUIRE A DEEPER FOUNDATION. REFER TO MANUFACTURE REQUIREMENTS, DESIGN PLANS, AND SPECIAL PROVISIONS FOR DETAILS.
6. EACH POLE SHALL HAVE AN 10' X 5/8" COPPER CLAD GROUND ROD, DRIVEN OUTSIDE THE AREA EXCAVATED FOR THE POLE APPROXIMATELY 18" FROM POLE GROUND RODS SHALL BE LOCATED IN THE CITY OF BUCKEYE JUNCTION BOX. A #6 BARE COPPER LEAD SHALL BE USED BETWEEN THE GROUND ROD AND THE LANDING LUG IN HAND HOLE.
7. THE POLE SHALL BE STRAIGHT PIPE.
8. ALL WELDS SHALL BE GROUNDED SMOOTH, AND ALL BURRS AND SHARP EDGES SHALL BE REMOVED PRIOR TO ANY PAINTING.
9. ALL DIMENSIONS ARE NOMINAL.
10. REFER TO PLAN DETAILS FOR VARIATIONS IN POLE APPLICATIONS.
11. AT NO TIME SHALL SLIP-BASE POLES, BASES, FOUNDATIONS, ect. BE PERMITTED FOR USE.
12. A METAL TAG SHALL BE PERMANENTLY ATTACHED WITH RIVETS TO THE POLE ABOVE THE HAND HOLE STATING THE MANUFACTURERS NAME, POLE TYPE, MAST ARM TYPE, WATTAGE, AND DISTRUBUTION TYPE PER THE STREETLIGHT PLANS AND CITY DETAIL #6. ALL OTHER ITEMS SHOULD BE ATTRIBUTES IN THE DATA BASE. APS WILL PROVIDE POLE NUMBERS PER THE UTILITIES REQUIREMENTS.
13. A HAND HOLE COVER LOCKING DEVICE SHALL BE USED.
14. THE HAND HOLD SHALL BE 3"X5", AND THE COVER PLATE WILL BE AT LEAST 16 GAUGE.
15. POLE GROUND SHALL BE 5/16" DIA X 10' COPPER CLAD GROUND ROD PER CITY DETAIL #6
16. HAND HOLE SHALL BE ORIENTED SO THAT IT IS ALIGNED WITH THE MAST ARM AND AS FAR FROM VEHICULAR TRAFFIC AS POSSIBLE.
17. HAND HOLE HEIGHT TO BE 2'-6" FOR BASE MOUNTED POLE & 3'-6" FOR DIRECT BURIED POLES FROM CENTER OF HAND HOLE TO THE BASE PLATE OF THE POLE.

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	ROADWAY POLE AND LUMINAIRE SPECIFICATIONS	DATE:	DETAIL #7 1 OF 2

STREET LIGHT NOTES

18. HAND HOLE COVER MAY BE RECTANGULAR SHAPE OR OVAL SHAPE.
19. ANCHOR BOLTS SHALL CONFORM TO THE POLE MANUFACTURER'S STANDARDS AND BE MINIMUM ASTM F 1554 GRADE 55 STEEL.
20. ALL ANCHOR BOLTS, NUTS, AND WASHERS SHALL BE FULLY GALVANIZED PER ASTM A153.
21. REBAR SHALL BE PER ASTM A 615 LATEST EDITION GRADE 60 AND SHALL BE TIED TOGETHER. NO TACK WELDING ALLOWED.
22. REBAR SHALL NOT BE SET CLOSER THAN 3" TO ANY EXTERIOR SURFACE.
23. THE TOP OF THE POLE FOUNDATION AND PULLED BOXES SHALL MATCH EXISTING SIDEWALK GRADE WHEREVER POSSIBLE. IF NO SIDEWALK EXISTS THAN THE POLE FOUNDATION SHALL EXTEND 1" ABOVE THE FINISHED GRADE. PULL BOXES SHALL BE SET TO MATCH THE EXISTING SLOPE.
24. PULL BOXES SHALL HAVE BOLTS INSTALLED PRIOR TO ENERGIZING. THE BOLTS SHALL BE A SECURITY TYPE REQUIRING A SPECIALIZED TOOL TO REMOVE. MINIMUM OF PENTA-HEAD STYLE BOLTS SHALL BE REQUIRED.
25. COMPACTION BENEATH AND AROUND THE PULL BOXES SHALL BE A MINIMUM OF 95 PERCENT PER MAG SPECS. SECTION 601.
26. THE PULL BOX COVER SHALL READ " C.O.B. STREET LIGHTING"
27. POLE OFFSET SHALL COMPLY WITH THE POLE SCHEDULE AND DESIGN PLANS. FIELD ADJUSTMENTS MAY BE PERMITTED AT THE DISCRETION OF THE DESIGN ENGINEER.
28. CONDUIT SHALL EXTEND A MINIMUM OF 2" ABOVE THE FOUNDATION.
29. THE USE OF CONDUIT CAPS SHALL BE REQUIRED TO KEEP THE SWEEP FREE FROM DIRT AND DEBRIS DURING THE FOUNDATION CONSTRUCTION. **DO NOT GLUE ON CAPS.**
30. IF THE STREETLIGHT IS PLACED IN SIDEWALK, EXTEND THE ANCHOR BOLTS TO THE MAXIMUM OF 3¼" ABOVE THE FOUNDATION.
31. THE CONCRETE FOUNDATION SHALL BE POURED IN DRILLED HOLES. USE OF A MINIMUM 18" DEEP SONOTUBE AT THE TOP OF THE FOUNDATION IS REQUIRED TO PROVIDE A UNIFORM AND CONTROLLED FOUNDATION.
32. THE FOUNDATION TEMPLATE SHALL BE REMOVED AFTER THE CONCRETE HAS SET.
33. THE FOUNDATION SHALL BE TROWELED SMOOTH WITH A SLIGHT SLOPE TO PROMOTE MOISTURE RUNOFF FINISH WITH ½" ROUNDED EDGE.
34. IF STREET LIGHT POLE FOUNDATIONS ARE TO BE PLACED IN A CONCRETE PAD (SIDEWALK, HANDI-CAP RAMP) THERE SHALL BE A ½" PIECE OF EXPANSION MATERIAL BETWEEN THE FOUNDATION AND THE CONCRETE PAD.
35. WIRE FROM JUNCTION BOX TO LAMP SHALL BE 2-#14Cu-THWN-2 AND 1#14 BARE COPPER GROUND. COLORED PER THE NEC REQUIREMENT.
36. JUNCTION BOX TO CONTAIN 10 AMP WATER TIGHT 10AMP FUSE IN 65U BREAKAWAY FUSE HOLDER ON EACH POWER CONDUCTOR. FUSE IN HAND HOLE IS NOT REQUIRED BY THE CITY OF BUCKEYE.
39. ALL STREETLIGHTS SHALL BE INSPECTED BY A CITY OF BUCKEYE INSPECTOR.
40. ALL STREETLIGHTS MUST HAVE A 3 DAY BURN PERIOD PRIOR TO INSPECTION.

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	ROADWAY POLE AND LUMINAIRE SPECIFICATIONS	DATE:	DETAIL #7 2 OF 2

REVISIONS:

1

2

3

PLAN NAME

ROADWAY LIGHTING NOTES
LT-01

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

40276
BENJAMIN A. GOOD
EXPIRES 6/30/2022

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

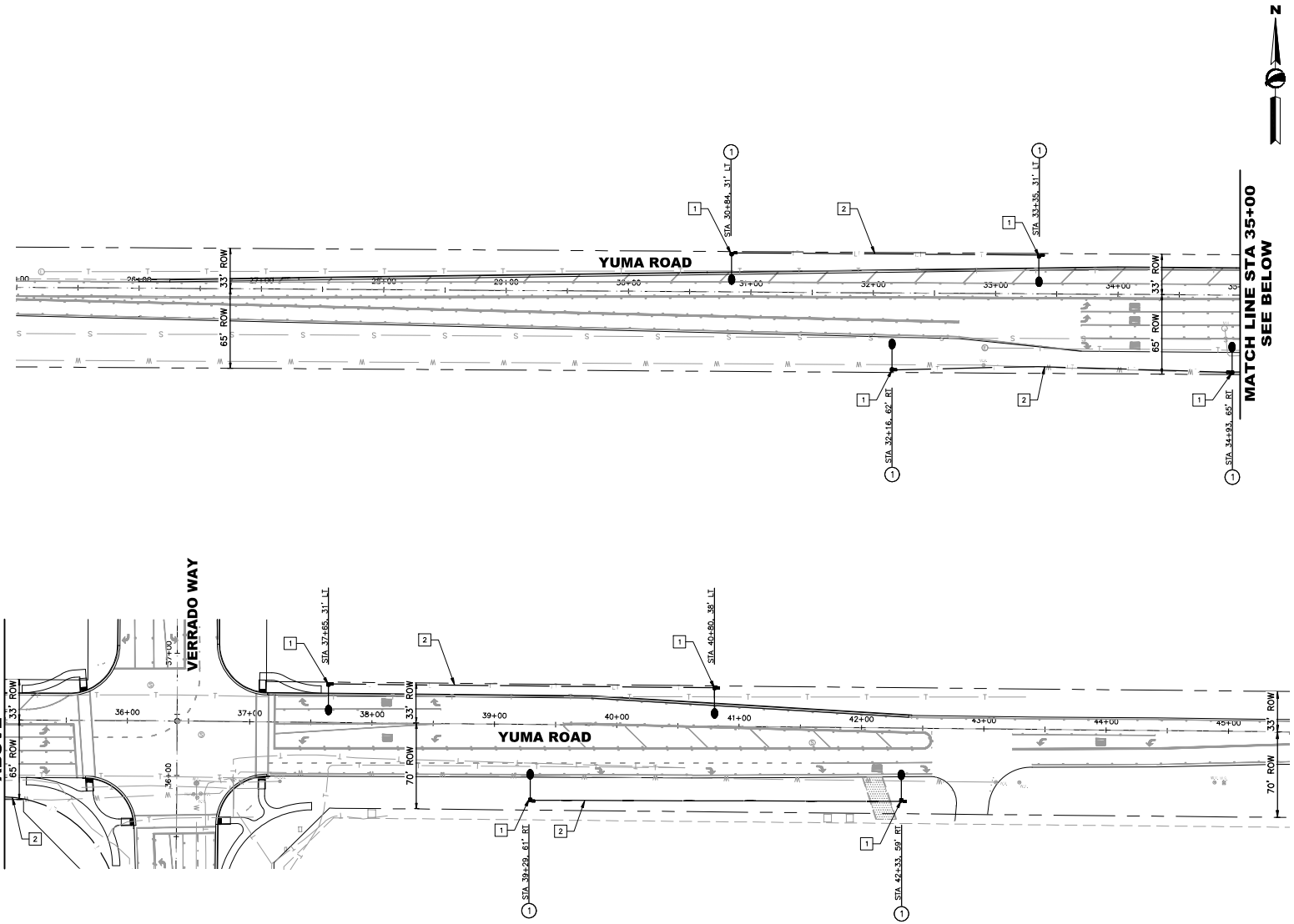
SHEET NUMBER
36 of 43

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 - 10:03am
Jay Yenerich, P.E.



(x) – Install luminaire per COB section 7–2.
See Detail #8 on sheet 35 of 37.

SCALE: 1" = 40'

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	INSTALL NEW APS ARCHITECTURAL POLE AND FOUNDATION, WITH LED LUMINAIRE TYPE III, AND APS SUPPLIED PULL BOX (APS CONSTRUCTION STANDARD 8655) AT OFFSET INDICATED. FOUNDATION LOCATION SHALL BE APPROVED BY THE INSPECTOR PRIOR TO INSTALLATION. SEE CITY OF BUCKEYE ENGINEERING DESIGN STANDARDS, SECTION 7–2 – PUBLIC STREETLIGHTS DETAILS 1, 3, 4, AND 6.	EA	8
2	INSTALL NEW APS CONDUIT. LOCATIONS ARE APPROXIMATE, SEE APS ROADWAY LIGHTING PLANS FOR CONDUIT ROUTING AND CONDUCTOR INFORMATION.	LF	1,900
3	REMOVE AND SALVAGE (TO PUBLIC WORKS) EXISTING LIGHT POLE, LUMINAIRE, AND PULL BOX.	EA	–
4	EXISTING ROADWAY LIGHT POLE, LUMINAIRE, AND PULL BOX TO REMAIN.	EA	–
5	EXISTING CONDUIT AND CONDUCTORS TO REMAIN. SEE APS ROADWAY LIGHTING PLANS FOR CONDUIT AND CONDUCTOR INFORMATION.	LF	–

REVISIONS:
1
2
3

PLAN NAME
INTERIM ROADWAY LIGHTING
LT-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
40676
BENJAMIN A. GOOD
REGISTERED PROFESSIONAL ENGINEER
ARIZONA, U.S.A.
EXPIRES 6/30/2022

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

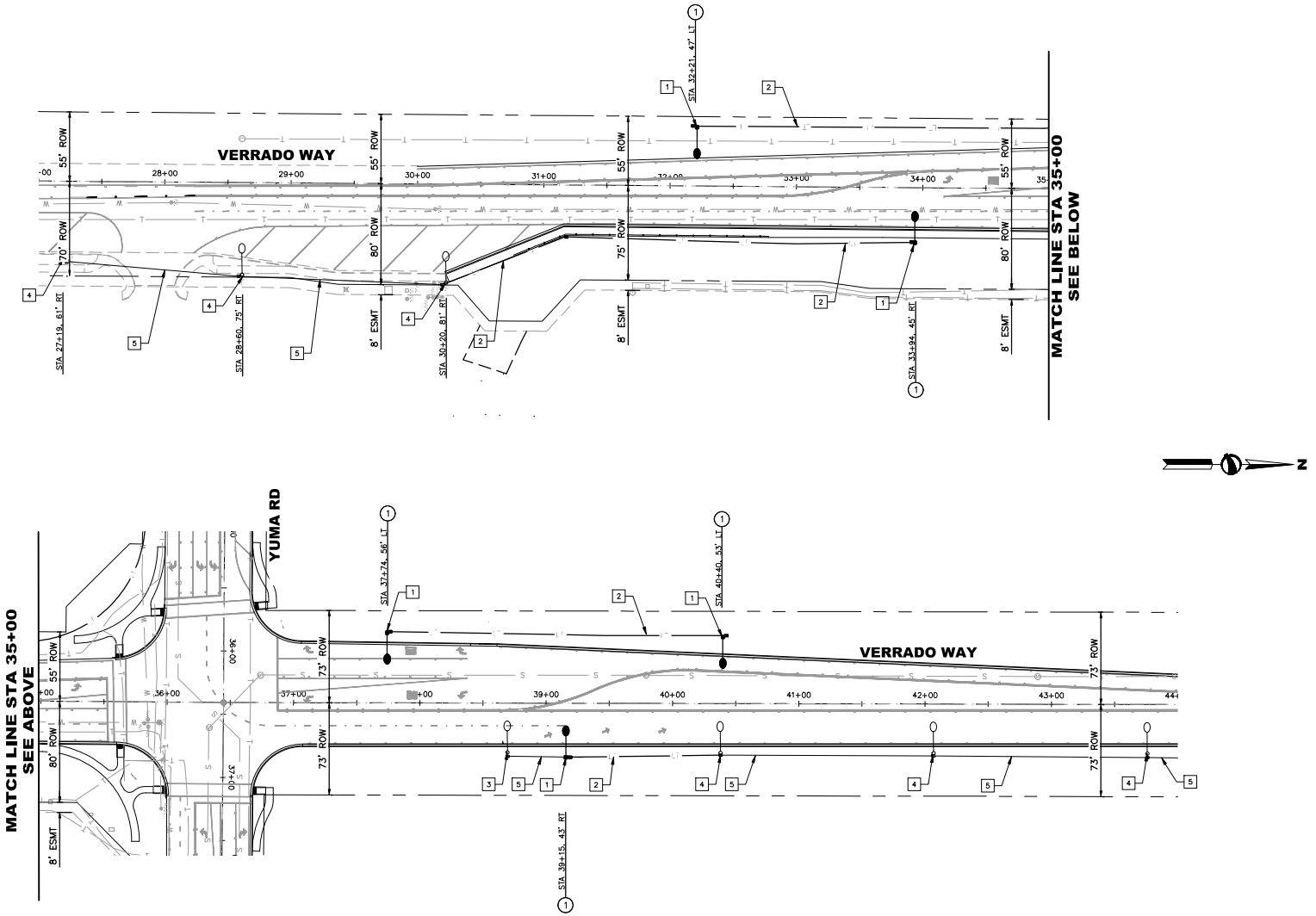
SHEET NUMBER
37 of 43

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 – 10:03am
Joy Yenerich, P.E.



(X) – Install luminaire per COB section 7–2.
See Detail #8 on sheet 35 of 37.

SCALE: 1" = 40'

CONSTRUCTION NOTES

	ITEM	UNIT	QTY
1	INSTALL NEW APS ARCHITECTURAL POLE AND FOUNDATION, WITH LED LUMINAIRE TYPE III, AND APS SUPPLIED PULL BOX (APS CONSTRUCTION STANDARD 8655) AT OFFSET INDICATED. FOUNDATION LOCATION SHALL BE APPROVED BY THE INSPECTOR PRIOR TO INSTALLATION. SEE CITY OF BUCKEYE ENGINEERING DESIGN STANDARDS, SECTION 7–2 – PUBLIC STREETLIGHTS DETAILS 1, 3, 4, AND 6.	EA	5
2	INSTALL NEW APS CONDUIT. LOCATIONS ARE APPROXIMATE, SEE APS ROADWAY LIGHTING PLANS FOR CONDUIT ROUTING AND CONDUCTOR INFORMATION.	LF	2,030
3	REMOVE AND SALVAGE (TO PUBLIC WORKS) EXISTING LIGHT POLE, LUMINAIRE, AND PULL BOX.	EA	1
4	EXISTING ROADWAY LIGHT POLE, LUMINAIRE, AND PULL BOX TO REMAIN.	EA	6
5	EXISTING CONDUIT AND CONDUCTORS TO REMAIN. SEE APS ROADWAY LIGHTING PLANS FOR CONDUIT AND CONDUCTOR INFORMATION.	LF	745

REVISIONS:
1
2
3

PLAN NAME
INTERIM ROADWAY LIGHTING
LT-03

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
40878
BENJAMIN A. GOOD
EXPIRES 6/30/2022

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
38 of 43

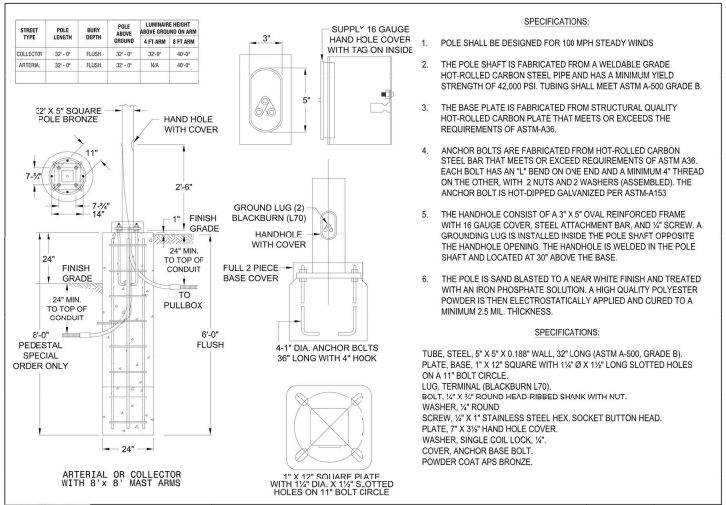
SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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January 26, 2022 – 10:04am
Joy Yenerich, P.E.

STREET TYPE	POLE LENGTH	BURY DEPTH	POLE ABOVE GROUND	LUMINAIRE HEIGHT ABOVE GROUND ON ARM 4 FT ARM	8 FT ARM
COLLECTOR	32' - 0"	FLUSH	32' - 0"	32'-8"	40'-8"
ARTERIAL	32' - 0"	FLUSH	32' - 0"	N/A	40'-8"



SPECIFICATIONS:

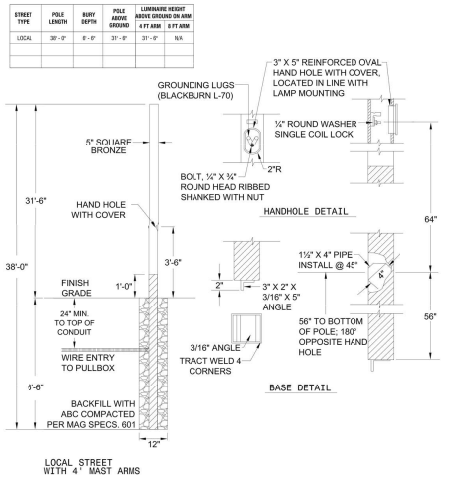
1. POLE SHALL BE DESIGNED FOR 100 MPH STEADY WINDS
2. THE POLE SHAFT IS FABRICATED FROM A WELDABLE GRADE HOT-ROLLED CARBON STEEL PIPE AND HAS A MINIMUM YIELD STRENGTH OF 42,000 PSI. TUBING SHALL MEET ASTM A-500 GRADE B.
3. THE BASE PLATE IS FABRICATED FROM STRUCTURAL QUALITY HOT-ROLLED CARBON PLATE THAT MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM-A36.
4. ANCHOR BOLTS ARE FABRICATED FROM HOT-ROLLED CARBON STEEL BAR THAT MEETS OR EXCEED REQUIREMENTS OF ASTM A36. EACH BOLT HAS AN "L" BEND ON ONE END AND A MINIMUM 4" THREAD ON THE OTHER, WITH 2 NUTS AND 2 WASHERS (ASSEMBLED). THE ANCHOR BOLT IS HOT-DIPPED GALVANIZED PER ASTM-A153
5. THE HANDHOLE CONSIST OF A 3" X 5" OVAL REINFORCED FRAME WITH 16 GAUGE COVER, STEEL ATTACHMENT BAR, AND ¼" SCREW. A GROUNDING LUG IS INSTALLED INSIDE THE POLE SHAFT OPPOSITE THE HANDHOLE OPENING. THE HANDHOLE IS WELDED IN THE POLE SHAFT AND LOCATED AT 30" ABOVE THE BASE.
6. THE POLE IS SAND BLASTED TO A NEAR WHITE FINISH AND TREATED WITH AN IRON PHOSPHATE SOLUTION. A HIGH QUALITY POLYESTER POWDER IS THEN ELECTROSTATICALLY APPLIED AND CURED TO A MINIMUM 2.5 MIL. THICKNESS.

SPECIFICATIONS:

TUBE, STEEL, 5" X 5" X 0.188" WALL, 32" LONG (ASTM A-500, GRADE B).
PLATE, BASE, 1" X 12" SQUARE WITH 1¼" Ø X 1½" LONG SLOTTED HOLES ON A 11" BOLT CIRCLE.
LUG, TERMINAL (BLACKBURN L70).
BOLT, ¼" X ½" ROUND HEAD RIBBED SHANK WITH NUT.
WASHER, ¼" ROUND
SCREW, ¼" X 1" STAINLESS STEEL HEX. SOCKET BUTTON HEAD.
PLATE, 7" X 3½" HAND HOLE COVER.
WASHER, SINGLE COIL LOCK, ½".
COVER, ANCHOR BASE BOLT.
POWDER COAT APS BRONZE.

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	STANDARD DARK BRONZE SQUARE POLES (FOUNDATION FLUSH & PEDESTAL)	DATE:	DETAIL #1

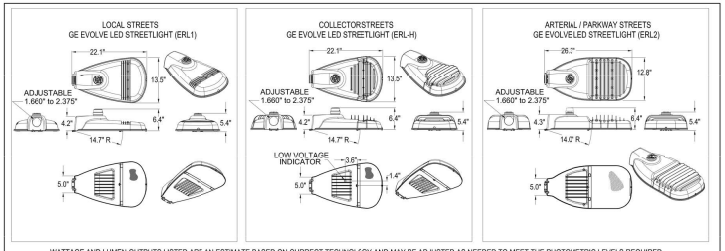
STREET TYPE	POLE LENGTH	BURY DEPTH	POLE ABOVE GROUND	LUMINAIRE HEIGHT ABOVE GROUND ON ARM 4 FT ARM	8 FT ARM
LOCAL	38'-0"	6'-0"	31'-0"	31'-0"	N/A



SPECIFICATIONS:

1. POLE SHALL BE DESIGNED FOR 100 MPH STEADY WINDS
2. THE POLE SHAFT IS FABRICATED FROM A WELDABLE GRADE HOT-ROLLED SQUARE TUBING THAT MEETS OR EXCEEDS THE REQUIREMENTS OF ASTM A500C. IT HAS MINIMUM YIELD STRENGTH OF 55,000 PSI.
3. ALL OTHER STEEL SHALL BE PER ASTM A36.
4. THE HANDHOLE CONSIST OF A 3" X 5" OVAL FRAME WITH A STEEL ATTACHMENT BAR AND ¼" PILOT HOLE 16 GAUGE COVER AND ATTACHED WITH 2- ½" STAINLESS STEEL HEX BUTTON HEAD SCREW. GROUNDING LUGS ARE INSTALLED INSIDE THE POLE SHAFT OPPOSITE THE HAND HOLE OPENING.
5. THE POLE IS SAND BLASTED TO A NEAR WHITE FINISH AND TREATED WITH AN IRON PHOSPHATE SOLUTION. A HIGH QUALITY POLYESTER POWDER IS THEN ELECTROSTATICALLY APPLIED AND CURED TO A MINIMUM 2.5 MIL. THICKNESS.
6. AFTER FINISH HAS BEEN APPLIED THE BOTTOM 7'- 6" OF THE POLE SHALL BE COATED WITH VALSPAR VM 355 COAL TAR EPOXY, 28 MILS THICK WET, 20 MILS THICK DRY. AFTER EPOXY HAS DRIED CONFORMALLY HALF LAP TAPE POLE WITH CORROSION RESISTANT 10 MIL TAPE TO 7'-6". THIS TAPE SHALL BE UNIFORM AND WITHOUT FOLDS, WRINKLES OR CAPS.

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	STANDARD DARK BRONZE SQUARE POLES (DIRECT BURY)	DATE:	DETAIL #2



WATTAGE AND LUMEN OUTPUTS LISTED ARE AN ESTIMATE BASED ON CURRECT TECHNOLGY AND MAY BE ADJUSTED AS NEEDED TO MEET THE PHOTOMETRIC LEVELS REQUIRED.

GE Evolve II Dark Bronze Shoebox LED Fixtures

WATT	LUMEN	DESCRIPTION	MODEL#
39W	4,900	SCALABLE ROADWAY GE LED BRONZE LOCAL RESIDENTIAL STREET LUMINAIRE 39WATT, 3000K, 4,900 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, DARK BRONZE, MULTIVOLT 120/208/240/277 DRIVER, IES DISTRIBUTION TYPE BY DESIGN, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	ERL1U03_039UNBZLRG
96W	11,100	SCALABLE ROADWAY GE LED BRONZE COLLECTOR STREET LUMINAIRE 96WATT, 3D0K, 11,100 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, DARK BRONZE, MULTIVOLT 120/208/240/277 DRIVER, IES DISTRIBUTION TYPE BY DESIGN, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	ERLH011_330DKBZLRG
140W	17,300	SCALABLE ROADWAY GE LED BRONZE ARTERIAL& PARKWAY LUMINAIRE 140WATT, 3K00K, 17,300 LUMEN, ROADWAY, LED, TERMINAL BOARD, 10KV SURGE PROTECTION, 90 DEGREE CUTOFF, DARK BRONZE, MULTIVOLT 120/208/240/277 DRIVER, IES DISTRIBUTION TYPE BY DESIGN, ANSI C136.41 7 PIN TWISTLOCK PHOTO CONTROL RECEPTACLE, CSA OR UL CERTIFIED, ANSI C136.15 WATTAGE LABEL.	ERL2018_330ADKBZLRG
		20 YEAR PHOTOCELL REQUIREMENTS ADJUSTEYE TO FACE NORTH, CONTROL PHOTO MULTI BR-20 CONTROL, PHOTO-ELECTRIC, BROWN, 20YEAR FAIL OFF, 120/208/240/277 MULTI-VOLT, SILICON, SOLID STATE, 2.40 TO 3.60 FC ON 1.2 TO 2.4 FC OFF, 60 HERTZ, 320 JOULE MOV, INVERSE ON/OFF RATO .6:1 +/- .1, FAIL OFF, THREE PIN NEMA TWISTLOCK, 20 YEAR LIFE, 8483-SIDE SEIC, MODEL #8483F2TMABR	

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	STANDARD LED LUMINAIRES	DATE:	DETAIL #3

Lighting Details are per City of Buckeye Section 7-2 "Public Streetlights". Standards have been adopted (January 1, 2018) but not yet published for the public.

REVISIONS:
1
2
3

PLAN NAME
ROADWAY LIGHTING DETAILS
LT-04

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

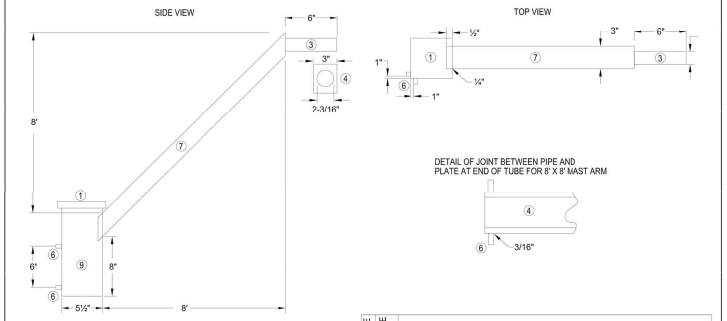
AS-BUILT SEAL

DESIGN SEAL
40878
BENJAMIN A. GOOD
EXPIRES 6/30/2022

ORIGINAL PLAN DATE 05/24/2021
LATEST REVISION DATE 01/20/2022
PROJECT NUMBER
SHEET NUMBER 39 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #
COB PERMIT # ENGCIP-20-10042

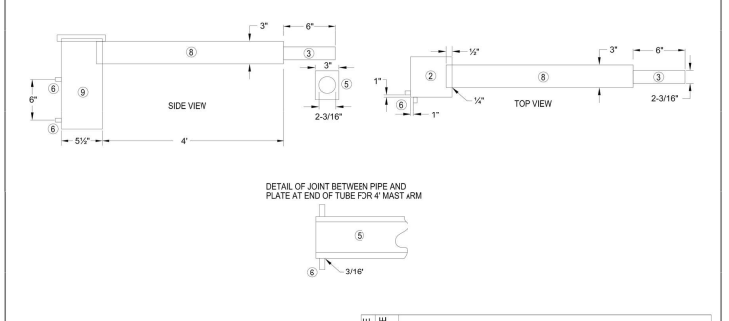
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January 26, 2022 - 10:04am
Joy Yenerich, P.E.



NOTES:
1. ALL WIRE ENTRANCE AND EXIT HOLES SHALL BE FREE OF BUURS AND ROUGH EDGES.
2. PAINT ARMS PER MS-1996 SECTION 8 (NOTE THAT PARAGRAPH CONCERNING BELOW GRADE COATING DOES NOT APPLY TO MAST ARMS).
3. MAST ARMS SHALL BE DESIGNED FOR LUMINAIRES WITH 5' LENGTH, 63# WEIGHT, AND 2.54 FT. SQ. EFFECTIVE AREA EACH. DESIGN SHALL BE PER AASHTO STD SPECS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNS, LATEST EDITION WITH WIND SPEED PER TABLE 1.2.5A EQUAL TO 80 MPH.
4. STAMP OR TAG WITH APN 61738, YEAR, MANAFACTURE LOGO.
5. DOUBLE MAST ARMS AT 180° FOR THIS DETAIL ARE AVAILABLE FOR MEDIAN LIGHTING.

CODE	SINGLE ARM	MATERIAL LIST DESCRIPTION
1	1	CAP, METAL 5-1/2" X 5-1/2" X 3/4"
2	1	CAP, METAL 5-1/2" X 5-1/2" X 1"
3	1	PIPE, STEEL, 2" SCHEDULE 40, 6-1/2" LONG (MAX. 2-3/8"O.D.)
4	1	PLATE, 3" X 4.243" X 3/16"
5	1	PLATE, 3" X 3" X 3/16"
6	4	SET SCREW, HEXAGON, 1/2-1/3 NC X 1/2", ZINC PLATED
7	1	TUBE, 3" X 3" X 11'-6", 0.188 WALL STEEL (ASTM A-500, GRADE B)
8	0	N/A
9	1	TUBE, 5-1/2" X 5-1/2" X 12", 0.188 WALL STEEL (ASTM A-500, GRADE B)

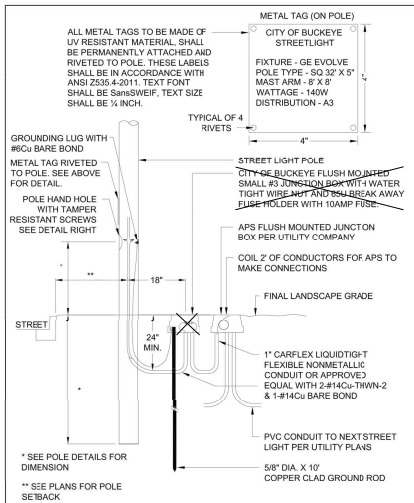
BUCKEYE, AZ | CITY OF BUCKEYE STANDARD DETAIL | **STANDARD DARK BRONZE SQUARE MAST ARMS 8' X 8' PARKWAYS, ARTERIALS, COMMERCIAL COLLECTORS** | DATE: | **DETAIL #4**



NOTES:
1. ALL WIRE ENTRANCE AND EXIT HOLES SHALL BE FREE OF BUURS AND ROUGH EDGES.
2. PAINT ARMS PER MS-1996 SECTION 8 (NOTE THAT PARAGRAPH CONCERNING BELOW GRADE COATING DOES NOT APPLY TO MAST ARMS).
3. MAST ARMS SHALL BE DESIGNED FOR LUMINAIRES WITH 5' LENGTH, 63# WEIGHT, AND 2.54 FT. SQ. EFFECTIVE AREA EACH. DESIGN SHALL BE PER AASHTO STD SPECS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNS, LATEST EDITION WITH WIND SPEED PER TABLE 1.2.5A EQUAL TO 80 MPH.
4. STAMP OR TAG WITH APN 61738, YEAR, MANAFACTURE LOGO.
5. DOUBLE MAST ARMS AT 180° FOR THIS DETAIL ARE AVAILABLE FOR MEDIAN LIGHTING.

CODE	SINGLE ARM	MATERIAL LIST DESCRIPTION
1	1	CAP, METAL 5-1/2" X 5-1/2" X 3/4"
2	1	CAP, METAL 5-1/2" X 5-1/2" X 1"
3	1	PIPE, STEEL, 2" SCHEDULE 40, 6-1/2" LONG (MAX. 2-3/8"O.D.)
4	1	PLATE, 3" X 4.243" X 3/16"
5	1	PLATE, 3" X 3" X 3/16"
6	4	SET SCREW, HEXAGON, 1/2-1/3 NC X 1/2", ZINC PLATED
7	0	N/A
8	1	TUBE, 3" X 3" X 48"-0", 0.166 WALL STEEL (ASTM A-500, GRADE B)
9	1	TUBE, 5-1/2" X 5-1/2" X 12", 0.188 WALL STEEL (ASTM A-500, GRADE B)

BUCKEYE, AZ | CITY OF BUCKEYE STANDARD DETAIL | **STANDARD DARK BRONZE SQUARE MAST ARMS 4' RESIDENTIAL COLLECTOR & LOCAL STREETS** | DATE: | **DETAIL #5**



ELECTRICAL REQUIREMENTS FORNEW POLE INSTALLATION

1. JUNCTION BOXES SHALL MEET UTILTY COMPANY STANDARDS.
2. CONDUIT, CONDUCTORS, AND FUSEHOLDERS SHALL BE LISTED AND LABELED FOR USE IN A WET LOCATION WHEN USED IN A JUNCTION BOX. NEC300.5(B), 310.8(C)
3. IN-LINE FUSE HOLDER USED IN THE CITY OF BUCKEYE JUNCTION BOX OR SERVICE DROP SHALL BE CONSDERED AS DISCONNECTING MEANS. FUSE HOLDERS TO BE RATED AT 22,000 AIC MINIMUM. NEC 240.40
4. ELECTRICAL CONNECTIONS-CONDUCTORS OF DISSIMILAR METALS SHALL NOT BE INTERMIXED IN A TERMINAL OR SPLICING CONNECTOR WHERE PHYSICAL CONTACT OCCURS BETWEEN DISSIMILAR CONDUCTORS, (COPPER, ALUMINUN) UNLESS THE DEVICE IS IDENTIFIED FOR THE PURPOSE AND CONDITIONS OF USE. NEC 110.14
5. ELECTRICAL CONNECTIONS OR SPLCES IN AN UNDERGROUND INSTALLATION SHALL BE APPROVED FOR WET LOCATIONS. (NEC 300.5)
6. NON-CURRENT CARRYING CONDUCTIVE MATERIALS ENCLOSING ELECTRICAL CONDUCTORS OR EQUIPMENT, OR FORMING PART OF SUCH EQUIPMENT, SHALL BE CONNECTEDTO EARTH IN A MANNER THAT WILL LIMIT THE VOLTAGE IMPOSED BY LIGHTNING OR UNINTENTIONAL VOLTAGE DUE TO SHORT CIRCUITS AND LIMIT THE VOLTAGE TO GROUND ON THESE MATERIALS. NEC 250.4(B) (GROUND RODS)
7. AN EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED FROM THE COPPER CLAD GROUND ROD IN THE CITY OF BUCKEYE JUNCTION BOX TO THE POLE / LUMINAIRE WITH THE CURRENT CARRYING CONDUCTORS. NEC 410.30(B)(3).
8. CONNECTION TO THE GROUND ROD AND THE GROUNDING ELECTRODE SHALL BE LISTED AND LABELED FOR USE. NEC 250.8
9. CONNECT #6 BARE COPPER WIRE FROM THE GROUND ROD ADJACENT TO THE POLE OR IN JUNCTION BOX TO THE GROUND LUG IN THE POLE.
10. POLES THAT HAVE MORE THAN ONELUMINAIRE REQUIRE A SEPARATE CIRCUIT WITH FUSING FROM THE J-BOX TO EACH LUMINAIRE.

BUCKEYE, AZ | CITY OF BUCKEYE STANDARD DETAIL | **J-BOX, GROUNDING, WIRING, FUSING AND METAL TAG REQUIREMENTS** | DATE: | **DETAIL #6**

THE CITY OF BUCKEYE IS IN THE PROCESS OF UPDATING DETAIL #6. THE COB PULL BOX IS NO LONGER REQUIRED. PROVIDE 65U BREAK AWAY INLINE FUSE HOLDER IN STREET LIGHT HAND HOLE, WITH 10 AMP KTK FUSE.

Lighting Details are per City of Buckeye Section 7-2 "Public Streetlights". Standards have been adopted (January 1, 2018) but not yet published for the public.

REVISIONS:
1
2
3

PLAN NAME
ROADWAY LIGHTING DETAILS
LT-05

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL | COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL | DESIGN SEAL
40878 BENJAMIN A. GOOD
EXPIRES 6/30/2022

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS

ORIGINAL PLAN DATE: 05/24/2021
LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER
SHEET NUMBER: 40 of 43
COB PLAN TRACKING #
COB PERMIT #: ENGCIP-20-10042

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January 26, 2022 - 10:04am
Joy Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

383

EQUIPMENT LIST

ITEM #	SYMBOL	TYPE STREET	OFFSET BEHIND B/C	QUANTITY	POLE HEIGHT		MAST ARM	LUMINAIRE							LED STREETLIGHT SPEC NUMBER
					POLE HEIGHT	FOUNDATION	SIZE	MOUNTING HEIGHT	LUMEN	WATTAGE	C.C.T.	I.E.S. DISTRIBUTION	VOLTAGE	TYPE	COLOR	
①		ARTERIAL	2' BOW	#	32'-0"	FLUSH FOUNDATION	8' X 8'	40'-0"	17,300	140 W	3000	TYPE III (A3)	PER APS	LED	DARK BRONZE	ERL2018_320ADKBZLRG
		ITEM DESCRIPTION														
②		1" FLEX PVC WITH 2-#14 Cu TYPE THWN-2 AND 1-#14 Cu BARE BOND FROM PULL BOX BUSSMAN FJSE HOLDER TO LIGHTING FIXTURE														
③		INSTALL JUNCTION BOX NEXT TO THE POLE PER DETAIL 6.														

WATTAGE AND LUMEN OUTPUTS LISTED ARE AN ESTIMATE BASED ON CURRECT TECHNOLOGY AND MAY BE ADJUSTED AS TECHNOLOGY IMPROVES TO MEET THE PHOTOMETRIC LEVELS REQUIRED.

BUCKEYE, AZ	CITY OF BUCKEYE STANDARD DETAIL	EQUIPMENT LIST	DATE:	DETAIL #8

Table 1 - Photometrics by Street Classification

Street Classification	Area Type	Luminance Foot-Candles		Average to Minimum Uniformity
		Minimum Average	Maximum Average	
Urban Parkway	Commercial	1.0	1.3	3:1
Major Arterial	Residential/Commercial	0.9	1.2	3:1
Arterial	Residential/Commercial	0.9	1.2	3:1
Major Collector	Residential/Commercial	0.6	0.8	4:1
Collector	Commercial	0.6	0.8	4:1
Collector	Residential	0.5	0.7	4:1
Local (Minor Collector)	Residential Entrance	0.5	0.7	10:1
Local	Residential	0.4	0.6	10:1

Table 2 - Pole Criteria by Classification

Street Classification	Area Type	Average Spacing in feet*	Pole Length (Feet)	Pole Foundation	Mast Arm (Feet)	Fixture Height (Feet)
Urban Parkway In Median	Commercial	150	32	Flush Foundation	Double, 8' x 8'	40
Major Arterial Staggered	Commercial	100 **	32	Flush Foundation	Single, 8' x 8'	40
Major Arterial in Median	Commercial	190	32	Flush Foundation	Double, 8' x 8'	40
Arterial Staggered	Commercial	125 **	32	Flush Foundation	Single, 8' x 8'	40
Arterial in Median	Commercial	200	32	Flush Foundation	Double, 8' x 8'	40
Major Collector Staggered	Commercial	125 **	32	Flush Foundation	Single 8' x 8'	40
Major Collector In Median	Commercial	250	32	Flush Foundation	Double 8' x 8'	40
Collector Staggered	Commercial	175 **	32	Flush Foundation	Single 8' x 8'	40
Collector in Median	Commercial	300	32	Flush Foundation	Double 8' x 8'	40
Collector Staggered	Residential	225 **	32	Flush Foundation	Double 4'-0"	32
Collector in Median	Residential	225	32	Flush Foundation	Double 4'-0"	32
Local Minor Collector	Residential Entrance	250	38	Direct Bury	Double 4'-0"	32
Local	Residential	200	38	Direct Bury	4'-0"	32

*Average streetlight spacing is a recommendation base on full level lighting standards. The minimum photometrics must be verified by an Electrical Engineer through a sealed photometric lighting analysis.
**Poles staggered (Distance to next streetlight across the street.)

Lighting Details are per City of Buckeye Section 7-2 "Public Streetlights". Standards have been adopted (January 1, 2018) but not yet published for the public.

REVISIONS:
1
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3

PLAN NAME:
ROADWAY LIGHTING DETAILS
LT-06

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
40878
BENJAMIN A. GOOD
EXPIRES 6/30/2022

ORIGINAL PLAN DATE: 05/24/2021
LATEST REVISION DATE: 01/20/2022
PROJECT NUMBER:
SHEET NUMBER: 41 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #:
COB PERMIT #: ENGCIP-20-10042

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January 26, 2022 - 10:04am
Joy Yenerich, P.E.

PART 1 – TO BE COMPLETED BY THE LANDSCAPE ARCHITECT OR DESIGN ENGINEER

I. PROJECT DESCRIPTION

A. OWNER NAME AND ADDRESS: (PERMITEE)
CIVTECH
10605 N HAYDEN ROAD SUITE 140
SCOTTSDALE, ARIZONA 85260

B. PROJECT LOCATION: YUMA ROAD AND VERRADO WAY, BUCKEYE ARIZONA

BEGINNING LATITUDE (NAD 83): 33° 43' 56" N
BEGINNING LONGITUDE (NAD 83): 112° 50' 42" W

ENDING LATITUDE (NAD 83): 33° 43' 56" N
ENDING LONGITUDE (NAD 83): 112° 50' 42" W

C. PROJECT DESCRIPTION: RAISING THE ROAD IN ORDER TO INSTALL NEW PIPES TO HELP THE FLOW OF WATER MORE EFFICIENTLY

II. HYDROLOGIC INFORMATION

A. PROJECT SIZE:

LENGTH (MI.) 1.8 MI.

AREA (AC.) 26 AC.

B. AREA TO BE GRADED (AC.): 26 AC.

C. PERCENTAGE OF THE SITE THAT IS IMPERVIOUS BEFORE AND AFTER CONSTRUCTION:

PERCENTAGE BEFORE CONSTRUCTION: 75%

PERCENTAGE AFTER CONSTRUCTION: 73%

D. RECEIVING WATER(S): SALT RIVER

III. PRESERVATION OF EXISTING VEGETATION

A. IN ACCORDANCE WITH THE SPECIFICATIONS, EXISTING VEGETATION WILL BE PRESERVED WHERE POSSIBLE. CLEARING LIMITS SHALL BE CONFINED TO AREAS THAT REQUIRE GRADING. EXISTING VEGETATION OUTSIDE THE BOUNDARIES OF THE CLEARED AREA SHALL BE PROTECTED FROM DAMAGE BY CONSTRUCTION ACTIVITIES. EXISTING TREES WITHIN THE AREA TO BE CLEARED SHALL BE PRESERVED AND PROTECTED, WHEREVER POSSIBLE, AND AS NOTED PER PLANS.

IV. SOIL STABILIZATION MEASURES

A. ALL DISTURBED SOIL, WHICH WILL NOT BE PAVED, RIPRAPPED OR OTHERWISE COVERED TO PREVENT EROSION, WILL BE LANDSCAPED IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.

B. SCHEDULING OF THE REVEGETATION EFFORT CAN BE FOUND ON PART 2 OF THIS SHEET UNDER SCHEDULE OF MAJOR ACTIVITIES.

V. MEASURES TO CONTROL EROSION AND SEDIMENT

A. TEMPORARY EROSION AND SEDIMENT CONTROLS: (REFER TO THE FOLLOWING SWPPP SITE PLAN AND SPECIFICATIONS)

_____ EROSION CONTROL MATTINGS
_____ TEMPORARY DIVERSION DIKES
_____ CHECK DAMS
_____ ROCK INLET/OUTLET PROTECTION
_____ SEDIMENT CONTROL BERMS
_____ SILT FENCES
X WATTLES (EXCELSIOR/STRAW)
_____ EXCELSIOR LOGS / SEDIMENT LOGS
_____ SEEDING (CLASS II WITH MULCH)
_____ OTHERS DESCRIBE: _____

B. PERMANENT EROSION AND SEDIMENT CONTROLS AND POST-CONSTRUCTION STORM WATER MANAGEMENT MEASURES: (REFER TO SWPPP SITE PLAN AND SPECIFICATIONS)

_____ CROWN DITCH/DIKE
_____ ROCK PROTECTION
_____ ROCK RIPRAP CHANNEL LINING
_____ SEDIMENT BASIN
_____ EMBANKMENT CURB
_____ SPILLWAYS AND DOWNDRAINS
_____ MINIBENCHING
_____ SEEDING ESTABLISHED AS A PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER.
_____ OTHERS DESCRIBE: _____

VI. MAINTENANCE AND INSPECTIONS

A. FREQUENCY OF INSPECTIONS:

____ AT LEAST ONCE EVERY 7 CALENDAR DAYS, OR

X EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS AFTER A RAINFALL OF 0.5 INCHES (12.7 MM) OR MORE.

NOTE: RAINFALL GAUGE TO BE KEPT ON-SITE TO DETERMINE DEPTH OF RAINFALL.

B. INSPECTION PROCEDURE:

CONTRACTOR'S INSPECTION LOG AND COMPLIANCE EVALUATION REPORT (CER) WILL BE COMPLETED BY THE CONTRACTOR OR HIS REPRESENTATIVE AND WILL BE KEPT ON FILE FOR 3 YEARS. IF REPAIRS ARE NECESSARY, THEY SHALL BE INITIATED WITHIN 24 HOURS OF THE INSPECTION REPORT.

PART 2 – TO BE COMPLETED BY PERMITEE & CONTRACTOR

I. SCHEDULE OF MAJOR ACTIVITIES

A. PROJECT SCHEDULE: _____

START DATE: _____

END DATE: _____

B. CONSTRUCTION SEQUENCING SCHEDULE: (ATTACH ADDITIONAL SHEETS)
CONSTRUCTION ACTIVITIES _____

II. INVENTORY OF POLLUTANTS

A. THE MATERIALS OR SUBSTANCES CHECKED BELOW ARE EXPECTED TO BE ONSITE DURING CONSTRUCTION:

____ CONCRETE ____ ASPHALT
____ PAINTS ____ FERTILIZER
____ HERBICIDES ____ WOOD
____ FUEL ____ OIL
____ OTHERS, LIST: _____

III. POLLUTION CONTROL MEASURES

A. OTHER BEST MANAGEMENT PRACTICES:

____ WIND EROSION AND DUST CONTROL
____ SOLID WASTE MANAGEMENT
____ EQUIPMENT MAINTENANCE PROCEDURES
____ DESIGNATED WASHOUT AREAS
____ STABILIZED CONSTRUCTION ENTRANCE
____ PROTECTED CHEMICAL AND MATERIAL STORAGE AREA
____ OTHER, DESCRIBE: _____

IV. SPILL PREVENTION AND RESPONSE

A. SPILL PREVENTION:
THE PROCEDURES OUTLINED IN THE BEST MANAGEMENT PRACTICES LISTED UNDER POLLUTION CONTROL MEASURES WILL BE FOLLOWED TO PREVENT AND CONTAIN SPILLS OF HAZARDOUS MATERIAL. THESE PREVENTATIVE ACTION INCLUDE BMP'S ON EQUIPMENT MAINTENANCE AND PROPER HANDLING, STORAGE AND DISPOSAL OF CHEMICALS AND MATERIALS. ALL MANUFACTURER'S RECOMMENDATIONS FOR USAGE, CLEAN-UP AND DISPOSAL SHALL BE FOLLOWED.

B. SPILL RESPONSE:
REPORT ALL SPILLS/RELEASES WITHIN THE CITY OF MESA, REGARDLESS OF QUANTITY, TO THE CITY OF MESA WATER RESOURCE DEPARTMENT (WRD) WITHIN 15 MINUTES FOLLOWING THE INITIAL DISCOVERY OF THE SPILL/RELEASE. INSURE THAT THE CONTRACTOR'S EMERGENCY COORDINATOR REPORTS SPILLS/RELEASES INVOLVING HAZARDOUS WASTE TO THE NATIONAL RESPONSE CENTER AT 800-424-8802 AND THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ), EMERGENCY RESPONSE AT 602-390-7894.

V. CERTIFICATION OF COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

A. THIS STORM WATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST UPDATED VERSION OF THE ARIZONA POLLUTANT DISCHARGE ELIMINATION SYSTEM (AZPDES) GENERAL PERMIT NO. AZG2003-001 FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES.

____ SWPPP IS IN COMPLIANCE WITH OTHER FEDERAL, STATE LAWS, OR LOCAL REGULATIONS.

VI. POLLUTION PREVENTION PLAN CERTIFICATION

A. I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED IN THIS APPLICATION AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRY OF THOSE PERSONS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION CONTAINED IN THE APPLICATION, I BELIEVE THAT THE INFORMATION IS TRUE, ACCURATE AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT. (APPLIES TO VI. B., C., AND D)

B. THE OPERATOR/CONTRACTOR AS DEFINED IN AZPDES SHOULD SIGN THE SWPPP IN ACCORDANCE WITH CGP PART VIII. K, AND RETAIN THE SWPPP ON-SITE AT THE CONSTRUCTION SITE OR OTHER LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS.
SIGNATURE: (OPERATOR/CONTRACTOR) _____
DATE: _____
NAME: _____
TITLE: _____
COMPANY: _____

C. THE OWNER/OPERATOR AS DEFINED IN AZPDES AND DESCRIBED IN B
SIGNATURE: (OWNER/OPERATOR) _____
DATE: _____
NAME: _____
TITLE: _____
COMPANY: _____

D. MUNICIPALITY FOR MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
SIGNATURE: _____
DATE: _____
NAME: _____
TITLE: _____
MS4 NAME: _____

VII. OTHER REQUIREMENTS

A. A COPY OF THE GENERAL PERMIT AND NOI ARE ATTACHED IN ACCORDANCE TO AZPDES GENERAL PERMIT FOR STORM WATER DISCHARGES FROM CONSTRUCTION ACTIVITIES TO THE WATER OF THE UNITED STATES.

B. PROJECTS THAT ARE WITHIN .MILE OF IMPAIRED OR UNIQUE WATERS REQUIRE THE SWPPP TO BE SENT TO ADEQ IN COMBINATION WITH THE NOI.

C. FOR FURTHER REQUIREMENTS, CHECK THE ADEQ'S SMART NOI WEB PAGE: https://az.gov/webapp/noi/smartnoi/menu.do

REVISIONS:
1
2
3

PLAN NAME
SWPPP NOTES
SWPPP-01

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

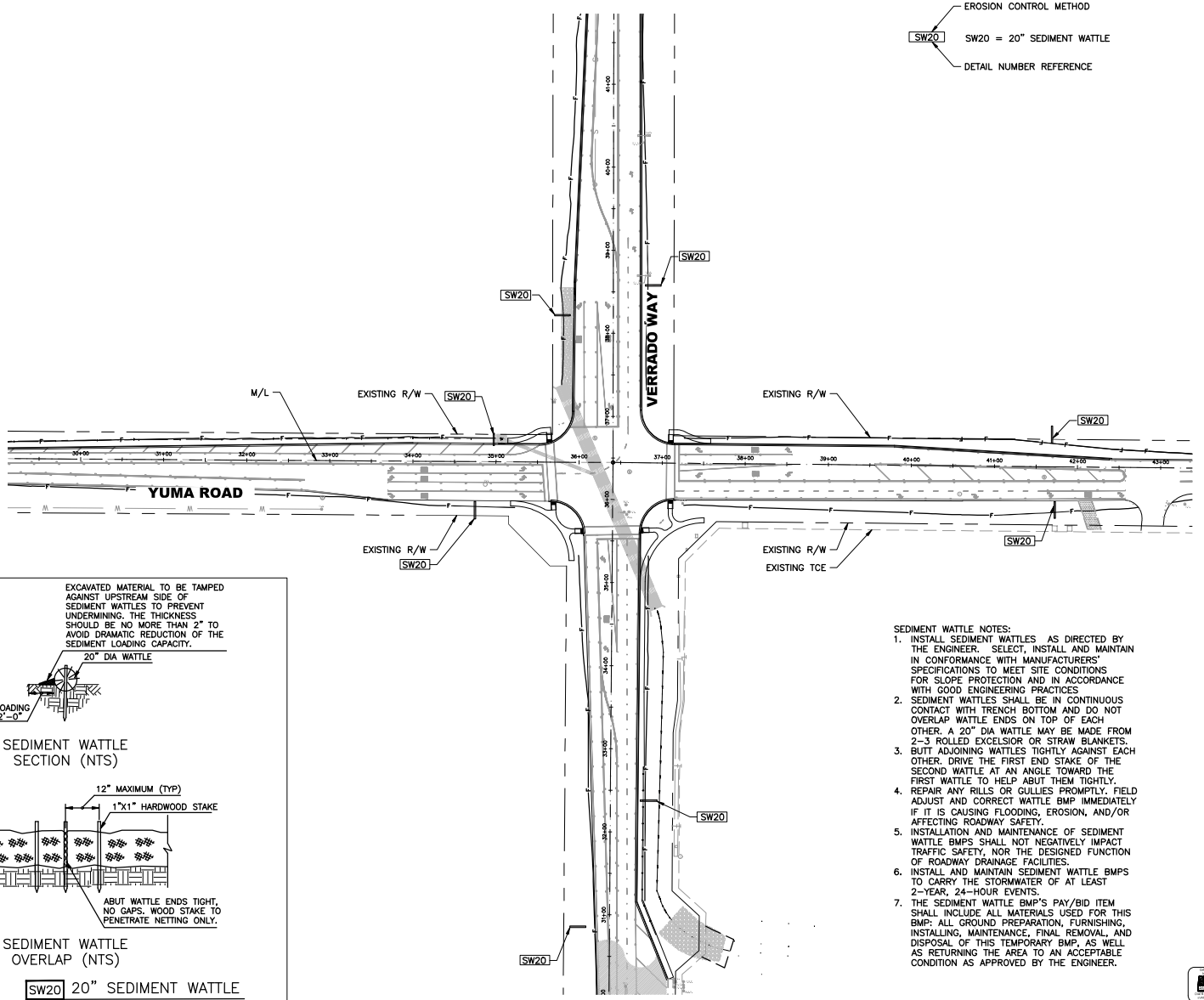
AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
REGISTERED PROFESSIONAL ENGINEER
ARIZONA, U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE 05/24/2021
LATEST REVISION DATE 01/20/2022
PROJECT NUMBER
SHEET NUMBER 42 of 43

SUBMITTAL: 1ST SUBMITTAL SEALED PLANS
COB PLAN TRACKING #
COB PERMIT # ENGCIP-20-10042

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January 26, 2022 - 10:04am
Joy Yenerich, P.E.



SEDIMENT WATTLE NOTES:

1. INSTALL SEDIMENT WATTLES AS DIRECTED BY THE ENGINEER. SELECT, INSTALL AND MAINTAIN IN CONFORMANCE WITH MANUFACTURERS' SPECIFICATIONS TO MEET SITE CONDITIONS FOR SLOPE PROTECTION AND IN ACCORDANCE WITH GOOD ENGINEERING PRACTICES
2. SEDIMENT WATTLES SHALL BE IN CONTINUOUS CONTACT WITH TRENCH BOTTOM AND DO NOT OVERLAP WATTLE ENDS ON TOP OF EACH OTHER. A 20" DIA WATTLE MAY BE MADE FROM 2–3 ROLLED EXCELSIOR OR STRAW BLANKETS.
3. BUTT ADJOINING WATTLES TIGHTLY AGAINST EACH OTHER. DRIVE THE FIRST END STAKE OF THE SECOND WATTLE AT AN ANGLE TOWARD THE FIRST WATTLE TO HELP ABUT THEM TIGHTLY.
4. REPAIR ANY RILLS OR GULLIES PROMPTLY. FIELD ADJUST AND CORRECT WATTLE BMP IMMEDIATELY IF IT IS CAUSING FLOODING, EROSION, AND/OR AFFECTING ROADWAY SAFETY.
5. INSTALLATION AND MAINTENANCE OF SEDIMENT WATTLE BMPS SHALL NOT NEGATIVELY IMPACT TRAFFIC SAFETY, NOR THE DESIGNED FUNCTION OF ROADWAY DRAINAGE FACILITIES.
6. INSTALL AND MAINTAIN SEDIMENT WATTLE BMPS TO CARRY THE STORMWATER OF AT LEAST 2–YEAR, 24–HOUR EVENTS.
7. THE SEDIMENT WATTLE BMP'S PAY/BID ITEM SHALL INCLUDE ALL MATERIALS USED FOR THIS BMP: ALL GROUND PREPARATION, FURNISHING, INSTALLING, MAINTENANCE, FINAL REMOVAL, AND DISPOSAL OF THIS TEMPORARY BMP, AS WELL AS RETURNING THE AREA TO AN ACCEPTABLE CONDITION AS APPROVED BY THE ENGINEER.

REVISIONS:
1
2
3

PLAN NAME
SWPPP PLAN
SWPPP-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

SUBMITTAL
1ST SUBMITTAL
SEALED PLANS

ORIGINAL PLAN DATE
05/24/2021

LATEST REVISION DATE
01/20/2022

PROJECT NUMBER

SHEET NUMBER
43 of 43

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

Z:\Civtech\Projects\18-0160 B COB Verrado & Yuma Rd Intersection Improvement Design & Plans, Buckeye\Dwg\18-0160B_SWPPP.dwg
January 26, 2022 - 10:04am
Joy Yenerich, P.E.

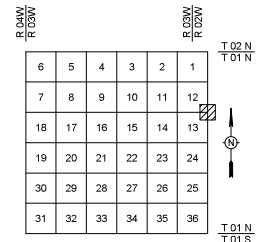
Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

82

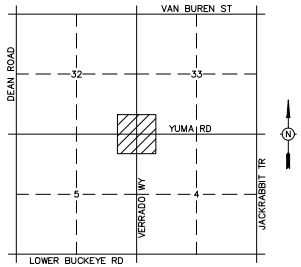
386

VERRADO WAY
AND YUMA ROAD
TRAFFIC SIGNAL PLAN

A PORTION OF THE FOUR OF SECTIONS 12, 13, 7, AND 18 TOWNSHIP 1N RANGE 3W AND 2W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

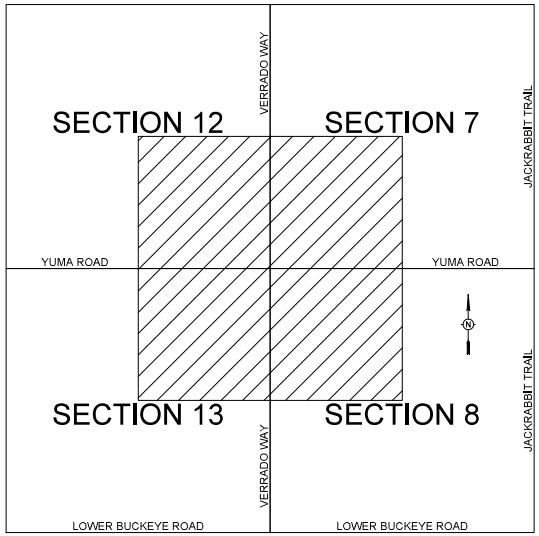
COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS–OF–WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS–OF–WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349–6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS–OF–WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON–SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

UTILITY COMPANIES — DATE SUBMITTED

ELECTRIC	ARIZONA PUBLIC SERVICE	01/15/2021
TELEPHONE	CENTURY LINKS	01/15/2021
CATV	COX COMMUNICATIONS	01/15/2021
WATER	CITY OF BUCKEYE	01/15/2021
SEWER	CITY OF BUCKEYE	01/15/2021
GAS	SOUTHWEST GAS	01/15/2021



OVERALL DEVELOPMENT
NOT TO SCALE

STORM WATER DRAINAGE CERTIFICATE

1. THE DEVELOPMENT WILL PROVIDE FOR ON–SITE RETENTION FOR THE RUNOFF FROM A 100–YEAR 2–HOUR STORM.
2. ALL FLOWS FROM THE 10–YEAR STORM WILL BE CONTAINED WITHIN THE STREET (FROM CURB TO CURB).
3. ALL STORM WATER RETENTION WILL BE DRAINED WITHIN 36–HOURS. IF BASINS DO NOT DRAIN WITHIN 36–HOURS, DEVELOPER/OWNER SHALL ENACT MEASURES TO CORRECT.
4. ALL DRAINAGE DESIGN WILL COMPLY WITH THE CITY OF BUCKEYE CURRENT GRADING AND DRAINAGE DESIGN STANDARDS.
5. FINISH FLOOR ELEVATIONS MUST BE A MINIMUM OF 14–INCHES ABOVE THE OUTFALL TOP OF CURB ELEVATION AND 12–INCHES ABOVE THE COMPUTED 100–YEAR WATER ELEVATIONS AND 1–FOOT ABOVE THE EMERGENCY OUTFALL ELEVATIONS AT ANY ADJACENT RETENTION BASIN, WHICH EVER IS GREATER.
6. ALL RETENTION BASINS SHALL HAVE A MINIMUM OF 1–FOOT OF FREEBOARD.

BY: _____
REGISTERED CIVIL ENGINEER — DATE

(REQUIRED ON GRADING AND DRAINAGE PLANS)

OWNER

CITY OF BUCKEYE
MR. STEVE RILEY
530 E MONROE AVENUE

(623)349–6172
SRILEY@BUCKEYEAZ.GOV

DEVELOPER

CITY OF BUCKEYE
MR. STEVE RILEY
530 E MONROE AVENUE

(623)349–6172
SRILEY@BUCKEYEAZ.GOV

ENGINEER

CIVTECH INC.
JAY YENERICH
10605 N. HAYDEN ROAD
SCOTTSDALE,AZ 85260
480–659–4250
480–659–0566
JYENERICH@CIVTECH.COM

SHEET INDEX

SHEET 1 COVER SHEET
SHEET 2 TRAFFIC SIGNAL GENERAL NOTES
SHEET 3 INTERIM TRAFFIC SIGNAL LAYOUT
SHEET 4 ULTIMATE TRAFFIC SIGNAL LAYOUT
SHEET 5 INTERIM LAYOUT POLE SCHEDULE
SHEET 6 ULTIMATE LAYOUT POLE SCHEDULE
SHEET 7 CONDUCTOR SCHEDULE

BASIS OF BEARING

SECTION CORNER TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
110	889568.92	520974.85	1038.61	FD 3 INCH T.O.B. BCF
111	886922.68	520969.28	1016.30	FD 3 INCH T.O.B. BCF
112	886898.46	523445.36	1008.57	FD 3 INCH T.O.B. BCF
116	884278.18	520949.30	1001.47	FD 3 INCH M.C.D.O.T. BCH

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

BY: _____
WESTERN AREA POWER ADMINISTRATION (WAPA) — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS – BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
ARIZONA REGISTERED LAND SURVEYOR — DATE

_____
ARIZONA REGISTRATION NUMBER

_____
TELEPHONE NUMBER

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT — DRAFTED — CHECKED
FIELD SURVEY — DRAFTED — CHECKED
DRAWING SCALES
PLAN TYPE
ENGINEER INFORMATION

CivTech Inc.
10605 N. Hayden Rd.
Suite 140
Scottsdale, AZ 85260
480.659.4250
info@civtech.com

PROJECT
COB PROJECT PLAN STICKER
REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
SUBMITTAL: 3RD SUBMITTAL SEALED PLANS
AS-BUILT SEAL
DESIGN SEAL



COB PLAN TRACKING #
COB PERMIT # ENGDP-20-0042
ORIGINAL PLAN DATE
LATEST REVISION DATE
PROJECT NUMBER
SHEET NUMBER 1 of 5

TRAFFIC SIGNAL GENERAL NOTES

1. TRAFFIC CONTROL PLANS SHALL CONFORM TO THE CITY OF PHOENIX TRAFFIC BARRICADE MANUAL AND MUTCD SECTION 6. TRAFFIC CONTROL PLANS SHALL BE REVIEWED AND APPROVED BY CITY PUBLIC WORKS INSPECTOR.
2. UTILITY LOCATIONS SHOWN ARE BASED UPON THE BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL CONTACT BLUE BLUE STAKE AT 602-263-1100 BEFORE CONSTRUCTION AND VERIFY ACTUAL UTILITY LOCATIONS.
3. TRAFFIC SIGNAL POLES, MAST ARMS AND SERVICE CABINETS SHALL BE PAINTED WITH TWO COATS OF WHITE ENAMEL PAINT MEETING MANUFACTURE RECOMMENDATIONS.
4. ALL CORNER PULL BOXES SHALL BE NUMBER 7 WITH EXTENSION WITH 18-INCH DRAINAGE, CONSISTING OF #57 ROCK, PER ADOT SPEC. THE MEDIAN PULL BOX SHALL BE NUMBER 5.
5. A GROUND ROD SHALL BE INSTALLED WITHIN THE CUSTOMER SIDE OF THE ELECTRICAL SERVICE PANEL AND IN THE CONTROL CABINET FOUNDATION AND SATISFY CITY'S BUILDING CODE REQUIREMENTS.
6. PAVEMENT REPLACEMENT SHALL CONFORM TO CITY SECTION 6-3 STREET PLANNING AND DESIGN CRITERIA MANUAL. SIDEWALK REPLACEMENT SHALL CONFORM TO MAG STANDARD DETAIL 230, 231, 232, 233, AND 234, AS APPROPRIATE.
7. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE PROVIDED AND MOUNTED ON TRAFFIC SIGNAL MAST ARMS FOR TROMBONES STYLE POLES AND FLAG MOUNTED ON ADOT STYLE POLES IN ACCORDANCE WITH THE CITY OF BUCKEYE TRAFFIC SIGNAL DETAILS.
8. APPLICABLE SIGNAL AND PEDESTRIAN INDICATIONS SHALL BE WIDE-ANGLE LED TYPE LAMPS PER THE CITY APPROVED PRODUCT LIST.
9. A FULLY FUNCTIONAL EMERGENCY VEHICLE PRE-EMPTION (EVP) INCLUDING DEVICE, CABLING, PHASE SELECTOR, AND MOUNTING BRACKETS SHALL BE PROVIDED AND INSTALLED. THE EVP SHALL BE FIELD-ADJUSTED TO OPTIMIZE RECEPTION. EVP PER THE CITY APPROVED PRODUCT LIST.
10. ALL EXISTING TRAFFIC CONTROL AND STREET LIGHTS SHALL REMAIN IN OPERATION UNTIL NEW INSTALLATIONS ARE ENERGIZED AND OPERATIONAL. ANY TRAFFIC DETECTORS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED WITH TEMPORARY DETECTORS UNTIL THE FINAL DETECTION SYSTEM IS IN PLACE AND OPERATIONAL.
11. ANY REMOVED CITY EQUIPMENT SHALL BE SALVAGED AND RETURNED TO THE CITY PUBLIC WORKS DEPARTMENT 23454 W. MC HIGHWAY 85 BUCKEYE, AZ. ALL SALVAGED EQUIPMENT SHALL BE DISMANTLED.
12. QUESTIONS CONCERNING TRAFFIC SIGNAL DESIGN SHOULD BE DIRECTED TO JAY YENERICH, 10605 NORTH HAYDEN ROAD SUITE 141 SCOTTSDALE, AZ 480-659-4250.
13. THE ELECTRICAL SERVICE ADDRESS IS: 1220 S. VERRADO WAY
14. AT START OF CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE CITY PUBLIC WORKS DEPARTMENT AT (623) 349-6825 TO ENSURE THE AVAILABILITY OF THE CITY TRAFFIC SIGNAL TECHNICIAN AND COORDINATE POWER AUTHORIZATION, CABINET SET-UP, INSPECTION REQUIREMENTS AND THE PRECONSTRUCTION MEETING. CITY TRAFFIC SIGNAL TECHNICIAN SHALL BE CALLED 48-HOURS PRIOR TO ALL INSPECTION POINTS, AS CALLED FOR.
15. ALL WIRES SHALL BE COLOR CODED WITH TAPE AS SHOWN IN CITY STANDARD DETAIL 64270.
16. ALL SIGNAL FOUNDATIONS SHALL BE FLAT, NOT DISHED OR BLOCKED/OUT. FOUNDATIONS SHALL BE NO LOWER THAN BACK OF SIDEWALK OR FUTURE BACK OF SIDEWALK.
17. ALL TRAFFIC SIGNAL POOLES, NEW, BORROWED OR EXISTING, SHALL BE BROUGHT TO "LIKE NEW" CONDITION, INCLUDING UNUSED HOLES WELDED, POLE PAINTED, WIRE UPGRADED TO IMSA CABLE.
18. TRAFFIC CONTROL CHANGE AHEAD WARNING SIGNS SHALL BE INSTALLED WHEN TRAFFIC CONTROL TYPE OR OPERATIONS HAS CHANGED AT AN INTERSECTION. THE CONTRACTOR FOR A MINIMUM OF 60 DAYS FOLLOWING THE TRAFFIC CONTROL CHANGE SHALL INSTALL WARNINGS. WHEN WARNING STAGE IS COMPLETE, THE CONTRACTOR SHALL REMOVE TEMPORARY SIGNS AND DELIVER TO CITY PUBLIC WORKS DEPARTMENT AT 23454 W. MC HIGHWAY 85, BUCKEYE, AZ 85326.

CONTROL CABINET AND FOUNDATION NOTES:

1. ALL MATERIALS AND INSTALLATION SHALL CONFORM TO THE CITY OF BUCKEYE STANDARD DETAILS, AND THE LATEST EDITION OF: THE ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) " STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION"; THE ADOT "TRAFFIC SIGNAL AND LIGHTING STANDARD DRAWINGS"; AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. CONDUIT PROJECTION ABOVE FOUNDATION SHALL BE 2 1/2 " MIN. AND 4" MAX AND SHALL HAVE SMOOTH BELL BENDS ATTACHED.
3. RAISED CONCRETE PAD 48"X4"X48", SHALL BE PLACED IN FRONT OF THE CABINET. PAD SHALL BE SET 2" BELOW THE FOUNDATION ELEVATION. SLOPE PAD AWAY FROM CABINET FOR DRAINAGE (2% MIN). SEE ADOT STD. DWG. T.S. 2-1.
4. 1" SLEEVE (FOR GROUND ROD) SHALL BE INSERTED WHEN FOUNDATION IS POURED. INSTALL A $\frac{3}{4}$" DIAMETER X 10' LONG BONDED COPPER GROUND ROD IN 1" SLEEVE POSITIONED AS SHOWN IN PLAN VIEW AND PLACED 10" BACK FROM CABINET DOOR. GROUNDING SHALL MEET CITY OF BUCKEYE BUILDING CODE REQUIREMENTS.
5. PRIOR TO POURING CONCRETE FOUNDATION, FINAL APPROVAL OF CONDUIT PLACEMENT FROM TRAFFIC SIGNAL INSPECOR OR DESIGNEE SHALL BE OBTAINED.
6. ANCHOR BOLTS SHALL BE $\frac{3}{4}$"X12"X5" COMPLETED WITH NUTS AND WASHERS. ANCHOR BOLT PROTECTOR ABOVE FOUNDATION SHALL BE 1 $\frac{1}{2}$" MIN AND 2 $\frac{1}{2}$" MAX.
7. USE AN APPROVED SILICON SEALER RTV TYPE, GREY IN COLOR CLEAR, BETWEEN CABINET AND FOUNDATION.
8. CLASS S CONDUIT MINIMUM 3,000 PSI TO BE AIR-ENTRAINED AT 1000 FT. IN ELEVATION AND ABOVE.

PLAN SHEET NOTES:

1. POLE LOCATION SUBJECT TO FIELD CONDITIONS.
2. PLACEMENT OF FOUNDATION SHALL SATISFY AASHTO REQUIREMENTS.
3. PLACEMENT OF PEDESTRIAN PUSH BUTTON POST AND TYPE 'A' POLE SHALL BE 2' TO 4' FROM TOP OF RAMP.
4. FOR RAMPS, ROADWAY, SIDEWALK, AND MEDIANS SEE COB SECTION 6-3 – STREET PLANS AND DESIGN REQUIREMENTS.
5. FOR SIGNING AND MARKING SEE COB SECTION 6-5 FOR DESIGN REQUIREMENTS.

PULL BOX AND CONDUIT NOTES:

1. INSTALL GREEN #8 THW STRANDED COPPER WIRE FULL LENGTH INSIDE OF CONDUIT WITH THREE FEET (3') EXTENDING ABOVE CONDUIT.
2. ALL BARE BONDS SHALL BE SPLICED TOGETHER FOR FUTURE LOCATING PURPOSES.
3. GRAY PVC SCHEDULE 40 ELECTRICAL CONDUIT SHALL BE USED FOR OPEN TRENCH AND DIRECTIONAL DRILL APPLICATIONS.
4. DEPTH OF PVC INSTALLATION SHALL BE 36" MINIMUM (TYPICAL) BELOW LIP OF GUTTER AND RUN IN A HORIZONTAL PLANE FROM PULL BOX TO PULL BOX.
5. IF A NUMBER 9 PULL BOX EXISTS NEAR BY A NUMBER 7 PULL BOX FOR A FUTURE SIGNAL, CONNECT THE TWO PULL BOXES WITH A 2" CONDUIT
6. CONDUIT RUN FROM METER PEDESTAL TO ELECTRICAL COMPANY POINT OF DELIVERY FOR SERVICE SHALL BE INSTALLED TO ELECTRICAL COMPANY SIZE AND SPECIFICATIONS.

REVISIONS:

1

2

3

PLAN NAME

TRAFFIC SIGNAL NOTES
TS-01

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL:

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
REGISTERED
ARIZONA U.S.A.
EXPIRES 3/31/2023

ORIGINAL PLAN DATE

LATEST REVISION DATE

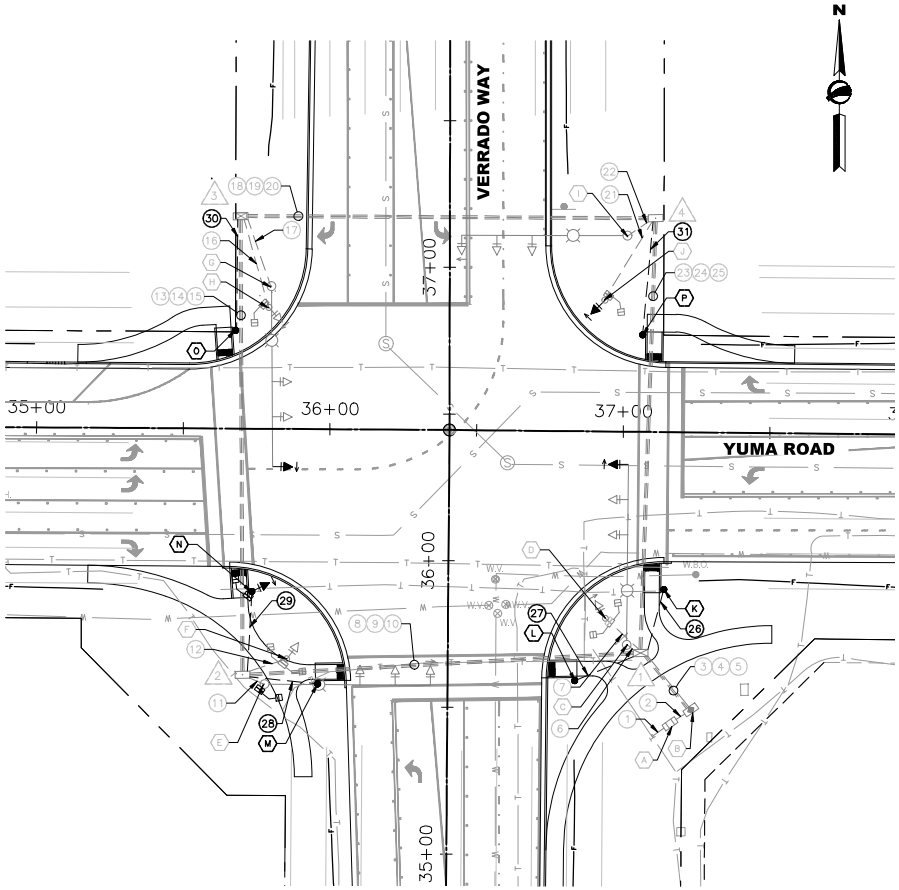
PROJECT NUMBER

SHEET NUMBER
2 of 5

COB PLAN TRACKING #

COB PERMIT #

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January 26, 2022 - 10:04am
Jay Yenerich, P.E.



LEGEND:

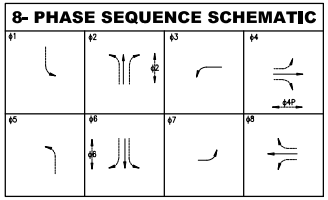
- METER PEDESTAL
- CONTROLLER CABINET
- NO. 7 PULL BOX WITH EXTENSION
- NO. 7 PULL BOX
- TRAFFIC SIGNAL HEAD
- VIDEO DETECTION CAMERA
- EMERGENCY VEHICLE DETECTOR
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL HEAD
- EXISTING TRAFFIC SIGNAL
- NEW TRAFFIC SIGNAL
- EXISTING CONDUIT RUN NUMBER (SEE CONDUCTOR SCHEDULE)
- NEW CONDUIT RUN NUMBER (SEE CONDUCTOR SCHEDULE)
- EXISTING PULL BOX (SEE PULL BOX SCHEDULE)

PULL BOX SCHEDULE

NO.	TYPE	LOCATION*	REMARKS
1	NO. 7 W/ EXTENSION	STA. 37+07 75' RT.	EXISTING TO REMAIN
3	NO. 7	STA. 35+71 84' RT.	EXISTING TO REMAIN
4	NO. 7	STA. 35+69 72' LT.	EXISTING TO REMAIN
5	NO. 7	STA. 37+10 73' LT.	EXISTING TO REMAIN

* ALL STATIONING FROM ℄ OF YUMA ROAD STATIONS AND OFFSETS SHOWN ARE APPROXIMATE. ACTUAL LOCATIONS ARE TO BE FIELD VERIFIED BY THE TRAFFIC SIGNAL INSPECTOR PRIOR TO INSTALLATION.

8- PHASE SEQUENCE SCHEMATIC



SCALE: 1" = 20'

REVISIONS:
1
2
3

PLAN NAME
INTERIM TRAFFIC SIGNAL PLAN
TS-02

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SHEET NUMBER
3 of 5

SUBMITTAL:

COB PLAN TRACKING #

COB PERMIT #

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January 26, 2022 - 10:04am
Jay Yenerich, P.E.

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Heydon Building Corp.

85

389

CABINET AND POLE SCHEDULE

CABINETS					
CABINET	TYPE	EQUIPMENT	ASSEMBLY NOTES	REMARKS	LOCATION*
(A) METER	EXISTING METER	MEYERS MEUG16-M125	–	–	37+17, 100' RT
(B) CONTROLLER	EXISTING CABINET	SAFETRAN MODEL 332 HYBRID	–	–	37+24, 95' RT

POLES		MAST ARMS		SIGNALS		PED P.B. SIGN	REMARKS	LOCATION*
NO.	TYPE	SIG.	LUM.	MTG.	FACE			
(C) EXISTING TO REMAIN	EXIST W	EXIST 65'	EXIST 1–20'	1–II 2–II	1–R 2–F	–	EXISTING TO REMAIN INSTALL ILLUMINATED STREET NAME SIGN EXISTING Q–2 HEAD TO BE REMOVED & REPLACED WITH R HEAD METRO SIGNS TO BE REMOVED FROM POLE	37+02, 73' RT
(D) EXISTING TO REMAIN	EXIST A	–	–	1–VI 1–VII	1–Q 2–PED	R10–4bL R10–4bR	EXISTING TO REMAIN REMOVE EXISTING PED PUSH BUTTONS AND SIGNS ALIGN PED HEAD WITH NORTH/SOUTH CROSSWALK IF NEEDED	36+95, 64' RT
(E) EXISTING TO REMAIN	EXIST R	EXIST 55'	EXIST 1–20'	1–II 2–II 1–V	1–R 2–F 1–PED	–	EXISTING TO REMAIN INSTALL ILLUMINATED STREET NAME SIGN EXISTING Q–2 HEAD TO BE REMOVED & REPLACED WITH R HEAD METRO SIGNS TO BE REMOVED FROM POLE INSTALL NEW PED HEAD	35+78, 87' RT
(F) REMOVE EXISTING	EXIST A	–	–	1–VI 1–VII	1–Q 2–PED	R10–4bL R10–4bR	REMOVE EXISTING	35+86, 78' RT
(G) EXISTING TO REMAIN	EXIST R	EXIST 55'	EXIST 1–20'	1–II 2–II	1–R 2–F	–	EXISTING TO REMAIN INSTALL ILLUMINATED STREET NAME SIGN EXISTING Q–2 HEAD TO BE REMOVED & REPLACED WITH R HEAD METRO SIGNS TO BE REMOVED FROM POLE	35+79, 49' LT
(H) EXISTING TO REMAIN	EXIST A	–	–	1–V 1–VII	1–Q 1–PED	R10–4bL	EXISTING TO REMAIN REMOVE EXISTING PED PUSH BUTTON AND SIGN	35+79, 41' LT
(I) EXISTING TO REMAIN	EXIST R	EXIST 55'	EXIST 1–20'	1–II 2–II	1–Q–2 2–F	–	EXISTING TO REMAIN INSTALL ILLUMINATED STREET NAME SIGN METRO SIGNS TO BE REMOVED FROM POLE	37+01, 67' LT
(J) EXISTING TO REMAIN	EXIST A	–	–	1–VI 1–V	1–R 1–PED	R10–4bL	EXISTING TO REMAIN EXISTING Q–2 HEAD TO BE REMOVED & REPLACED WITH R HEAD REMOVE EXISTING PED PUSH BUTTON AND SIGN	36+93, 45' LT
(K) INSTALL NEW "PEDESTRIAN POST" POLE PER COB STD DTL 64225	NEW PB	–	–	–	–	R10–4bL	INSTALL NEW POLE AND FOUNDATION	37+14, 54' RT
(L) INSTALL NEW "PEDESTRIAN POST" POLE PER COB STD DTL 64225	NEW PB	–	–	–	–	R10–4bR	INSTALL NEW POLE AND FOUNDATION	36+83, 85' RT
(M) INSTALL NEW "PEDESTRIAN POST" POLE PER COB STD DTL 64225	NEW PB	–	–	–	–	R10–4bL	INSTALL NEW POLE AND FOUNDATION	35+96, 87' RT
(N) INSTALL NEW TYPE "A" POLE PER ADOT STD DTL 4–1	NEW A	–	–	1–VI 1–V	1–R 1–PED	R10–4bL	INSTALL NEW POLE AND FOUNDATION	35+73, 56' RT
(O) INSTALL NEW "PEDESTRIAN POST" POLE PER COB STD DTL 64225	NEW PB	–	–	–	–	R10–4bR	INSTALL NEW POLE AND FOUNDATION	35+68, 56' RT
(P) INSTALL NEW "PEDESTRIAN POST" POLE PER COB STD DTL 64225	NEW PB	–	–	–	–	R10–4bL	INSTALL NEW POLE AND FOUNDATION	37+08, 33' LT

LEGEND:

- METER PEDESTAL
- CONTROLLER CABINET
- TRAFFIC SIGNAL HEAD
- REDFLEX EQUIPMENT
- VIDEO DETECTION CAMERA
- EMERGENCY VEHICLE DETECTOR
- PEDESTRIAN PUSH BUTTON
- PEDESTRIAN SIGNAL HEAD
- CCTV CAMERA
- (X) NEW TRAFFIC SIGNAL
- ϕX PHASE NUMBER
- II–F MOUNTING AND SIGNAL TYPE
- INTERNALLY ILLUMINATED SIGNAGE

REVISIONS:

1

2

3

PLAN NAME

INTERIM TRAFFIC SIGNAL
POLE SCHEDULE
TS-03

ENGINEER INFORMATION

CivTech Inc.

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

37474
JAY ALLEN YENERICH
EXPIRES 3/31/2023

ORIGINAL PLAN DATE

LATEST REVISION DATE

PROJECT NUMBER

SHEET NUMBER
4 of 5

SUBMITTAL:

COB PLAN TRACKING #

COB PERMIT #

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January 26, 2022 - 10:04am
Jay Yenerich, P.E.

TRAFFIC SIGNAL CONDUCTOR SCHEDULE

	Conduit Run Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	Conduit Size In Inches	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	2	2	2	2	2	2
SIGNAL HEADS PED HEADS PED PB'S IMSA 19-1 #14	20 CONDUCTOR			2	2	2					2					2					2					2						
	7 CONDUCTOR						2																1							1	1	
	4 CONDUCTOR						2																2				1	1	1			1
	2 CONDUCTOR																															
OTHER	#8 GREEN THW, SOLID			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
LUMINAIRES (120V)	#10 BLACK THW, SOLID, RED TAPE						1	1	1			1		1			1		1				1	1								
	#10 WHITE THW, SOLID, RED TAPE			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
IISNS	#10 BLACK THW, SOLID, BROWN TAPE			1	1	1	1			1		1			1		1			1			1		1							
	#10 WHITE THW, SOLID, BROWN TAPE			1	1	1	1			1		1			1		1			1			1		1							
SERVICE	#6 AWG 140V, THW	1	1																													
EVP	PER MANUFACTURER			1	1	1	1			1		1			1			1		1			1		1							
SURVEY	TRACER WIRE #8 BARE BOND			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
VIDEO DETECTION	POLE (C)			1	1	1	1			1															1							
	POLE (E)			1	1	1														1			1									
	POLE (H)			1	1	1				1																						
	POLE (I)			1	1	1									1																	
CCTV																																
	CAT 5E																															
ITS	6 SMFO GATOR PATCH																															

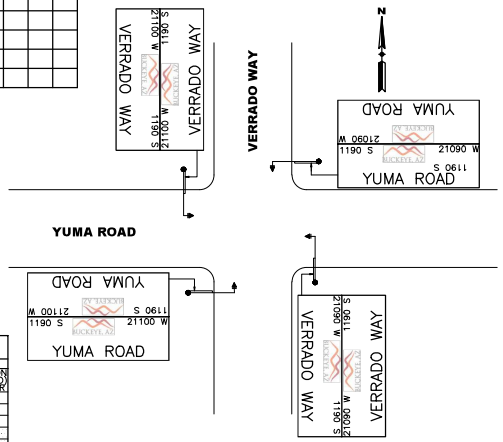
CONDUCTOR NOTES:
(1) E = EXISTING
(2) * = INTERCEPT EXISTING CONDUIT AS SHOWN ON PLANS
(3) EVP = EMERGENCY VEHICLE PREEMPTION
(X) = EXISTING CONDUIT RUN
(X) = PROPOSED CONDUIT RUN

IMSA CABLE 19-1, #14 AWG, 25 CONDUCTOR							
MOUNTING	WIRE NO.	CONDUCTOR COLOR CODE	FUNCTION	SIGNAL HEAD TYPE: CIRCULAR INDICATIONS	2-HEAD ARROW INDICATIONS	3-HEAD ARROW INDICATIONS	PEDESTRIAN INDICATIONS
MAST ARM MOUNTED SIGNAL HEADS (HIGH)	1	RED	RED	RED			
	2	ORANGE	YELLOW	ORANGE			
	3	GREEN	GREEN	GREEN			
	4	ORANGE/BLACK	YELLOW ARROW		ORANGE/BLACK		
	5	GREEN/BLACK	GREEN ARROW		GREEN/BLACK		
	6	RED/BLACK	RED ARROW			RED/BLACK	
	4	ORANGE/BLACK	YELLOW ARROW			ORANGE/BLACK	
	5	GREEN/BLACK	GREEN ARROW			GREEN/BLACK	
POLE MOUNTED SIGNAL HEADS (LOW)	7	RED/WHITE	RED	RED/WHITE			
	8	BLACK/RED	YELLOW	BLACK/RED			
	9	BLUE/BLACK	GREEN	BLUE/BLACK			
	10	ORANGE/RED	YELLOW ARROW		ORANGE/RED		
	11	GREEN/WHITE	GREEN ARROW		GREEN/WHITE		
	7	RED/BLACK	RED ARROW				
	10	ORANGE/BLACK	YELLOW ARROW				
	11	GREEN/BLACK	GREEN ARROW				
SIGNAL COMMON	12	WHITE	WHITE	WHITE	WHITE	WHITE	
PEDESTRIAN SIGNAL HEADS	13	BLUE	N/S WALK				BLUE
	14	BLACK	N/S DONT WALK				BLACK
	15	BLUE/WHITE	E/W WALK				BLUE/WHITE
	16	WHITE/BLACK	E/W DONT WALK				WHITE/BLACK
PED HEAD COMMON	17	WHITE/BLACK	PED COMMON				
N/A	18	BLUE/RED	N/A				
N/A	19	RED/GREEN	N/A				
N/A	20	WHITE/GREEN	N/A				
N/A	21	BLACK	N/A				
N/A	22	WHITE	N/A				
N/A	23	ORANGE/GREEN	N/A				
N/A	24	RED	N/A				
N/A	25	GREEN	N/A				

WIRING TO FIELD					
	HIGH STANDARD				
	FIVE SECTION (Q-2 HEAD) 7-CONDUCTOR	THREE SECTION (F HEAD) 4-CONDUCTOR	THREE SECTION (R HEAD) 4-CONDUCTOR	FIVE SECTION (Q HEAD) 7-CONDUCTOR	THREE SECTION (F OR R HEAD) 4-CONDUCTOR
RED BALL	RED	RED		RED	RED
YELLOW BALL	BLACK	BLACK		YELLOW	YELLOW
GREEN BALL	GREEN	GREEN		GREEN	GREEN
RED ARROW			RED		
YELLOW ARROW	ORANGE		ORANGE	YELLOW	
GREEN ARROW	BLUE		BLUE	GREEN	
AC-	WHITE	WHITE	WHITE	WHITE	WHITE

	PEDESTRAIN HEAD 4-CONDUCTOR
DON'T WALK	RED
WALK	GREEN
PED. COM	WHITE
AC	BLACK

PEDESTRAIN PUSH BUTTON 2-CONDUCTOR
BLACK
WHITE



INTERNALLY ILLUMINATED SIGNAGE
PER CITY OF BUCKEYE ENGINEERING DETAIL 642111

REVISIONS:
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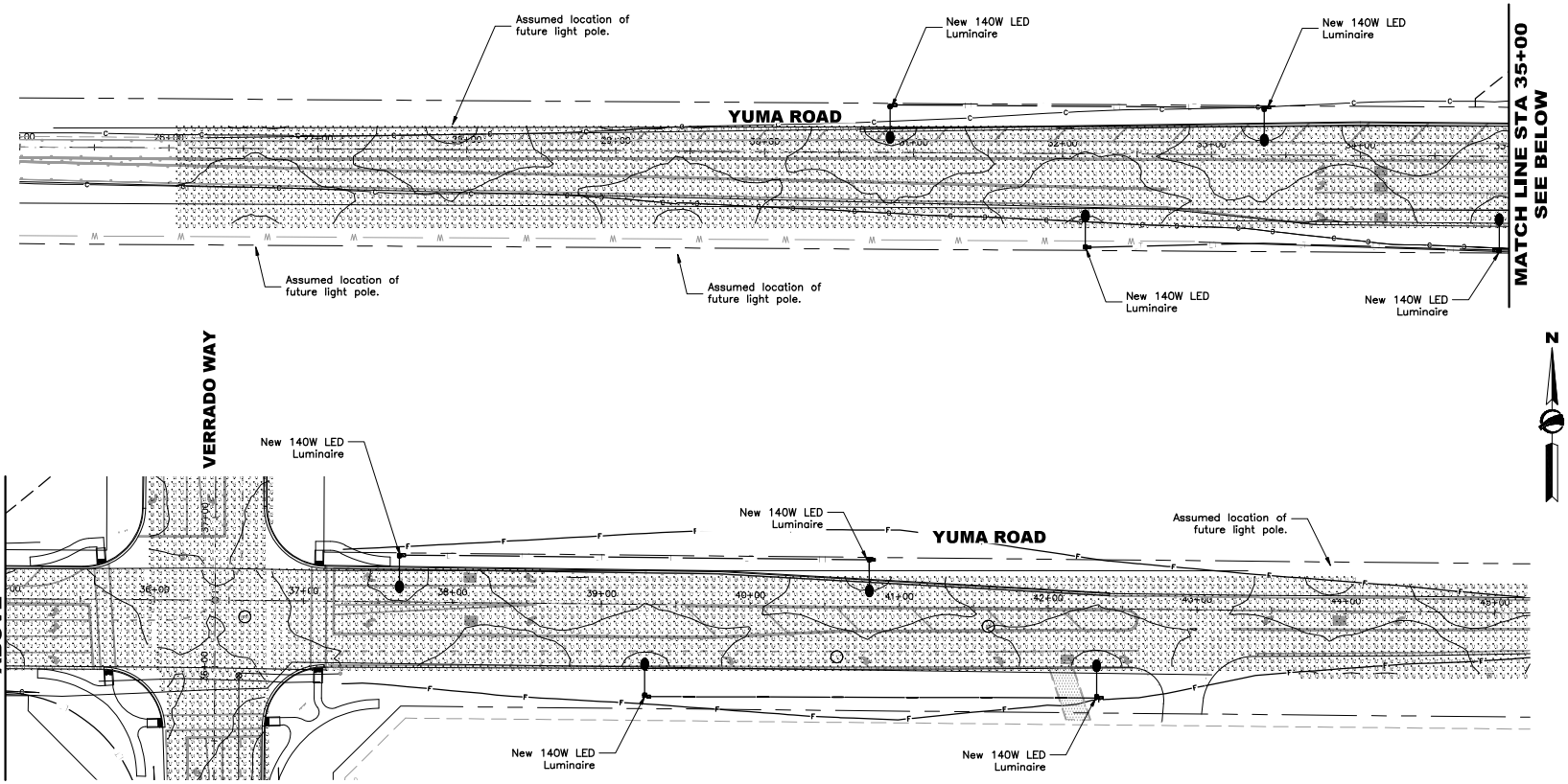
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INTERIM TRAFFIC SIGNAL CONDUCTOR SCHEDULE
TS-04

ENGINEER INFORMATION
CivTech Inc.

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
37474 JAY ALLEN YENERICH EXPIRES 3/31/2023
ORIGINAL PLAN DATE
LATEST REVISION DATE
PROJECT NUMBER
SHEET NUMBER 5 of 5

SUBMITTAL:
COB PLAN TRACKING #
COB PERMIT #

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January 26, 2022 - 10:05am
Joy Yenerich, P.E.



Note: This figure depicts roadway lighting analysis output. Not a part of project plan set. Not for construction.

SCALE: 1" = 40'

REVISIONS:

1

2

3

PLAN NAME
INTERIM ROADWAY LIGHTING PHOTOMETRICS

ENGINEER INFORMATION

CivTech Inc.
10605 N. Hayden Rd. 480.659.4250 p
Suite 140 480.659.0566 f
Scottsdale, AZ 85260 info@civtech.com

SUBMITTAL: 1ST SUBMITTAL

PRELIMINARY NOT FOR CONSTRUCTION

ORIGINAL PLAN DATE 05/19/2021

LATEST REVISION DATE

PROJECT NUMBER

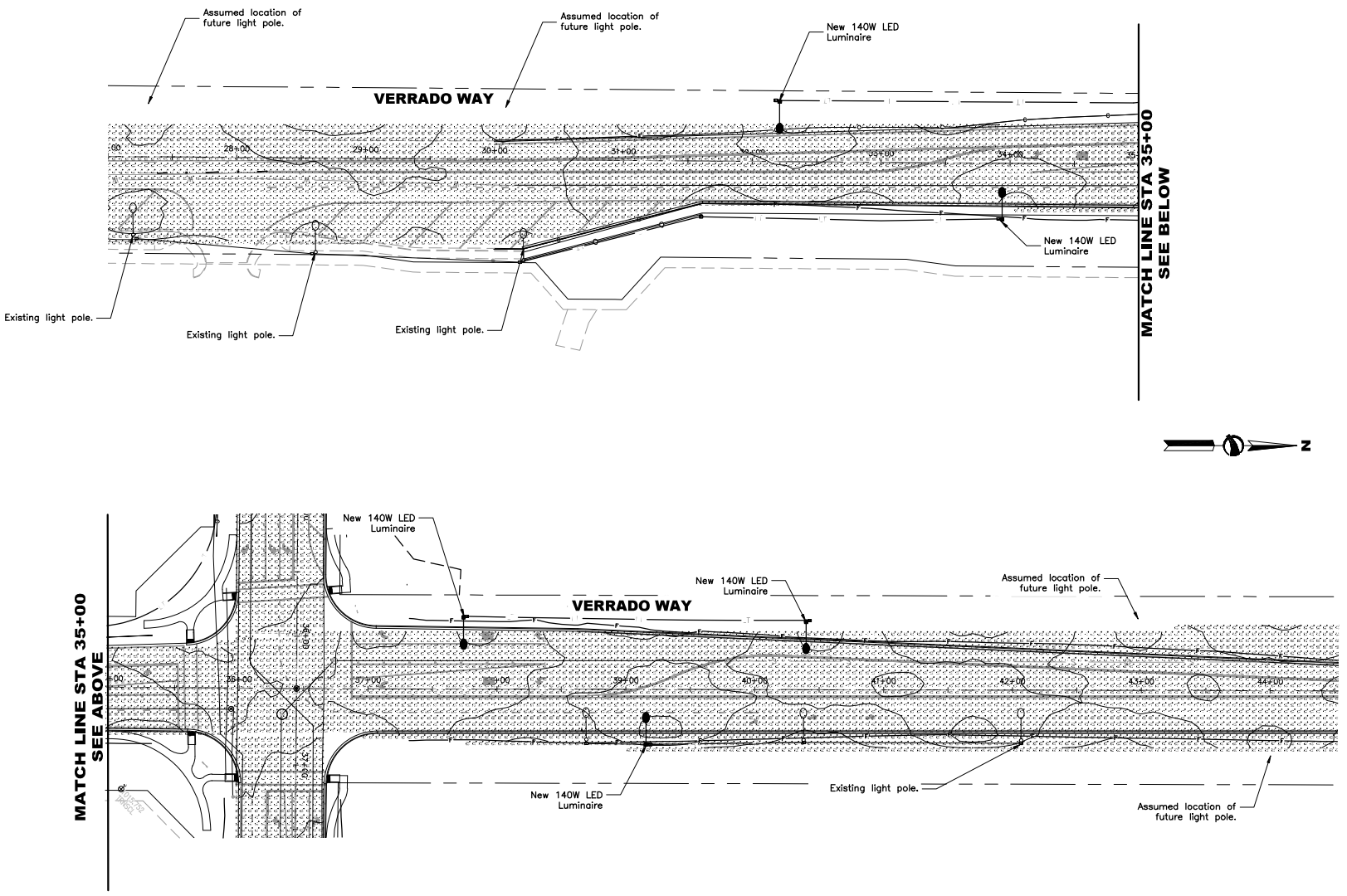
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COB PLAN TRACKING #

COB PERMIT # ENGCIP-20-10042

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May 19, 2021 - 3:17pm
bgood

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02 DO #1
Haydon Building Corp.



Note: This figure depicts roadway lighting analysis output. Not a part of project plan set. Not for construction.

SCALE: 1" = 40'

REVISIONS:
1
2
3

PLAN NAME
INTERIM ROADWAY LIGHTING PHOTOMETRICS

ENGINEER INFORMATION

CivTech Inc.
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SUBMITTAL: 1ST SUBMITTAL

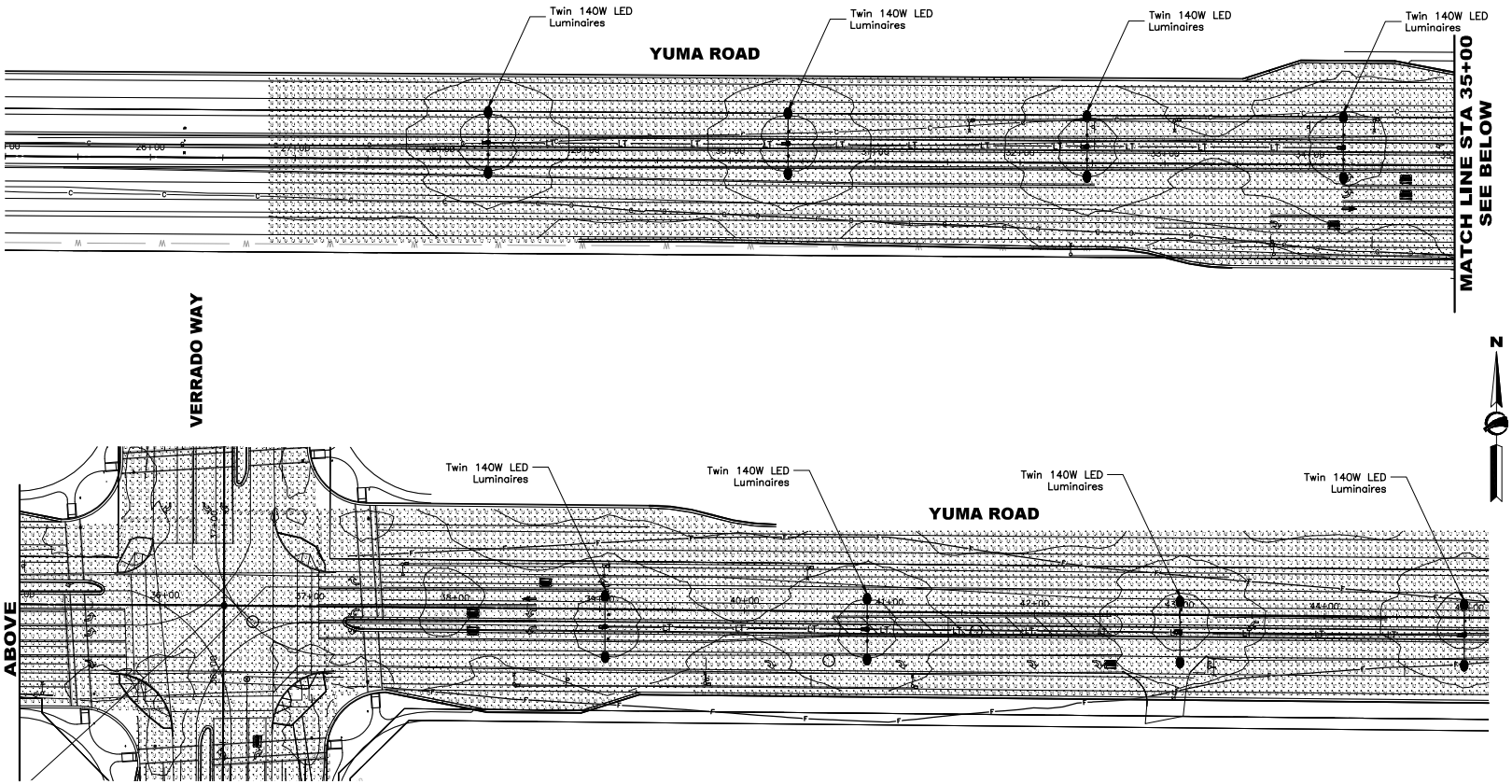
PRELIMINARY NOT FOR CONSTRUCTION

ORIGINAL PLAN DATE: 05/19/2021
LATEST REVISION DATE:
PROJECT NUMBER:
SHEET NUMBER: 2 OF 4

COB PLAN TRACKING #:
COB PERMIT #: ENGCIP-20-10342

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May 19, 2021 - 3:17pm
bgood

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02 DO #1
Haydon Building Corp.



Note: This figure depicts roadway lighting analysis output. Not a part of project plan set. Not for construction.

SCALE: 1" = 40'

REVISIONS:

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PLAN NAME
ULTIMATE ROADWAY LIGHTING PHOTOMETRICS

ENGINEER INFORMATION

CivTech Inc.
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SUBMITTAL:
1ST SUBMITTAL

PRELIMINARY
NOT FOR
CONSTRUCTION

ORIGINAL PLAN DATE
05/19/2021

LATEST REVISION DATE

PROJECT NUMBER

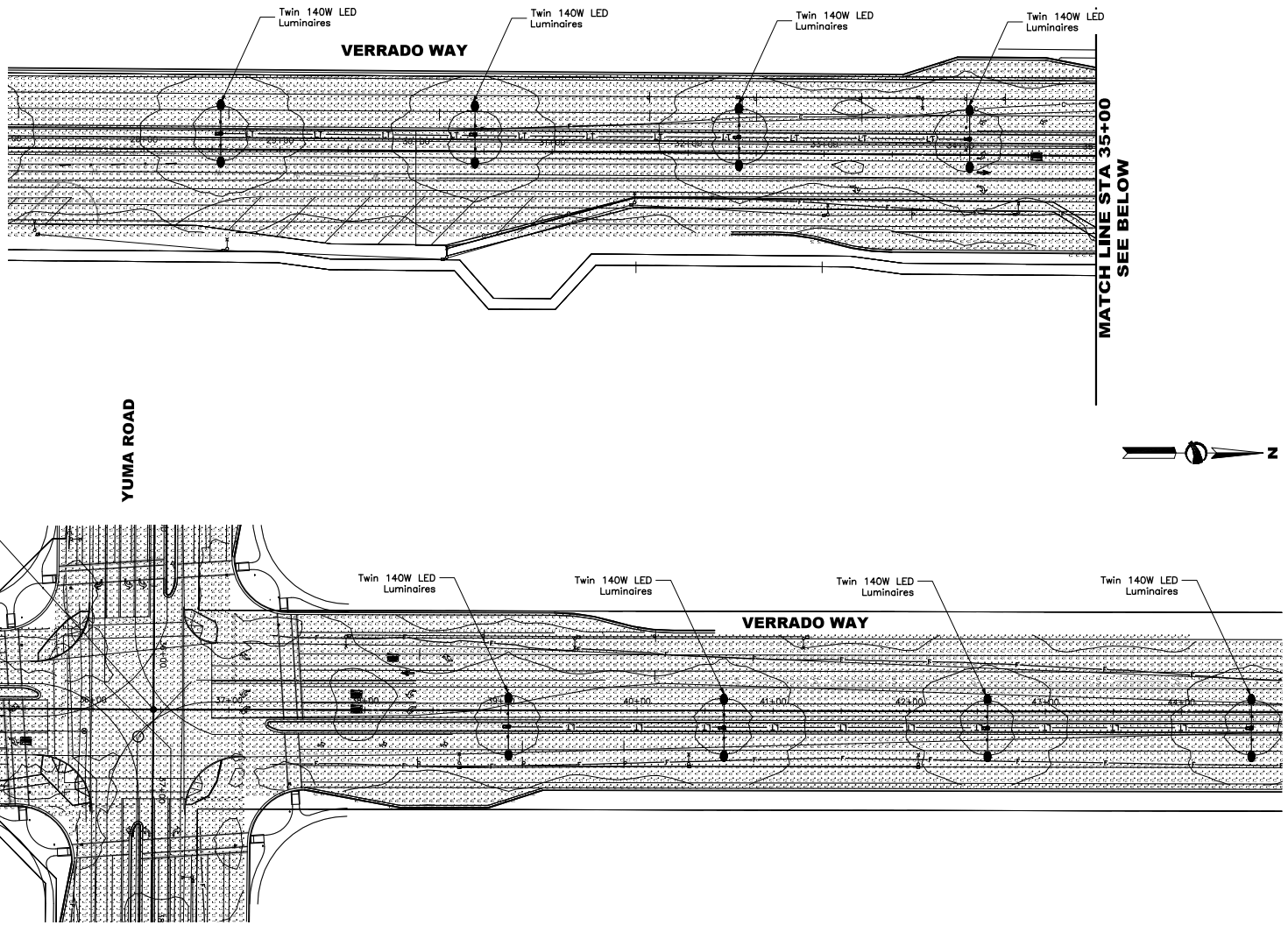
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3 OF 4

COB PLAN TRACKING #

COB PERMIT #
ENGCIP-20-10042

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May 19, 2021 - 3:17pm
bgood

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02 DO #1
Haydon Building Corp.



Note: This figure depicts roadway lighting analysis output. Not a part of project plan set. Not for construction.

SCALE: 1" = 40'

REVISIONS:

1

2

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PLAN NAME
ULTIMATE ROADWAY LIGHTING PHOTOMETRICS

ENGINEER INFORMATION

CivTech Inc.
10605 N. Hayden Rd. 480.659.4250 p
Suite 140 480.659.0566 f
Scottsdale, AZ 85260 info@civtech.com

SUBMITTAL: 1ST SUBMITTAL

PRELIMINARY NOT FOR CONSTRUCTION

ORIGINAL PLAN DATE: 05/19/2021

LATEST REVISION DATE:

PROJECT NUMBER:

SHEET NUMBER: 4 OF 4

COB PLAN TRACKING #:

COB PERMIT # ENGCIP-20-10342

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May 19, 2021 - 3:18pm
bgood

TECHNICAL MEMORANDUM

TO Steve Riley, Project Manager, City of Buckeye
John Willett, PE, City Traffic Engineer, City of Buckeye

DATE May 19, 2021 **JOB NO. 18-0160B**

RE **Yuma Road and Verrado Way Intersection Improvements, Roadway Lighting Analysis**

CC File

The purpose of this technical memorandum is to show the lighting levels achieved by the design of the roadway lighting at the intersection of Yuma Road and Verrado Way, and approximately 850 feet beyond the intersection in the City of Buckeye, Arizona. See **Figure 1**.

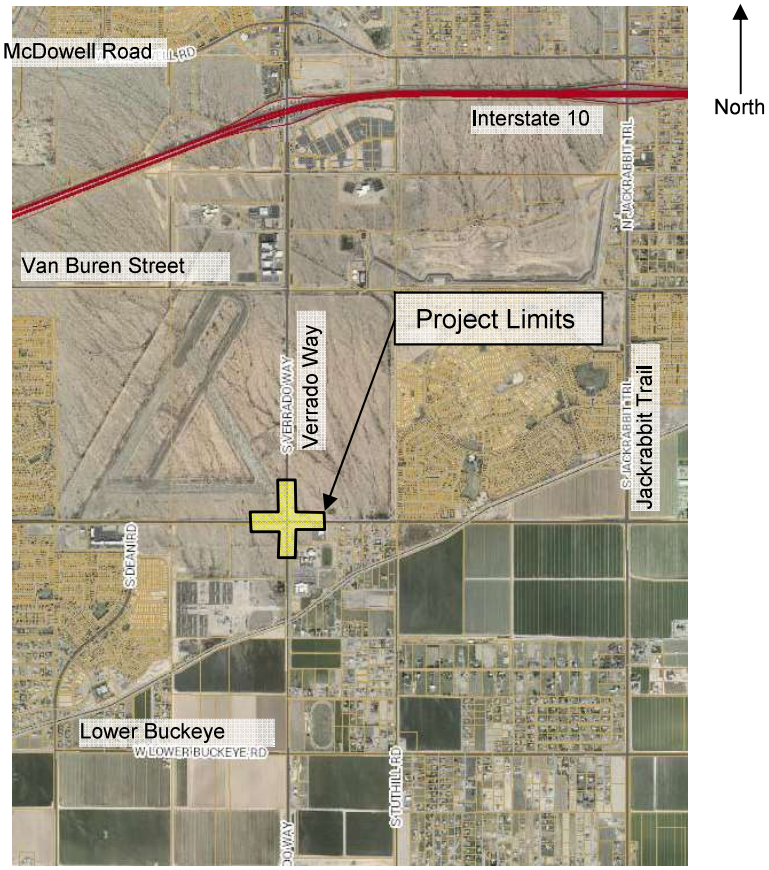


Figure 1 – Project Limits

Existing Conditions

Yuma Road and Verrado Way are both classified as Major Arterial roadways, as shown in *Figure 2-35 Future Street Network by City Classification*, in the City of Buckeye *Transportation Master*

Plan, August 2019. Yuma Road runs east-west, while Verrado Way runs north-south. This is illustrated in **Figure 1**.

There is no existing roadway lighting along Yuma Road in the immediate project vicinity. There is existing lighting on the existing traffic signal, with LED luminaires on the four corners of the intersection. There is existing roadway lighting on the east side of Verrado Way, north of Yuma Road, and existing roadway lighting along the east side of Verrado Way, starting approximately 630 feet south of Yuma Road, in front of an existing school. The existing roadway lighting includes City of Buckeye standard poles that are also Arizona Public Service (APS) standard. These are square tube poles, on foundations, with 8-foot mast arms, a luminaire mounting height of 40 feet, with 250 Watt HPS shoebox style luminaires. The existing power is supplied from APS underground conduit and wiring, without the use of City owned conduit, wiring, lighting control cabinet, or direct metering.

Design Criteria

The City directed CivTech to develop the lighting design per the City of Buckeye document *Engineering Design Standards, Section 7-2 Public Streetlights (DRAFT), Adopted January 1, 2018.* These design standards are consistent with the recommendations described in the Illuminating Engineering Society of North America (IESNA) document Recommended Practice 8 2018 (RP-8-18).

Assuming that the lighting analysis would be conducted using the illuminance method, the resulting light levels would be in units of *lux* or *foot-candles*. This is the measure of luminous power that is incident on the pavement surface (the amount of power that reaches the pavement surface from the light source).

The City design guidelines require that lighting levels at intersections be the total of the light levels for the intersecting roadways. For this project, because both roadways have the same classification, the required intersection light levels are double the roadway levels. The following table summarizes the City of Buckeye standards as they apply to this project:

Location	Street Classification	Area Type	Minimum Average Footcandles	Maximum Average Footcandles	Uniformity Ratio (Avg to Min)	Pattern
Yuma Road Segment	Major Arterial*	Residential/ Commercial	0.9	1.2	3.0:1	Staggered or Median
Verrado Way Segment	Major Arterial	Residential/ Commercial	0.9	1.2	3.0:1	Staggered or Median
Yuma Road and Verrado Way Intersection	Major Arterial/Major Arterial*	---	1.8	2.4	3.0:1	---

* - IES RP-8 classification *Major* is equivalent to City of Buckeye classification *Arterial*.

Proposed Light Pole Placement

The City design guidelines *Table 2 – Criteria by Classification* shows that lighting on a Major Arterial can be either staggered on the outside or in the median. For the interim condition there

is no median so the lighting was placed on the outside of the roadway. For the ultimate condition there will be medians on both roadways and the lighting was placed in the median.

Proposed Equipment

The City design guidelines and details describe the equipment requirements for lighting on an arterial. This includes a 140 Watt LED luminaire with Type III (A3) distribution, 3,000 Kelvin color temperature and 17,300 lumens. It also includes a square pole with a 8-foot mast arm on a foundation and a 40-foot mounting height. See the latest City lighting details for equipment details.

Design Luminaire

Based on City of Buckeye Standard Detail, Detail #3 Standard LED Luminaires, this analysis used the "Arterial & Parkway" GE ERL2 luminaire with code ERL2018_330ADKBZLRG. The new luminaires are all Type III (A3) distribution with 3,000 Kelvin color temperature and 17,300 lumens.

Lighting Analysis

Two lighting analyses were developed, with one for interim conditions and one for ultimate conditions. Each analysis was broken into 5 sections; the legs at the intersection of Yuma Road and Verrado Way and the intersection itself. The point by point lighting levels are included as an attachment to this memorandum. The following table shows the resulting output from the analysis:

Analysis Area	Average (fc)	Minimum (fc)	Average to Minimum
Interim Conditions Yuma Road West of Verrado Way (West Leg)	1.1	0.5	2.2:1
Interim Conditions Yuma Road East of Verrado Way (East Leg)	1.1	0.4	2.8:1
Interim Conditions Verrado Way North of Yuma Road (North Leg)	1.1	0.4	2.8:1
Interim Conditions Verrado Way South of Yuma Road (South Leg)	1.1	0.4	2.8:1
Interim Conditions Yuma Road and Verrado Way (Intersection)	2.1	1.7	1.2:1
Ultimate Conditions Yuma Road West of Verrado Way (West Leg)	1.1	0.4	2.8:1
Ultimate Conditions Yuma Road East of Verrado Way (East Leg)	1.1	0.4	2.8:1
Ultimate Conditions Verrado Way North of Yuma Road (North Leg)	1.1	0.4	2.8:1
Ultimate Conditions Verrado Way South of Yuma Road (South Leg)	1.1	0.4	2.8:1
Ultimate Conditions Yuma Road and Verrado Way (Intersection)	1.8	1.3	1.4:1

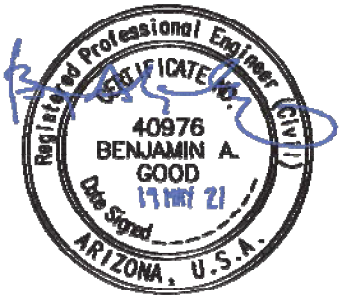
The results of the lighting analysis indicate that the proposed lighting design meets the City of Buckeye street lighting standards.

Should you have any questions, please feel free to contact Benjamin Good at CivTech Inc. at 480.659.4250.

CivTech Inc.

Benjamin A. Good, PE, PTOE

Attachments:



Expires 30 JUN 22

Drainage Design Report
for
Verrado Way and Yuma Road Intersection Improvements

An intersection Located in
City of Buckeye, Maricopa County, Arizona

Prepared:
December 23, 2021

Prepared for:
CivTech, Inc.
10605N. Hayden Road
Scottsdale, Arizona 85260

Prepared by:
Hoskin Ryan Consultants, A Huitt-Zollars Company
5050 North 40th Street
Phoenix, AZ 85018
602.252.8384
Contact: Paul Hoskin



Expires 03-31-2024

Approved

_____

City of Buckeye Engineer Date

The city approves this report for concept only and accepts no liability for errors or omissions.

P310309.01.02 (HRC 18-068.01)

Table of Contents

1 INTRODUCTION 1
2 FEMA FLOODPLAIN CLASSIFICATION 2
3 DATA COLLECTION 2
4 EXISTING CONDITIONS HYDROLOGY 3
5 PROPOSED CONDITIONS HYDROLOGY 5
6 EXISTING CONDITIONS HYDRAULICS 7
7 PROPOSED CONDITIONS HYDRAULICS 7
8 MAINTENANCE 8
9 CONCLUSIONS 9
10 REFERENCES 10

Tables

Table 1: Proposed HEC-1 Peak Flow Summary – Breached Berm Condition 6
Table 2: Proposed HEC-1 Peak Time Summary –Breached Berm Condition 6
Table 3: Proposed HEC-1 Peak Flow Summary – Non-Breached Berm Condition 6
Table 4: Proposed HEC-1 Peak Time Summary – Non-Breached Berm Condition ... 6



Expires 03-31-2024

Exhibits

Figure 1 – Location and Vicinity Map
Figure 2 – Flood Insurance Rate Map
Figure 3 – HEC-1 Map with Breach
Figure 4 – HEC-1 Map with Breach Repaired
Figure 5– Downstream Condition Map
Figure 6 – HEC-RAS Map

Appendices

Appendix A: Hydrologic Analysis Supporting Documentation

A.1 Proposed HEC-1 Parameters
A.2 Proposed HEC-1 Outputs

Appendix B: Hydraulics Analysis Supporting Documentation

B.1 Existing and Proposed Culvert Analysis
B.2 Existing and Proposed Channel Analysis
B.3 HEC-RAS Outputs

1 INTRODUCTION

Hoskin•Ryan Consultants, Inc (HRC) has been contracted by CivTech, Inc. to prepare a drainage design report to support the construction documents prepared for the Verrado Way and Yuma Road Intersection. Paving improvements include the intersection of Verrado Way and Yuma Road, and extend between 650-feet and 1,350-feet in each direction (Figure 1).

Frequent flooding of this intersection and the need to make street improvements prompted the project. The objective of this report is to identify the off-site drainage impacts to the intersection, and to support the final hydraulic design of the roadway's culverts and channels. This report provides a supplement to a pre-design report entitled "Drainage Analysis and Recommendations for Yuma Road and Verrado Way Intersection Improvements (Ref. 9).

General drainage patterns are from the northwest to the southeast, across the intersection and continue southeast toward the Roosevelt Irrigation District Canal (RID). A prior study, *Loop 303 Corridor/White Tanks Hydrology and Delineation Update Final Hydrology Report* (Ref. 11) assumed that a diversion dike, west of the old military airfield, was intact and diverted a large watershed south toward the Sundance development channel south of Yuma Road. Our investigation shows that a breach in this dike now allows a portion of this watershed to cross to the southeast and impact the Site. Downstream, the newly built

Odyssey Institute includes an earthen channel and culvert crossing that directs off-site runoff around the facility towards the RID.

2 FEMA FLOODPLAIN CLASSIFICATION

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Maricopa County, Arizona and Incorporated Areas, *Map Number 04013C2110L and 04013C2120L,* dated October 16, 2013 (Ref. 4), indicate that the Site lies within Unshaded Zone "X", defined as "*Areas determined to be outside the 0.2% annual chance floodplain*". The FIRM panel is shown in Figure 2.

3 DATA COLLECTION

Two existing studies are key in understanding the drainage condition of the Site.

- *Odyssey Institute Final Drainage Report (OIFDR)*, prepared by Eerie and Associates, Inc. in April 2012 (Ref. 9), provides an off-site drainage analysis for the Odyssey Institute located downstream of the intersection improvements. This study used USGS topography with a ten-foot contour interval, for the watershed delineation. It also considered the significant breach in the Luke Air Force Auxiliary Airfield berms; however, it assumed that existing culverts on Verrado Way would pass the full off-site flow, rather than impacting the intersection.

- *Loop 303 Corridor/White Tanks Hydrology and Delineation Update Final Hydrology Report*, prepared by Parsons Brinkerhoff in 2015, provides a HEC-1 model that includes a watershed contributing runoff to the intersection. This analysis assumes the abandoned Luke Air Force Auxiliary Airfield berms are intact and capable of diverting upstream flows.

4 EXISTING CONDITIONS HYDROLOGY

The Flood Control District of Maricopa County's (FCDMC) *Drainage Design Menu System*, (DDMS) computer program Version 5.3 (Ref. 8) was used to analyze the off-site hydrology for the 10-, 50- & 100-year, 6-hour and 24-hour storm events. The HEC-1 model was prepared according to the guidelines established in *Drainage Design Manual for Maricopa County, Arizona, Volume I Hydrology* (Ref. 2). This model uses the land-use and soils parameters prepared for the HEC-1 model in (Ref. 11). The S-Graph method was selected for the unit hydrograph procedure and the Green-Ampt method was utilized in determining the rainfall losses. NOAA Atlas 14 was used for the rainfall depths and intensities. Normal-Depth routing was utilized for the model with cross-sections estimated based on available topography.

The watershed that impacts the intersection was delineated using two-foot contour interval topography (NGVD 29 Datum) provided by the FCDMC. A GIS aerial map, in combination with a field investigation, were used to verify the watershed delineation. The

watershed is mostly undeveloped desert with a slope of approximately one-percent towards the southeast.

Five existing culverts of note (Figure 3) convey flow across the I-10 Freeway from northwest to southeast. Pipe sizes and rating tables were prepared for each using information provided in *I-10/Verrado Way Traffic Interchange Final Drainage Report* (Ref. 13). Within HEC-1, three diversions (DV61A, DV61B and DV61C) are used to model these culverts. Refer to Appendix A.1 for the rating tables.

Further downstream on the watershed, the flows from the three diversions combine and then route to a diversion that represents the airstrip berm and its breach. HEC-RAS model (*HEC-RAS Version 4.1.0*, Ref 7) was used to analyze the capacity of the existing berms and elevated airstrip (Figure 6). The results confirm the watershed flow splits that occur within the auxiliary airfield. The resulting delineation of the drainage areas and schematic diagram are shown on Figure 3. Refer to Appendix B.3 for the HEC-RAS results.

Approximately 1,900-feet and 4,100-feet north of the Yuma Road intersection lie two sets of culverts. These culverts are 2-14-feet wide by 3-feet high and 3-36-inch diameter pipes, respectively. At Verrado Way, north of Yuma Road, two existing culverts flow east and drain across the road. Spur dikes (berms) at the southeasterly inlet side of each culvert help to capture the flow; however, they are not sufficiently high or long to intercept the full 100-year flow that reaches them. As a result, a portion of the flow can continue south to the

intersection. Rating curves for each culvert allow the HEC-model to simulate this effect. The resulting flow diversions are noted as DV 63A for the northern culvert and DV 63B for the southern culvert. Refer to Appendix A.1 for the rating tables.

5 PROPOSED CONDITIONS HYDROLOGY

The existing conditions HEC-1 model was updated to include the final design condition at the intersection and the downstream channel. At the intersection, 4-36-inch diameter pipes will convey the 100-year flow diagonally to its southeast corner, and from there into a new outfall channel. The roadway improvements require raising the grade up to 4-feet above existing grades in order to acccmmodate these proposed culverts. Raising the road will cause ponding behind the embankments and result in some flow. This effect is modeled in HEC-1 using a storage component (ST63).

Downstream of the intersection, a new drainage channel will convey flow from the culverts to an existing channel north of the Odyssey Institute. This channel is modeled in HEC-1 as a route (RT1). In order to evaluate the full impact of the upstream breaches, including the potential of future repairs, both breached and non-breached conditions have been modeled in HEC-1 (See Table 1, 2, 3, 4 and Figures 3 and 4). The proposed 100-year, 6-hour HEC-1 outputs for both conditions are included in Appendix A.2.

Table 1: Proposed HEC-1 Peak Flow Summary – Breached Berm Condition (Figure 3)

Peak Flow (cfs)	100-year, 6-hour	50-year, 6-hour	10-year, 6-hour	100-year, 24-hour	50-year, 24-hour	10-year, 24-hour
CPS63C	332	246	111	332	269	141
ST63	228	192	91	232	199	129
RT1	219	178	82	221	192	117
CPS67	219	178	81	222	192	117

Table 2: Proposed HEC-1 Peak Time Summary –Breached Berm Condition (Figure 3)

Peak Time (hr)	100-year, 6-hour	50-year, 6-hour	10-year, 6-hour	100-year, 24-hour	50-year, 24-hour	10-year, 24-hour
CPS63C	4.42	4.42	4.50	12.42	12.42	12.50
ST63	4.67	4.67	4.58	12.67	12.67	12.58
RT1	5.00	4.92	4.83	12.92	13.00	12.08
CPS67	5.00	4.92	4.83	12.90	13.00	12.92

Table 3: Proposed HEC-1 Peak Flow Summary – Non-Breached Berm Cond. (Figure 4)

Peak Flow (cfs)	100-year, 6-hour	50-year, 6-hour	10-year, 6-hour	100-year, 24-hour	50-year, 24-hour	10-year, 24-hour
CPS63C	242	197	115	192	161	94
ST63	176	161	94	159	132	78
RT1	143	103	61	126	103	61
CPS67	143	104	62	127	104	62

Table 4: Proposed HEC-1 Peak Time Summary – Non-Breached Berm Cond. (Figure 4)

Peak Time (hr)	100-year, 6-hour	50-year, 6-hour	10-year, 6-hour	100-year, 24-hour	50-year, 24-hour	10-year, 24-hour
CPS63C	4.17	4.17	4.17	12.17	12.17	12.17
ST63	4.25	4.25	4.25	12.17	12.17	12.17
RT1	4.50	4.42	4.42	12.50	12.50	12.50
CPS67	4.50	4.42	4.33	12.50	12.50	12.50

6 EXISTING CONDITIONS HYDRAULICS

The existing channel north of the Odyssey Institute (Figure 5) was designed per the *Odyssey Institute Final Drainage Report* (Ref. 9). This report includes Manning's equation channel design calculations for the entire channel protecting the facility. Evaluation of the as-built condition of the existing channel and 3-36-inch pipe culverts that cross it show that the channel was not constructed per the design, resulting in significantly less capacity. Refer to Appendix B.2 for the design condition and existing (as-built) condition hydraulic calculations.

7 PROPOSED CONDITIONS HYDRAULICS

Roadway and intersection design improvements show that Verrado Way and Yuma Drive will be elevated up to 4-feet above existing grade to accommodate new culverts. This will create ponding upstream of the intersection, which will have the effect of attenuating the off-site flow.

Four new 36-inch pipe culverts, in combination with upstream and downstream channel grading improvements are capable of passing the full 100-year off-site "Breached Berm" condition flow of 332-cfs (worst case). By considering the upstream storage routing effects, an estimated 100-year flow of 228-cfs is estimated to pass under the intersection. The new channel improvements south of Yuma Road and east of Verrado Way consist of a concrete channel with a bottom width of 8-feet and 2:1 sideslopes (Section E-E, Figure 5), with a bottom width of 9-feet and 3:1 riprap transition to the existing channel (Section F-F,

Figure 6). This channel will convey the 100-year flow of 228-cfs to the existing downstream channel (Sections A-A through C-C) that flow through the Odyssey Institute. Refer to Figure 5 for the proposed improvement locations and Appendix B.1 & B.2 for the hydraulic calculations.

Culvert hydraulic calculations using *Hydraflow Express Extension, V12* (Ref 6) are included in Appendix B.1 and shown graphically on Figure 5. Channel calculations are based on the Manning's equation using Bentley FlowMaster V8i (Ref. 12).

The design of drainage infrastructure improvements are in accordance with the current *Maricopa County Drainage Policies* (Ref. 1), *Drainage Design Manual for Maricopa County, Arizona, Volume I Hydrology* (Ref. 2), *Drainage Design Manual for Maricopa County, Arizona, Volume II, Hydraulics* (Ref. 3) and *Storm Water Drainage System Design Manual for City of Buckeye* (Ref.5).

8 MAINTENANCE

Ongoing maintenance of the drainage system is required to preserve the design integrity and function. Failure to provide adequate maintenance can prevent the drainage system from performing in accordance with its intent. Maintenance for the drainage facilities will be the responsibility of the owner of the facilities to ensure the drainage structure functions as intended. A regular maintenance program is required for the drainage system to function and maintain the level of protection intended with this design.

9 CONCLUSIONS

1. The off-site hydrologic and hydraulic analysis are in accordance with the current City of Buckeye and Maricopa County guidelines.

2. A 100-year flow rate of 332-cfs for the "Breached Berm" condition (worst case) is used for the culvert and channel design. Flood storage routing reduces this amount to 228-cfs downstream of the intersection.

3. Four 36-inch diameter pipe culverts are cesigned to convey flow diagonally across the intersection. This will require raising the intersection approximately 3.5-feet above grade.

4. A new channel has been designed along the east side of Verrado Way to convey flow south to the existing channel along the north side of the Odyssey Institute. The design of channel improvements includes at least one-foot of freeboard.

10 REFERENCES

1. Flood Control District of Maricopa County, *Drainage Policies and Standards for Maricopa County, Arizona*, January 2013.
2. Flood Control District of Maricopa County, *Drainage Design Manual for Maricopa County, Arizona, Volume II Hydraulics*, August 15, 2013.
3. Flood Control District of Maricopa County, *Drainage Design Manual for Maricopa County, Arizona, Volume I Hydrology,* August 15, 2013.
4. Federal Emergency Management Agency, Flood Insurance Rate Map (FIRM): *Maricopa County and Incorporated Areas, Arizona, Map Number 04013C2110L and 04013C2120*, dated October 3, 2013.
5. City of Buckeye, *Storm Water Drainage System Design Manual for City of Buckeye,* August 2007.
6. Autodesk, *Hydraflow Express Extension for Autodesk AutoCAD Civil3D, Version 12.*
7. U.S. Army Corps of Engineers Hydrologic Engineering Center's *HEC-RAS Version 4.1.0*.
8. The Flood Control District of Maricopa County, *Drainage Design Management System, Version 5.3.*
9. Eerie and Associates, Inc., *Odyssey Institute Final Drainage Report*, April 2012.
10. Eerie and Associates, Inc., Final Drainage Report, LOMR-F, Odyssey Institute, May 2016.
11. Parsons Brinkerhoff, *Loop 303 Corridor/White Tanks Hydrology and Delineation Update Final Hydrology Report*, August 2015.
12. Bentley, *FlowMaster V8i (SELECTseries 1),* 2009.
13. DMB, Inc, *I-10/Verrado Way Traffic Interchange Final Drainage Report, March 2002.*
14. Hoskin Ryan Consultants, Inc., *Drainage Analysis and Recommendations for Yuma Road and Verrado Way Intersection Improvements,* October 10, 2019, updated September 30, 2021

Figure 1 – Location and Vicinity Map

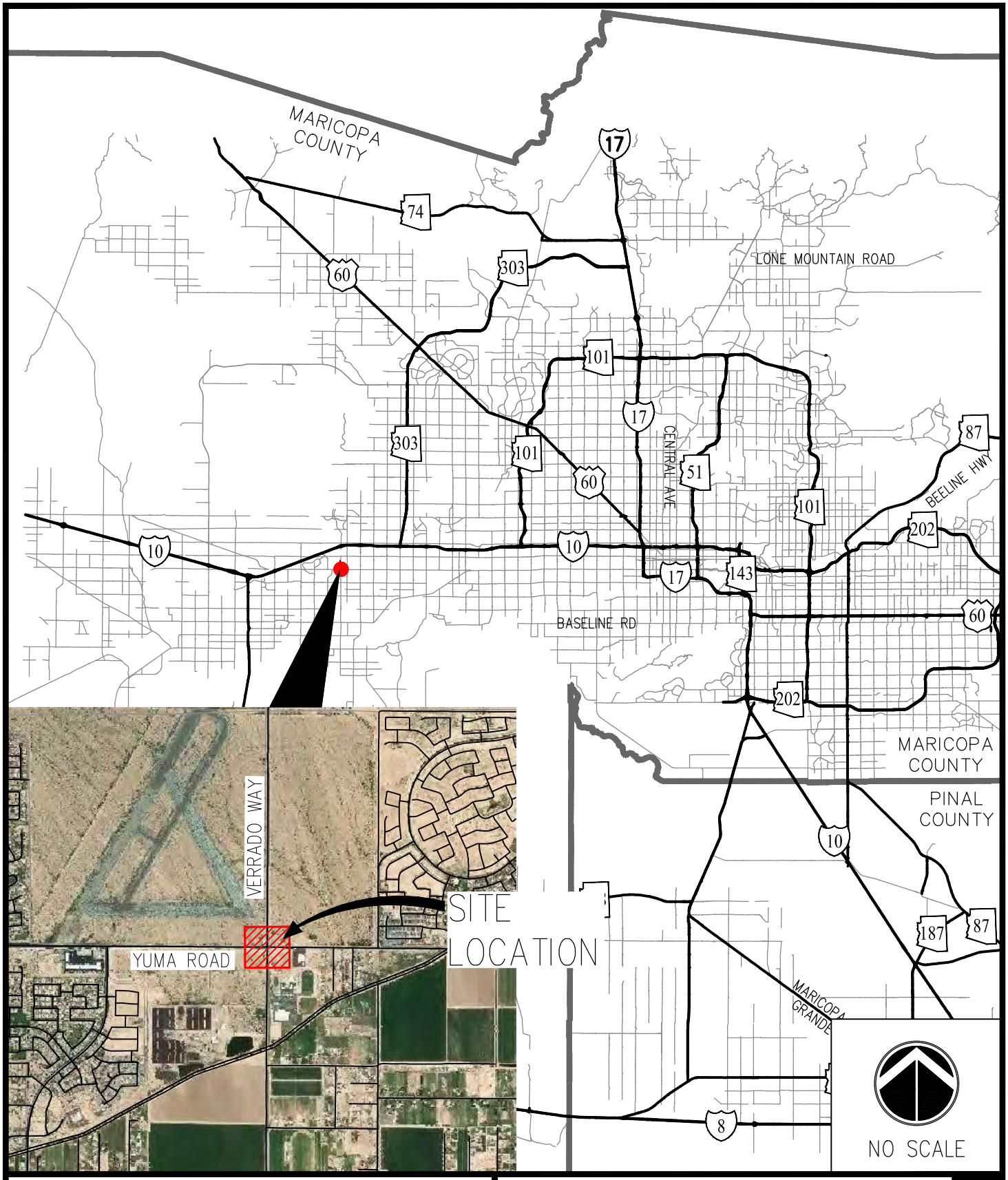
Figure 2 – Flood Insurance Rate Map

Figure 3 – HEC-1 Map with Breach

Figure 4 – HEC-1 Map with Breach Repaired

Figure 5– Downstream Condition Map

Figure 6 – HEC-RAS Map



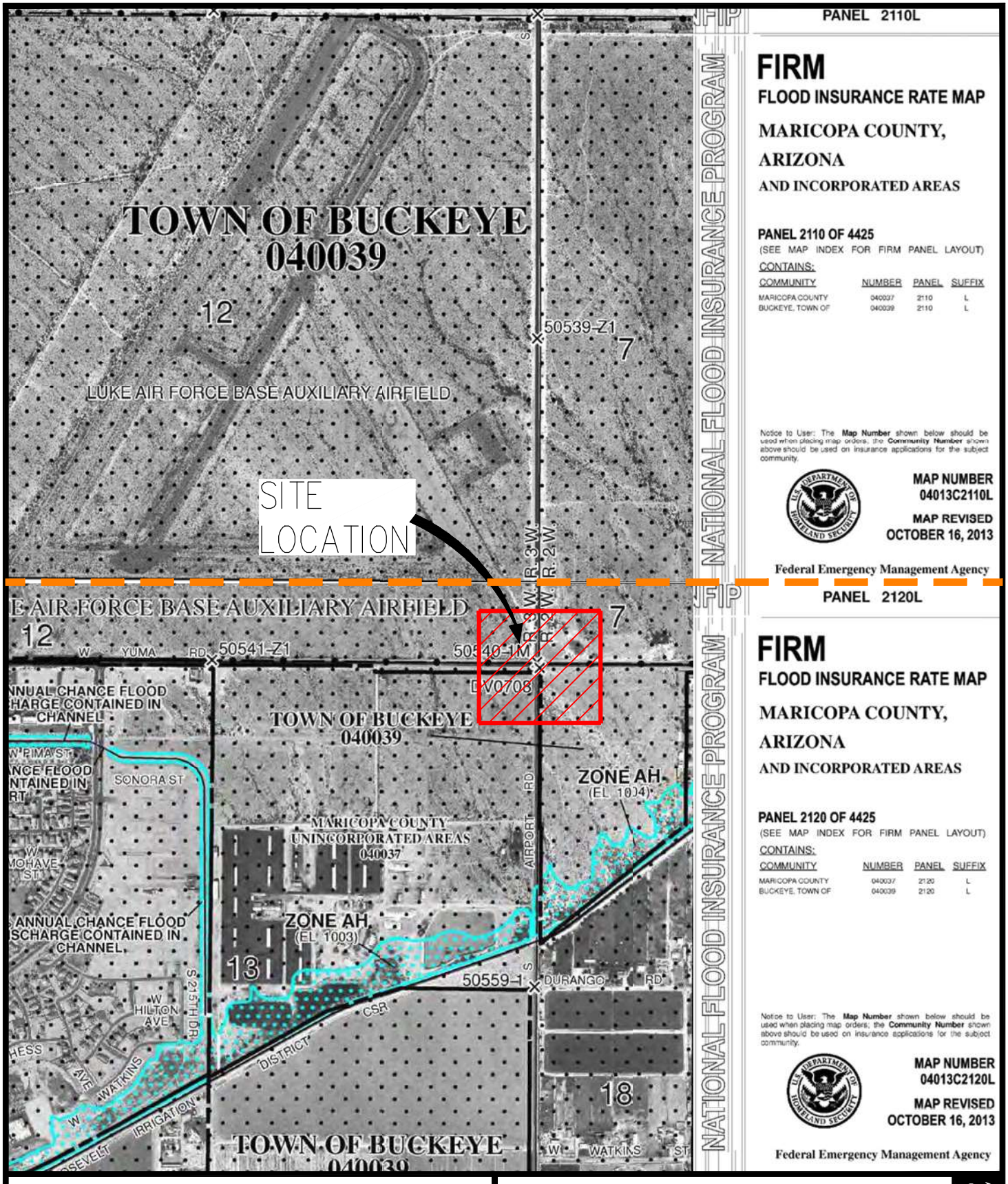
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YUMA AND VERRADO WAY
LOCATION AND VICINITY MAP

FIGURE 1

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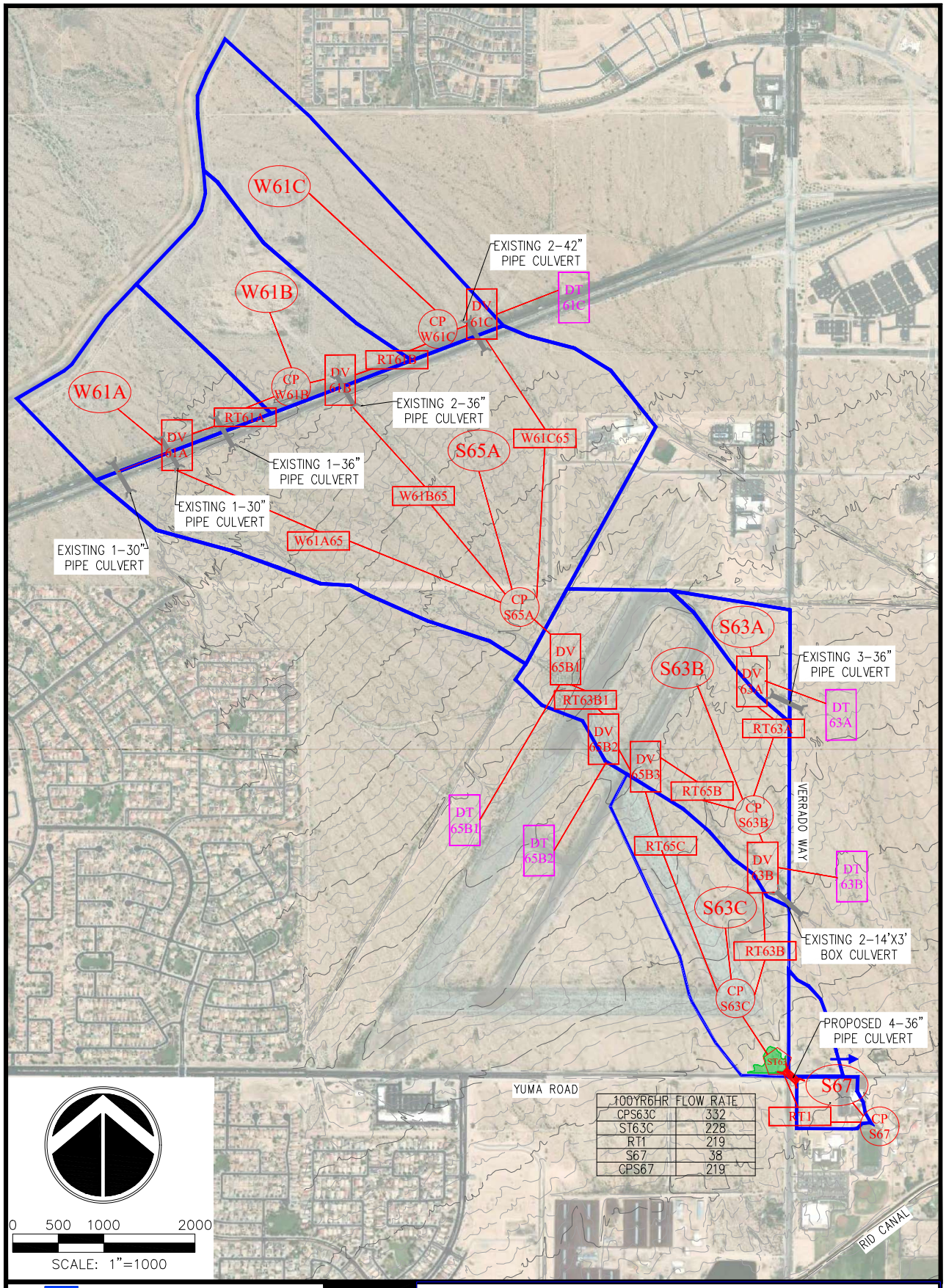
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YUMA AND VERRADO WAY
FLOOD INSURANCE RATE MAP

FIGURE 2

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100YR6HR	FLOW RATE
CPS63C	332
ST63C	228
RT1	219
S67	38
CPS67	219

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LEGEND

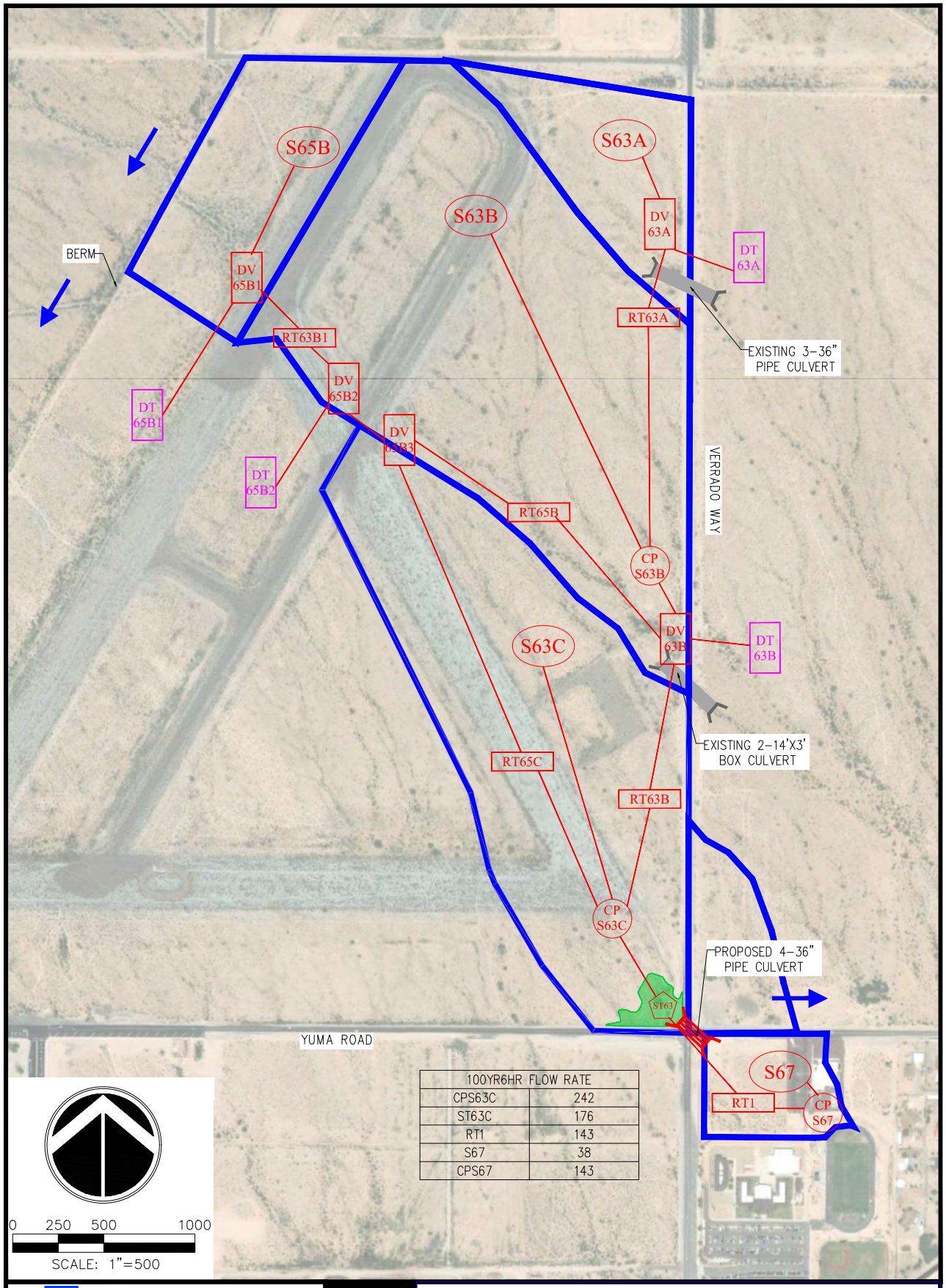
- FLOW ARROW
- SUB-DRAINAGE AREA
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED PONDING AREA
- CP S63C — CONCENTRATION POINT I.D.
- ST63 — STORAGE I.D.
- DV 63B — DIVERSION I.D.
- RT63B — ROUTE I.D.
- S65A — SUB-DRAINAGE AREA I.D.

FIGURE 3

YUMA AND VERRADO WAY HEC-1 MAP WITH BREACH

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

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100YR6HR FLOW RATE	
CPS63C	242
ST63C	176
RT1	143
S67	38
CPS67	143

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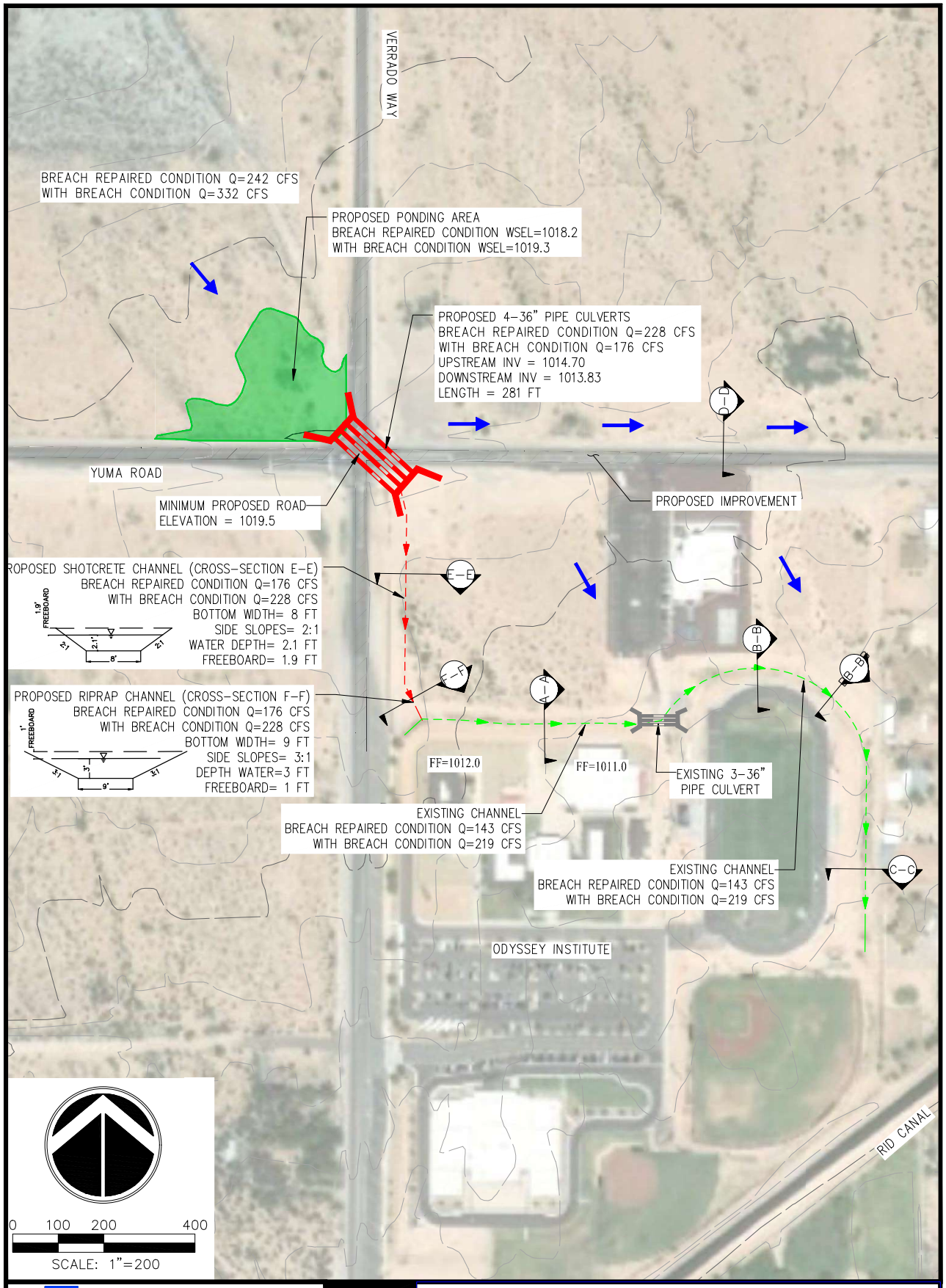
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- SUB-DRAINAGE AREA
- EXISTING CULVERT
- PROPOSED CULVERT
- PROPOSED PONDING AREA
- CP S63C — CONCENTRATION POINT I.D.
- ST63 — STORAGE I.D.
- DV 63B — DIVERSION I.D.
- RT63B — ROUTE I.D.
- S65A — SUB-DRAINAGE AREA I.D.

FIGURE 4

YUMA AND VERRADO WAY
HEC-1 MAP WITH BREACH REPAIRED

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.

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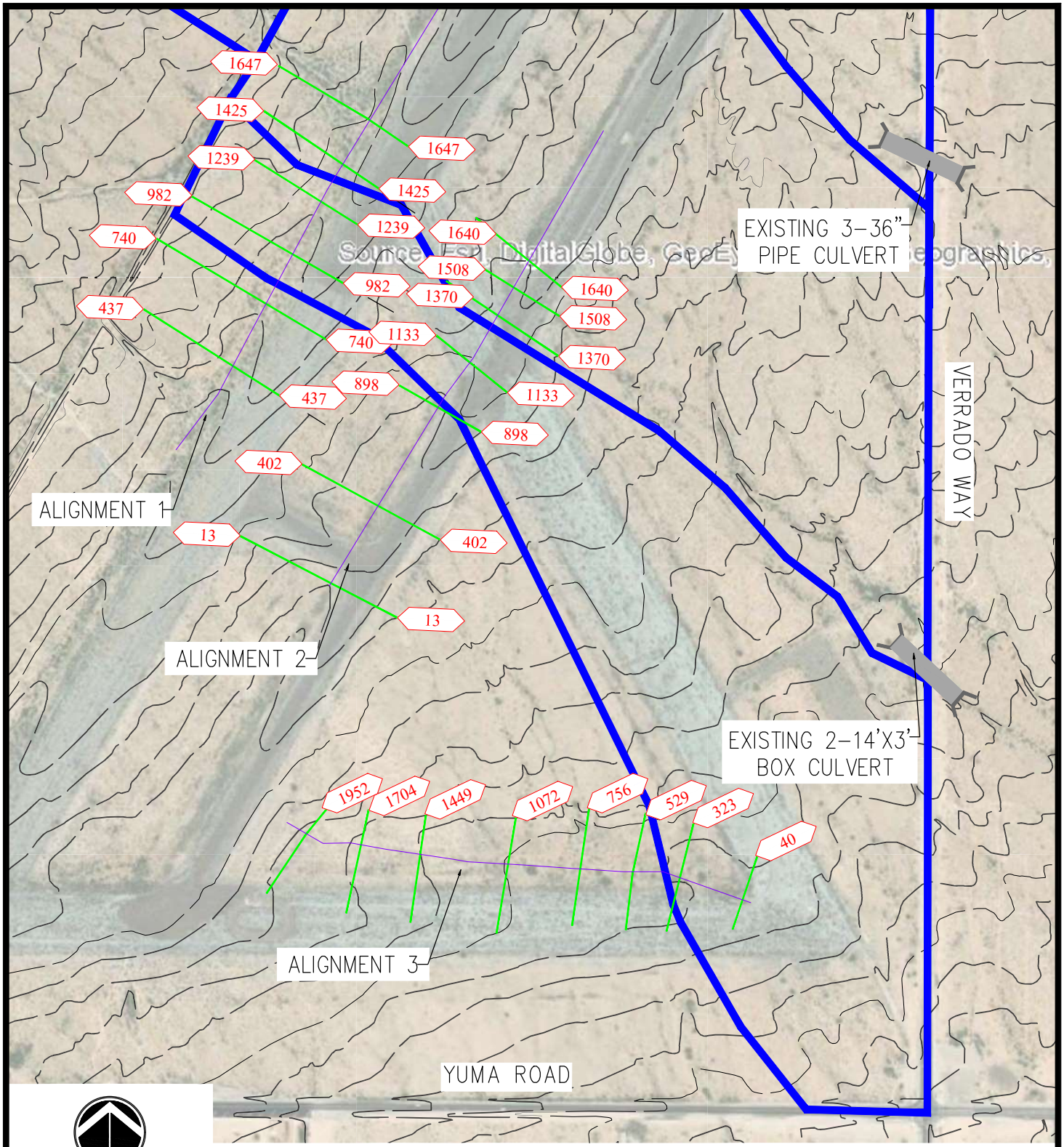
LEGEND

- FLOW ARROW
- PROPOSED CULVERT
- EXISTING CULVERT
- PROPOSED PONDING AREA
- PROPOSED CHANNEL
- EXISTING CHANNEL
- CROSS SECTION (SEE APPENDIX B)
- PROPOSED IMPROVEMENT

FIGURE 5

YUMA AND VERRADO WAY DOWNSTREAM CONDTION MAP

Verrado Way - Yuma Rd. to Van Buren St.
Contract 2020003.02, DO #1
Haydon Building Corp.



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YUMA AND VERRADO WAY
HEC-RAS MAP

FIGURE 6

Appendix A: Hydrologic Analysis Supporting Documentation

A.1 Proposed HEC-1 Parameters
A.2 Proposed HEC-1 Outputs

A.1 Proposed HEC-1 Parameters

Yuma and Verrado Way Improvements
HEC-1 Diversions Rating Curve

DV63A (Existing 3-36" Pipe Culvert on Verrado Way)	culvert invert=	Elevation	Q Culvert	Q weir	Q total	Inflow	Diversion	weir invert =48.5
		47.52	0	0	0	0	0	
		48	6	0	6	6	6	
		48.5	23	0	23	23	23	
		49	50	63.6	113.6	113.6	50	
		49.5	62	180	242	242	62	
		50	79	330.7	409.7	409.7	79	
		51	165	711.5	876.5	876.5	165	

DV63B (Existing 2-14'x3' Box Culvert on Verrado Way)	culvert invert=	Elevation	Q Culvert	Q weir	Q total	Inflow	Diversion	weir invert =32.4
		31.21	0	0	0	0	0	
		32	111	0	111	111	111	
		32.5	233	5.7	238.7	238.7	233	
		33	380	83.7	463.7	463.7	380	
		33.5	550	207.7	757.7	757.7	550	
		34	740	364.3	1104.3	1104.3	740	

DV65B1 (Existing berm 1)	Flow	Alignment 1	Total	Inflow	Diversion	From HEC-RAS Model Results
	30	13.69	13.69	30	13.7	
	100	17.8	17.8	100	17.8	
	200	20.66	20.66	200	20.7	
	400	27.25	27.25	400	27.3	
	700	36.12	36.12	700	36.1	

DV65B2 (Existing berm 2)	Flow	Alignment 2	Total	Inflow	Diversion	From HEC-RAS Model Results
	30	6.69	6.69	30	6.7	
	100	16.84	16.84	100	16.8	
	200	24.3	24.3	200	24.3	
	400	42.3	42.3	400	42.3	
	700	80.26	80.26	700	80.3	

DV65B3 (Diversion to S63C or S63B)	Flow	Alignment 2		Total	Inflow	Diversion	From HEC-RAS Model Results
	30	23.1	0.08	23.18	30	23.2	
	100	61.08	11.11	72.19	100	72.2	
	200	105.88	35.02	140.9	200	140.9	
	400	182.91	89.13	272.04	400	272.0	
	700	282.86	170.42	453.28	700	453.3	

DV61A (Existing 1-30", 1-30" and 1-36" Pipe Culvert on I-10)	Qculvert	Qdivert	Qtotal	Diversion	Inflow	Diversion
	0	0	0	0	0	0
	28	0	28	0	28	0
	62	0	62	0	62	0
	83	0	83	0	83	0
	87	19.1	106.1	19.1	106.1	19.1
	92	58.6	150.6	58.6	150.6	58.6
	100	210	310	210	310	210
	111	859	970	859	970	859
	116	2575	2691	2575	2691	2575

DV61B (Existing 2-36" Pipe Culvert on I-10)	Qculvert	Qdivert	Qtotal	Diversion	Inflow	Diversion
	0	0	0	0	0	0
	10	0	10	0	10	0
	44	0	44	0	44	0
	45	85.1	130.1	85.1	130.1	85.1
	46	240.6	286.6	240.6	286.6	240.6
	47	442	489	442	489	442
	50	1250	1300	1250	1300	1250
	52	2296	2348	2296	2348	2296

DV61C (Existing 2-42" Pipe Culvert on I-10)	Qculvert	Qdivert	Qtotal	Diversion	Inflow	Diversion
	0	0	0	0	0	0
	10	0	10	0	10	0
	35	0	35	0	35	0
	56	0	56	0	56	0
	57	27.3	84.3	27.3	84.3	27.3
	58	77.3	135.3	77.3	135.3	77.3
	59	142	201	142	201	142
	61	358	419	358	419	358
	64	405	469	405	469	405
	68	1768	1836	1768	1836	1768

A.2 Proposed HEC-1 Outputs

```
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 *               JUN   1998             *                                  *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                                  *          609 SECOND STREET           *
 *                                      *                                  *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   26SEP19  TIME  16:59:25  *                                  *           (916) 756-1104             *
 *                                      *                                  *                                      *
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                                        XXXXXXX  XXXX     X        XXXXX  X
                                        X     X  X        X               X
                                        X     X  X        X     X         X
                                        X     X  XXXXXXX   XXXXX         XXX


 THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

 THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
 THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
 NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
 DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
 KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                              HEC-1 INPUT                                                PAGE  1

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

            1           ID        Flood Control District of Maricopa County
            2           ID        YUMA NON-BREACHED CONDITION 6HR -
            3           ID        100 YEAR
            4           ID        6 Hour  Storm
            5           ID        Unit Hydrograph: S-Graph
            6           ID        Storm: Multiple
            7           ID        09/26/2019
            8           ID   City of Goodyear
            9           ID   YUMMA RD 6HR - Yuma and Verrado way intersection improvement
           10           ID   100 YEAR
           11           ID   6 Hour Storm
           12           ID   Unit Hydrograph: S-Graph
           13           ID   Storm: Multiple
           14           ID   09/26/2019
           15           ID   Modified by Hoskin Ryan Consultants September 2019
           16           ID   Removed Watersheds that Don't drain to project site.
           17           ID   Modified Basin S65 and Renamed to S65A
           18           ID   Subdivied Basin S63 into S63A, S63B, and S63C
           19           ID   Modified Rainfall to NOAA 14
           20           ID   Updated Diversion
           21           ID   ******************************************************
           22           ID
           23           ID   Flood Control District of Maricopa County
           24           ID   HEC-1 Update for Loop 303/ White Tanks ADMPU AHA
           25           ID   100 YEAR
           26           ID   6 Hour Storm
           27           ID   Unit Hydrograph: S-Graph
           28           ID   03/2015
           29           ID   FCD CONTRACT NUMBER 2014C003
           30           ID   ASSIGNMENT NO. 1 - UPDATING HYDROLOGY MODEL
           31           ID   BY PARSONS BRINCKERHOFF (PB)
           32           ID         EXISTING CONDITIONS (Watershed: year 2008, CIPs upto year 2015)
           33           ID         MAJOR BASIN 01
           34           ID         FILE NAME: WT_EXST.DAT
           35           ID
           36           ID   SR303L and other completed CIPs with the watershed have been updated in
           37           ID   this existing condition model for FCDMC by PB in 3/2015. The model has
           38           ID   been updated per as-built plans, and information avaiable. Please see
           39           ID   the descriptions bounded between the "*" lines for the as-built or 100%
           40           ID   plan info and revised parameters.
           41           ID
           42           ID   Followings are descriptions from HDR:
           43           ID
           44           ID   Flood Control District of Maricopa County
           45           ID   L303_EX_MB01 - Loop 303/ White Tanks ADMPU AHA
           46           ID   100 YEAR
           47           ID   6 Hour Storm
           48           ID   Unit Hydrograph: S-Graph
           49           ID   08/18/2009
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   52          ID         BY HDR ENGINEERING (#79902)
   53          ID         EXISTING CONDITIONS -AUGUST 2009
   54          ID         MAJOR BASIN 01
   55          ID         FILE NAME: EX-MB01.DAT
1                                    HEC-1 INPUT                                          PAGE  2

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   56          ID
   57          ID   FOLLOWING ARE THE CHANGES BY FCDMC:
   58          ID   1. Storage routing correction: removed SRD14. - JWH 10-16-09
   59          ID   2. Diversion RMSBSN correction: replaced DQ card.
   60          ID   3. Routing D59D71 correction: replaced RS and RC cards.
   61          ID   4. Routing RRMS correction: replace RY card. - JWH 01-07-2010
   62          ID   FILE NAME: WT1E02.DAT
   63          ID
   64          ID   For details concerning changes to this HEC-1 model, please contact
   65          ID   FCDMC, H&H Branch.
   66          ID
   67          ID
               *DIAGRAM
   68          IT       5       0       0    2000
   69          IO       5
   70          IN      15
               *
   71          JD   2.576  0.0001
   72          PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
   73          PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
   74          PC   0.962   0.972   0.983   0.991   1.000
   75          JD   2.561  0.5000
   76          PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
   77          PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
   78          PC   0.962   0.972   0.983   0.991   1.000
               *
               *
               *
               *
               *
               *

   79          KK    S65B   BASIN
   80          BA   0.042
   81          LG    0.30    0.33    4.40    0.42       9
   82          UI       0     254      66       0       0       0       0       0       0       0
   83          UI       0       0       0       0       0       0       0       0       0       0
   84          UI       0       0       0       0       0       0       0       0       0       0
   85          UI       0       0       0       0       0       0       0       0       0       0
   86          UI       0       0       0       0       0       0       0       0       0       0
               *
               *
               *

   87          KK  DV65B1  DIVERT
   88          KM   Divert Flow
   89          DT   DT65A    0.00     0.0
   90          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
   91          DQ     0.0    13.7    17.8    20.7    27.3    36.1     0.0     0.0     0.0     0.0
               *
               *
               *
1                                    HEC-1 INPUT                                          PAGE  3

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


   92          KK  RT63B1   ROUTE
   93          RS       1    FLOW
   94          RC   0.040   0.032   0.040    1000  0.0100    0.00
   95          RX  100.00  140.00  160.00  207.00  322.00  380.00  400.00  420.00
   96          RY  1052.6 1052.45 1052.30 1052.00 1052.00 1052.50 1052.60 1052.70
               *
               *
               *

   97          KK  DV65B2  DIVERT
   98          DT  DT65SB    0.00     0.0
   99          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
  100          DQ     0.0     6.7    16.8    24.3    42.3    80.3     0.0     0.0     0.0     0.0
               *
               *
               *

  101          KK  DV65B3  DIVERT
  102          DT      DT    0.00     0.0
  103          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
```

```
  104          DQ     0.0    23.2    72.2   140.9   272.0   453.3     0.0     0.0     0.0     0.0
               *
               *
               *

  105          KK   RT65B   ROUTE
  106          RS       4    FLOW
  107          RC   0.040   0.032   0.040    2332  0.0090    0.00
  108          RX  100.00  135.00  170.00  186.00  200.00  216.00  236.00  256.00
  109          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1051.00
               *

  110          KK    S63A   BASIN
  111          BA   0.030
  112          LG    0.19    0.27    4.20    0.55      23
  113          UI       0      81     113      29       6       0       0       0       0       0
  114          UI       0       0       0       0       0       0       0       0       0       0
  115          UI       0       0       0       0       0       0       0       0       0       0
  116          UI       0       0       0       0       0       0       0       0       0       0
  117          UI       0       0       0       0       0       0       0       0       0       0
               *
               *
               *

  118          KK   DV63A  DIVERT
  119          KM   DIVERT RUNOFF TO S63B
  120          DT   DT63A    0.00     0.0
  121          DI     0.0     6.0    23.0   113.6   242.0   409.7   876.5     0.0     0.0     0.0
  122          DQ     0.0     6.0    23.0    50.0    62.0    79.0   165.0     0.0     0.0     0.0
               *
               *
               *
1                                       HEC-1 INPUT                                          PAGE  4

 LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  123          KK   RT63A   ROUTE
  124          KM   ROUTE EXCESS FLOW TO CPS63B
  125          RS       1    FLOW
  126          RC   0.040   0.032   0.040    2091  0.0077    0.00
  127          RX  100.00  135.00  170.00  186.00  201.00  217.00  237.00  257.00
  128          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
               *
               *
               *

  129          KK    S63B   BASIN
  130          BA   0.155
  131          LG    0.19    0.27    4.20    0.55      23
  132          UI       0     205     542     292     105      36      15       0       0       0
  133          UI       0       0       0       0       0       0       0       0       0       0
  134          UI       0       0       0       0       0       0       0       0       0       0
  135          UI       0       0       0       0       0       0       0       0       0       0
  136          UI       0       0       0       0       0       0       0       0       0       0
               *
               *
               *

  137          KK  CPS63B COMBINE
  138          KM   COMBINED FLOW AT EXISTING CULVERT
  139          HC       3
               *
               *
               *

  140          KK   DV63B  DIVERT
  141          KM   DIVERT FLOW TO CPS63C
  142          DT   DT63B    0.00     0.0
  143          DI     0.0   111.0   238.7   463.7   757.7  1104.3     0.0     0.0     0.0     0.0
  144          DQ     0.0   111.0   233.0   380.0   550.0   740.0     0.0     0.0     0.0     0.0
               *
               *
               *
               *

  145          KK   RT63B   ROUTE
  146          KM   ROUTE FLOW TO CPS63C
  147          RS       2    FLOW
  148          RC   0.040   0.032   0.040    1903  0.0074    0.00
  149          RX  100.00  135.00  170.00  186.00  201.00  217.00  237.00  257.00
  150          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
               *
               *
               *
1                                       HEC-1 INPUT                                          PAGE  5
```

```
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           151          KK    S63C   BASIN
           152          BA   0.117
           153          LG    0.19    0.27    4.20    0.55      23
           154          UI       0     108     338     267     114      48      18       9       0       0
           155          UI       0       0       0       0       0       0       0       0       0       0
           156          UI       0       0       0       0       0       0       0       0       0       0
           157          UI       0       0       0       0       0       0       0       0       0       0
           158          UI       0       0       0       0       0       0       0       0       0       0
                        *
                        *
                        *

           159          KK  DV65B3RETRIEVE
           160          DR      DT
                        *
                        *
                        *

           161          KK   RT65C   ROUTE
           162          RS       5    FLOW
           163          RC   0.040   0.032   0.040    3827  0.0089    0.00
           164          RX  100.00  135.00  170.00  186.00  200.00  216.00  236.00  256.00
           165          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
                        *
                        *
                        *

           166          KK  CPS63C COMBINE
           167          HC       3
                        *
                        *

           168          KK    ST63 STORAGE
           169          KO
           170          RS       1    STOR
           171          SV            0.04    1.22    6.77
           172          SQ           41.00  167.00  262.00
           173          SE  1014.6 1016.00 1018.00 1020.00
                        *
                        *

           174          KK     RT1   ROUTE
           175          RS       3    FLOW
           176          RC   0.350   0.350   0.350     567  0.0037 1014.00
           177          RX    0.00    5.00   10.00   22.00   30.00   42.00   45.00   48.00
           178          RY  1014.0 1014.00 1014.00 1011.00 1011.00 1014.00 1014.00 1014.00
                        *
                        *
1                                              HEC-1 INPUT                                              PAGE  6

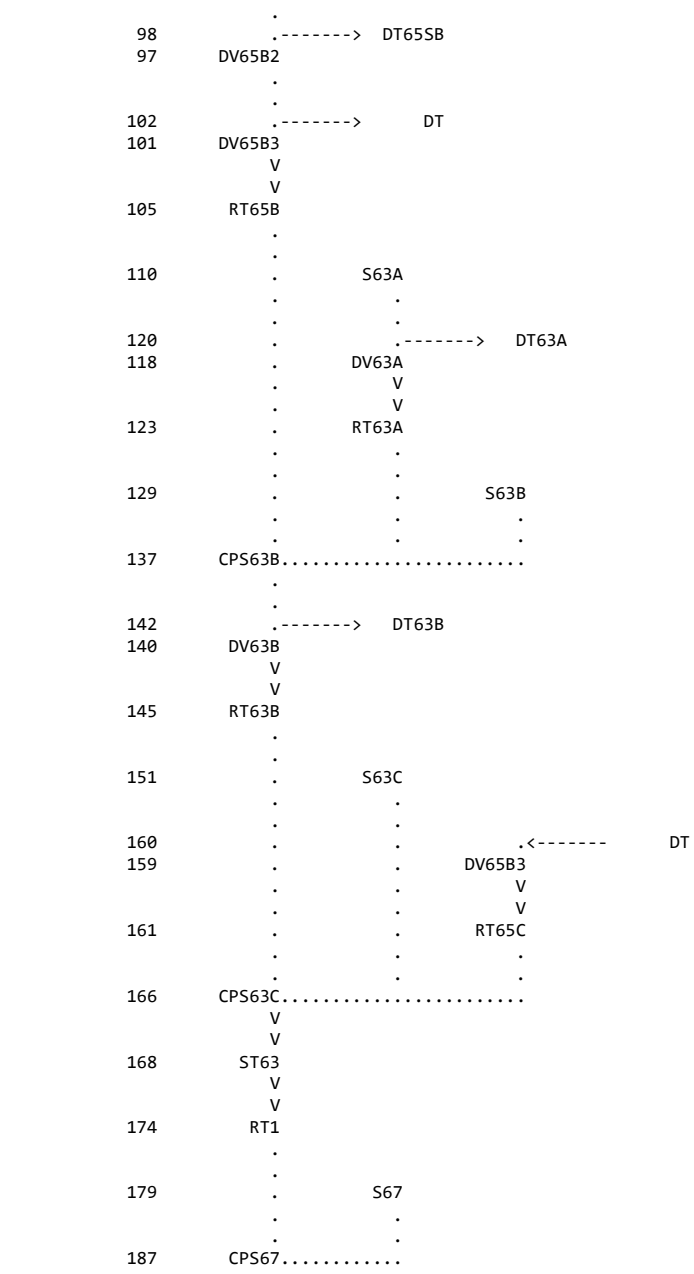
          LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

           179          KK     S67   BASIN
           180          BA   0.015
           181          LG    0.28    0.28    4.25    0.45      30
           182          UI       0      76      35       4       0       0       0       0       0       0
           183          UI       0       0       0       0       0       0       0       0       0       0
           184          UI       0       0       0       0       0       0       0       0       0       0
           185          UI       0       0       0       0       0       0       0       0       0       0
           186          UI       0       0       0       0       0       0       0       0       0       0
                        *
                        *

           187          KK   CPS67 COMBINE
           188          HC       2
                        *
           189          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    79        S65B
                  .
                  .
    89            .-------->   DT65A
    87      DV65B1
                  V
                  V
    92      RT63B1
                  .
```



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1****************************************
 *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
 *               JUN   1998             *
 *            VERSION 4.1               *
 *                                      *
 *  RUN DATE   26SEP19  TIME  16:59:25  *
 *                                      *
 ****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

Flood Control District of Maricopa County
YUMA NON-BREACHED CONDITION 6HR -
100 YEAR
6 Hour Storm
Unit Hydrograph: S-Graph
Storm: Multiple
09/26/2019
City of Goodyear
YUMMA RD 6HR - Yuma and Verrado way intersection improvement
100 YEAR
6 Hour Storm
Unit Hydrograph: S-Graph
Storm: Multiple

```
                        09/26/2019
                        Modified by Hoskin Ryan Consultants September 2019
                        Removed Watersheds that Don't drain to project site.
                        Modified Basin S65 and Renamed to S65A
                        Subdivied Basin S63 into S63A, S63B, and S63C
                        Modified Rainfall to NOAA 14
                        Updated Diversion
                        ******************************************************

                        Flood Control District of Maricopa County
                        HEC-1 Update for Loop 303/ White Tanks ADMPU AHA
                        100 YEAR
                        6 Hour Storm
                        Unit Hydrograph: S-Graph
                        03/2015
                        FCD CONTRACT NUMBER 2014C003
                        ASSIGNMENT NO. 1 - UPDATING HYDROLOGY MODEL
                        BY PARSONS BRINCKERHOFF (PB)
                        EXISTING CONDITIONS (Watershed: year 2008, CIPs upto year 2015)
                        MAJOR BASIN 01
                        FILE NAME: WT_EXST.DAT

                        SR303L and other completed CIPs with the watershed have been updated in
                        this existing condition model for FCDMC by PB in 3/2015. The model has
                        been updated per as-built plans, and information avaiable. Please see
                        the descriptions bounded between the "*" lines for the as-built or 100%
                        plan info and revised parameters.

                        Followings are descriptions from HDR:

                        Flood Control District of Maricopa County
                        L303_EX_MB01 - Loop 303/ White Tanks ADMPU AHA
                        100 YEAR
                        6 Hour Storm
                        Unit Hydrograph: S-Graph
                        08/18/2009

                        FCDMC CONTRACT 2007C031
                        BY HDR ENGINEERING (#79902)
                        EXISTING CONDITIONS -AUGUST 2009
                        MAJOR BASIN 01
                        FILE NAME: EX-MB01.DAT

                        FOLLOWING ARE THE CHANGES BY FCDMC:
                        1. Storage routing correction: removed SRD14. - JWH 10-16-09
                        2. Diversion RMSBSN correction: replaced DQ card.
                        3. Routing D59D71 correction: replaced RS and RC cards.
                        4. Routing RRMS correction: replace RY card. - JWH 01-07-2010
                        FILE NAME: WT1E02.DAT

                        For details concerning changes to this HEC-1 model, please contact
                        FCDMC, H&H Branch.



69 IO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

   IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      7    0  ENDING DATE
                    NDTIME        2235  ENDING TIME
                     ICENT          19  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE  166.58 HOURS

        ENGLISH UNITS
             DRAINAGE AREA         SQUARE MILES
             PRECIPITATION DEPTH   INCHES
             LENGTH, ELEVATION     FEET
             FLOW                  CUBIC FEET PER SECOND
             STORAGE VOLUME        ACRE-FEET
             SURFACE AREA          ACRES
             TEMPERATURE           DEGREES FAHRENHEIT

71 JD           INDEX STORM NO. 1
                      STRM        2.58  PRECIPITATION DEPTH
                      TRDA        0.00  TRANSPOSITION DRAINAGE AREA

72 PI             PRECIPITATION PATTERN
                     0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
```

```
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01      0.01      0.03
                    0.03      0.03      0.05      0.05      0.05      0.15      0.15      0.15      0.03      0.03
                    0.03      0.01      0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00

  75 JD          INDEX STORM NO. 2
                       STRM        2.56  PRECIPITATION DEPTH
                       TRDA        0.50  TRANSPOSITION DRAINAGE AREA

  76 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01      0.01      0.03
                    0.03      0.03      0.05      0.05      0.05      0.15      0.15      0.15      0.03      0.03
                    0.03      0.01      0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00


*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


           **************
           *            *
  168 KK   *      ST63  *      STORAGE
           *            *
           **************

  169 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE


                                                RUNOFF SUMMARY
                                          FLOW IN CUBIC FEET PER SECOND
                                        TIME IN HOURS,  AREA IN SQUARE MILES

                                          PEAK    TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION         FLOW     PEAK                                           AREA      STAGE     MAX STAGE
+                                                                    6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                           S65B          98.    4.08           5.          1.          0.       0.04

          DIVERSION TO
+                          DT65A          18.    4.08           1.          0.          0.       0.04

          HYDROGRAPH AT
+                         DV65B1          80.    4.08           4.          1.          0.       0.04

          ROUTED TO
+                         RT63B1          56.    4.08           4.          1.          0.       0.04

          DIVERSION TO
+                         DT65SB          10.    4.08           1.          0.          0.       0.04

          HYDROGRAPH AT
+                         DV65B2          45.    4.08           3.          1.          0.       0.04

          DIVERSION TO
+                             DT          34.    4.08           2.          1.          0.       0.04

          HYDROGRAPH AT
+                         DV65B3          11.    4.08           1.          0.          0.       0.04

          ROUTED TO
+                          RT65B           6.    4.42           1.          0.          0.       0.04

          HYDROGRAPH AT
+                           S63A          70.    4.08           4.          1.          0.       0.03

          DIVERSION TO
+                          DT63A          37.    4.08           3.          1.          0.       0.03

          HYDROGRAPH AT
+                          DV63A          33.    4.08           1.          0.          0.       0.03

          ROUTED TO
+                          RT63A          16.    4.17           1.          0.          0.       0.03

          HYDROGRAPH AT
```

```
+                        S63B       329.    4.08          21.          5.          2.       0.16

         3 COMBINED AT
+                      CPS63B       340.    4.08          23.          6.          2.       0.23

         DIVERSION TO
+                        DT63B       299.    4.08          22.          5.          2.       0.23

         HYDROGRAPH AT
+                        DV63B        41.    4.08           1.          0.          0.       0.23

         ROUTED TO
+                        RT63B        21.    4.25           1.          0.          0.       0.23

         HYDROGRAPH AT
+                        S63C       230.    4.17          16.          4.          1.       0.12

         HYDROGRAPH AT
+                      DV65B3        34.    4.08           2.          1.          0.       0.04

         ROUTED TO
+                        RT65C        20.    4.50           2.          1.          0.       0.04

         3 COMBINED AT
+                      CPS63C       242.    4.17          19.          5.          2.       0.34

         ROUTED TO
+                         ST63      176.    4.25          19.          5.          2.       0.34

         ROUTED TO
+                          RT1      143.    4.50          19.          5.          2.       0.34

         HYDROGRAPH AT
+                         S67        38.    4.08           2.          1.          0.       0.01

         2 COMBINED AT
+                       CPS67      143.    4.50          21.          5.          2.       0.36


 *** NORMAL END OF HEC-1 ***
```

```
1****************************************                    ****************************************
 *                                      *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *               JUN   1998             *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1               *                    *          609 SECOND STREET           *
 *                                      *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   27SEP19  TIME  08:57:16  *                    *           (916) 756-1104             *
 *                                      *                    *                                      *
 ****************************************                    ****************************************

                                X     X  XXXXXXX   XXXXX           X
                                X     X  X        X     X         XX
                                X     X  X        X               X
                                XXXXXXX  XXXX     X        XXXXX  X
                                X     X  X        X               X
                                X     X  X        X     X         X
                                X     X  XXXXXXX   XXXXX         XXX


     THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

     THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
     THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
     NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
     DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
     KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                          HEC-1 INPUT                                          PAGE  1

          LINE          ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

            1           ID        City of Goodyear
            2           ID        YUMA BREACHED CONDITION 6HR - Yuma and Verrado way intersection improvement
            3           ID        100 YEAR
            4           ID        6 Hour  Storm
            5           ID        Unit Hydrograph: S-Graph
            6           ID        Storm: Multiple
            7           ID        09/27/2019
            8           ID   Modified by Hoskin Ryan Consultants September 2019
            9           ID   Removed Watersheds that Don't drain to project site.
           10           ID   Modified Basin S65 and Renamed to S65A
           11           ID   Subdivied Basin S63 into S63A, S63B, and S63C
           12           ID   Modified Rainfall to NOAA 14
           13           ID   Updated Diversion
           14           ID   ******************************************************
           15           ID
           16           ID   Flood Control District of Maricopa County
           17           ID   HEC-1 Update for Loop 303/ White Tanks ADMPU AHA
           18           ID   100 YEAR
           19           ID   6 Hour Storm
           20           ID   Unit Hydrograph: S-Graph
           21           ID   03/2015
           22           ID   FCD CONTRACT NUMBER 2014C003
           23           ID   ASSIGNMENT NO. 1 - UPDATING HYDROLOGY MODEL
           24           ID   BY PARSONS BRINCKERHOFF (PB)
           25           ID          EXISTING CONDITIONS (Watershed: year 2008, CIPs upto year 2015)
           26           ID          MAJOR BASIN 01
           27           ID          FILE NAME: WT_EXST.DAT
           28           ID
           29           ID   SR303L and other completed CIPs with the watershed have been updated in
           30           ID   this existing condition model for FCDMC by PB in 3/2015. The model has
           31           ID   been updated per as-built plans, and information avaiable. Please see
           32           ID   the descriptions bounded between the "*" lines for the as-built or 100%
           33           ID   plan info and revised parameters.
           34           ID
           35           ID   Followings are descriptions from HDR:
           36           ID
           37           ID   Flood Control District of Maricopa County
           38           ID   L303_EX_MB01 - Loop 303/ White Tanks ADMPU AHA
           39           ID   100 YEAR
           40           ID   6 Hour Storm
           41           ID   Unit Hydrograph: S-Graph
           42           ID   08/18/2009
           43           ID
           44           ID          FCDMC CONTRACT 2007C031
           45           ID          BY HDR ENGINEERING (#79902)
           46           ID          EXISTING CONDITIONS -AUGUST 2009
           47           ID          MAJOR BASIN 01
           48           ID          FILE NAME: EX-MB01.DAT
           49           ID
```

```
  50          ID   FOLLOWING ARE THE CHANGES BY FCDMC:
  51          ID   1. Storage routing correction: removed SRD14. - JWH 10-16-09
  52          ID   2. Diversion RMSBSN correction: replaced DQ card.
  53          ID   3. Routing D59D71 correction: replaced RS and RC cards.
  54          ID   4. Routing RRMS correction: replace RY card. - JWH 01-07-2010
  55          ID   FILE NAME: WT1E02.DAT
1                                      HEC-1 INPUT                                                PAGE  2

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  56          ID
  57          ID   For details concerning changes to this HEC-1 model, please contact
  58          ID   FCDMC, H&H Branch.
  59          ID
  60          ID
              *DIAGRAM
  61          IT       5       0       0    2000
  62          IO       5
  63          IN      15
              *
  64          JD   2.576  0.0001
  65          PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
  66          PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
  67          PC   0.962   0.972   0.983   0.991   1.000
  68          JD   2.561  0.5000
  69          PC   0.000   0.008   0.016   0.025   0.033   0.041   0.050   0.058   0.066   0.074
  70          PC   0.087   0.099   0.118   0.138   0.216   0.377   0.834   0.911   0.931   0.950
  71          PC   0.962   0.972   0.983   0.991   1.000
  72          JD   2.512     2.8
  73          PC   0.000   0.009   0.016   0.025   0.034   0.042   0.051   0.059   0.067   0.076
  74          PC   0.087   0.100   0.120   0.163   0.252   0.451   0.694   0.837   0.900   0.938
  75          PC   0.950   0.963   0.975   0.988   1.000
              *
              *
              *

  76          KK    W61A   BASIN
  77          BA   0.105
  78          LG    0.33    0.34    4.15    0.46       6
  79          UI       0     357     366      75       0       0       0       0       0
  80          UI       0       0       0       0       0       0       0       0       0
  81          UI       0       0       0       0       0       0       0       0       0
  82          UI       0       0       0       0       0       0       0       0       0
  83          UI       0       0       0       0       0       0       0       0       0
              *
              *

  84          KK   DV61A  DIVERT
  85          KM   Divert culvert flows across I-10 through existing 1-30”, 1-36”, 1-36” pipe culvert
  86          DT   DT61A    0.00     0.0
  87          DI     0.0    28.0    62.0    83.0   106.1   150.6   310.0   970.0  2691.0     0.0
  88          DQ     0.0     0.1     0.2     0.3    19.1    58.6   210.0   859.0  2575.0     0.0
              *
              *

  89          KK  W61A65   ROUTE
  90          RS       3    FLOW
  91          RC   0.040   0.032   0.040    4201  0.0057 1130.00
  92          RX   50.00   60.00  120.00  140.00  180.00  210.00  240.00  250.00
  93          RY  1108.0 1107.00 1107.00 1106.00 1106.00 1107.20 1107.20 1108.00
              *
              *
              *
1                                      HEC-1 INPUT                                                PAGE  3

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


  94          KK   DV61ARETRIEVE
  95          DR   DT61A
              *
              *

  96          KK   RT61A   ROUTE      (Route flows east along I-10)
  97          RS       1    FLOW
  98          RC   0.040   0.032   0.040    1500  0.0090 1128.00
  99          RX  100.00  140.00  160.00  207.00  230.00  255.00  270.00  280.00
 100          RY  1122.7 1121.90 1121.40 1120.50 1120.50 1124.00 1124.20 1124.30
              *
              *

 101          KK    W61B   BASIN
 102          BA   0.118
 103          LG    0.35    0.35    3.95    0.48       0
 104          UI       0     376     424      92      19       0       0       0       0       0
 105          UI       0       0       0       0       0       0       0       0       0       0
 106          UI       0       0       0       0       0       0       0       0       0       0
```

```
 107          UI       0       0       0       0       0       0       0       0       0       0
 108          UI       0       0       0       0       0       0       0       0       0       0
              *
              *
              *

 109          KK  CPW61B COMBINE
 110          HC       2
              *
              *
              *

 111          KK   DV61B  DIVERT      (Divert culvert flows across I-10 through existing 2-36” pipe culvert)
 112          DT   DT61B    0.00     0.0
 113          DI     0.0    10.0    44.0   130.1   286.6   489.0  1300.0  2348.0     0.0     0.0
 114          DQ     0.0     0.1     0.2    85.1   240.6   442.0  1250.0  2296.0     0.0     0.0
              *
              *
              *

 115          KK  W61B65   ROUTE
 116          RS       2    FLOW
 117          RC   0.040   0.032   0.040    3337  0.0138 1114.00
 118          RX   50.00   60.00  140.00  200.00  260.00  300.00  320.00  340.00
 119          RY  1077.0 1076.30 1076.30 1076.00 1076.00 1076.60 1076.60 1077.00
              *
              *
              *

 120          KK   DV61BRETRIEVE
 121          DR   DT61B
              *
              *
1                                      HEC-1 INPUT                                              PAGE  4

            LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 122          KK   RT61B   ROUTE     (Route flows east along I-10)
 123          RS       1    FLOW
 124          RC   0.040   0.032   0.040    1650  0.0109 1114.00
 125          RX  100.00  140.00  160.00  207.00  230.00  255.00  270.00  280.00
 126          RY  1102.7 1101.90 1101.40 1100.50 1100.50 1104.00 1104.00 1104.30
              *
              *

 127          KK    W61C   BASIN
 128          BA   0.166
 129          LG    0.35    0.35    3.95    0.48       0
 130          UI       0     156     486     375     158      65      25      14       0       0
 131          UI       0       0       0       0       0       0       0       0       0       0
 132          UI       0       0       0       0       0       0       0       0       0       0
 133          UI       0       0       0       0       0       0       0       0       0       0
 134          UI       0       0       0       0       0       0       0       0       0       0
              *
              *
              *

 135          KK  CPW61C COMBINE
 136          HC       2
              *
              *
              *

 137          KK   DV61C  DIVERT       (Divert culvert flows across I-10 through existing 2-42” pipe culvert)
 138          DT   DT61C    0.00     0.0
 139          DI     0.0    10.0    35.0    56.0    84.3   135.3   201.0   419.0   469.0  1836.0
 140          DQ     0.0     0.1     0.2     0.3    27.3    77.3   142.0   358.0   405.0  1768.0
              *
              *
              *

 141          KK  W61C65   ROUTE
 142          RS       3    FLOW
 143          RC   0.040   0.032   0.040    3224  0.0100 1100.00
 144          RX   50.00   60.00  140.00  200.00  260.00  300.00  320.00  340.00
 145          RY  1077.0 1076.30 1076.30 1076.00 1076.00 1076.40 1076.40 1077.00
              *
              *
              *

 146          KK    S65A   BASIN
 147          BA   0.432
 148          LG    0.30    0.33    4.40    0.42       9
 149          UI       0     262     929    1050     575     277     134      62      29       0
 150          UI       0       0       0       0       0       0       0       0       0       0
 151          UI       0       0       0       0       0       0       0       0       0       0
```

```
 152          UI       0       0       0       0       0       0       0       0       0       0
 153          UI       0       0       0       0       0       0       0       0       0       0
              *
              *
              *
1                                        HEC-1 INPUT                                          PAGE  5

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 154          KK  CPS65A COMBINE
 155          HC       4
              *
              *
              *

 156          KK  DV65B1  DIVERT
 157          DT  DT65B1    0.00     0.0
 158          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
 159          DQ     0.0    13.7    17.8    20.7    27.3    36.1     0.0     0.0     0.0     0.0
              *
              *
              *

 160          KK  RT63B1   ROUTE
 161          RS       1    FLOW
 162          RC   0.040   0.032   0.040    1000  0.0100    0.00
 163          RX  100.00  140.00  160.00  207.00  322.00  380.00  400.00  420.00
 164          RY  1052.6 1052.45 1052.30 1052.00 1052.00 1052.50 1052.60 1052.70
              *
              *
              *

 165          KK  DV65B2  DIVERT
 166          DT  DT65B2    0.00     0.0
 167          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
 168          DQ     0.0     6.7    16.8    24.3    42.3    80.3     0.0     0.0     0.0     0.0
              *
              *
              *

 169          KK  DV65B3  DIVERT
 170          DT  DT65B3    0.00     0.0
 171          DI     0.0    30.0   100.0   200.0   400.0   700.0     0.0     0.0     0.0     0.0
 172          DQ     0.0    23.2    72.2   140.9   272.0   453.3     0.0     0.0     0.0     0.0
              *
              *
              *

 173          KK   RT65B   ROUTE
 174          RS       2    FLOW
 175          RC   0.040   0.032   0.040    4011  0.0090    0.00
 176          RX  100.00  135.00  170.00  186.00  200.00  216.00  236.00  256.00
 177          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
              *
              *

 178          KK    S63A   BASIN
 179          BA   0.030
 180          LG    0.19    0.27    4.20    0.55      23
 181          UI       0      74     115      33       8       0       0       0       0       0
 182          UI       0       0       0       0       0       0       0       0       0       0
 183          UI       0       0       0       0       0       0       0       0       0       0
 184          UI       0       0       0       0       0       0       0       0       0       0
1                                        HEC-1 INPUT                                          PAGE  6

 LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 185          UI       0       0       0       0       0       0       0       0       0       0
              *

 186          KK   DV63A  DIVERT
 187          DT   DT63A    0.00     0.0
 188          DI     0.0     6.0    23.0   113.6   242.0   409.7   876.5     0.0     0.0     0.0
 189          DQ     0.0     6.0    23.0    50.0    62.0    79.0   165.0     0.0     0.0     0.0
              *
              *
              *
              *

 190          KK   RT63A   ROUTE
 191          KM   ROUTE EXCESS FLOW TO CPS63B
 192          RS       1    FLOW
 193          RC   0.040   0.032   0.040    2091  0.0077    0.00
 194          RX  100.00  135.00  170.00  186.00  201.00  217.00  237.00  257.00
 195          RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
              *
```

```
                *
     196        KK    S63B   BASIN
     197        BA   0.192
     198        LG    0.19    0.27    4.20    0.55      23
     199        UI       0     162     524     450     202      88      36      15       0       0
     200        UI       0       0       0       0       0       0       0       0       0       0
     201        UI       0       0       0       0       0       0       0       0       0       0
     202        UI       0       0       0       0       0       0       0       0       0       0
     203        UI       0       0       0       0       0       0       0       0       0       0
                *
                *

     204        KK  CPS63B COMBINE
     205        KM   COMBINED FLOW AT EXISTING CULVERT
     206        HC       3
                *
                *

     207        KK   DV63B  DIVERT
     208        KM   DIVERT FLOW TO CPS63C
     209        DT   DT63B    0.00     0.0
     210        DI     0.0   111.0   238.7   463.7   757.7  1104.3     0.0     0.0     0.0     0.0
     211        DQ     0.0   111.0   233.0   380.0   550.0   740.0     0.0     0.0     0.0     0.0
                *
                *
                *

     212        KK   RT63B   ROUTE
     213        KM   ROUTE FLOW TO CPS63C
     214        RS       2    FLOW
     215        RC   0.040   0.032   0.040    1903  0.0074    0.00
     216        RX  100.00  135.00  170.00  186.00  201.00  217.00  237.00  257.00
     217        RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
                *
                *
1                                        HEC-1 INPUT                                            PAGE  7

    LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


     218        KK    S63C   BASIN
     219        BA   0.117
     220        LG    0.19    0.27    4.20    0.55      23
     221        UI       0     108     338     267     114      48      18       9       0       0
     222        UI       0       0       0       0       0       0       0       0       0       0
     223        UI       0       0       0       0       0       0       0       0       0       0
     224        UI       0       0       0       0       0       0       0       0       0       0
     225        UI       0       0       0       0       0       0       0       0       0       0
                *
                *

     226        KK  DV65B3RETRIEVE
     227        DR  DT65B3
                *
                *

     228        KK   RT65C   ROUTE
     229        RS       3    FLOW
     230        RC   0.040   0.032   0.040    5405  0.0093    0.00
     231        RX  100.00  135.00  170.00  186.00  200.00  216.00  236.00  256.00
     232        RY  1052.5 1052.25 1052.00 1050.00 1050.10 1052.00 1053.00 1054.00
                *
                *

     233        KK  CPS63C COMBINE
     234        HC       3
                *
                *

     235        KK    ST63 STORAGE
     236        KO
     237        RS       1    STOR
     238        SV            0.04    1.22    6.77
     239        SQ           41.00  167.00  262.00
     240        SE  1014.6 1016.00 1018.00 1020.00
                *
                *

     241        KK     RT1   ROUTE
     242        RS       4    FLOW
     243        RC   0.350   0.350   0.350     567  0.0037 1014.00
     244        RX    0.00    5.00   10.00   22.00   30.00   42.00   45.00   48.00
     245        RY  1014.0 1014.00 1014.00 1011.00 1011.00 1014.00 1014.00 1014.00
                *
                *
```

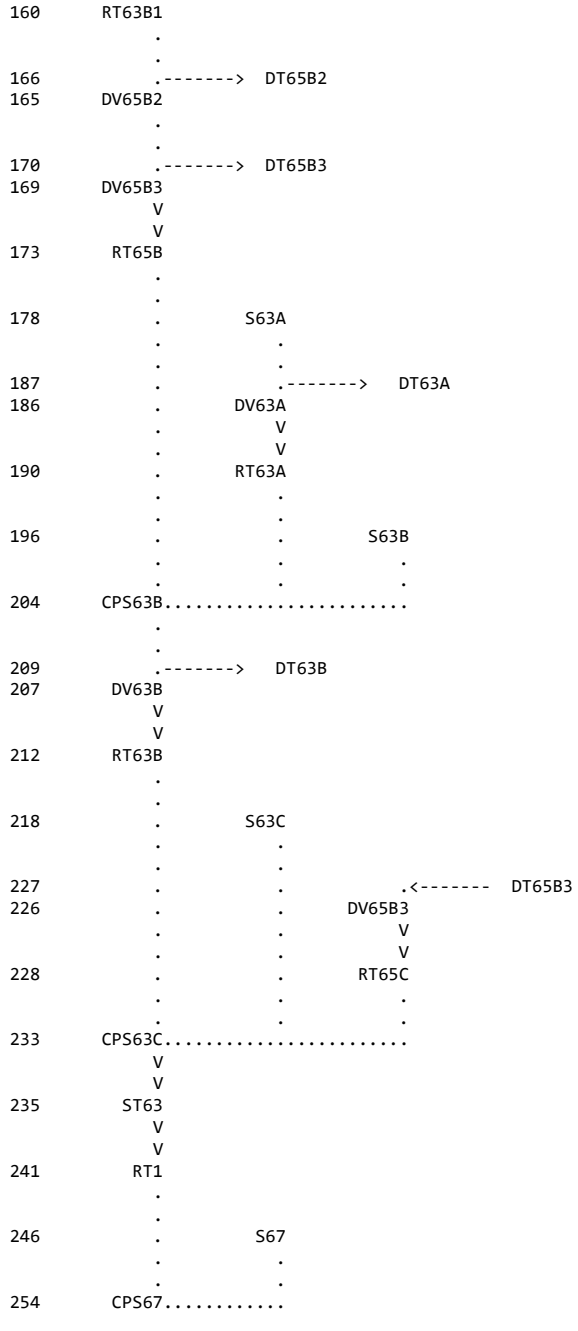
```
          246          KK     S67   BASIN
          247          BA   0.015
          248          LG    0.28    0.28    4.25    0.45      30
          249          UI       0      76      35       4       0       0       0       0       0
          250          UI       0       0       0       0       0       0       0       0       0
          251          UI       0       0       0       0       0       0       0       0       0
          252          UI       0       0       0       0       0       0       0       0       0
          253          UI       0       0       0       0       0       0       0       0       0
                       *
                       *
1                                                HEC-1 INPUT                                                PAGE  8

         LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


          254          KK   CPS67 COMBINE
          255          KO       2
          256          HC       2
                       *
          257          ZZ
1
               SCHEMATIC DIAGRAM OF STREAM NETWORK
 INPUT
  LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

   NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

    76        W61A
              .
              .
    86        .-------->   DT61A
    84       DV61A
              V
              V
    89      W61A65
              .
              .
    95        .           .<-------   DT61A
    94        .       DV61A
              .           V
              .           V
    96        .       RT61A
              .           .
              .           .
   101        .           .        W61B
              .           .           .
              .           .           .
   109        .      CPW61B............
              .           .
              .           .
   112        .           .-------->   DT61B
   111        .       DV61B
              .           V
              .           V
   115        .      W61B65
              .           .
              .           .
   121        .           .           .<-------   DT61B
   120        .           .       DV61B
              .           .           V
              .           .           V
   122        .           .       RT61B
              .           .           .
              .           .           .
   127        .           .           .        W61C
              .           .           .           .
              .           .           .           .
   135        .           .      CPW61C............
              .           .           .
              .           .           .
   138        .           .           .-------->   DT61C
   137        .           .       DV61C
              .           .           V
              .           .           V
   141        .           .      W61C65
              .           .           .
              .           .           .
   146        .           .           .        S65A
              .           .           .           .
              .           .           .           .
   154      CPS65A.................................
              .
              .
   157        .-------->  DT65B1
   156      DV65B1
              V
              V
```



(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```
1*****************************************                    ****************************************
 *                                       *                    *                                      *
 *   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *                    *    U.S. ARMY CORPS OF ENGINEERS      *
 *               JUN   1998              *                    *    HYDROLOGIC ENGINEERING CENTER     *
 *            VERSION 4.1                *                    *          609 SECOND STREET           *
 *                                       *                    *       DAVIS, CALIFORNIA 95616        *
 *  RUN DATE   27SEP19  TIME  08:57:16   *                    *           (916) 756-1104             *
 *                                       *                    *                                      *
 *****************************************                    ****************************************
```

City of Goodyear
YUMA WITH I-10 6HR - Yuma and Verrado way intersection improvement
100 YEAR
6 Hour Storm
Unit Hydrograph: S-Graph
Storm: Multiple
09/27/2019
Modified by Hoskin Ryan Consultants September 2019
Removed Watersheds that Don't drain to project site.
Modified Basin S65 and Renamed to S65A
Subdivied Basin S63 into S63A, S63B, and S63C

```
                    Modified Rainfall to NOAA 14
                    Updated Diversion
                    ******************************************************

                    Flood Control District of Maricopa County
                    HEC-1 Update for Loop 303/ White Tanks ADMPU AHA
                    100 YEAR
                    6 Hour Storm
                    Unit Hydrograph: S-Graph
                    03/2015
                    FCD CONTRACT NUMBER 2014C003
                    ASSIGNMENT NO. 1 - UPDATING HYDROLOGY MODEL
                    BY PARSONS BRINCKERHOFF (PB)
                    EXISTING CONDITIONS (Watershed: year 2008, CIPs upto year 2015)
                    MAJOR BASIN 01
                    FILE NAME: WT_EXST.DAT

                    SR303L and other completed CIPs with the watershed have been updated in
                    this existing condition model for FCDMC by PB in 3/2015. The model has
                    been updated per as-built plans, and information avaiable. Please see
                    the descriptions bounded between the "*" lines for the as-built or 100%
                    plan info and revised parameters.

                    Followings are descriptions from HDR:

                    Flood Control District of Maricopa County
                    L303_EX_MB01 - Loop 303/ White Tanks ADMPU AHA
                    100 YEAR
                    6 Hour Storm
                    Unit Hydrograph: S-Graph
                    08/18/2009

                    FCDMC CONTRACT 2007C031
                    BY HDR ENGINEERING (#79902)
                    EXISTING CONDITIONS -AUGUST 2009
                    MAJOR BASIN 01
                    FILE NAME: EX-MB01.DAT

                    FOLLOWING ARE THE CHANGES BY FCDMC:
                    1. Storage routing correction: removed SRD14. - JWH 10-16-09
                    2. Diversion RMSBSN correction: replaced DQ card.
                    3. Routing D59D71 correction: replaced RS and RC cards.
                    4. Routing RRMS correction: replace RY card. - JWH 01-07-2010
                    FILE NAME: WT1E02.DAT

                    For details concerning changes to this HEC-1 model, please contact
                    FCDMC, H&H Branch.



62 IO          OUTPUT CONTROL VARIABLES
                     IPRNT           5  PRINT CONTROL
                     IPLOT           0  PLOT CONTROL
                     QSCAL          0.  HYDROGRAPH PLOT SCALE

   IT          HYDROGRAPH TIME DATA
                      NMIN           5  MINUTES IN COMPUTATION INTERVAL
                     IDATE      1    0  STARTING DATE
                     ITIME        0000  STARTING TIME
                        NQ        2000  NUMBER OF HYDROGRAPH ORDINATES
                    NDDATE      7    0  ENDING DATE
                    NDTIME        2235  ENDING TIME
                    ICENT           19  CENTURY MARK

                  COMPUTATION INTERVAL    0.08 HOURS
                       TOTAL TIME BASE  166.58 HOURS

        ENGLISH UNITS
             DRAINAGE AREA         SQUARE MILES
             PRECIPITATION DEPTH   INCHES
             LENGTH, ELEVATION     FEET
             FLOW                  CUBIC FEET PER SECOND
             STORAGE VOLUME        ACRE-FEET
             SURFACE AREA          ACRES
             TEMPERATURE           DEGREES FAHRENHEIT

64 JD          INDEX STORM NO. 1
                      STRM        2.58  PRECIPITATION DEPTH
                      TRDA        0.00  TRANSPOSITION DRAINAGE AREA

65 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01      0.01      0.03
                    0.03      0.03      0.05      0.05      0.05      0.15      0.15      0.15      0.03      0.03
                    0.03      0.01      0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00
```

```
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00

  68 JD          INDEX STORM NO. 2
                       STRM        2.56  PRECIPITATION DEPTH
                       TRDA        0.50  TRANSPOSITION DRAINAGE AREA

  69 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01      0.01      0.03
                    0.03      0.03      0.05      0.05      0.05      0.15      0.15      0.15      0.03      0.03
                    0.03      0.01      0.01      0.01      0.01      0.01      0.01      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00

  72 JD          INDEX STORM NO. 3
                       STRM        2.51  PRECIPITATION DEPTH
                       TRDA        2.80  TRANSPOSITION DRAINAGE AREA

  73 PI            PRECIPITATION PATTERN
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00      0.00      0.01      0.01      0.01      0.01      0.01      0.01      0.03
                    0.03      0.03      0.07      0.07      0.07      0.08      0.08      0.08      0.05      0.05
                    0.05      0.02      0.02      0.02      0.01      0.01      0.01      0.00      0.00      0.00
                    0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00      0.00
                    0.00      0.00

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  235 KK    *      ST63  *      STORAGE
            *            *
            **************

  236 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           5  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

*** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** *** ***


            **************
            *            *
  254 KK    *     CPS67  *      COMBINE
            *            *
            **************

  255 KO          OUTPUT CONTROL VARIABLES
                       IPRNT           2  PRINT CONTROL
                       IPLOT           0  PLOT CONTROL
                       QSCAL          0.  HYDROGRAPH PLOT SCALE

  256 HC          HYDROGRAPH COMBINATION
                       ICOMP           2  NUMBER OF HYDROGRAPHS TO COMBINE

                                                          ***

       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CPS67
                       TRANSPOSITION AREA      0.0 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                     6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                          (CFS)
+     253.      5.00                  56.         14.          5.           2.
                       (INCHES)     0.443       0.448       0.448        0.448
                        (AC-FT)       28.         28.         28.          28.

                        CUMULATIVE AREA =    1.17 SQ MI


       ***             ***             ***             ***             ***

                         HYDROGRAPH AT STATION    CPS67
                       TRANSPOSITION AREA      0.5 SQ MI
```

```
  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     251.      5.00                 56.         14.          5.           2.
                    (INCHES)     0.439       0.444       0.444        0.444
                     (AC-FT)       28.         28.         28.          28.

                     CUMULATIVE AREA =    1.17 SQ MI


       ***            ***            ***            ***            ***

                      HYDROGRAPH AT STATION    CPS67
                     TRANSPOSITION AREA      2.8 SQ MI

  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     187.      5.00                 41.         10.          3.           2.
                    (INCHES)     0.326       0.330       0.330        0.330
                     (AC-FT)       20.         21.         21.          21.

                     CUMULATIVE AREA =    1.17 SQ MI

 ********************************************************************************************************************************************

                                          INTERPOLATED HYDROGRAPH AT    CPS67


  PEAK FLOW     TIME                          MAXIMUM AVERAGE FLOW
                                    6-HR       24-HR       72-HR    166.58-HR
+   (CFS)       (HR)
                      (CFS)
+     219.      5.00                 48.         12.          4.           2.
                    (INCHES)     0.383       0.388       0.388        0.388
                     (AC-FT)       24.         24.         24.          24.

                     CUMULATIVE AREA =    1.17 SQ MI

1
                                                RUNOFF SUMMARY
                                            FLOW IN CUBIC FEET PER SECOND
                                          TIME IN HOURS,  AREA IN SQUARE MILES

                                    PEAK   TIME OF     AVERAGE FLOW FOR MAXIMUM PERIOD      BASIN     MAXIMUM     TIME OF
          OPERATION       STATION   FLOW     PEAK                                          AREA      STAGE     MAX STAGE
+                                                                6-HOUR     24-HOUR     72-HOUR

          HYDROGRAPH AT
+                           W61A     234.    4.08          11.          3.          1.       0.10

          DIVERSION TO
+                          DT61A     138.    4.08           4.          1.          0.       0.10

          HYDROGRAPH AT
+                          DV61A      96.    4.08           6.          2.          1.       0.10

          ROUTED TO
+                         W61A65      59.    4.33           6.          2.          1.       0.10

          HYDROGRAPH AT
+                          DV61A     138.    4.08           4.          1.          0.       0.10

          ROUTED TO
+                          RT61A      82.    4.17           4.          1.          0.       0.10

          HYDROGRAPH AT
+                           W61B     252.    4.08          11.          3.          1.       0.12

          2 COMBINED AT
+                         CPW61B     326.    4.08          15.          4.          1.       0.12

          DIVERSION TO
+                          DT61B     280.    4.08          11.          3.          1.       0.12

          HYDROGRAPH AT
+                          DV61B      46.    4.08           4.          1.          0.       0.12

          ROUTED TO
+                         W61B65      45.    4.25           4.          1.          0.       0.12

          HYDROGRAPH AT
+                          DV61B     280.    4.08          11.          3.          1.       0.12
```

	ROUTED TO						
+	RT61B	213.	4.17	11.	3.	1.	0.12
	HYDROGRAPH AT						
+	W61C	288.	4.17	15.	4.	1.	0.17
	2 COMBINED AT						
+	CPW61C	501.	4.17	26.	6.	2.	0.17
	DIVERSION TO						
+	DT61C	437.	4.17	19.	5.	2.	0.17
	HYDROGRAPH AT						
+	DV61C	64.	4.17	7.	2.	1.	0.17
	ROUTED TO						
+	W61C65	60.	4.42	7.	2.	1.	0.17
	HYDROGRAPH AT						
+	S65A	781.	4.17	48.	12.	4.	0.43
	4 COMBINED AT						
+	CPS65A	783.	4.17	61.	15.	5.	0.82
	DIVERSION TO						
+	DT65B1	39.	4.17	6.	2.	1.	0.82
	HYDROGRAPH AT						
+	DV65B1	744.	4.17	55.	14.	5.	0.82
	ROUTED TO						
+	RT63B1	671.	4.25	55.	14.	5.	0.82
	DIVERSION TO						
+	DT65B2	77.	4.25	7.	2.	1.	0.82
	HYDROGRAPH AT						
+	DV65B2	594.	4.25	48.	12.	4.	0.82
	DIVERSION TO						
+	DT65B3	389.	4.25	33.	8.	3.	0.82
	HYDROGRAPH AT						
+	DV65B3	205.	4.25	15.	4.	1.	0.82
	ROUTED TO						
+	RT65B	151.	4.42	15.	4.	1.	0.82
	HYDROGRAPH AT						
+	S63A	70.	4.08	4.	1.	0.	0.03
	DIVERSION TO						
+	DT63A	37.	4.08	3.	1.	0.	0.03
	HYDROGRAPH AT						
+	DV63A	33.	4.08	1.	0.	0.	0.03
	ROUTED TO						
+	RT63A	15.	4.17	1.	0.	0.	0.03
	HYDROGRAPH AT						
+	S63B	375.	4.17	26.	7.	2.	0.19
	3 COMBINED AT						
+	CPS63B	327.	4.17	38.	10.	3.	1.04
	DIVERSION TO						
+	DT63B	285.	4.17	37.	9.	3.	1.04
	HYDROGRAPH AT						
+	DV63B	42.	4.17	2.	0.	0.	1.04
	ROUTED TO						
+	RT63B	28.	4.33	2.	0.	0.	1.04
	HYDROGRAPH AT						
+	S63C	230.	4.17	16.	4.	1.	0.12
	HYDROGRAPH AT						
+	DV65B3	389.	4.25	33.	8.	3.	0.82
	ROUTED TO						
+	RT65C	304.	4.50	33.	8.	3.	0.82
	3 COMBINED AT						
+	CPS63C	332.	4.42	47.	12.	4.	1.16

```
          ROUTED TO
+                         ST63       228.    4.67          47.         12.          4.       1.16

          ROUTED TO
+                          RT1       219.    5.00          46.         12.          4.       1.16

          HYDROGRAPH AT
+                          S67        38.    4.08           2.          1.          0.       0.01

          2 COMBINED AT
+                        CPS67       219.    5.00          48.         12.          4.       1.17


 *** NORMAL END OF HEC-1 ***
```

Appendix B: Hydraulics Analysis Supporting Documentation

B.1 Existing and Proposed Culvert Analysis
B.2 Existing and Proposed Channel Analysis
B.3 HEC-RAS Outputs

B.1 Existing and Proposed Culvert Analysis

Culvert Report

Existing culvert at channel crossing at Odyssey Institute

Invert Elev Dn (ft)	=	1005.75
Pipe Length (ft)	=	50.00
Slope (%)	=	0.50
Invert Elev Up (ft)	=	1006.00
Rise (in)	=	36.0
Shape	=	Circular
Span (in)	=	36.0
No. Barrels	=	3
n-Value	=	0.013
Culvert Type	=	Circular Concrete
Culvert Entrance	=	Square edge w/headwall (C)
Coeff. K,M,c,Y,k	=	0.0098, 2, 0.0398, 0.67, 0.5

Embankment

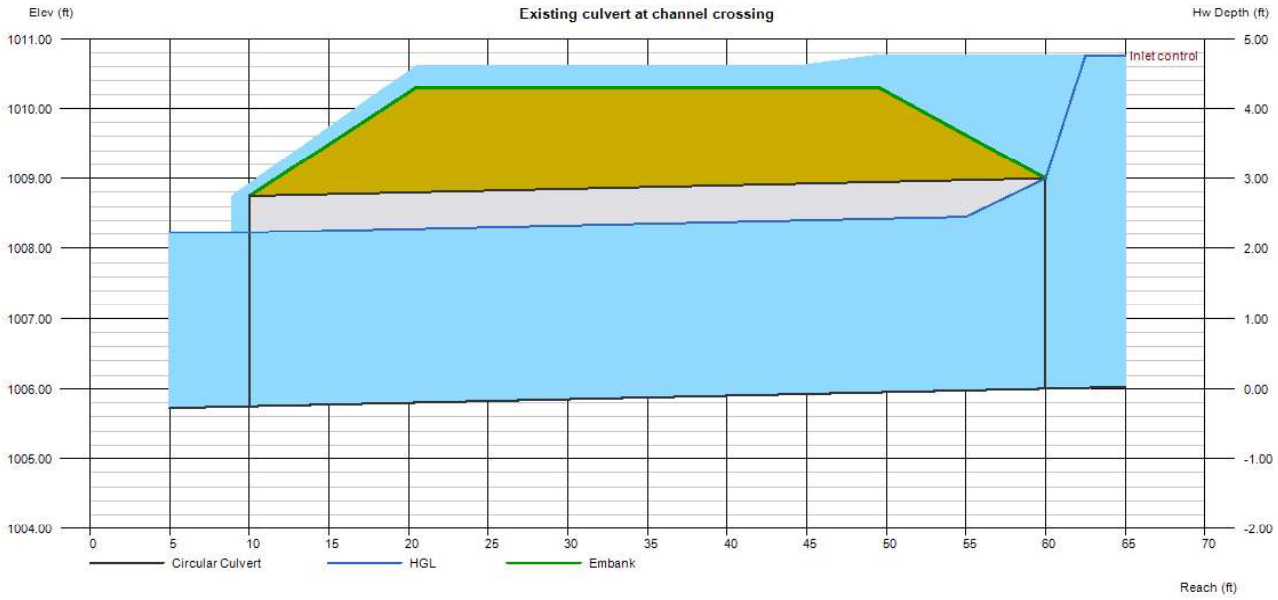
Top Elevation (ft)	=	1010.30
Top Width (ft)	=	29.00
Crest Width (ft)	=	43.00

Calculations

Qmin (cfs)	=	143.00
Qmax (cfs)	=	219.00
Tailwater Elev (ft)	=	Critical

Highlighted

Qtotal (cfs)	=	219.00
Qpipe (cfs)	=	176.56
Qovertop (cfs)	=	42.44
Veloc Dn (ft/s)	=	9.42
Veloc Up (ft/s)	=	9.42
HGL Dn (ft)	=	1008.23
HGL Up (ft)	=	1008.48
Hw Elev (ft)	=	1010.76
Hw/D (ft)	=	1.59
Flow Regime	=	Inlet Control



Culvert Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc. Thursday, Dec 9 2021

Proposed Pipe Culvert

Invert Elev Dn (ft)	=	1013.83
Pipe Length (ft)	=	281.00
Slope (%)	=	0.31
Invert Elev Up (ft)	=	1014.70
Rise (in)	=	36.0
Shape	=	Circular
Span (in)	=	36.0
No. Barrels	=	4
n-Value	=	0.013
Culvert Type	=	Circular Concrete
Culvert Entrance	=	Square edge w/headwall (C)
Coeff. K,M,c,Y,k	=	0.0098, 2, 0.0398, 0.67, 0.5

Embankment

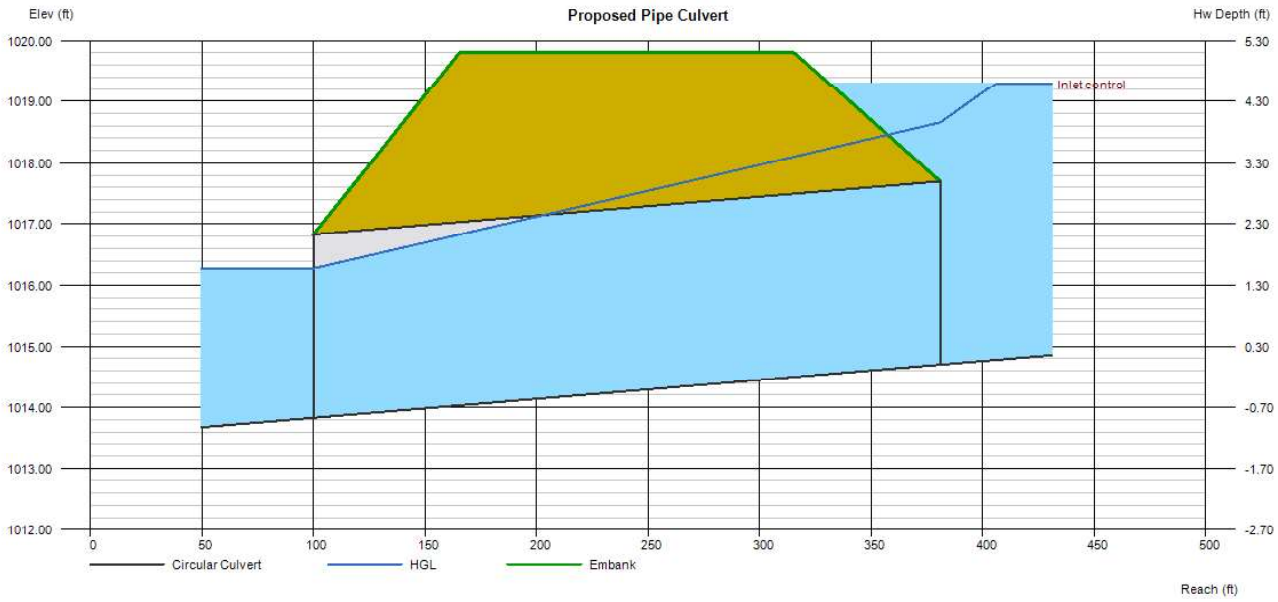
Top Elevation (ft)	=	1019.80
Top Width (ft)	=	150.00
Crest Width (ft)	=	200.00

Calculations

Qmin (cfs)	=	176.00
Qmax (cfs)	=	228.00
Tailwater Elev (ft)	=	Critical

Highlighted

Qtotal (cfs)	=	228.00
Qpipe (cfs)	=	228.00
Qovertop (cfs)	=	0.00
Veloc Dn (ft/s)	=	9.24
Veloc Up (ft/s)	=	8.06
HGL Dn (ft)	=	1016.27
HGL Up (ft)	=	1018.66
Hw Elev (ft)	=	1019.29
Hw/D (ft)	=	1.53
Flow Regime	=	Inlet Control



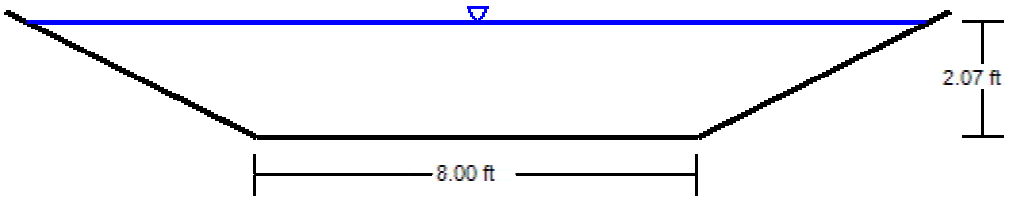
B.2 Existing and Proposed Channel Analysis

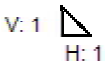
Breached Condition Cross-section E-E

Cross Section for Proposed Channel -Shotcrete

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.020
Channel Slope	0.009 ft/ft
Normal Depth	2.07 ft
Left Side Slope	2.000 H:V
Right Side Slope	2.000 H:V
Bottom Width	8.00 ft
Discharge	228.00 cfs





Breached Condition Cross-section E-E

Worksheet for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.020
Channel Slope	0.009 ft/ft
Left Side Slope	2.000 H:V
Right Side Slope	2.000 H:V
Bottom Width	8.00 ft
Discharge	228.00 cfs

Results	
Normal Depth	2.07 ft
Flow Area	25.2 ft²
Wetted Perimeter	17.3 ft
Hydraulic Radius	1.46 ft
Top Width	16.29 ft
Critical Depth	2.39 ft
Critical Slope	0.005 ft/ft
Velocity	9.06 ft/s
Velocity Head	1.28 ft
Specific Energy	3.35 ft
Froude Number	1.285
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.00 ft
Length	0.0 ft
Number Of Steps	0

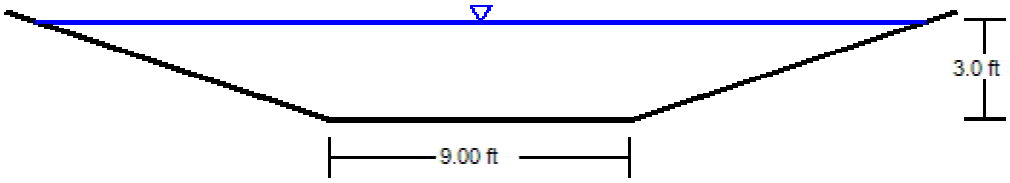
GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.07 ft
Critical Depth	2.39 ft
Channel Slope	0.009 ft/ft
Critical Slope	0.005 ft/ft

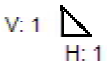
Breached Condition Cross-section F-F

Cross Section for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.050
Channel Slope	0.009 ft/ft
Normal Depth	3.0 ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	9.00 ft
Discharge	228.00 cfs





Breached Condition

Worksheet for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.050
Channel Slope	0.009 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	9.00 ft
Discharge	228.00 cfs

Results	
Normal Depth	3.0 ft
Flow Area	53.1 ft²
Wetted Perimeter	27.8 ft
Hydraulic Radius	1.9 ft
Top Width	26.80 ft
Critical Depth	2.1 ft
Critical Slope	0.033 ft/ft
Velocity	4.30 ft/s
Velocity Head	0.29 ft
Specific Energy	3.25 ft
Froude Number	0.538
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

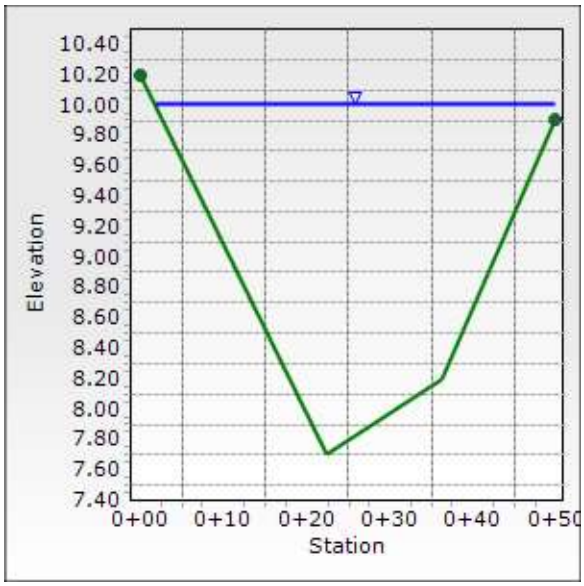
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	3.0 ft
Critical Depth	2.1 ft
Channel Slope	0.009 ft/ft
Critical Slope	0.033 ft/ft

Breached Condition

Cross-section A-A (current surveyed condition)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.35 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section A-A (current surveyed condition)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	10.23
0+22	7.66
0+36	8.22
0+50	9.85

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 10.23)	(0+50, 9.85)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.35 ft
Elevation Range	7.7 to 10.2 ft
Flow Area	66.1 ft²
Wetted Perimeter	48.3 ft
Hydraulic Radius	1.37 ft
Top Width	47.91 ft
Normal Depth	2.35 ft
Critical Depth	1.72 ft
Critical Slope	0.018 ft/ft
Velocity	3.31 ft/s
Velocity Head	0.17 ft
Specific Energy	2.52 ft
Froude Number	0.497
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft
Length	0.0 ft

Breached Condition

Worksheet for Cross-section A-A (current surveyed condition)

GVF Input Data	
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.35 ft
Critical Depth	1.72 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.018 ft/ft

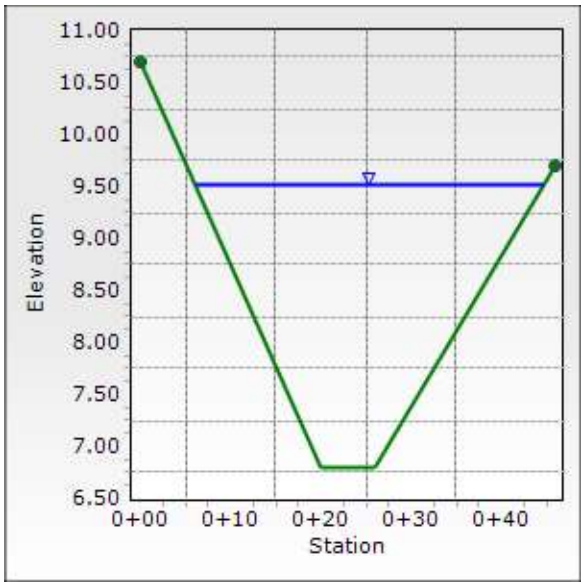
Messages	
Messages	Water Surface Elevation exceeds lowest end station by 0.163044708759521ft.

Breached Condition

Cross-section A-A (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.72 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section A-A (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	10.70
0+20	6.80
0+26	6.80
0+46	9.70

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 10.70)	(0+46, 9.70)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.72 ft
Elevation Range	6.80 to 10.70 ft
Flow Area	60.8 ft²
Wetted Perimeter	39.2 ft
Hydraulic Radius	1.55 ft
Top Width	38.72 ft
Normal Depth	2.72 ft
Critical Depth	1.98 ft
Critical Slope	0.017 ft/ft
Velocity	3.60 ft/s
Velocity Head	0.20 ft
Specific Energy	2.92 ft
Froude Number	0.506
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Breached Condition

Worksheet for Cross-section A-A (OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

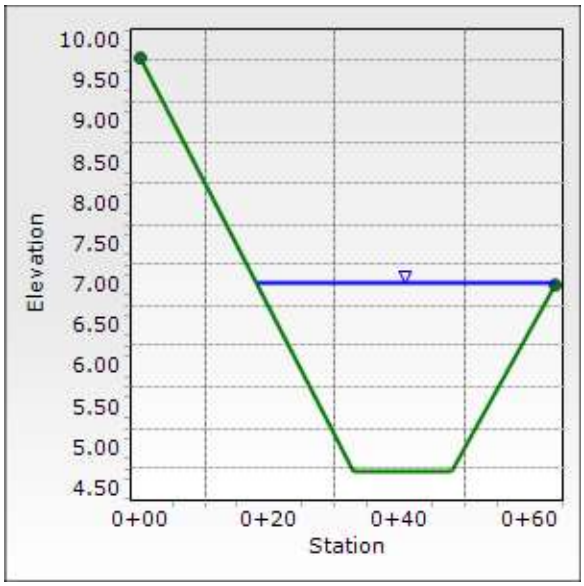
GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.72 ft
Critical Depth	1.98 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

Breached Condition

Cross-section B-B (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Normal Depth	2.32 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section B-B (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	9.80
0+33	4.70
0+48	4.70
0+64	7.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 9.80)	(0+64, 7.00)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.32 ft
Elevation Range	4.70 to 9.80 ft
Flow Area	70.9 ft²
Wetted Perimeter	46.4 ft
Hydraulic Radius	1.53 ft
Top Width	46.01 ft
Normal Depth	2.32 ft
Critical Depth	1.49 ft
Critical Slope	0.018 ft/ft
Velocity	3.09 ft/s
Velocity Head	0.15 ft
Specific Energy	2.47 ft
Froude Number	0.438
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Breached Condition

Worksheet for Cross-section B-B (OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.32 ft
Critical Depth	1.49 ft
Channel Slope	0.003 ft/ft
Critical Slope	0.018 ft/ft

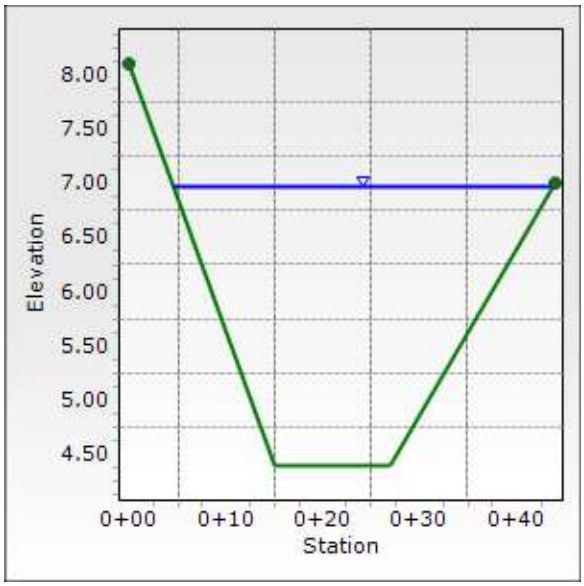
Messages	
Messages	Water Surface Elevation exceeds lowest end station by 0.019885387 1739599ft.

Breached Condition

Cross-section BB-BB (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Normal Depth	2.61 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section BB-BB (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	8.10
0+15	4.35
0+27	4.35
0+44	7.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 8.10)	(0+44, 7.00)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.61 ft
Elevation Range	4.35 to 8.10 ft
Flow Area	66.6 ft²
Wetted Perimeter	39.7 ft
Hydraulic Radius	1.68 ft
Top Width	39.14 ft
Normal Depth	2.61 ft
Critical Depth	1.70 ft
Critical Slope	0.017 ft/ft
Velocity	3.29 ft/s
Velocity Head	0.17 ft
Specific Energy	2.77 ft
Froude Number	0.444
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Breached Condition

Worksheet for Cross-section BB-BB (OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

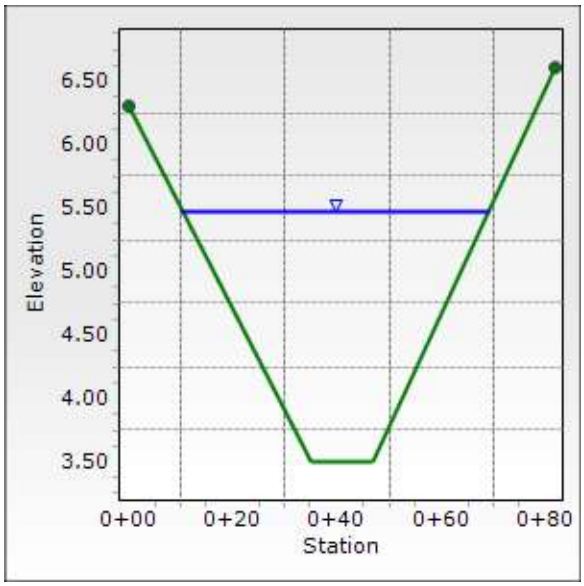
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Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.61 ft
Critical Depth	1.70 ft
Channel Slope	0.003 ft/ft
Critical Slope	0.017 ft/ft

Breached Condition

Cross-section C-C (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.02 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section C-C (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	6.30
0+35	3.45
0+47	3.45
0+82	6.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 6.30)	(0+82, 6.60)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.02 ft
Elevation Range	3.45 to 6.60 ft
Flow Area	71.8 ft²
Wetted Perimeter	59.4 ft
Hydraulic Radius	1.21 ft
Top Width	59.20 ft
Normal Depth	2.02 ft
Critical Depth	1.42 ft
Critical Slope	0.019 ft/ft
Velocity	3.05 ft/s
Velocity Head	0.14 ft
Specific Energy	2.16 ft
Froude Number	0.488
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Breached Condition

Worksheet for Cross-section C-C(OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

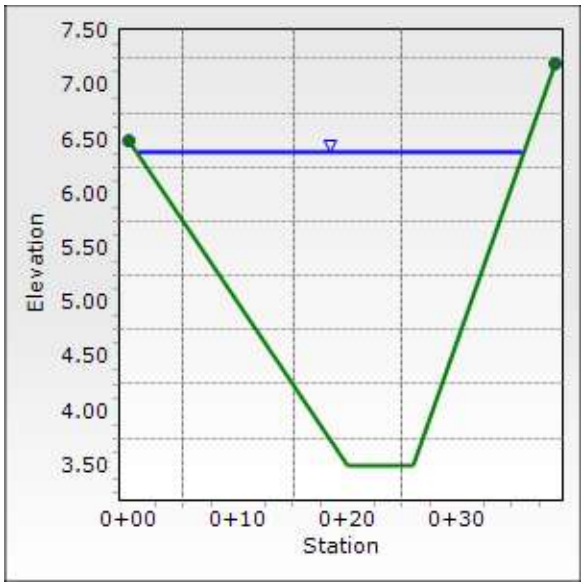
GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.02 ft
Critical Depth	1.42 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.019 ft/ft

Breached Condition

Cross-section D-D (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.89 ft
Discharge	219.00 cfs



Breached Condition

Worksheet for Cross-section D-D (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	219.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	6.50
0+20	3.50
0+26	3.50
0+39	7.20

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 6.50)	(0+39, 7.20)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.89 ft
Elevation Range	3.50 to 7.20 ft
Flow Area	59.7 ft²
Wetted Perimeter	36.0 ft
Hydraulic Radius	1.66 ft
Top Width	35.38 ft
Normal Depth	2.89 ft
Critical Depth	2.07 ft
Critical Slope	0.017 ft/ft
Velocity	3.67 ft/s
Velocity Head	0.21 ft
Specific Energy	3.10 ft
Froude Number	0.498
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Breached Condition

Worksheet for Cross-section D-D (OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

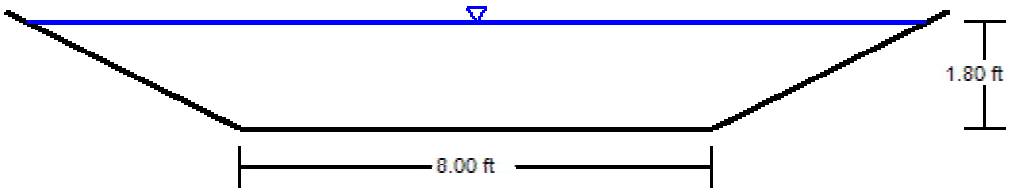
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Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.89 ft
Critical Depth	2.07 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.017 ft/ft

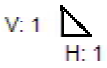
Non-Breached Condition Cross-section E-E

Cross Section for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.020
Channel Slope	0.009 ft/ft
Normal Depth	1.80 ft
Left Side Slope	2.000 H:V
Right Side Slope	2.000 H:V
Bottom Width	8.00 ft
Discharge	176.00 cfs





Non-Breached Condition Cross-section E-E

Worksheet for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.020
Channel Slope	0.009 ft/ft
Left Side Slope	2.000 H:V
Right Side Slope	2.000 H:V
Bottom Width	8.00 ft
Discharge	176.00 cfs

Results	
Normal Depth	1.80 ft
Flow Area	20.9 ft²
Wetted Perimeter	16.1 ft
Hydraulic Radius	1.30 ft
Top Width	15.21 ft
Critical Depth	2.06 ft
Critical Slope	0.005 ft/ft
Velocity	8.41 ft/s
Velocity Head	1.10 ft
Specific Energy	2.90 ft
Froude Number	1.264
Flow Type	Supercritical

GVF Input Data	
Downstream Depth	0.00 ft
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	1.80 ft
Critical Depth	2.06 ft
Channel Slope	0.009 ft/ft
Critical Slope	0.005 ft/ft

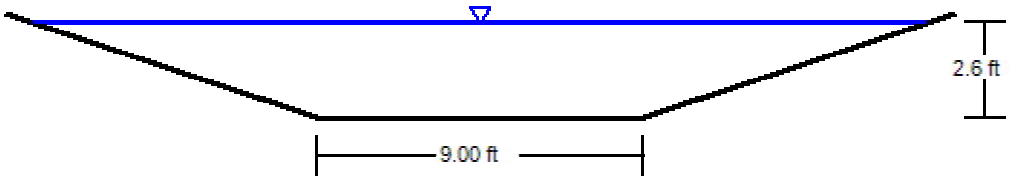
Non-Breached Condition

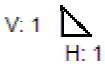
Cross-section F-F

Cross Section for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.050
Channel Slope	0.009 ft/ft
Normal Depth	2.6 ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	9.00 ft
Discharge	176.00 cfs





Non-Breached Condition Cross-section F-F

Worksheet for Proposed Channel

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Roughness Coefficient	0.050
Channel Slope	0.009 ft/ft
Left Side Slope	3.000 H:V
Right Side Slope	3.000 H:V
Bottom Width	9.00 ft
Discharge	176.00 cfs

Results	
Normal Depth	2.6 ft
Flow Area	43.9 ft²
Wetted Perimeter	25.5 ft
Hydraulic Radius	1.7 ft
Top Width	24.66 ft
Critical Depth	1.8 ft
Critical Slope	0.034 ft/ft
Velocity	4.01 ft/s
Velocity Head	0.25 ft
Specific Energy	2.86 ft
Froude Number	0.529
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.0 ft
Length	0.0 ft
Number Of Steps	0

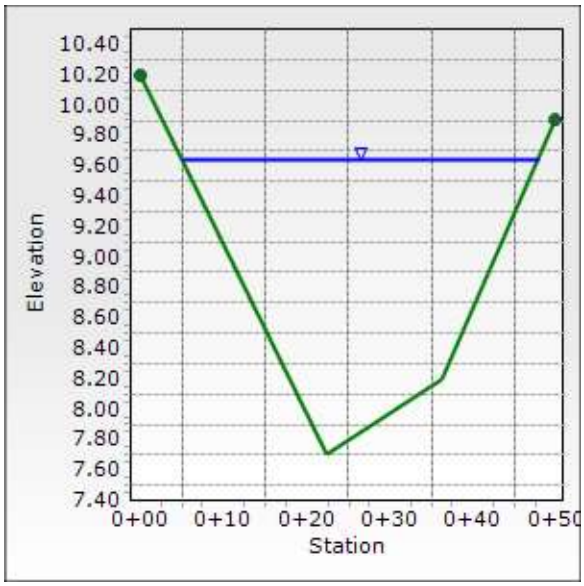
GVF Output Data	
Upstream Depth	0.0 ft
Profile Description	N/A
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.6 ft
Critical Depth	1.8 ft
Channel Slope	0.009 ft/ft
Critical Slope	0.034 ft/ft

Non-Breached Condition

Cross-section A-A (current surveyed condition)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	1.98 ft
Discharge	143.00 cfs



Non-Breached Condition

Worksheet for Cross-section A-A (current surveyed condition)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	10.23
0+22	7.66
0+36	8.22
0+50	9.85

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 10.23)	(0+50, 9.85)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	1.98 ft
Elevation Range	7.7 to 10.2 ft
Flow Area	48.9 ft²
Wetted Perimeter	43.1 ft
Hydraulic Radius	1.14 ft
Top Width	42.86 ft
Normal Depth	1.98 ft
Critical Depth	1.42 ft
Critical Slope	0.019 ft/ft
Velocity	2.92 ft/s
Velocity Head	0.13 ft
Specific Energy	2.11 ft
Froude Number	0.482
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft
Length	0.0 ft

Non-Breached Condition

Worksheet for Cross-section A-A (current surveyed condition)

GVF Input Data	
Number Of Steps	0

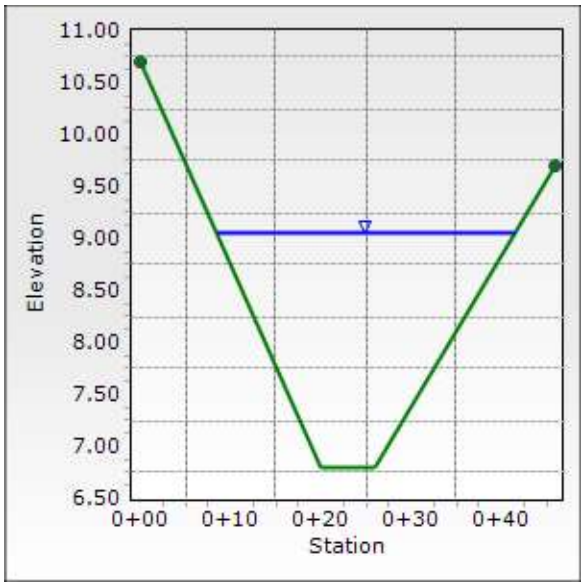
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Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	1.98 ft
Critical Depth	1.42 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.019 ft/ft

Non-Breached Condition

Cross-section A-A (OlFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.26 ft
Discharge	143.00 cfs



Non-Breached Condition
Worksheet for Cross-section A-A (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	10.70
0+20	6.80
0+26	6.80
0+46	9.70

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 10.70)	(0+46, 9.70)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.26 ft
Elevation Range	6.80 to 10.70 ft
Flow Area	44.3 ft²
Wetted Perimeter	33.6 ft
Hydraulic Radius	1.32 ft
Top Width	33.18 ft
Normal Depth	2.26 ft
Critical Depth	1.61 ft
Critical Slope	0.018 ft/ft
Velocity	3.23 ft/s
Velocity Head	0.16 ft
Specific Energy	2.42 ft
Froude Number	0.493
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Non-Breached Condition
Worksheet for Cross-section A-A (OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

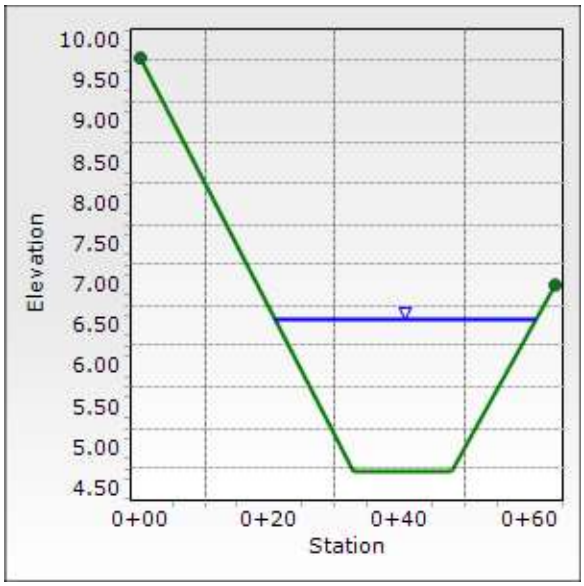
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Profile Headloss	0.00 ft
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Upstream Velocity	Infinity ft/s
Normal Depth	2.26 ft
Critical Depth	1.61 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.018 ft/ft

Non-Breached Condition

Cross-section B-B (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Normal Depth	1.88 ft
Discharge	143.00 cfs



Non-Breached Condition
Worksheet for Cross-section B-B (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	9.80
0+33	4.70
0+48	4.70
0+64	7.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 9.80)	(0+64, 7.00)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	1.88 ft
Elevation Range	4.70 to 9.80 ft
Flow Area	52.1 ft²
Wetted Perimeter	40.6 ft
Hydraulic Radius	1.28 ft
Top Width	40.29 ft
Normal Depth	1.88 ft
Critical Depth	1.18 ft
Critical Slope	0.019 ft/ft
Velocity	2.75 ft/s
Velocity Head	0.12 ft
Specific Energy	2.00 ft
Froude Number	0.426
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Non-Breached Condition
Worksheet for Cross-section B-B (OIFDR Design)

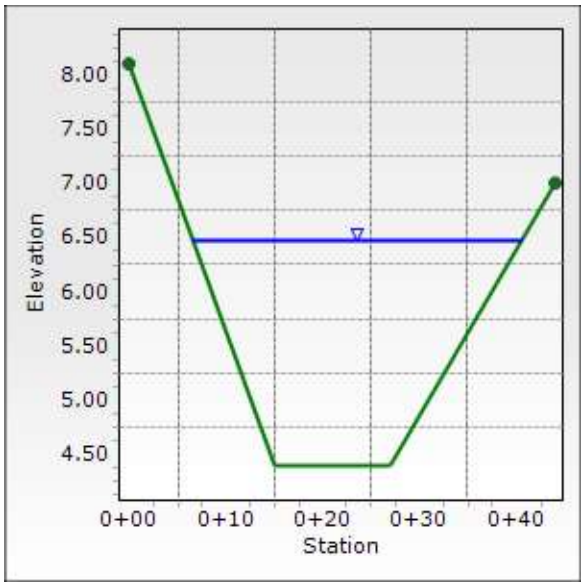
GVF Input Data	
Length	0.0 ft
Number Of Steps	0

GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	1.88 ft
Critical Depth	1.18 ft
Channel Slope	0.003 ft/ft
Critical Slope	0.019 ft/ft

Non-Breached Condition
Cross-section BB-BB (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Normal Depth	2.12 ft
Discharge	143.00 cfs



Non-Breached Condition

Worksheet for Cross-section BB-BB(OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.003 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	8.10
0+15	4.35
0+27	4.35
0+44	7.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 8.10)	(0+44, 7.00)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.12 ft
Elevation Range	4.35 to 8.10 ft
Flow Area	48.8 ft²
Wetted Perimeter	34.5 ft
Hydraulic Radius	1.41 ft
Top Width	34.07 ft
Normal Depth	2.12 ft
Critical Depth	1.34 ft
Critical Slope	0.018 ft/ft
Velocity	2.93 ft/s
Velocity Head	0.13 ft
Specific Energy	2.25 ft
Froude Number	0.432
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Non-Breached Condition

Worksheet for Cross-section BB-BB(OIFDR Design)

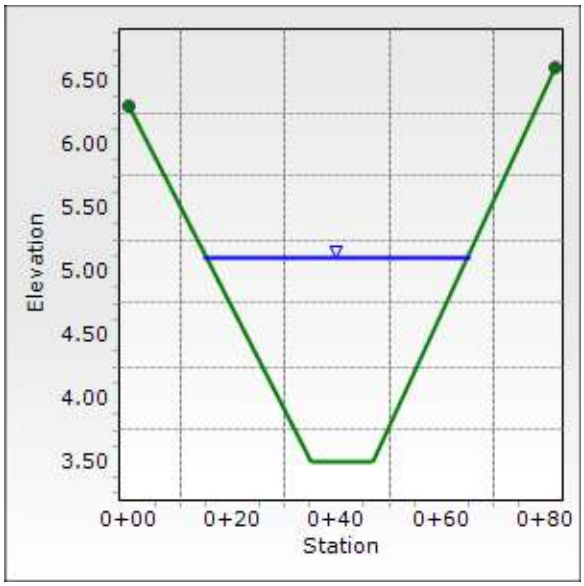
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Number Of Steps	0

GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.12 ft
Critical Depth	1.34 ft
Channel Slope	0.003 ft/ft
Critical Slope	0.018 ft/ft

Non-Breached Condition
Cross-section C-C (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	1.66 ft
Discharge	143.00 cfs



Non-Breached Condition

Worksheet for Cross-section C-C (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	6.30
0+35	3.45
0+47	3.45
0+82	6.60

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 6.30)	(0+82, 6.60)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	1.66 ft
Elevation Range	3.45 to 6.60 ft
Flow Area	52.4 ft²
Wetted Perimeter	51.1 ft
Hydraulic Radius	1.03 ft
Top Width	50.93 ft
Normal Depth	1.66 ft
Critical Depth	1.15 ft
Critical Slope	0.020 ft/ft
Velocity	2.73 ft/s
Velocity Head	0.12 ft
Specific Energy	1.78 ft
Froude Number	0.475
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Non-Breached Condition
Worksheet for Cross-section C-C(OIFDR Design)

GVF Input Data	
Length	0.0 ft
Number Of Steps	0

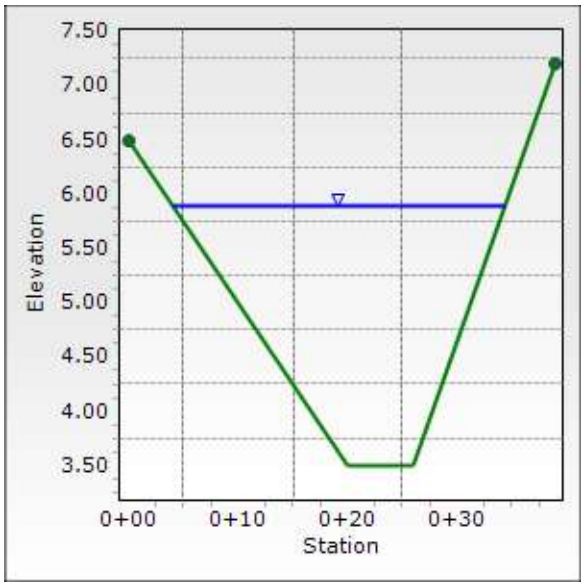
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Profile Description	
Profile Headloss	0.00 ft
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Upstream Velocity	Infinity ft/s
Normal Depth	1.66 ft
Critical Depth	1.15 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.020 ft/ft

Non-Breached Condition

Cross-section D-D (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Normal Depth	2.39 ft
Discharge	143.00 cfs



Non-Breached Condition
Worksheet for Cross-section D-D (OIFDR Design)

Project Description	
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data	
Channel Slope	0.004 ft/ft
Discharge	143.00 cfs

Section Definitions

Station (ft)	Elevation (ft)
0+00	6.50
0+20	3.50
0+26	3.50
0+39	7.20

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 6.50)	(0+39, 7.20)	0.035

Options	
Current Roughness Weighted Method	Pavlovskii's Method
Open Channel Weighting Method	Pavlovskii's Method
Closed Channel Weighting Method	Pavlovskii's Method

Results	
Normal Depth	2.39 ft
Elevation Range	3.50 to 7.20 ft
Flow Area	43.5 ft²
Wetted Perimeter	30.9 ft
Hydraulic Radius	1.41 ft
Top Width	30.35 ft
Normal Depth	2.39 ft
Critical Depth	1.68 ft
Critical Slope	0.018 ft/ft
Velocity	3.29 ft/s
Velocity Head	0.17 ft
Specific Energy	2.56 ft
Froude Number	0.484
Flow Type	Subcritical

GVF Input Data	
Downstream Depth	0.00 ft

Non-Breached Condition
Worksheet for Cross-section D-D(OIFDR Design)

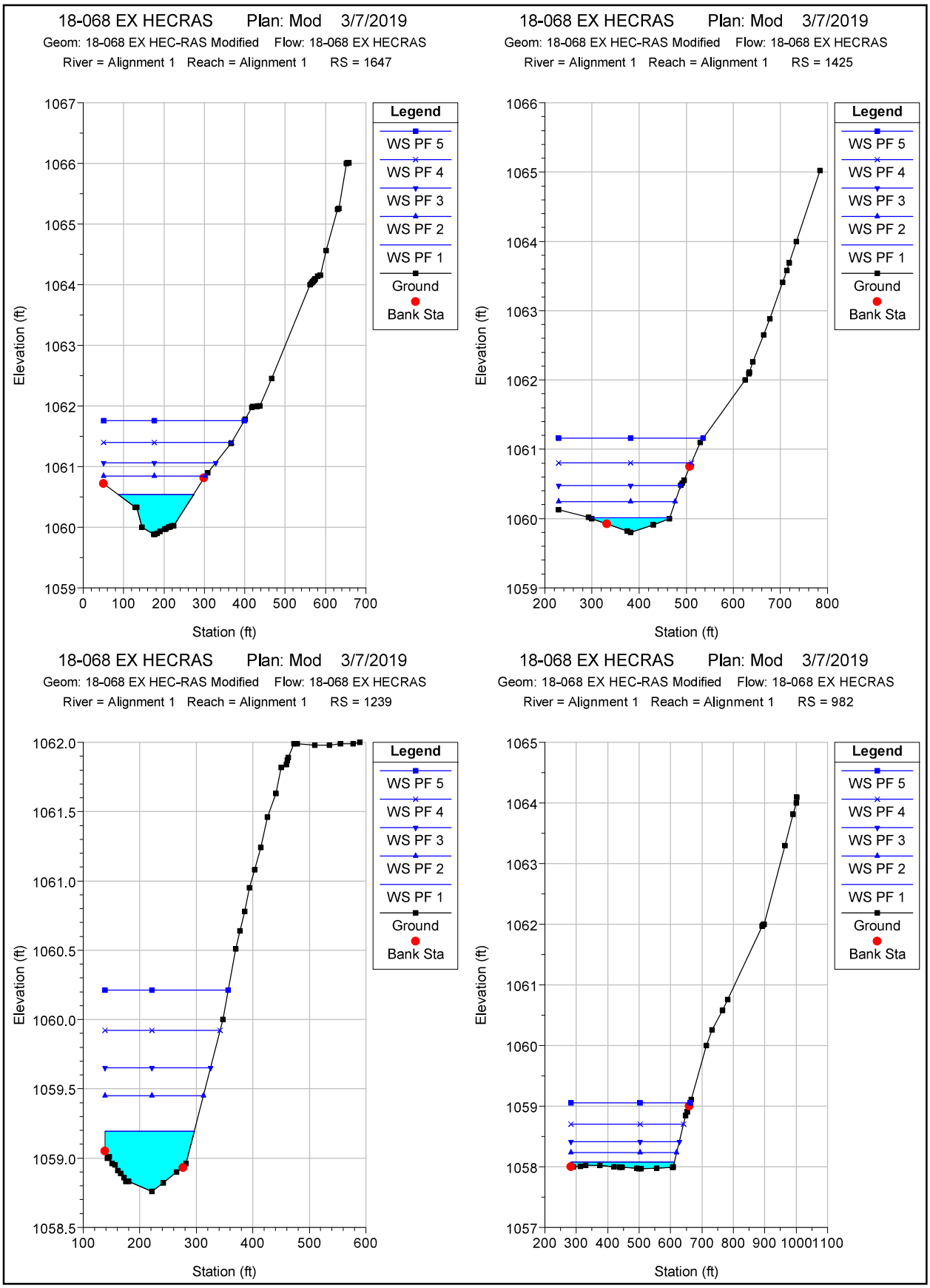
GVF Input Data	
Length	0.0 ft
Number Of Steps	0

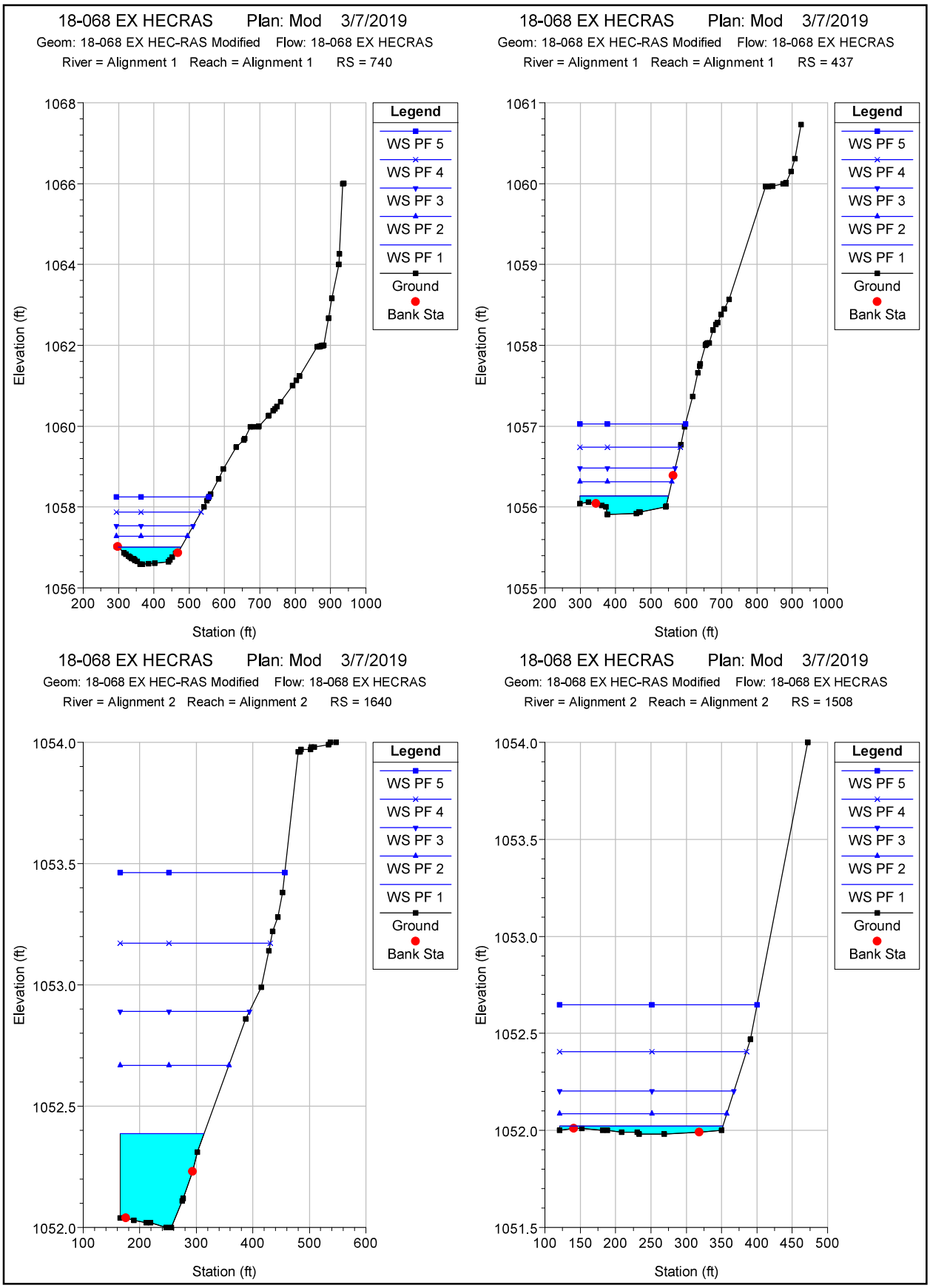
GVF Output Data	
Upstream Depth	0.00 ft
Profile Description	
Profile Headloss	0.00 ft
Downstream Velocity	Infinity ft/s
Upstream Velocity	Infinity ft/s
Normal Depth	2.39 ft
Critical Depth	1.68 ft
Channel Slope	0.004 ft/ft
Critical Slope	0.018 ft/ft

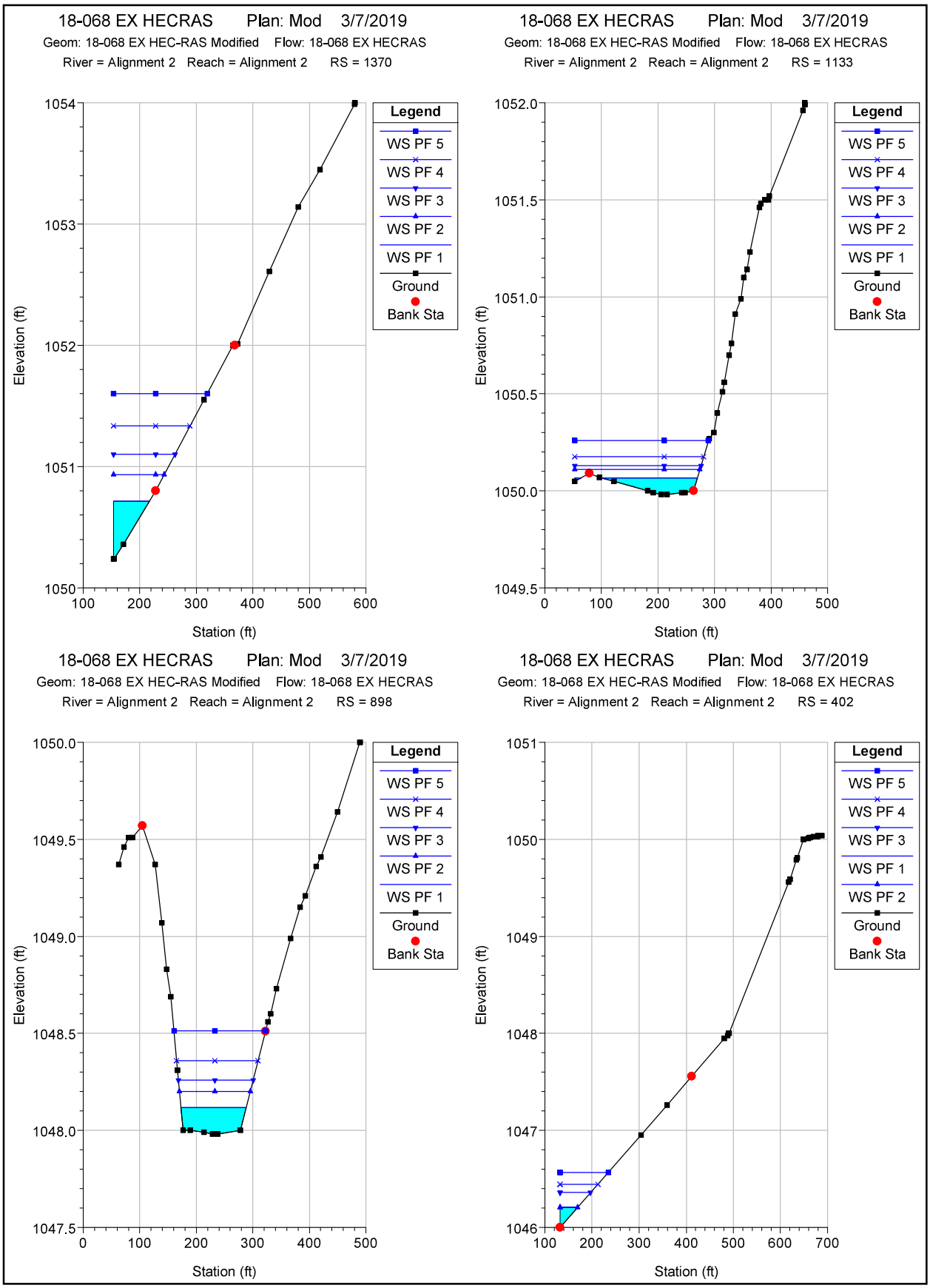
B.3 HEC-RAS Outputs

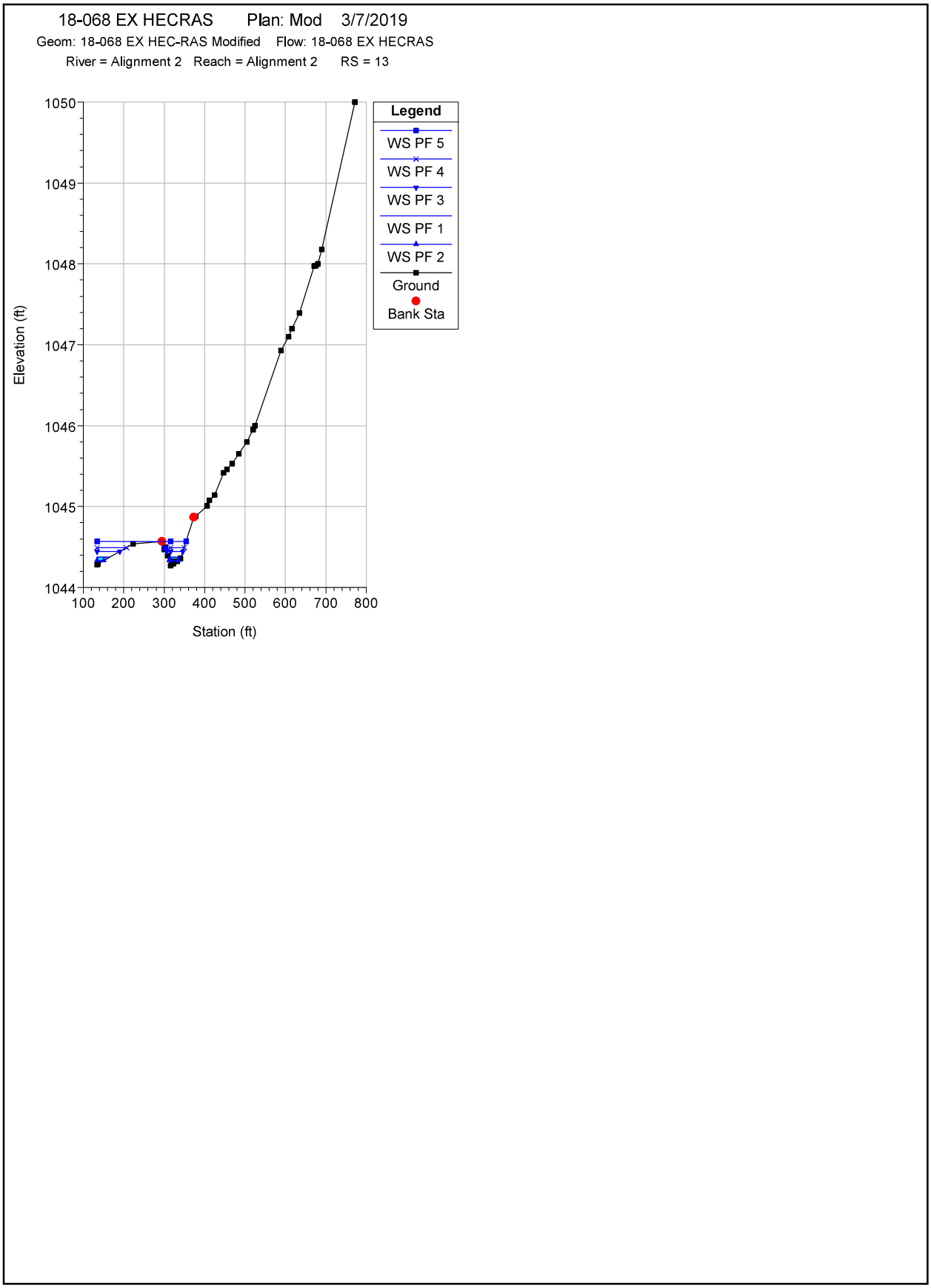
HEC-RAS Plan: mod

River	Reach	River Sta	Profile	Q US	Q Leaving Total	Q DS	Q Weir	Q Gates	Wr Top Width	Weir Max Depth	Weir Avg Depth	Min El Weir Flow	E.G. US.	W.S. US.	E.G. DS	W.S. DS
				(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
Alignment 2	Alignment 2	1639	PF 1	30.00	23.12	6.82	23.12		132.00	0.35	0.19	1052.00	1052.39	1052.39	1052.04	1052.02
Alignment 2	Alignment 2	1639	PF 2	100.00	60.60	38.92	60.60		132.00	0.63	0.36	1052.00	1052.69	1052.67	1052.14	1052.09
Alignment 2	Alignment 2	1639	PF 3	200.00	105.87	94.10	105.87		132.00	0.85	0.53	1052.00	1052.93	1052.89	1052.26	1052.20
Alignment 2	Alignment 2	1639	PF 4	400.00	182.91	217.08	182.91		132.00	1.13	0.77	1052.00	1053.24	1053.17	1052.48	1052.41
Alignment 2	Alignment 2	1639	PF 5	700.00	282.86	417.15	282.86		132.00	1.42	1.03	1052.00	1053.56	1053.46	1052.74	1052.65
Alignment 2	Alignment 2	1507	PF 1	6.82	0.08	6.74	0.08		29.26	0.02	0.01	1050.80	1052.04	1052.02	1050.72	1050.71
Alignment 2	Alignment 2	1507	PF 2	38.92	10.07	27.59	10.07		138.00	0.13	0.11	1050.80	1052.14	1052.09	1050.94	1050.93
Alignment 2	Alignment 2	1507	PF 3	94.10	35.01	59.09	35.01		138.00	0.30	0.25	1050.80	1052.26	1052.20	1051.13	1051.10
Alignment 2	Alignment 2	1507	PF 4	217.08	89.12	128.01	89.12		138.00	0.53	0.47	1050.80	1052.48	1052.41	1051.38	1051.34
Alignment 2	Alignment 2	1507	PF 5	417.15	170.46	246.72	170.46		138.00	0.80	0.72	1050.80	1052.74	1052.65	1051.69	1051.60
Alignment 2	Alignment 2	1369	PF 1	6.74	0.00	6.74	0.00					1050.09	1050.71	1050.71	1050.07	1050.06
Alignment 2	Alignment 2	1369	PF 2	27.59	10.10	16.41	10.10		237.00	0.13	0.07	1050.09	1050.94	1050.93	1050.12	1050.10
Alignment 2	Alignment 2	1369	PF 3	59.09	34.73	24.27	34.73		237.00	0.30	0.17	1050.09	1051.12	1051.10	1050.14	1050.12
Alignment 2	Alignment 2	1369	PF 4	128.01	85.71	42.26	85.71		237.00	0.53	0.31	1050.09	1051.38	1051.33	1050.19	1050.17
Alignment 2	Alignment 2	1369	PF 5	246.72	166.47	80.27	166.47		237.00	0.80	0.48	1050.09	1051.68	1051.60	1050.29	1050.25
Alignment 2	Alignment 2	1132	PF 1	6.74	0.00	1.48	0.00					1049.57	1050.08	1050.07	1048.11	1048.11
Alignment 2	Alignment 2	1132	PF 2	16.41	0.00	1.02	0.00					1049.57	1050.12	1050.11	1048.20	1048.19
Alignment 2	Alignment 2	1132	PF 3	24.29	0.00	6.27	0.00					1049.57	1050.15	1050.13	1048.26	1048.25
Alignment 2	Alignment 2	1132	PF 4	42.30	0.00	11.16	0.00					1049.57	1050.20	1050.18	1048.36	1048.35
Alignment 2	Alignment 2	1132	PF 5	80.41	0.00	21.95	0.00					1049.57	1050.30	1050.26	1048.53	1048.51
Alignment 2	Alignment 2	897	PF 1	6.74	4.88	1.48	4.88		62.92	0.21	0.11	1046.00	1048.12	1048.12	1046.21	1046.21
Alignment 2	Alignment 2	897	PF 2	16.41	4.92	1.02	4.92		65.18	0.21	0.10	1046.00	1048.21	1048.20	1046.21	1046.21
Alignment 2	Alignment 2	897	PF 3	24.27	18.36	6.27	18.36		106.65	0.36	0.18	1046.00	1048.27	1048.26	1046.36	1046.36
Alignment 2	Alignment 2	897	PF 4	42.26	31.32	11.16	31.32		132.79	0.44	0.22	1046.00	1048.37	1048.36	1046.45	1046.44
Alignment 2	Alignment 2	897	PF 5	80.27	59.26	21.95	59.26		173.31	0.57	0.28	1046.00	1048.54	1048.51	1046.58	1046.57
Alignment 1	Alignment 1	1645	PF 1	1.48	0.00	30.00	0.00					1060.13	1044.38	1044.38	1060.05	1060.01
Alignment 1	Alignment 1	1645	PF 2	1.02	0.02	100.00	0.02		0.19	0.12	0.12	1060.13	1044.35	1044.33	1060.28	1060.25
Alignment 1	Alignment 1	1645	PF 3	6.27	0.11	200.00	0.11		0.19	0.34	0.34	1060.13	1044.46	1044.45	1060.51	1060.47
Alignment 1	Alignment 1	1645	PF 4	11.16	0.32	400.00	0.32		0.19	0.67	0.67	1060.13	1044.50	1044.49	1060.86	1060.81
Alignment 1	Alignment 1	1645	PF 5	21.95	0.60	700.00	0.60		0.19	1.03	1.03	1060.13	1044.58	1044.57	1061.23	1061.16
Alignment 1	Alignment 1	1424	PF 1	30.00	6.58	30.00	6.58		100.75	0.14	0.07	1059.05	1060.05	1060.01	1059.20	1059.19
Alignment 1	Alignment 1	1424	PF 2	100.00	75.59	100.00	75.59		186.00	0.40	0.26	1059.05	1060.28	1060.25	1059.47	1059.45
Alignment 1	Alignment 1	1424	PF 3	200.00	182.92	200.00	182.92		186.00	0.60	0.47	1059.05	1060.51	1060.47	1059.69	1059.65
Alignment 1	Alignment 1	1424	PF 4	400.00	380.13	400.00	380.13		186.00	0.87	0.77	1059.05	1060.86	1060.81	1060.00	1059.92
Alignment 1	Alignment 1	1424	PF 5	700.00	640.28	700.00	640.28		186.00	1.16	1.10	1059.05	1061.23	1061.16	1060.35	1060.21
Alignment 1	Alignment 1	1238	PF 1	30.00	29.10	30.00	29.10		257.00	0.14	0.11	1058.00	1059.20	1059.19	1058.10	1058.08
Alignment 1	Alignment 1	1238	PF 2	100.00	137.32	100.00	137.32		257.00	0.40	0.31	1058.00	1059.47	1059.45	1058.26	1058.23
Alignment 1	Alignment 1	1238	PF 3	200.00	279.18	200.00	279.18		257.00	0.60	0.51	1058.00	1059.69	1059.65	1058.44	1058.41
Alignment 1	Alignment 1	1238	PF 4	400.00	538.06	400.00	538.06		257.00	0.87	0.79	1058.00	1060.00	1059.92	1058.74	1058.70
Alignment 1	Alignment 1	1238	PF 5	700.00	898.71	700.00	898.71		257.00	1.16	1.11	1058.00	1060.35	1060.21	1059.11	1059.05
Alignment 1	Alignment 1	981	PF 1	30.00	5.47	30.00	5.47		202.13	0.08	0.04	1057.02	1058.10	1058.08	1057.01	1057.00
Alignment 1	Alignment 1	981	PF 2	100.00	89.01	100.00	89.01		242.00	0.26	0.25	1057.02	1058.26	1058.23	1057.30	1057.28
Alignment 1	Alignment 1	981	PF 3	200.00	228.12	200.00	228.12		242.00	0.51	0.46	1057.02	1058.44	1058.41	1057.56	1057.53
Alignment 1	Alignment 1	981	PF 4	400.00	499.90	400.00	499.90		242.00	0.86	0.78	1057.02	1058.74	1058.70	1057.92	1057.88
Alignment 1	Alignment 1	981	PF 5	700.00	883.84	700.00	883.84		242.00	1.23	1.14	1057.02	1059.11	1059.05	1058.32	1058.25
Alignment 1	Alignment 1	739	PF 1	30.00	9.69	30.00	9.69		260.42	0.10	0.05	1056.04	1057.01	1057.00	1056.15	1056.14
Alignment 1	Alignment 1	739	PF 2	100.00	121.82	100.00	121.82		302.00	0.28	0.27	1056.04	1057.30	1057.28	1056.34	1056.32
Alignment 1	Alignment 1	739	PF 3	200.00	301.46	200.00	301.46		302.00	0.51	0.48	1056.04	1057.56	1057.53	1056.52	1056.49
Alignment 1	Alignment 1	739	PF 4	400.00	624.04	400.00	624.04		302.00	0.86	0.78	1056.04	1057.92	1057.88	1056.80	1056.74
Alignment 1	Alignment 1	739	PF 5	700.00	1059.84	700.00	1059.84		302.00	1.23	1.11	1056.04	1058.32	1058.25	1057.13	1057.03


18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 1647
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 1425
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 1239
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 982
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 740
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 1 Reach = Alignment 1 RS = 437
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 1640
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 1508
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta


18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 1370
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 1133
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 898
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 2
WS PF 1
Ground
Bank Sta
18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 402
Elevation (ft)
Station (ft)
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 1
WS PF 2
Ground
Bank Sta


18-068 EX HECRAS Plan: Mod 3/7/2019
Geom: 18-068 EX HEC-RAS Modified Flow: 18-068 EX HECRAS
River = Alignment 2 Reach = Alignment 2 RS = 13
Legend
WS PF 5
WS PF 4
WS PF 3
WS PF 1
WS PF 2
Ground
Bank Sta
Elevation (ft)
Station (ft)
1050
1049
1048
1047
1046
1045
1044
100
200
300
400
500
600
700
800

BUCKEYE, AZ

CITY OF BUCKEYE, ARIZONA

TECHNICAL SPECIFICATIONS FOR

Intersection Improvements

CivTech Inc.
10605 N Hayden Road, Suite 140
Scottsdale, AZ 85260
480-659-4250

January 20, 2022



Expires 3/31/2023

CivTech

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Location of the Work: This project is located at the intersection of Verrado Way and Yuma Road.

Technical Specifications and Plans: The Scope of Work embraced herein shall be done in accordance with the technical provisions and specifications and requirements of the following documents.

a. Maricopa Association of Governments Uniform Standard Specifications and Details for Public Works Construction, Latest Edition, herein after referred to as "MAG Standard Specifications".
b. City of Buckeye Engineering Design Standards and Details.
c. Maricopa Association of Governments, Uniform Standard Details for Public Works Construction, Revisions through 2010.
d. Manual on Uniform Traffic Control Devices (MUTCD).
e. MCDOT Roadway Design Manual.
f. ADOT Design Standards.

Contract Time: The Contractor shall complete all project work within 28 calendar weeks beginning with the start date specified in the Notice to Proceed.

Available Informational Material: Existing as-built drawings and a Geotechnical Exploration Report will be available during project advertisement for review from the City of Buckeye Public Works Department. However, these documents are for information only and are not a part of the contract documents.

Method of Measurement for Payment: Shall be in accordance with the ADOT Standard Specifications except as set forth as the unit price in the Bid Schedule and in these Special Provisions.

When the standard specifications use a unit of measure that differs from the unit of measure shown on the Bid Schedule, the units shown on the Bid Schedule shall be controlling. The units shown in the standard specifications shall be revised to match the units shown on the Bid Schedule.

Failure to Meet Required Projection Rates: Failure by the Contractor to timely and adequately respond to the Engineer or designated representative's weekly notice of product requirements shall constitute a material breach of the Contract, whereupon City may cancel the Contract and pursue any available legal remedy to recover for damages flowing from that breach.

Material Specifications: The Contractor shall conform to all material specifications defined in scope of work, Construction Plans, Bid Schedule, and Technical specifications as referenced in these Special Provisions. Prior to the use or delivery of any materials, Contractor shall be required to furnish signed and notarized Certificates of Compliance to ensure that City receives material that adheres to the previously mentioned specifications.

Mitigation Measures:

The following mitigation measures are not subject to change without prior written notice from the City of Buckeye.

- To prevent the introduction of invasive species seeds, the contractor shall inspect all earthmoving and hauling equipment at the equipment storage facility and the equipment shall be washed prior to entering the construction site.
- To prevent invasive species from leaving the site, the contractor shall inspect all construction equipment and remove all attached plant/vegetation and soil/mud debris prior to leaving the construction site.
- All disturbed soils not paved that will not be landscaped or otherwise permanently stabilized by construction shall be seeded using species native to the project vicinity.
- If previously unidentified cultural resources are encountered during activity related to the construction of the project, the contractor shall stop work immediately at that location, notify the Engineer, and shall take all necessary steps to secure the preservation of those resources. The Engineer will contact the Arizona Department of Transportation Environmental Planning Group, Historic Preservation Team (602.712.8636).
- If suspected hazardous materials are encountered during construction, work shall cease at that location and the Engineer will be notified immediately to make arrangements for proper treatment and disposal of those materials.
- The contractor shall comply with all local air quality and dust control rules, regulations, and ordinances which apply to any work performed pursuant to the contract.
- Access to adjacent businesses and residences will be maintained throughout construction.

Final Cleaning Up: The Contractor, at its own cost, shall restore the site to pre-construction conditions. Before final acceptance, all private or public property and grounds occupied by the Contractor in connection with the Work shall be cleaned of all rubbish; excess materials, temporary structures and equipment, and all parts of the work area shall be left in a condition acceptable to the Engineer. Costs for this item are considered to be included in the overall bid price and no separate payment shall be made.

Pay Items: All pay items relating to the work indicated on the project plans and/or specifications are listed in the Bid Schedule. The Contractor shall include all costs necessary to complete this project within these items. Any work necessary to complete the project as represented in the plans and/or specifications which are not specifically noted to as a pay item on the Bid Schedule shall be considered incidental to the project and no separate payment shall be made. The following pay items correspond to the bid item numbers as shown on the Bid Schedule.

Item 1 – Remove Existing Asphalt Pavement (2' min)

Description:

Remove the existing Asphalt pavement to the full depth at the limits of the area designated by the Engineer.

Method of Measurement:
Measurement will be by the quantity of full depth pavement removal and asphalt replacement by the number of square yards repaired in the complete and accepted work.

Basis of Payment:
Payment is full compensation for furnishing all materials and removing pavement by any method.

Item 2 – Remove Concrete Curb and Gutter

Description:
The work under this section shall consist of removal of existing Curb and Gutter, as shown on the Plans or requested by the Engineer

Method of Measurement:
Measurement for removal of Curb and Gutter will be by square footage and shall only include area removed.

Basis of Payment:
Payment for removal of Curb and Gutter at the contract unit price shall be full compensation for the work, complete-in-place, including all sawcut to full depth, removal and disposal of concrete.

Item 3 – Remove Directional Ramp

Description:
The work under this section shall consist of removal of directional ramps shown on the plans or requested by the Engineer

Method of Measurement:
Measurement for removal of directional ramps will be by square yardage and shall only include area removed.

Basis of Payment:
Payment for removal of directional ramps at the contract unit price shall be full compensation for the work, complete-in-place, including all sawcut to full depth, removal and disposal of concrete.

Item 4– Remove Pole and Foundations

Description:
The work under this section shall consist of removal of existing poles and foundations as shown on the plans or requested by the Engineer.

Method of Measurement:
Measurement for removal of existing pole and foundation will be as each pole and foundation removed.

Basis of Payment:
Payment for removal of existing pole and foundation at the contract unit price shall be full compensation for the work, complete-in-place.

Item 5– Remove Asphalt Sidewalk

Description:
The work under this section shall consist of removal of existing Asphalt Sidewalk as shown on the Plans or requested by the Engineer

Method of Measurement:
Measurement for removal of existing Asphalt Sidewalk will be by square yardage and shall only include area removed.

Basis of Payment:
Payment for removal of existing Asphalt Sidewalk at the contract unit price shall be full compensation for the work, complete-in-place, including all sawcut to full depth, removal and disposal of concrete.

Item 6 – Asphalt Concrete Pavement

Description:
This section is to provide specifications for furnishing all materials, mixing at a plant, hauling and placing a mixture of aggregate materials, mineral admixture and asphalt binder to form a pavement course for placement upon a previously prepared base or sub base per MAG Standard Specification Section 321.1.

Method of Measurement:
Asphalt concrete pavement will be measured by the ton for the mixture actually used as allowed above, which shall include the required quantities of mineral aggregates, asphalt binder, and mineral admixture indicated on the plans or as directed by the Engineer.

Basis of Payment:
The asphalt concrete measured as provided above will be paid for at the contract price per ton as adjusted per Section 321.1, which price shall be full compensation for the item complete, as herein described and specified. Payment for tack coat will be by the ton diluted, based on the rate of application, as directed by the Engineer. No payment will be made for any overrun in quantity of asphalt concrete in excess of 10 percent based

on actual field measurement of area covered, design thickness, and the mix design unit weight. The calculations and payment for overrun will be by individual pay item. To compensate or adjust for a thickness deficiency in an underlying asphalt concrete course, the Engineer may authorize a quantity increase in excess of 10 percent for a subsequent asphalt concrete course. In such cases, the quantity in excess of 10 percent will be paid for at the lowest unit price. Agency required repairs of existing pavement prior to roadway overlay operations will be paid for as a separate pay item. Except as otherwise specified, no separate payment will be made for work necessary to construct miscellaneous items or surfaces of asphalt concrete.

Item 7 – Construct Asphalt Pavement Edge Type A per MAG STD DTL 201

Description:
The work under this section shall consist of constructing Asphalt Pavement Edges per MAG Standard Detail 201.

Method of Measurement:
Measurement for constructing Asphalt Pavement Edges will be by linear feet.

Basis of Payment:
Payment for constructing Asphalt Pavement Edges at the contract unit price shall be full compensation for the work.

Item 8 – Construct Directional Ramps

Description:
The work under this section shall consist of constructing Directional Ramps per Town of Buckeye Standard Detail 63240.

Method of Measurement:
Measurement for construction of Directional Ramps will be by each Ramp constructed.

Basis of Payment:
Payment for constructing Directional Ramps at the contract unit price shall be full compensation for the work.

Item 9 – Construct Vertical Curb and Gutter per MAG STD DTL 220 Type "A"

Description:
The work under this section shall consist of constructing Vertical Curb and Gutter where shown on the Plans or requested by the Engineer per MAG Standard detail 220 Type "A".

Method of Measurement:
The various types of curb and gutter shown on the plans will be measured along gutter flow line through inlets, catch basins, driveways, curb ramps, etc., by the linear foot to the nearest foot for each type, complete in place. Measurement for curb terminations and transitions shall be included with the linear measurement of the various types of curb or curb and gutter as shown on the plans.

Basis of Payment:
Payment will be made in accordance with the unit prices as set forth in the proposal. Such payment shall include full compensation for furnishing all labor, material, tools and equipment and accomplishing all work in conformance with the contract documents.

Item 10 – Construct Single Curb Termination, per MAG STD DTL 222.

Description:
The work under this section shall consist of constructing Single Curb Terminations as shown on the Plans or requested by the Engineer

Method of Measurement:
Measurement for construction of Single Curb Terminations will be as each Single Curb Termination constructed.

Basis of Payment:
Payment for construction of Single Curb Terminations will be as each Single Curb Termination constructed.

Items 11 and 12– Install Hand Rail and Trash Rack per COB STD DTL B-110 and B-508

Description:
The work under this section shall consist of installing Hand Rails and Trash Racks per COB STD DTL B-110 and B-508.

Method of Measurement:
Measurement for construction of Hand Rails and Trash Racks will be as each Hand Rail constructed.

Basis of Payment:
Payment for construction of Single Curb Terminations will be as each Single Curb Termination constructed.

Item 13 – Construct Concrete Sidewalk per MAG STD DTL 230

Description:
The work under this section shall consist of constructing Concrete Sidewalk per MAG Standard Detail 230.

Method of Measurement:
Measurement for construction of Concrete Sidewalk will be in linear feet.

Basis of Payment:
Payment for construction of construction of Concrete Sidewalk at the contract unit price shall be full compensation for the work

Item 14 – Adjust Water Valve Box to Grade per MAG STD DTL 391-2

Description:
The Contractor shall furnish all labor, materials, and equipment necessary to adjust all frames, covers and valve boxes as indicated on the plans or as designated by the Engineer. The frames shall be set to grades established by the Engineer.

The Contractor may elect to remove old frames, covers, and valve boxes and then install new frames and/or boxes in accordance with standard detail drawings at no additional cost to the Contracting Agency.

The Contractor shall be responsible for maintaining an accurate description and location of all items to be adjusted. The locations shall be referenced with map documentation by the use of swing ties or GPS locations. This information shall be supplied to the Engineer and utility owner(s) prior to taking any action that would hide or restrict access to the items to be adjusted.

Any missing or defective frames, covers, valve boxes or related hardware shall be reported to the Engineer in writing during the initial location process to allow for timely replacement. The Engineer shall be responsible for providing replacement items to the contractor. The contractor is responsible for providing items required to accomplish the required adjustments such as additional adjusting rings, valve box extensions, meter box extensions, and pull box extensions.

Method of Measurement:
The quantities measured will be the actual number of frames, covers and valve boxes or each type, adjusted and accepted.

Basis of Payment:
Accepted quantities will be paid for at the contract unit price. Payment shall be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

Item 15 – Adjust Manhole Frame and Cover to Grade, per MAG STD DTL 422

Description:

The Contractor shall furnish all labor, materials, and equipment necessary to adjust all frames, covers and valve boxes as indicated on the plans or as designated by the Engineer. The frames shall be set to grades established by the Engineer.

The Contractor may elect to remove old frames, covers, and valve boxes and then install new frames and/or boxes in accordance with standard detail drawings at no additional cost to the Contracting Agency.

The Contractor shall be responsible for maintaining an accurate description and location of all items to be adjusted. The locations shall be referenced with map documentation by the use of swing ties or GPS locations. This information shall be supplied to the Engineer and utility owner(s) prior to taking any action that would hide or restrict access to the items to be adjusted.

Any missing or defective frames, covers, valve boxes or related hardware shall be reported to the Engineer in writing during the initial location process to allow for timely replacement. The Engineer shall be responsible for providing replacement items to the contractor. The contractor is responsible for providing items required to accomplish the required adjustments such as additional adjusting rings, valve box extensions, meter box extensions, and pull box extensions.

Item 16 – Adjust Traffic Signal Pullbox to Grade

Description:

The Contractor shall furnish all labor, materials, and equipment necessary to adjust all pull boxes as indicated on the plans or as designated by the Engineer. They shall be set to grades established by the Engineer.

The Contractor may elect to remove old pull boxes and then install new boxes in accordance with standard detail drawings at no additional cost to the Contracting Agency.

The Contractor shall be responsible for maintaining an accurate description and location of all items to be adjusted. The locations shall be referenced with map documentation by the use of swing ties or GPS locations. This information shall be supplied to the Engineer and utility owner(s) prior to taking any action that would hide or restrict access to the items to be adjusted.

Any missing or defective pull boxes or related hardware shall be reported to the Engineer in writing during the initial location process to allow for timely replacement. The Engineer shall be responsible for providing replacement items to the contractor. The contractor is responsible for providing items required to accomplish the required adjustments such as

additional adjusting rings, valve box extensions, meter box extensions, and pull box extensions.

Method of Measurement:
This item will be measured as each item as shown on the plans.

Basis of Payment:
Accepted quantities will be paid for at the contract unit price. Payment shall be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

Item 17–Construct Pass Through Curb Per Detail on Sheet 25

Description:
The work under this section shall consist of furnishing all materials and constructing pass through curbs at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Pass through curbs will be measured by each unit installed.

Basis of Payment:
The accepted quantities of pass-through curbs, measured as provided above, will be paid for at the contract unit price each, for the designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and, on the plans, including all hardware, excavation, and incidentals necessary to complete the work. The accepted quantities, measured as provided above, will be paid for at the contract unit price each, for the type of pass-through curb designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and, on the plans, including all parts, hardware and incidentals necessary to complete the work.

Item 18 – Pole (Type A)

Description:
The work under this section shall consist of furnishing all materials and constructing new or modifying existing Type A Poles at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
The structural supports and foundations for traffic signals and highway lighting will be measured as a unit for each type of support and foundation furnished and installed. Modification of existing poles will be measured as a unit for each pole modified.

Basis of Payment:
The accepted quantities of Type A Poles, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and, on the plans, including all hardware, wire, excavation, backfill and incidentals necessary to complete the work. The accepted quantities of modify pole, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and, on the plans, including all parts, hardware and incidentals necessary to complete the work. No measurement or direct payment will be made for anchor bolts, the cost being considered as included in the unit price paid for foundations.

Item 19 – Pole Foundation (Type A)

Description:
The work under this section shall consist of furnishing all materials and constructing new supports and foundations for Type A Poles or modifying those of existing poles at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Pole foundations shall include all conduit, elbows, anchor bolts, grounding wire and reinforcing steel. Cabinet foundations shall include conduit, elbows, anchor bolts and clearance pad.

Method of Measurement:
The structural supports and foundations for traffic signals and highway lighting will be measured as a unit for each type of support and foundation furnished and installed. Modification of existing poles will be measured as a unit for each pole modified.

Basis of Payment:
The accepted quantities of supports and foundations for signals and lighting, measured as provided above, will be paid for at the contract unit price each, for the type of support or foundation designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including all hardware, wire, excavation, backfill and incidentals necessary to complete the work.

The accepted quantities of modify pole, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and on the plans, including all parts, hardware and incidentals necessary to complete the work.

No measurement or direct payment will be made for anchor bolts, the cost being considered as included in the unit price paid for foundations.

Item 20 – Pole (Pedestrian Post)

Description:
The work under this section shall consist of furnishing all materials and constructing new or modifying existing Pedestrian Post Poles at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
The structural supports and foundations for traffic signals and highway lighting will be measured as a unit for each type of support and foundation furnished and installed. Modification of existing poles will be measured as a unit for each pole modified.

Basis of Payment:
The accepted quantities of Pedestrian Post Poles, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and, on the plans, including all hardware, wire, excavation, backfill and incidentals necessary to complete the work. The accepted quantities of modify pole, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and, on the plans, including all parts, hardware and incidentals necessary to complete the work. No measurement or direct payment will be made for anchor bolts, the cost being considered as included in the unit price paid for foundations.

Item 21 – Pole Foundation (Pedestrian Post)

Description:
The work under this section shall consist of furnishing all materials and constructing new supports and foundations for Pedestrian Post Poles or modifying those of existing poles at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Pole foundations shall include all conduit, elbows, anchor bolts, grounding wire and reinforcing steel. Cabinet foundations shall include conduit, elbows, anchor bolts and clearance pad.

Method of Measurement:

The structural supports and foundations for traffic signals and highway lighting will be measured as a unit for each type of support and foundation furnished and installed. Modification of existing poles will be measured as a unit for each pole modified.

Basis of Payment:
The accepted quantities of supports and foundations for signals and lighting, measured as provided above, will be paid for at the contract unit price each, for the type of support or foundation designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including all hardware, wire, excavation, backfill and incidentals necessary to complete the work.

The accepted quantities of modify pole, measured as provided above, will be paid for at the contract unit price each, for the type of pole designated in the bidding schedule to be modified, which price shall be full compensation for the work described and specified herein and on the plans, including all parts, hardware and incidentals necessary to complete the work.

No measurement or direct payment will be made for anchor bolts, the cost being considered as included in the unit price paid for foundations.

Item 22 – Electrical Conduit (2") (PVC)

Description:
The work under this section shall consist of furnishing and installing electrical conduits at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Conduit will be measured by the linear foot for each diameter size as follows:

(1) From center to center of pull boxes.

(2) From edge of foundation to center of pull box.

(3) From edge to edge of foundation.

(4) From end of conduit to center of pull box or foundation.

(5) From end to end of conduit when no pull boxes are used.

Pull boxes will be measured as a unit for each pull box.

Basis of Payment:

The accepted quantities of conduit, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for the work, complete in place, including excavation, backfill and any incidentals necessary to complete the work. No direct payment will be made for rigid metal conduit bends or rigid non-metallic conduit bends at pull boxes, expansion fittings and coupling fittings, the cost being considered as included in the contract price for the conduit items.

Item 23 – Traffic Signal Face (Type R)

Description:
The work under this section shall consist of furnishing and installing or modifying traffic signal indication assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Traffic signal faces will be measured as a unit for each type of signal face furnished and installed or modified.

Basis of Payment:
The accepted quantities of traffic signal face, measured as provided above, will be paid for at the contract unit price each as designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 24 – Traffic Signal Mounting Assembly (Type V)

Description:
The work under this section shall consist of furnishing and installing or modifying mounting assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Traffic signal mounting assemblies will be measured as a unit for each type of mounting assembly furnished and installed or modified.

Basis of Payment:
The accepted quantities of mounting assemblies, measured as provided above, will be paid for at the contract unit price each, for the mounting assembly designated in the bidding schedule, complete in place, which price shall be full compensation for the work

described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 25 – Traffic Signal Mounting Assembly (Type VI)

Description:
The work under this section shall consist of furnishing and installing or modifying mounting assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Traffic signal mounting assemblies will be measured as a unit for each type of mounting assembly furnished and installed or modified.

Basis of Payment:
The accepted quantities of mounting assemblies, measured as provided above, will be paid for at the contract unit price each, for the mounting assembly designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 26 – Traffic Signal Mounting Assembly (Type II)

Description:
The work under this section shall consist of furnishing and installing or modifying mounting assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Traffic signal mounting assemblies will be measured as a unit for each type of mounting assembly furnished and installed or modified.

Basis of Payment:
The accepted quantities of mounting assemblies, measured as provided above, will be paid for at the contract unit price each, for the mounting assembly designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 27 – Pedestrian Crossing Head

Description:
The work under this section shall consist of furnishing and installing or modifying traffic signal indication assemblies, pedestrian signal indications, flashing beacons, and mounting assemblies at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement: Traffic signal faces, pedestrian signal faces, traffic signal mounting assemblies and flashing beacons will be measured as a unit for each type of signal face, mounting assembly or flashing beacon furnished and installed or modified.

Basis of Payment:
The accepted quantities of traffic signal faces, pedestrian signal faces, traffic signal mounting assemblies and flashing beacons, measured as provided above, will be paid for at the contract unit price each, for the type signal face, mounting assembly or flashing beacon designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including visors, backplates, lamps and all hardware necessary to provide a complete, functional, traffic signal installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 28 – Pedestrian Pushbutton

Description:
The work under this section shall consist of furnishing and installing or modifying Pedestrian Push Buttons at the locations shown on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement: Push Buttons will be measured as a unit for each type furnished and installed or modified.

Basis of Payment:
The accepted quantities of push buttons, measured as provided above, will be paid for at the contract unit price each, for the type signal face, mounting assembly or flashing beacon designated in the bidding schedule, complete in place, which price shall be full compensation for the work described and specified herein and on the plans, including all hardware necessary to provide a complete, functional, push button installation.

The cost will be considered to be included in the contract price bid for the item in place.

Item 29 – Erosion Control (Wattles) (20")

Description:
The work under this section shall include furnishing, installing, maintaining, removing and disposing of temporary erosion control measures such as silt fences, check dams, straw barriers, and other erosion control devices or methods as shown in the Storm Water Pollution Prevention Plan (SWPPP) and in the Special Provisions. The work shall also include furnishing, installing, and maintaining permanent erosion control measures such as pipe inlet and outlet protection, cut and fill slope transitions, headwall and wingwall treatments, and other permanent erosion control devices or methods as shown in the SWPPP.

Method of Measurement:
Erosion control wattles will be measured by the linear foot.

Basis of Payment:
The accepted quantities of erosion control wattles, measured as provided above, will be paid for at the contract unit price per square yard, which price shall be full compensation for the work, complete in place, including all excavation and preparation; and furnishing, installing, and maintaining the erosion control blankets, as approved by the Engineer. Such unit bid price shall be considered full compensation for either short-term or extended-term blankets. No additional payment will be made for technical assistance provided by representatives of the blanket supplier, the cost being considered as included in the unit bid price.

Item 30 – Roadway Excavation

Description:
The work under this section shall consist of performing all operations necessary to excavate all materials, regardless of character and subsurface conditions, from the roadway or adjacent thereto; to excavate drainage and irrigation ditches and channels; to excavate for structures, culverts, and other facilities; to furnish and place borrow material for use as specified; to construct embankments; to place backfills for structures, culverts and other facilities; to backfill holes, pits and other depressions within the roadway area; to remove and replace unsuitable material; to excavate and grade road approaches, driveways and connections; to construct dikes and berms; and to apply water for compaction, all as designated on the project plans, specified in the Special Provisions, or directed by the Engineer.

Method of Measurement:
Measurement of roadway excavation for payment will not be required unless adjustments are made in accordance with Subsection 205.7. When adjustments are required, roadway excavation will be measured by the cubic yard in the original space occupied and the volume of material removed will be computed in cubic yards by the average end area method.

Excavation originating outside of the neat lines of cut slopes as a result of necessary blasting operations will not be measured for additional payment.

Basis of Payment:
The quantities of roadway excavation as shown in the bidding schedule and any adjustments as specified in Subsection 205.8 will be paid for at the contract unit price per cubic yard. The price shall include full compensation for the work complete, in place, including slope rounding, blasting, hauling, stockpiling, placing and compacting embankments, disposal of surplus material, and preparation of the subgrade in accordance with the requirements of these specifications. Payment for removal of slides which are not deemed to be the result of carelessness on the part of the contractor will be made in accordance with the requirements of Subsection 104.02. When unsuitable material is removed, as specified in Subsection 203-3.03(D), payment for this work will be in accordance with the requirements of Subsection 104.02. No adjustment to the contract unit price will be made because of increased excavation quantities resulting from the removal of unsuitable material.

Item 31 – Aggregate Base Class 2

Description:
The work under this section shall consist of installation of Aggregate Base Class 2.

Method of Measurement:
Aggregate Base Class 2 will be measured by the cubic yard in-place. Measurement will be to the nearest cubic yard. No allowance will be made for material in laps.

Basis of Payment:
The accepted quantity of aggregate base class 2, measured as provided above, will be paid for at the contract unit price per cubic yard, which price shall be full compensation for furnishing all labor materials, and equipment, and performing all operations as shown on the project plans.

Item 32 – Structure Backfill

Description:
The work under this section shall consist of hauling, placing, and compacting structure backfill.

Method of Measurement:
Structure backfill will be measured by the cubic yard of material based on the volume calculated from the pay limits shown on the plans.

Basis of Payment:
The accepted quantities of structure backfill, measured as provided above, will be paid for at the contract unit price. The price shall be full compensation for the work complete as hereinbefore specified.

Item 33 – Pipe Reinforced Concrete, Class IV (36")

Description:
Reinforced concrete pipe (circular) shall conform to the requirements of AASHTO M 242 for the D-load specified.

Reinforced concrete pipe (circular) shall conform to the requirements of AASHTO M 170 for the class of pipe specified.

Reinforced concrete pipe (elliptical) shall conform to the requirements of AASHTO M 207 for the class of pipe specified. Reinforced concrete pipe (arch) shall conform to the requirements of AASHTO M 206 for the class of pipe specified.

The contractor shall furnish the Engineer a copy of the pipe design when the standard AASHTO tables are exceeded.

Precast, reinforced concrete flared end sections shall conform to the requirements of the previously cited specifications to the extent to which they apply. The area of steel reinforcement per linear foot of the flared end section shall be at least equal to the minimum steel requirement for the reinforcement in that portion of the flared end section which abuts the pipe.

Gaskets for reinforced concrete pipe (circular) joints shall conform to the requirements of AASHTO M 198.

Mortar used to join reinforced concrete pipe shall be composed by volume of one-part Portland cement, two parts fine aggregate, one-fifth part hydrated lime and sufficient water to provide a plastic mixture. Cement and water shall conform to the requirements of Section 1006.

Fine aggregate shall conform to the grading requirements of ASTM C 144. Hydrated lime shall conform to the requirements of ASTM C 207, Type N. The lime shall be considered as an addition to and not as replacement for any cement.

Item 34 – Construct 22.5 ° Factory Fitted Wye Connection 36" RGRCP

Description:
Reinforced concrete pipe (circular) shall conform to the requirements of AASHTO M 242 for the D-load specified.

Reinforced concrete pipe (circular) shall conform to the requirements of AASHTO M 170 for the class of pipe specified.

Reinforced concrete pipe (elliptical) shall conform to the requirements of AASHTO M 207 for the class of pipe specified. Reinforced concrete pipe (arch) shall conform to the requirements of AASHTO M 206 for the class of pipe specified.

The contractor shall furnish the Engineer a copy of the pipe design when the standard AASHTO tables are exceeded.

Precast, reinforced concrete flared end sections shall conform to the requirements of the previously cited specifications to the extent to which they apply. The area of steel reinforcement per linear foot of the flared end section shall be at least equal to the minimum steel requirement for the reinforcement in that portion of the flared end section which abuts the pipe.

Gaskets for reinforced concrete pipe (circular) joints shall conform to the requirements of AASHTO M 198.

Mortar used to join reinforced concrete pipe shall be composed by volume of one-part Portland cement, two parts fine aggregate, one-fifth part hydrated lime and sufficient water to provide a plastic mixture. Cement and water shall conform to the requirements of Section 1006.

Fine aggregate shall conform to the grading requirements of ASTM C 144. Hydrated lime shall conform to the requirements of ASTM C 207, Type N. The lime shall be considered as an addition to and not as replacement for any cement.

Method of Measurement:
Factory fitted wye connections will be measured by each unit furnished and installed.

Basis of Payment:
The accepted quantity of reinforced concrete factory fitted wye connections, measured as provided above, will be paid for at the contract unit price, which price shall be full compensation for furnishing all labor materials, and equipment, and performing all operations as shown on the project plans.

Item 35 – Construct Headwall per COB STD DTL 51200

Description:
The work under this section shall consist of furnishing all materials and constructing structures or parts of structures to the forms, shapes, and dimensions shown on the project plans and to the lines and grades established by the Engineer and in accordance with the requirements of these specifications. When the structure or parts of structures are precast, the work shall also include transporting and erecting the units.

Concrete structures such as headwalls which can readily be precast as units and furnished and installed in place are hereby defined as minor structures. Minor structures, at the option of the contractor, may be either constructed of cast-in-place concrete or furnished and installed as precast units providing, they are fabricated in accordance with drawings submitted and approved in accordance with requirements which may be found in the Special Provisions.

Method of Measurement:
Headwalls will be measured by each unit furnished and installed.

Basis of Payment:
Payment for structural concrete used in headwalls will be made as provided in Subsection 601-6. Payment for reinforcing steel used in footings and headwalls will be made as provided in Subsection 605-5.

Item 36 – Pavement Marking (White Extruded Thermoplastic) (0.090")

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Thermoplastic pavement longitudinal and transverse markings, such as edge lines, lane lines, gore lines, cross-walks and stop bars, will be measured by the linear foot along the center line of the pavement marking line and will be based on a four-inch-wide line. Measurement for striping with a plan width greater or less than the basic four inches as shown on the plans or directed by the Engineer will be made by the same method and then adjusted by the following factor:

$$\frac{\text{Plan Width of Striping (inches)} \times \text{Linear Feet}}{4 \text{ (inches)}}$$

No measurement will be made of the number of linear feet of gaps in dashed lines.

Double marking lines, consisting of two four-inch-wide stripes, will be measured as two individual marking lines. Crosswalk lines, stop bars, stop lines, gore lines, cross hatch lines, chevron lines and railroad marking transverse lines will be measured for centerline length and adjusted for widths other than four inches, as defined above.

Thermoplastic pavement marking symbols, such as diamonds, or single, double, or triple arrows, will be measured by each unit applied. Each pavement symbol, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of thermoplastic pavement markings of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 37 – Pavement Marking (Yellow Extruded Thermoplastic) (0.090")

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Thermoplastic pavement longitudinal and transverse markings, such as edge lines, lane lines, gore lines, cross-walks and stop bars, will be measured by the linear foot along the center line of the pavement marking line and will be based on a four-inch-wide line. Measurement for striping with a plan width greater or less than the basic four inches as shown on the plans or directed by the Engineer will be made by the same method and then adjusted by the following factor:

$$\frac{\text{Plan Width of Striping (inches)x Linear Feet}}{\text{4 (inches)}}$$

No measurement will be made of the number of linear feet of gaps in dashed lines.

Double marking lines, consisting of two four-inch-wide stripes, will be measured as two individual marking lines. Crosswalk lines, stop bars, stop lines, gore lines, cross hatch lines, chevron lines and railroad marking transverse lines will be measured for centerline length and adjusted for widths other than four inches, as defined above.

Thermoplastic pavement marking symbols, such as diamonds, or single, double, or triple arrows, will be measured by each unit applied. Each pavement symbol, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for

disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of thermoplastic pavement markings of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 38 – Pavement Marking (Transverse Thermoplastic ALKYD) (0.090")

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Thermoplastic pavement longitudinal and transverse markings, such as edge lines, lane lines, gore lines, cross-walks and stop bars, will be measured by the linear foot along the center line of the pavement marking line and will be based on a four-inch-wide line. Measurement for striping with a plan width greater or less than the basic four inches as shown on the plans or directed by the Engineer will be made by the same method and then adjusted by the following factor:

$$\frac{\text{Plan Width of Striping (inches)} \times \text{Linear Feet}}{4 \text{ (inches)}}$$

No measurement will be made of the number of linear feet of gaps in dashed lines.

Double marking lines, consisting of two four-inch-wide stripes, will be measured as two individual marking lines. Crosswalk lines, stop bars, stop lines, gore lines, cross hatch lines, chevron lines and railroad marking transverse lines will be measured for centerline length and adjusted for widths other than four inches, as defined above.

Thermoplastic pavement marking symbols, such as diamonds, or single, double, or triple arrows, will be measured by each unit applied. Each pavement symbol, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of thermoplastic pavement markings of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 39 – Pavement Legend (Extruded Thermoplastic ALKYD) (0.090")

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Thermoplastic pavement marking legends will be measured by each unit applied. Each pavement symbol, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of thermoplastic pavement markings of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 40 – Pavement Symbol (Extruded Thermoplastic ALKYD) (0.090")

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying either white or yellow thermoplastic reflectorized pavement markings using extrusion, ribbon or spray dispensing devices of the required shape and thickness to the prepared pavement surface at the locations and in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Thermoplastic pavement marking symbols, such as diamonds, or single, double, or triple arrows, will be measured by each unit applied. Each pavement symbol, as shown on the plans, will be considered a unit.

Thermoplastic pavement marking legends, defined as a complete letter grouping such as "SCHOOL," "XING," "STOP," “RR,” or "ONLY.", will be measured by each unit applied. Each pavement legend, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of thermoplastic pavement markings of the type specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 41 – Obliterate Pavement Markings (Arrow Symbol or Legend)

Description:
This work shall consist of obliteration of pavement symbols shown on the plans or as designated by the Engineer.

Method of Measurement:
Obliterate Pavement Markings will be measured in accordance with the requirements of Subsection 708-4 of these specifications.

Basis of Payment:
Obliterate Striping, measured as provided above, will be paid for at the unit bid price each, which price shall be full compensation for the work, complete, including furnishing all labor and equipment required and restoring the pavement surface to a condition acceptable to the Engineer. The accepted quantities of Arrows, Symbols, or Legends obliterated shall be paid for at the unit bid price for each item.

Item 41A – Obliterate Pavement Marking (Stripe)

Description:
This work shall consist of obliteration or pavement stripes shown on the plans or as designated by the Engineer.

Method of Measurement:
Obliterate Pavement Stripes will be measured in linear feet, Markers and Adhesive pad, or Adhesive pad alone where Markers are missing.

Basis of Payment:
Obliterate Pavement Stripes will be paid for at the unit bid price per linear foot, which price shall be full compensation for the work, complete, including adhesive pad.

Item 42 – Type “D” Yellow RPMs

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying type “D” yellow RPMs in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Pavement markers will be measured by each unit applied. Each pavement marker, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of type “D” yellow RPMs specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 43 – Type “G” White RPMs

Description:
The work under this section shall consist of cleaning and preparing pavement surfaces and furnishing and applying type “G” white RPMs in accordance with the details shown on the project plans, the manufacturer's specifications, and the requirements of these specifications.

Method of Measurement:
Pavement markers will be measured by each unit applied. Each pavement marker, as shown on the plans, will be considered a unit.

No separate measurement or payment will be made for cleaning and preparing the pavement surface, including abrasive sweeping and high-pressure air spray, and for disposal of excess materials, cleaning fluids, and empty material containers, the cost being considered as included in contract items.

Basis of Payment:
The accepted quantities of type “G” white RPMs specified in the bidding schedule, measured as provided above, will be paid for at the contract unit price, complete in place, including pavement surface preparation and glass beads.

Item 44 – New Sign Panels Per City of Buckeye Section 6-5.102

Description:
The work under this section shall consist of furnishing and installing sign panels per City of Buckeye Section 6-5.102.

Method of Measurement:
Sign panels will be measured by the square foot for each type or types of sign panels furnished and installed. The area of each sign panel, except for warning, regulatory and marker sign panels, will be measured per plans dimensions.

For warning, regulatory and marker sign panels, the area of each sign panel will be measured to the nearest square foot and the areas will be determined as follows:

> The areas of each rectangular, square or triangular sign panel will be determined from the dimensions shown on the plans. The area of irregular shaped signs, such as stop signs and route markers, will be determined by multiplying the maximum height in feet by the maximum width in feet, using the dimensions shown on the plans.

Basis of Payment:
The accepted quantities of each type of sign panel designated in the bidding schedule, measured as provided above, will be paid for at the contract unit price per square foot, complete in place.
The contract unit price shall be full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for performing all the work involved in furnishing and installing the sign panels, complete in place, including furnishing and applying all retroreflective sheeting, all fastening hardware, all necessary sign supports, stringers and post ties, all as shown on the plans and as specified herein.

Item 45 – Remove and Relocate Existing Signs

Description:
This item consists of removing or re-locating existing small or large sign assemblies as shown on the plans.

Method of Measurement:
This item will be measured as each sign assembly removed or relocated as shown on the plans.

Basis of Payment:
The work performed and materials furnished in accordance with this Item and measured will be paid for at the unit price bid for removing and relocating any existing signs. This price shall be full compensation for furnishing and installing new breakaway stubs, new

foundations, and/or new sign supports (when required); for new sign panels (when required), removing existing signs and related materials; for modifying existing sign supports; for preparing and cleaning; for salvaging; for hauling, excavating, backfilling and surface placement; and for all other materials, labor, tools, equipment and incidentals necessary to complete the work the proposal. Such payment shall include full compensation for furnishing all labor, materials, tools and equipment, preparation of subgrade for placing of concrete and doing all work required to construct the structures in conformity with the plans and specifications.

Item 46– Remove Traffic Signals

Description:
The work under this section shall consist of the removal, wholly or in part, satisfactory disposal of, and replacement of Traffic Signals.

Method of Measurement:
Removal of structures and obstructions will be measured under this section on a unit basis; measurement will be made by the units designated in the bidding schedule.

Basis of Payment:
Payment for the accepted quantities of removal of structures and obstructions will be made by specific removal items.

Item 47 – Install New Sign Posts

Description:
This item consists of installing new sign post assemblies as shown on the plans.

Method of Measurement:
This item will be measured as each sign post assembly installed as shown on the plans.

Basis of Payment:
The work performed and materials furnished in accordance with this Item and measured will be paid for at the unit price bid for installing any new sign posts. This price shall be full compensation for furnishing and installing new sign posts; for hauling, excavating, backfilling and surface placement; and for all other materials, labor, tools, equipment and incidentals necessary to complete the work the proposal. Such payment shall include full compensation for furnishing all labor, materials, tools and equipment, preparation of subgrade for placing of concrete and doing all work required to construct the structures in conformity with the plans and specifications.

Item 48 – Install New Sign Post Foundations

Description:

This item consists of installing new sign post foundations as shown on the plans.

Method of Measurement:
This item will be measured as each sign post foundation installed as shown on the plans.

Basis of Payment:
The work performed and materials furnished in accordance with this Item and measured will be paid for at the unit price bid for installing any new sign post foundations. This price shall be full compensation for furnishing and installing new sign post foundations; for hauling, excavating, backfilling and surface placement; and for all other materials, labor, tools, equipment and incidentals necessary to complete the work the proposal. Such payment shall include full compensation for furnishing all labor, materials, tools and equipment, preparation of subgrade for placing of concrete and doing all work required to construct the structures in conformity with the plans and specifications.

Item 49 – Pole (Special) (APS Architectural Square Tube with 8x8 mast arm)

Description:
The work under this section shall consist of furnishing and installing APS architectural square tube pole with 8x8 mast arm.

Method of Measurement:
The light pole will be measured as a complete in place unit for each pole furnished and installed including the pole, Sonotube, excavation, backfill, grounding wire and any incidental materials necessary for a fully functioning street light.

Basis of Payment:
The accepted quantity for street light poles, measured as provided above, will be paid for at the contract unit price for each pole, which shall be full compensation for the work, complete in place as shown on the plans.

Item 50 – Foundation (APS Architectural Square Tube)

Description:
The work under this section shall consist of furnishing and installing APS architectural square tube pole.

Method of Measurement:
The light pole will be measured as a complete in place unit for each pole furnished and installed including the pole, Sonotube, excavation, backfill, grounding wire and any incidental materials necessary for a fully functioning street light.

Basis of Payment:

The light pole will be measured as a complete in place unit for each pole furnished and installed including the pole, Sonotube, excavation, backfill, grounding wire and any incidental materials necessary for a fully functioning street light.

Item 51 – Install Electrical Conduit (2 ½") (PVC)

Description:
The Contractor shall furnish and install conduit at the locations called for on the plans.

Method of Measurement:
Conduit is measured by the linear foot of conduit, from center to center of pull boxes or from center of pull box to center of foundation.

Basis of Payment:
The accepted quantity of conduit, measured as provided above, will be paid for at the contract unit price per linear foot, which price shall be full compensation for furnishing and installing the conduit, complete in place, including any incidentals necessary to complete the work.

Item 52 – Pull Box (Contractor Installed) (APS Furnished)

Description:
The Contractor shall install street light junction boxes, furnished by APS, at the locations called for on the plans.

Method of Measurement and Payment:
Pull boxes will be paid for at the contract unit price for each type of pull box installed, leveled with the ground/surface, with landscaping and/or concrete/decorative surroundings returned to their original grade and condition.

Item 53 – Conductors (Roadway Lighting)

Description:
The work under this section shall consist of the installation of conductors in the poles to the pull boxes.

Method of Measurement:
Installation of conductors will be measured on a lump sum basis except that when the bidding schedule contains specific items under this section on a unit basis, measurement will be made by the units designated in the bidding schedule.

Basis of Payment:
Payment for the accepted quantities of removal of structures and obstructions will be made by lump sum or by specific removal items or by a combination of both.

Item 54 – Luminaire (LED) (250 HPS Equivalent)

Description :
The work under this section shall consist of the installation of LED (250 HPS Equivalent) Luminaires.

Method of Measurement:
Installation of conductors will be measured as each unit installed; measurement will be made by the units designated in the bidding schedule.

Basis of Payment:
Payment for the accepted quantities of removal of structures and obstructions will be made per each Luminaire installed.

Item 55 – Protect Existing Water/Sewer Lines

Description :
The work under this section shall consist of the installation of protection of existing sewer and waterlines for the width of the crossings of the drainage pipe per MAG Standard Detail 404-3 and MAG Standard Specification 610.5.5. Non-destructive excavation (NDE) will be required to fully expose then encase each line appropriately. Should any lines be ruptured, it will be the responsibility of the contractor to repair at their cost.

Method of Measurement:
NDE and installation of Class 'C' Concrete protection will be measured per linear foot installed; measurement will be made by the units designated in the bidding schedule.

Basis of Payment:
Payment for the accepted quantities of removal of structures and obstructions will be made per each Luminaire installed.

Item 56 – Install Rip Rap per Sheet 25 Detail B

Description:
The work under this section shall consist of furnishing all materials and constructing bank protection in accordance with the details shown on the plans and the requirements of these specifications.
Bank protection shall be dumped riprap and shall be constructed at the locations and as shown on the project plans.

Method of Measurement:
Riprap will be measured by the square foot of protection constructed by computing the surface area measured parallel to the protection surface.

Basis of Payment:
The accepted quantities of riprap and rail bank protection, measured as provided above, will be paid for at the contract unit price per square foot, which price shall be full compensation for the work, complete in place, including excavation; preparing the ground area; furnishing and installing the rock, filter fabric, bedding material; and backfilling as required. Materials, labor and equipment necessary to perform additional work such as jetting or drilling, as specified under ADOT Standard Specifications Subsection 913-3.09, will be paid for in accordance with the provisions of Subsection 109.04.

Item 57 – Install Area Inlet per Sheet 25 Detail C

Description:
The work under this section shall consist of furnishing all materials and constructing or reconstructing concrete area inlets, including excavation, concrete removal and backfill. Work shall be done at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Area inlets will be measured as a unit for each area inlet, including frame and grate; for each area inlet reconstructed; or for each frame and grate furnished.

Basis of Payment:
The accepted quantities of area inlets, of reconstruct area inlet, and of frame and grate for area inlet, measured as provided above, will be paid for at the contract unit price each, complete in place, including aprons, temporary construction drains, excavation and backfill.
The removal of unsuitable material below the required depth and the furnishing and placing of material in the voids thus created will be paid for in accordance with the provisions of ADOT Standard Specifications Subsection 104.02.

Item 58 – Shotcrete

Description:
The work under this section shall consist shotcrete. Work shall be done at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Shotcrete will be measured by the square yard applied.

Basis of Payment:
The accepted quantities of shotcrete will be paid for at the contract unit price each, complete in place, including aprons, temporary construction drains, excavation and backfill.

Item 59 – Internally Illuminated Signs

Description:
The work under this section shall consist of furnishing all materials and constructing or reconstructing internally illuminated signs. Work shall be done at the locations designated on the project plans and in accordance with the details shown on the plans and the requirements of these specifications.

Method of Measurement:
Internally illuminated signs will be measured as a unit for each sign installed.

Basis of Payment:
The accepted quantities of internally illuminated signs, measured as provided above, will be paid for at the contract unit price each, complete in place.

FINAL PROJECT ASSESSMENT REPORT

Verrado Way and Yuma Road

Intersection Improvements

September 2021

Prepared for:

City of Buckeye, Arizona

BUCKEYE, AZ

DISCLAIMER:

THE CITY APPROVES THIS REPORT FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS OR OMISSIONS

BY: _____
BUCKEYE CITY ENGINEER DATE

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JAY ALLEN
YENERICH
Date Signed 9/15/21
ARIZONA, U.S.A.

Expires 3/31/2023

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A. INTRODUCTION

The intersection of Verrado Way (formerly Airport Road) and Yuma Road is programmed for capital improvements. The limits of the project are 1,480' to the north, 910' to the east, 1,340' to the west and 645' to the south from the center of the intersection. Please see **Section G** for a Location and Vicinity Map. The project is within the City of Buckeye jurisdiction within portions of Maricopa County Sections 7, 12, 13, 8 and of Township 1N, Range 2W and 3W. The southwest corner of the intersection contains a county island. This intersection is a part of a heavily relied upon access to Buckeye residents, as it provides access to Interstate 10 which is 1.75 miles from the intersection.

The purpose of the project is to improve the intersection by adding lanes while addressing the flooding that consistently occurs, especially in the northwest corner. During heavy rains there is a great amount of drainage that comes from the northwest and crosses the intersection to the southeast. The intent of the project is to raise the profile of the two roadways and provide relief from the flooding that occurs.

The project is currently programmed within the Buckeye CIP. It is intended to be built in the 2021 Fiscal Year.

A kick-off meeting was held at the Buckeye office on November 22, 2018. Several issues were identified in this meeting including drainage, right-of-way, utilities and traffic. Existing storm water crosses Verrado Way from the northwest to the southeast. Additional right-of-way acquisition is not planned. The surrounding area is anticipated to continue to experience population growth and therefore the intersection must accommodate future expansion. Existing utilities throughout the project limits may require relocation. Another concern was the existing Odyssey Preparatory School along Verrado Way.

B. BACKGROUND DATA

Both Yuma Road and Verrado Way are classified as a major arterial according to the City of Buckeye Transportation Master Plan. Neither roadway has curb, gutter or storm drain facilities except at the curb returns. In 2014 curb returns were placed along with traffic signals. The roadways have limited paved shoulders within the project limits.

The cross-section of Yuma Road and Verrado Way are similar approaching the intersection. Three legs of the intersection are 2 lane roadways. The southern leg was improved on the eastern side when the school was built in 2012. The half section of the roadway was built to support a full 6 lane arterial per City of Buckeye standards.

The posted speed limit along Verrado Way north of Yuma Road is 50 miles per hour and is 45 miles per hour (mph) with a 35 mile per hour school zone south of Yuma Road. The posted speed limit along Yuma Road is 50 mph throughout the project limits.

Generally, Verrado Way slopes to the south and Yuma Road slopes to the east. Both are straight segments of roadway and have normal crowns. The roadways are above the surrounding areas with the exception of the intersection that is at a low point. The terrain within the project limits is described as flat with some low points at washes.

Sidewalks and mixed-use paths exist only on the southern leg of the intersection. In general, there is a mixed-use asphalt path 5’ in width which connects the southeast corner of the intersection to the Odyssey Preparatory School. This mixed-use path is overtopped and there is a possibility of the sidewalk being washed out during heavy rain events. At the school there is a concrete sidewalk on the east side of Verrado Way in front of the school property.

There is very little development within the project limits except for the school in the southeast quadrant of the intersection and Desert Hills Church on along Yuma Road, 500’ east of Verrado Way. The northwest and northeast corners of the intersection is an old airfield and is owned by the Arizona State Land Department. The county island is owned by Van Leeuwen Properties LP.

Based on the current known project limits, there are no major structures within the project limits. A map of the surrounding parcels is provided below.



Figure 1: Surrounding Parcels

Through traffic counts and corresponding Maricopa County factors it is estimated that there will be approximately 8,222 Annual Average Daily Traffic (AADT) volumes on the north leg of Verrado Way, 1,714 AADT on the south leg of Verrado Way, 10,656 AADT on the west leg of Yuma Road and 3,926 AADT on the east leg of Yuma Road.

The Peak Hour Factor (K) for the intersection for the AM Peak was 95.8% and the PM Peak was 96.6% provided by actual counts in the field conducted on 10/18/2018. For the AM Peak the approach Peak Hour Factor was northbound 64.3%, southbound 95.1%, east 98.6%, and west 82.0%. Similarly, for the PM Peak the approach Peak Hour Factor was northbound 73.2%, southbound 93.0%, eastbound 87.6% and westbound 87.7%. The peak hour factor was not estimated in this situation, but is given by the traffic count data conducted that day. The Percent Trucks (T) was not calculated. A separate crash report has been generated and has been reviewed by the City of Buckeye.

The right-of-way (ROW) along the project limits varies. On the north leg of Verrado Way the right-of-way is an easement provided by agreement with State Land which is 146' wide. On the south leg of Verrado Way it varies from 130' to 135'. The west side of the centerline is 55' within the project limits. The ROW was perfected when the school was built east of the centerline which varies from 75', 80' and 108' for a short distance near the drainage channel. Additionally, a public utility easement (PUE) of 8' east of the ROW line exists on the eastern side of south leg of Verrado Way. On the west leg of Yuma Road has a total width of 98' (33' on the north side and 65' on the south side of the centerline). Lastly, the east leg of Yuma Road is similar with 103' (33' on the north side and 70' on the south side of the centerline). The ROW can be seen in the figure below.

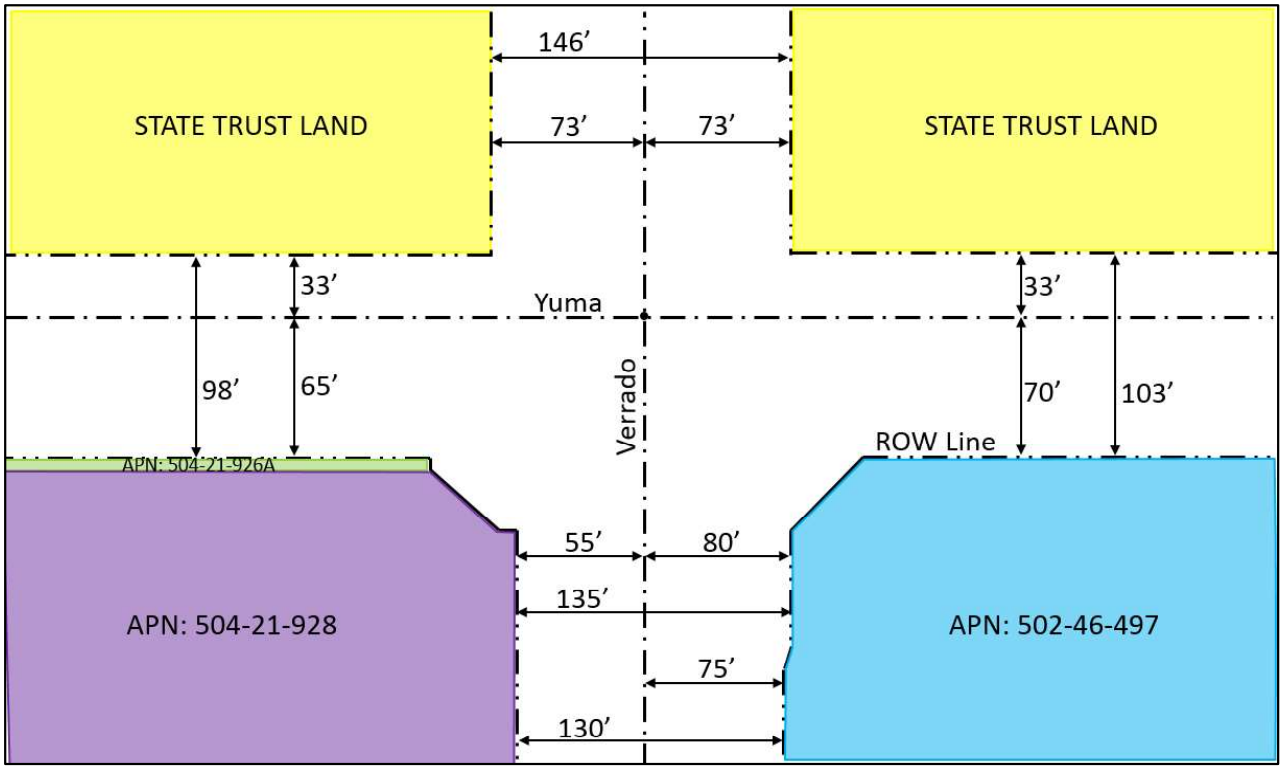


Figure 2: Right-of-Way Dimensions

It is anticipated that no additional right-of-way will be required as part of this project. It is anticipated that utilities will be required to be relocated and may require a temporary construction easement (TCE).

The beginning elevation at the north end of the project along Verrado Way is at 1027.00 and falls to 1015.00 at the south end of the project. The average slope of Verrado Way along the project limits is approximately 0.84%. The beginning elevation at the west end of the project along Yuma Road is at 1022.40 and falls to 1013.20 at the east end of the project. The average slope of Yuma Road along the project limits is approximately 0.39%.

City of Buckeye are the local governing jurisdictions within the project limits, except the southwest corner which MCDOT has jurisdiction over. Known utilities within the project limits are documented in **Table 1**. Project site was blue staked, a ticket to Arizona811 was requested and marking were then surveyed. Due to the new pipes laying on top of the existing utilities, conflicts are expected to be low.

Table 1: Known Utilities Within Project Limits

Utility Company Utility	**Contact Name**	**Contact Number**
Arizona Public Services (APS) Electric	Kristal Kross	602-493-4225
AT&T Coaxial Cable/Fiber Optics	NDCI Group	800-241-3624
Cox Communications Coaxial Cable/Fiber Optics	Cheryl Butts	623-698-2816
CenturyLink Fiber Optics/Telephone	Arielle Bacon	480-435-8389
Sprint Communications Fiber Optics	Sprint Dispatch	800-521-0579
City of Buckeye Water/Sewer/Fiber/Traffic Signals	Sam Acuna	623-249-0296

The intersection of Verrado Way and Yuma Road existed as a T-intersection prior to 2008. In 2008 the roadway was connected between Yuma Road and Interstate 10. No as-builts were made available of the projects. However, a list of likely projects within project limits are documented in **Table 2**.

Table 2: Project As-Builts and Activities Within Project Limits

Project Number	Description	Built
Unknown	Original Construction of Yuma Road	1988 (Approx.)
Unknown	Original Construction of N. Verrado Way to I-10	2008
Unknown	Addition of southbound and eastbound right turn lanes	2012
ENG-12-00282	Odyssey Institute	2012
Unknown	Addition of curb returns and traffic signals	2014

C. PROJECT SCOPE

As was determined by the drainage report, the existing Verrado Way and Yuma Road will be raised 3.5' to accommodate four 36" pipes under intersection from the northwest to the southeast. The proposed roadway cross-section will continue as it is as a two-lane section approaching the intersection from all 4 directions. Each lane is proposed as 12' in width and will maintain normal crown throughout. At the intersection, the design will be implemented with five lanes on the north (two receiving, left, thru and right), east (two receiving, left, thru and right) and west legs (one receiving, dual left, thru and right) and four on the south leg (one receiving, left, thru and thru shared right). The thickness of paving materials used within this project shall meet COB Standard Detail 63120 for Major Arterial which includes 2" of A12.5mm Arterial Superpave and 4" of A19.0mm Arterial Superpave asphalt concrete on twelve (12) inches of ABC with 12" sub-base 95% compaction. A copy of the typical cross-section is provided in **Appendix B**.

Approximately 9,207 Cubic Yards of Class 2 aggregate will be installed with approximately 9,011 Ton of Asphaltic Concrete. It is anticipated that approximately 5,890 Cubic Yards of Roadway fill will occur.

Please refer to **Appendix A** for preliminary plans. Existing sidewalk ramps that are not ADA compliant will be required to be upgraded to ADA compliance, per the access board. Pedestrian crossing is not allowed on the north leg. This design will maintain the prohibition. Consideration should also be given to installing ADA compliant ramps at curb termini locations where sidewalk does not exist. Any modifications to the cross-section should tie in with existing curb and sidewalk ramps.

Re-striping will be required throughout the project limits, and matching existing conditions at all ends. The Contractor shall be responsible for applying all pavement markings and Traffic Control devices. Traffic Control requirements will be addressed by reference to the 2009 MUTCD (or most recent version approved by ADOT), the Arizona Supplement to the 2009 MUTCD (or most recent version approved by ADOT) and the ADOT Traffic Control

Manual. Striping will be installed per plans developed by the consultant. Perforated sign posts, foundations and appropriate signage will be installed per plans.

Site specific Traffic Control plans may be required at intersections and at the Odyssey Preparatory School.

D. DEVELOPMENT CONSIDERATIONS

In regards to drainage, the project area as defined by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Maricopa County is classified as Zone 'X', which include "areas determined to be outside the 0.2% annual chance floodplain.

A Preliminary Drainage Report has been prepared as part of this project under separate cover, dated October 2019, to evaluate the on-site drainage conditions and requirements in order to make recommendations to assist in mitigation of storm water through and around the project limits. The findings of this report demonstrate a need to raise the intersection 3.5' with four 36" diameter pipe culverts to convey flow diagonally across the intersection.

There are no identified hazardous material sites within the project limits. There does not appear to be any cultural or biological issues within the project limits.

It is anticipated that more than one acre of land area may be disturbed; therefore, it is likely that an Arizona Pollutant Discharge Elimination System (AZPDES) Permit will be required. Due to the nature of the project, it is anticipated that a Storm Water Pollution Prevention Plan (SWPPP) will be required.

The estimated time for construction is 200 working days. The estimated time for design is 200 working days. Please refer to **Appendix C** for a project schedule.

The entities directly affected by the project are ADOT and the City of Buckeye.

The survey datum utilized for this project will be provided in ground coordinates that are tied to state plane coordinates in North American Datum of 1983 (92) state plane, Arizona Central Zone scaled to ground from zero (0) northing and zero (0) easting. MCDOT GDACS points will be used for control. The mapping and survey information will be collected utilizing the North American Vertical Datum of 1988 (NAVD 88). is NAD 83/92, and is based on NAVD 88 elevations.

Utility relocation will be necessary along the project limits. Several utility companies contain utilities within the right-of-way along the project limits. All utility relocations shall be coordinated with each utility company individually during final design. Other adjustments include sewer manholes and water valves boxes.

An AASHTO Controlling Design Criteria Report will not be prepared for this project as Verrado Way is not part of the National Highway System (NHS) Route.

The proposed design speed for both Verrado Way and Yuma Road is 50 mph.

E. OTHER REQUIREMENTS

The recommendations within this Project Assessment are based on coordination with the City of Buckeye. In addition, the recommendations are based on the constructability and construction cost.

The consultant in convert with the Buckeye Project Manager will develop a final project schedule that will identify the full scope of work for this project. The schedule will be developed once the scope of work, the design and construction budget are approved and the project is programmed within the system.

Other items to consider when developing the construction schedule will be the paving window, the potential utility relocations, the Odyssey Preparatory School session and traffic control required.

F. ESTIMATED COST

The estimated costs for construction of the recommendations within this Project Assessment are developed upon unit prices obtained from like municipal projects in the region. The thickness of paving materials used in the cost estimate are based on as-builts obtained and include six (6) inches of AC on twelve (12) inches of AB aggregate, Class 2. Please refer to **Table 3** for the itemized Cost Estimate. The total estimated cost for the recommended improvements is $4,178,219.48, which does not include any additional right-of-way cost.

Table 3: Project Estimated Costs

Item No.	Item Description	Unit	Quantity	Price	Amount
1	REMOVE EXISTING ASPHALT PAVEMENT (2' MIN)	SY	19740	$30.00	$592,200.00
2	REMOVE CONCRETE CURB AND GUTTER	LF	265	$40.00	$10,600.00
3	REMOVE DIRECTIONAL RAMP	SY	60	$15.00	$900.00
4	REMOVE POLE AND FOUNDATIONS	EA	1	$2,100.00	$2,100.00
5	REMOVE ASPHALT SIDEWALK	SF	3820	$0.50	$1,910.00
6	ASPHALT CONCRETE PAVEMENT	TON	9011	$120.00	$1,081,323.00
7	CONSTRUCT ASPHALT PAVEMENT EDGE TYPE A PER MAG STD DTL 201	LF	3430	$1.50	$5,145.00
8	CONSTRUCT DIRECTIONAL RAMPS, PER COB STD DTL 63240	EA	6	$2,000.00	$12,000.00
9	CONSTRUCT VERTICAL CURB AND GUTTER PER MAG STD DTL 220-1 TYPE "A"	LF	4555	$55.00	$250,525.00
10	CONSTRUCT SINGLE CURB TERMINATION, PER MAG STD DTL 222.	EA	14	$25.00	$350.00
11	INSTALL HAND RAIL PER COB STD DTL B-110	LF	57.5	$45.00	$2,587.50
12	INSTALL TRASH RACK PER COB STD DTL B-508	EA	2	$1,000.00	$2,000.00
13	INSTALL SAFETY RAIL PER MAG STD DTL 145	EA	1	$11,250.00	$11,250.00
14	CONSTRUCT CONCRETE SIDEWALK, PER COB STD DTL 230	SF	3,330	$3.50	$11,655.00
15	ADJUST WATER VALVE BOX TO GRADE PER MAG STD DTL 391-2	EA	5	$800.00	$4,000.00
16	ADJUST MANHOLE FRAME AND COVER TO GRADE, PER MAG STD DTL 422	EA	7	$1,500.00	$10,500.00
17	ADJUST TRAFFIC SIGNAL PULLBOX TO GRADE	EA	3	$250.00	$750.00
18	CONSTRUCT SPILLWAY PER MAG STD DTL 550	EA	1	$500.00	$500.00
19	POLE (TYPE A)	EA	2	$1,500.00	$3,000.00
20	POLE FOUNDATION (TYPE A)	EA	2	$500.00	$1,000.00
21	POLE (PEDESTRIAN POST)	EA	4	$1,100.00	$4,400.00
22	POLE FOUNDATION (PEDESTRIAN POST)	EA	4	$540.00	$2,160.00
23	ELECTRICAL CONDUIT (2") (PVC)	LF	170	$30.00	$5,100.00
24	TRAFFIC SIGNAL FACE (TYPE R)	EA	4	$530.00	$2,120.00
25	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE V)	EA	2	$450.00	$900.00
26	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE VI)	EA	2	$125.00	$250.00
27	TRAFFIC SIGNAL MOUNTING ASSEMBLY (TYPE II)	EA	2	$130.00	$260.00
28	PEDESTRIAN CROSSING HEAD	EA	2	$500.00	$1,000.00
29	PUSH BUTTON	EA	6	$1,260.00	$7,560.00
30	EROSION CONTROL (WATTLES) (20")	LF	160	$4.18	$668.00
31	ROADWAY EXCAVATION	CY	3000	$4.25	$12,750.00
32	AGGREGATE BASE CLASS 2	CY	9207	$50.00	$460,333.33
33	STRUCTURE BACKFILL	CY	5890	$100.00	$589,000.00
34	PIPE REINFORCED CONCRETE, CLASS IV, 36"	LF	1278	$210.00	$268,380.00
35	INSTALL 22.5° FACTORY FITTED WYE CONNECTION 36" RGRCP	EA	1	$2,000.00	$2,000.00
36	CONSTRCUT HEADWALL PER COB STD DTL 51200.	EA	2	$10,000.00	$20,000.00
37	PAVEMENT MARKING (WHITE EXTRUDED THERMOPLASTIC)(0.090")	LF	15750	$1.50	$23,625.00
38	PAVEMENT MARKING (YELLOW EXTRUDED THERMOPLASTIC)(0.090")	LF	17250	$0.50	$8,625.00
39	PAVEMENT MARKING (TRANSVERSE) (THERMOPLASTIC) (ALKYD) (0.090")	LF	605	$0.50	$302.50
40	PAVEMENT LEGEND (EXTRUDED THERMOPLASTIC)(ALKYD)(0.090")	EA	10	$50.00	$500.00
41	PAVEMENT SYMBOL (EXTRUDED THERMOPLASTIC)(ALKYD)(0.090")	EA	25	$350.00	$8,750.00
42	OBLITERATE PAVEMENT MARKING (ARROW SYMBOL OR LEGEND)	EA	18	$150.00	$2,700.00
42A	OBLITERATE PAVEMENT MARKING (STRIPE)	LF	340	$0.75	$255.00
43	TYPE "D" RPMs SPACING YELLOW MARKERS	LF	865	$2.00	$1,730.00
44	TYPE "G" RPMs SPACING WHITE MARKERS	LF	370	$2.00	$740.00
45	NEW SIGN PANEL	EA	7	$120.00	$840.00
46	REMOVE AND RELOCATE SIGN	EA	9	$500.00	$4,500.00
47	REMOVE TRAFFIC SIGNALS	L. SUM	1	$5,000.00	$5,000.00
48	INSTALL SIGN POST	EA	18	$220.00	$3,960.00
49	INSTALL SIGN POST FOUNDATION	EA	18	$250.00	$4,500.00
50	POLE (SPECIAL)(APS ARCHITECTURAL SQUARE TUBE WITH 8X8 MAST ARM)	EA	13	$1,600.00	$20,800.00
51	FOUNDATION (APS ARCHITECTURAL SQUARE TUBE)	EA	13	$750.00	$9,750.00
52	ELECTRICAL CONDUIT (2 1/2") (PVC)	LF	3930	$22.00	$86,460.00
53	PULL BOX (CONTRACTOR INSTALLED)(APS FURNISHED)	EA	13	$500.00	$6,500.00
54	CONDUCTORS (ROADWAY LIGHTING)	LS	1	$10,000.00	$10,000.00
55	LUMINAIRE (LED)(250W HPS EQUIVALENT)	EA	13	$1,800.00	$23,400.00
56	PROTECT EXISTING WATER/SEWER LINES	LF	75	$300.00	$22,500.00
57	INSTALL RIP RAP 12" DEPTH PER SHT 25 DETAIL B	SF	240	$0.50	$120.00
58	INSTALL AREA INLET PER SHT 25 DETAIL C	EA	1	$6,500.00	$6,500.00
	15% CONTINGENCY (CONSTRUCTION PHASING, CONST ADMIN, TRAFFIC CONTROL, MOBILIZATION)				$544,985.15
				Subtotal	$4,178,219.48

G. VICINITY MAP AND LOCATION MAP



APPENDIX A:
RECOMMENDED ALTERNATIVE PLAN SHEETS

APPENDIX B:
TYPICAL SECTION

APPENDIX C:
DESIGN PROJECT SCHEDULE

August 2021

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.D. Sundance Park Phase II, GMP #3
DATE PREPARED: 02/24/22	**DISTRICT NO.:** 3
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Change Order No. 3 to the Contract (No. 2020006) between the City of Buckeye and Willmeng Construction, Inc., related to Sundance Park Phase II, accepting Guaranteed Maximum Price ("GMP") #3; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.

RELEVANT GOALS:
GOAL 3: A Well-Planned Urban Community

ADDITIONAL RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

SUMMARY

PROJECT DESCRIPTION:
As part of the Capital Improvement Program, construction of Sundance Park Phase II, Willmeng Construction will provide labor, materials, equipment and services to implement the components of GMP #3 which include the construction of the following:

- North Parking lot
- Playground
- Splash Pad
- Ramada's & Amenities
- Restroom
- Concrete Sidewalk
- North Fields

GMP's 1 - 3 construction will be completed by November 30, 2022.

BENEFITS:
Building Phase II of Sundance Park will help the City meet existing goals for park acres and amenities.

FUTURE ACTION:
Additional Change Orders for construction to complete Phase II of Sundance Park.

FINANCIAL IMPACT STATEMENT:
This is part of the FY21/22 Capital Improvement Program budget.

CURRENT FISCAL YEAR TOTAL COST:
GMP #3 total is $10,697,784.00.

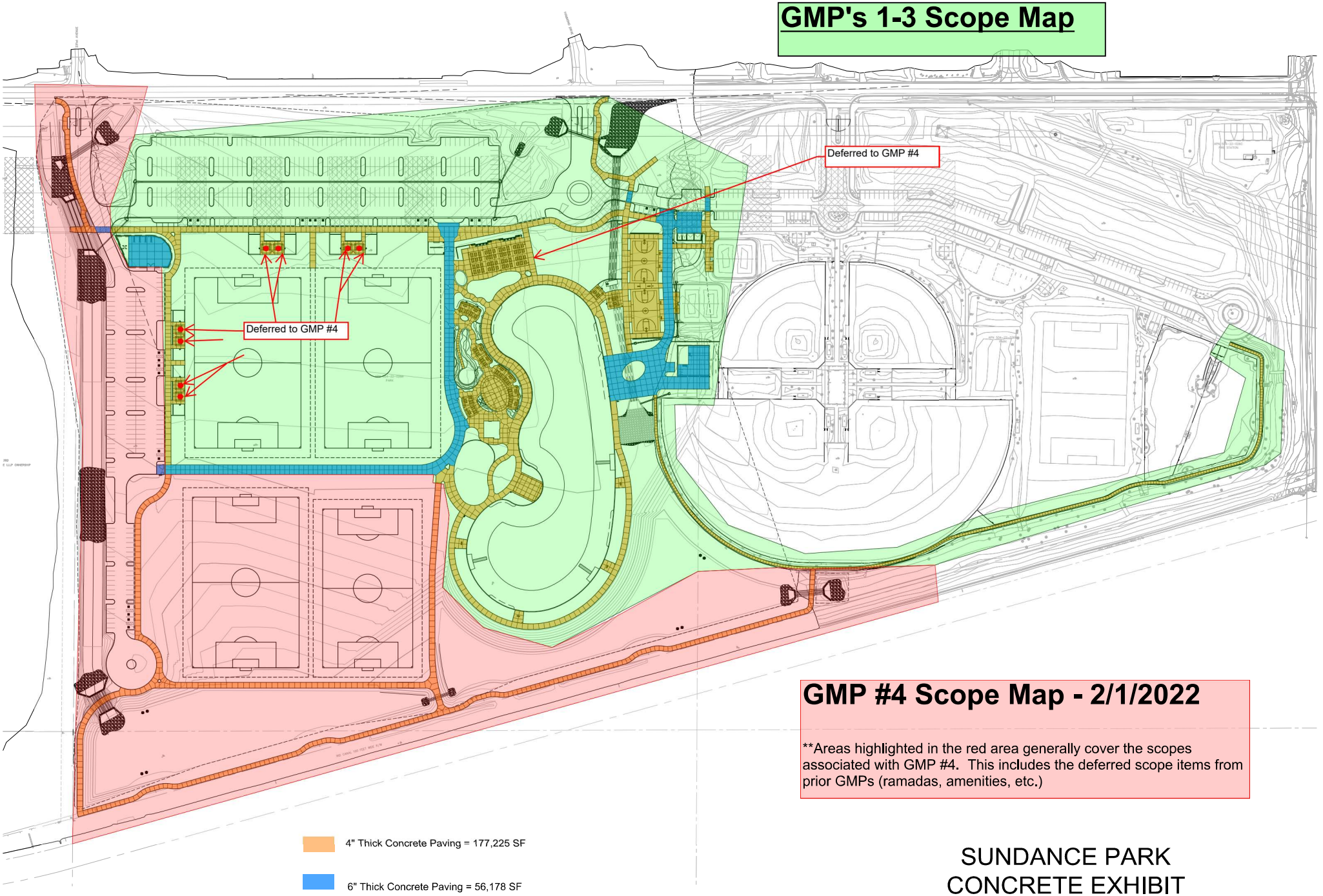
BUDGETED:
Yes

FISCAL YEAR:
FY2021/2022

FUND/DEPARTMENT:
50214150-543055

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:
MAP.pdf
Willmeng Construction, Inc. CO3.pdf
Sundance Park Phase II FE 8-3-20 Contract Revised 8-3-20.pdf

GMP's 1-3 Scope Map



GMP #4 Scope Map - 2/1/2022

**Areas highlighted in the red area generally cover the scopes associated with GMP #4. This includes the deferred scope items from prior GMPs (ramadas, amenities, etc.)

SUNDANCE PARK
CONCRETE EXHIBIT
10.20.21

CITY OF BUCKEYE
CONTRACT NO. 2020006
SUNDANCE PARK PHASE II
WILLMENG CONSTRUCTION, INC.

CHANGE ORDER #3

Pursuant to the Contract between the City of Buckeye (City) and Willmeng Construction, Inc. (Contractor), dated August 3, 2020, the following changes apply:

1. Addition to the original contract's Scope of Work, GMP 3, in a lump sum in the amount of **$10,697,784.00**, to include North Parking Lot, Playground, Splash Pad, Ramada's & Amenities, Restroom, Concrete Sidewalk and North Fields, pursuant to Exhibit A.
2. GMP's 1-3 will be completed by November 30, 2022, pursuant to Exhibit A.

Total cost for this Change Order is **$10,697,784.00** and shall be added to the Contract total amount.

The beginning Contract amount is **$9,141,387.00.** This Change Order shall increase the Contract amount from **$9,141,387.00** to **$19,839,171.00.**

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names _____.

CITY:
THE CITY OF BUCKEYE, ARIZONA
An Arizona Municipal corporation

By: _____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction & Contracting

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
WILLMENG CONSTRUCTION, INC.

_____
James Murphy, CEO

Adobe Sign Transaction Number: CBJCHBCAABAAu04h70YNh3TVgNK9LXEXprgV4dAsyqKN

EXHIBIT A

90% CD Estimate - BREAKOUTS: (Inclusive of Insurance, Fee & Taxes)

Willmeng
AZ ROC B-01 082904

Est. Date: 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Description/Scope Of Work	CSI Code	Refer.	Estimate Est 0 Qty.	U/M	Unit Price	Total	TOTALS
#3	BREAKOUT COST - (Incl. In Estimate) - GMP3 - North Parking Lot, Playground, Splash Pad, Ramadas & Amenities, Restroom, Concrete Sidewalk and North Fields							
1.	Cost of Work	0000.00	00003	1	ls	9,086,609.23	9,086,609.23	9,086,609.23
2.		0000.00					0.00	0.00
	COSTS TOTALS:							**9,086,609.23**
1.	General Conditions	1000.01				2%		174,041.01
2.	Construction Contingency	0120.00				2%		40,681.56
3.	Insurance	0110.00				1%		93,013.32
4.	Bond	0190.00				1%		93,943.45
5.	Contractors Fee	0140.00				6%		569,297.31
6.	Sales Tax	0160.00				6.045%		607,981.07
	GMP # 3 - TOTAL COST							**10,665,566.95**
7.	Design Contingency (no Markups applied)	1211.70				0.30%		32,217.05
	GMP # 3 - PROJECT COST							**10,697,784.00**

Current Estimate 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Shell & TI - Conceptual - Description/Scope Of Work	CSI Code	Refer.	Est 0 Qty.	U/M	Unit Price	Refer. TOTALS
1(a)	**Design & Engineering**						
3.	Reproduction Costs - Plans/Specifications - GMP #3	1002.50	00003	1	ls	4,400.00	4,400.00
4.	Lake Ramada Footing Structural Design	1310.00	00003	1	ls	12,500.00	12,500.00
	Subtotal						**16,900.00**
1(b)	**Permits/Development Fees/Utility Company Charges**						
	Subtotal						**0.00**
1	**Construction Cleanup**						
4.	Rough & Final Clean - Windows, Floors	1741.30	00003	1	ls	12,000.00	12,000.00
							-
	Subtotal						**12,000.00**
2(a)	**Site Construction**						
18.	Site Facilities & Management	2210.00	00003	1	ls	527,824.76	527,824.76
19.	Mobilization	2210.00	00003	1	ls	0.00	-
20.	Temporary Fencing, Gates	2210.00	00003	1,500	lf	11.20	16,800.00
21.	Temporary Power	2210.00	00003	1	ls	0.00	-
22.	Construction Water	2210.00	00003	1	ls	15,000.00	15,000.00
23.	Water-irrigation (3 months)	2210.00	00003	3	mo	6,000.00	18,000.00
24.	Material/Quality Control Testing	2320.00	00003	16	acre	1,800.00	28,800.00
25.	Special Inspections	2320.00	00003	16	acre	900.00	14,400.00
	Demolition						-
28.	General Site Demolition, assumed minor	2411.60	00003	1	ls	12,000.00	12,000.00
30.	Demolition - A/C	2411.60	00003	7,845	sf	1.58	12,355.88
31.	Demolition - Curb & scupper	2411.60	00003	505	lf	29.29	14,790.00
							-
	Earthwork						-
53.	Survey	31100.10	00003	16	acre	2,200.00	35,200.00
54.	Dust Control	31100.10	00003	16	acre	1,200.00	19,200.00
55.	SWPPP	31100.10	00003	7	mo	4,500.00	31,500.00
56.	Construction Water Eq.	31100.10	00003	1	ls	14,330.00	14,330.00
57.	Construction Water Purchase	31100.10	00003	1	ls	19,000.00	19,000.00
58.	Pot-Hole Utilities	31100.10	00003	1	ls	1,000.00	1,000.00
59.	Mass Excavation	31100.10	00003	6,670	cy	8.65	57,690.75
60.	Restore grade to +/- 0.10 (after utilities)	31100.10	00003	25,600	sy	2.05	52,480.00
61.	Scarify Basins	31100.10	00003	31,757	sy	0.80	25,405.60
62.	Parkway Grading	31100.10	00003	77,440	sy	0.50	38,720.00
63.	Excavation @ Playground, ramadas, & pump yard	31100.10	00003	3,240	cy	6.60	21,384.00
64.	Grade and shape Splash Pad & playground area	31100.10	00003	1	ls	32,500.00	32,500.00
	Paving						-
65.	Subgrade prep, AC	32120.00	00003	17,020	sy	1.80	30,636.00
66.	Subgrade prep, curbs	32120.00	00003	1	ls	20,310.00	20,310.00
67.	Subgrade, Sidewalks & Ramps	32120.00	00003	1	ls	55,000.00	55,000.00
68.	Subgrade for Valley Gutter	32120.00	00003	5,965	sf	1.25	7,456.25
69.	AC Paving Section #1, 2" AC over 6" ABC (Parking lots)	32120.00	00003	12,445	sy	27.00	336,015.00
70.	AC Paving Section #2, 3" AC over 6" ABC (Fire Lane)	32120.00	00003	4,575	sy	28.00	128,100.00
	Concrete						
71.	4" Concrete Paving - Broom Finish (in lieu of 6" per 10/20/2021 Exhibit)	32120.00	00003	104,470	sf	5.00	522,350.00
72.	4" Concrete Paving - Exposed Aggregate Finish (in lieu of 6" per 10/20/2021 Exhibit)	32120.00	00003	9,960	sf	6.50	64,740.00
73.	Concrete Color at Splash Pad (up to $40/CY in color additive/cleanup), Allowance	32120.00	00003	14,640	sf	0.75	10,980.00
74.	Color at Exposed Aggregate (up to $40/CY in color additive/cleanup), Allowance	32120.00	00003	8,790	sf	0.75	6,592.50
75.	6" Concrete Paving - Broom Finish	32120.00	00003	44,730	sf	6.00	268,380.00
76.	6" Concrete Paving - Exposed Aggregate Finish	32120.00	00003	2,250	sf	8.00	18,000.00
77.	ADA Sidewalk Ramp	32120.00	00003	4	ea	750.00	3,000.00
78.	Truncated Domes	32120.00	00003	800	sf	32.00	25,600.00
79.	Single Curb, MAG 222 type A	32120.00	00003	4,610	lf	16.00	73,760.00
80.	Curb & Gutter, MAG 220-1 type A	32120.00	00003	760	lf	17.00	12,920.00
81.	Ribon Curb	32120.00	00003	468	lf	16.00	7,488.00
82.	Curb Opening, detail CV-602	32120.00	00003	51	ea	120.00	6,120.00
83.	Valley Gutter, MAG 240, 3' W	32120.00	00003	5,965	sf	8.00	47,720.00
84.	12" Concrete Header	32120.00	00003	720	lf	14.00	10,080.00
85.	9" Raised curb	32120.00	00003	505	lf	13.00	6,565.00

Current Estimate 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Shell & TI - Conceptual - Description/Scope Of Work	CSI Code	Refer.	Estimate Est 0 Qty.	U/M	Unit Price	Refer. TOTALS
	Striping & Signing						
86.	Parking Lot Striping	32120.00	00003	9,157	lf	0.50	4,578.50
87.	ADA Icon	32120.00	00003	12	ea	880.00	10,560.00
88.	Fire Lane Striping/Marking	32120.00	00003	1,460	lf	1.25	1,825.00
89.	"Fire lane no parking" stencil	32120.00	00003	20	ea	25.00	500.00
90.	Misc. Sign w/Post	32120.00	00003	22	ea	450.00	9,900.00
	Landscape & Irrigation						
105.	GMP 1 CREDIT - 1/4" Minus Palomino Gold DG around the lake not compacted	32120.00	00003	-375	Tons	65.00	(24,375.00)
106.	GMP 1 CREDIT - 1/4" Minus Palomino Gold DG path around the lake compacted	32120.00	00003	-425	Tons	80.00	(34,000.00)
107.	GMP 1 CREDIT - Native Hydroseed not tilled around the lake, not irrigated	32120.00	00003	-620,960	sf	0.05	(31,048.00)
108.	GMP 1 CREDIT - Rip Rap, w/Geo Fabric, 12" Deep @ Headwalls	33100.10	00003	-5,967	sf	18.00	(107,406.00)
109.	Controllers	32800.00	00003	2	ea	25,000.00	50,000.00
110.	Irrigation laterals	32800.00	00003	1	ls	65,000.00	65,000.00
111.	Tree emitters	32800.00	00003	196	ea	25.00	4,900.00
112.	Shrub emitters	32800.00	00003	1,415	ea	25.00	35,375.00
113.	Misc. Irrigation	32800.00	00003	1	ls	88,647.00	88,647.00
114.	1/4" Minus Palomino Gold DG compacted @ a 2" Depth	32120.00	00003	20	Tons	80.00	1,600.00
115.	1/4" Minus Madison Gold DG @ a 2" Depth (Madison Gold per Plan)	32120.00	00003	866	Tons	70.00	60,620.00
116.	3" - 8" Angular Rip Rap. Madison Gold (Not Grouted, No Filter Fabric, Landscape Rip Rap Only) - 12" Thick	32120.00	00003	9,800	sf	16.00	156,800.00
117.	Nursery (4 months)	32800.00	00003	4	mo	1,075.00	4,300.00
118.	Salvage, Relocation & Replant	32960.00	00003	36	ea	900.00	32,400.00
119.	Trees, 24" Box (With Root Barrier - where applicable)	32800.00	00003	60	ea	375.00	22,500.00
120.	Trees, 36" Box (With Root Barrier - where applicable)	32800.00	00003	100	ea	1,000.00	100,000.00
121.	Shrubs - 5 Gallon	32800.00	00003	1,415	ea	27.50	38,912.50
122.	Landscape fine grade	32800.00	00003	1	ls	60,000.00	60,000.00
123.	Sub-grade prep	32800.00	00003	105,630	sy	1.15	121,473.99
124.	Native Hydroseed, not irrigated	32120.00	00003	376,000	sf	0.07	26,320.00
125.	Sand Layer; Washed, "Dirty" Sand (2-fields) -	32800.00	00003	3,000	Tons	84.00	252,000.00
126.	Hydro-Sprigging, Growin, Mid-Iron on Sand 2-Soccer fields (water cost by COB)	32800.00	00003	215,000	sf	0.18	38,700.00
127.	Hydro-Sprigging, Growin, Mid-Iron on Native (water cost by COB)	32800.00	00003	72,333	sf	0.18	13,019.94
128.	Field/Turf Irrigation	32800.00	00003	287,333	sf	0.75	215,499.75
129.	90 day maintenance	32800.00	00003	3	mo	7,500.00	22,500.00
	Subtotal						**3,911,296.42**
2(b)	**Utilities**						
40.	GMP #1 CREDIT - 42" Triple Barrel Headwall w/ trashrack	33100.10	00003	-1	ea	15,500.00	(15,500.00)
41.	GMP #1 CREDIT - Headwall Footing	33100.10	00003	-10	cy	355.00	(3,550.00)
42.	GMP #1 CREDIT - Headwall Railing	33100.10	00003	-52	lf	130.00	(6,760.00)
43.	4" Future Water line	33100.10	00003	760	lf	48.00	36,480.00
44.	6" DIP Water line (fireline)	33100.10	00003	100	lf	67.00	6,700.00
45.	6" Gate Valve, Box/Cover	33100.10	00003	4	ea	1,800.00	7,200.00
46.	Fire Hydrant Assy, MAG 360-1	33100.10	00003	4	ea	5,500.00	22,000.00
47.	8" PVC C900 Water line	33100.10	00003	2,100	lf	68.00	142,800.00
48.	8" Gate Valve, Box/Cover	33100.10	00003	2	ea	2,200.00	4,400.00
49.	Connect to Existing, 8" PVC C900 Water line	33100.10	00003	1	ea	1,600.00	1,600.00
50.	Mainline Valves, Fittings, Connections	33100.10	00003	1	ls	20,000.00	20,000.00
51.	1" Water line	33100.10	00003	320	lf	48.00	15,360.00
52.	Service Valves, Fittings, Connections	33100.10	00003	1	ls	5,000.00	5,000.00
53.	2" Water line	33100.10	00003	80	lf	62.00	4,960.00
54.	2" Water service	33100.10	00003	1	ea	2,800.00	2,800.00
55.	2" Reduce pressure backflow assy.	33100.10	00003	1	ea	2,400.00	2,400.00
56.	2" Water Connection to Restroom Bldg.	33100.10	00003	1	ea	150.00	150.00
57.	Water Connection to Splash Pad	33100.10	00003	1	ea	1,500.00	1,500.00
58.	Fire line FDC @ Restroom Bldg.	33100.10	00003	1	ea	1,900.00	1,900.00
59.	4" Sewer line, SDR-35	33100.10	00003	178	lf	65.00	11,570.00
60.	4" Sewer 2-Way Clean-out, w/box & cover MAG440-2	33100.10	00003	2	ea	2,200.00	4,400.00
61.	Sewer Septic Tank, 1000 gal. w/access cover to FG	33100.10	00003	1	ea	18,000.00	18,000.00
62.	Sewer Distribution Box w/access cover to FG	33100.10	00003	1	ea	6,000.00	6,000.00
63.	Sewer Seepage Pit, 6' diameter, 55' Total Depth	33100.10	00003	2	ea	9,500.00	19,000.00
64.	4" Sewer Connection to building stub	33100.10	00003	1	ea	1,500.00	1,500.00
	Subtotal						**309,910.00**
2(c)	**Site Concrete**						
	Subtotal						**0.00**
3	**Concrete**						

Current Estimate 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Shell & TI - Conceptual - Description/Scope Of Work	CSI Code	Refer.	Estimate Est 0 Qty.	U/M	Unit Price	Refer. TOTALS
	Subtotal						0.00
	4 Masonry						
1.	Concrete slab	4001.00	00003	1,178	sf	10.50	12,369.00
2.	Footings	4001.00	00003	285	lf	58.00	16,530.00
3.	Masonry	4001.00	00003	3,420	sf	21.75	74,385.00
4.	Steel	4001.00	00003	1	ls	117,096.00	117,096.00
5.	Standing Seam Roofing	4001.00	00003	1,880	sf	25.00	47,000.00
6.	Doors	4001.00	00003	8	ea	2,450.00	19,600.00
7.	Painting	4001.00	00003	1	ls	22,500.00	22,500.00
8.	Floor sealer	4001.00	00003	1,178	sf	4.00	4,712.00
9.	Partitions & Accessories	4001.00	00003	1	ls	22,125.00	22,125.00
10.	Lockers	4001.00	00003	24	ea	650.00	15,600.00
11.	Caulking	4001.00	00003	1	ls	6,250.00	6,250.00
12.	Fire Sprinklers	4001.00	00003	1	ls	17,500.00	17,500.00
13.	Plumbing	4001.00	00003	1	ls	113,500.00	113,500.00
14.	Mechanical	4001.00	00003	1	ls	9,600.00	9,600.00
15.	Electrical	4001.00	00003	1	ls	27,775.00	27,775.00
16.	Fire Alarm	4001.00	00003	1	ls	10,000.00	10,000.00
17.	CMU Radius Wall, reinforced @ Maint. Yard	4001.00	00003	3,696	sf	21.75	80,388.00
18.	Conc. continuous footing, reinforced @ Maint. Yard	4001.00	00003	308	lf	58.00	17,864.00
19.	16' Double Steel Gate @ Maint./Storage Enclosure, manual assumed	4001.00	00003	2	ea	5,750.00	11,500.00
20.	6" sched 40 galv. bollards, 5' H, concrete filled w/footing	4001.00	00003	16	ea	1,125.00	18,000.00
21.	6" Concrete Slab Maint/Storage Enclosure	4001.00	00003	5,445	sf	10.50	57,172.50
	Subtotal						721,466.50
	5 Metals						
	Subtotal						0.00
	6 Woods, Plastics & Composites						
	Subtotal						0.00
	7 Thermal & Moisture Protection						
	Subtotal						0.00
	8 Openings						
	Subtotal						0.00
	9a Finishes						
	Subtotal						0.00
	9b Flooring/Ceramic						
	Subtotal						0.00
	9c Painting						
	Subtotal						0.00
	10 Specialties						
	Subtotal						0.00
	11 Equipment						
							-
	Playground equipment						
2.	Playground equipment	11680.00	00003	1	ls	197,536.56	197,536.56
3.	Poured in place rubberized fall surface (including fall base)	11680.00	00003	3,023	sf	29.25	88,422.75
4.	Concrete under PIP Surfacing	11680.00	00003	3,023	sf	8.50	25,695.50
5.	Synthetic Turf	11680.00	00003	2,635	sf	12.50	32,937.50
6.	Sub-base for Turf 4"- 1/4 minus & Nailer Board	11680.00	00003	2,635	sf	3.00	7,905.00
7.	Shade structures @ playground, 16' x 16'	11680.00	00003	5	ea	8,915.00	44,575.00
8.	Splash pad system, Water Odyssey Custom Oval	11680.00	00003	1	ls	600,093.00	600,093.00
	Subtotal						997,165.31
	12 Furnishings						
2.	Shade structure @ pump skid, 12' x 30'	12930.00	00003	1	ea	30,000.00	30,000.00
3.	6' Bench with Back	12930.00	00003	4	ea	1,800	7,200.00
4.	6' Bench without Back	12930.00	00003	10	ea	1,650	16,500.00

Current Estimate 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Shell & TI - Conceptual - Description/Scope Of Work	CSI Code	Refer.	Est 0 Qty.	U/M	Unit Price	Refer. TOTALS
5.	8' Picnic Table	12930.00	00003	22	ea	1,842	40,524.00
6.	8' Picnic Table ADA	12930.00	00003	12	ea	1,770	21,240.00
7.	Litter Receptacle - Surface Mounted	12930.00	00003	16	ea	1,200	19,200.00
8.	Pet Waste Stations	12930.00	00003	4	ea	625	2,500.00
9.	Bike racks	12930.00	00003	4	ea	648	2,592.00
10.	Quick Coupler	12930.00	00003	17	ea	850	14,450.00
11.	Drinking Fountain 1/ Dog Bowl w/Valve box/drain and leach field	12930.00	00003	1	ea	13,500	13,500.00
12.	BBQ Grill - Small	12930.00	00003	4	ea	630	2,520.00
13.	Small Shade Ramada (20'x20')	12930.00	00003	12	ea	38,500.00	462,000.00
14.	Lake Pavilion Ramada (40'x50')	12930.00	00003	1	ea	157,750.00	157,750.00
15.	12' Single 12' Swing Gate, Bollard and panel signage	12930.00	00003	1	ea	12,885.00	12,885.00
16.	Double 14' Swing Gate w/panel signage @ Entry	12930.00	00003	1	ea	10,795.00	10,795.00
17.	Soccer Goals (Portable)	32800.00	00003	4	ea	5,200.00	20,800.00
18.	Ramada signage	12930.00	00003	15	ea	2,625.00	39,375.00
19.	Lake signage	12930.00	00003	7	ea	795.00	5,565.00
20.	Misc. park signage	12930.00	00003	1	ls	45,000.00	45,000.00
21.	Cast in Place Concrete Seatwall (excludes color)	12930.00	00003	701	lf	120.00	84,120.00
22.	Sandblasting CIP seatwalls	12930.00	00003	1	ls	50,000.00	50,000.00
23.	Lake & Splash Pad Railing	12930.00	00003	825	lf	175.00	144,375.00
	Subtotal						**1,202,891.00**
13	**Special Construction**						
	Subtotal						**0.00**
14	**Conveying Systems**						
	Subtotal						**0.00**
21	**Fire Suppression**						
	Subtotal						**0.00**
22	**Plumbing**						
	Subtotal						**0.00**
23	**HVAC**						
	Subtotal						**0.00**
26	**Electrical**						
13.	UG lighting branch circuits, conduit & wire	26050.00	00003	10,315	lf	16.00	165,040.00
14.	SES Gear Package Upsize from 1,200amp to 1,600amp	26050.00	00003	1	ls	202,000.00	202,000.00
15.	Pullbox	26050.00	00003	22	ea	1,800.00	39,600.00
16.	Grounding	26050.00	00003	1	ls	50,000.00	50,000.00
17.	Connection & Feeder to (Irrigation Pump Skid)	26050.00	00003	1	ls	15,000.00	15,000.00
18.	Power to Floating Fountains	26050.00	00003	600	lf	48.00	28,800.00
19.	Connection & Feeder to Musco Control Panel	26050.00	00003	1,000	lf	48.00	48,000.00
20.	Musco Sports Field Ltg. Pole & Fixture Array (2-Fields)	32800.00	00003	6	ea	65,000.00	390,000.00
21.	Musco Lighting control cabinet (pepared for Future 2x Fields)	32800.00	00003	1	ls	105,000.00	105,000.00
22.	Single head parking lot 25' pole & LED luminaire	26050.00	00003	28	ea	4,850.00	135,800.00
23.	Single head Pathway Light, 18' pole, LED luminaire	26050.00	00003	31	ea	4,650.00	144,150.00
24.	50-Amp Twistlock infrastructure at (6) Musco poles - North Fields, Allowance	26050.00	00003	6	ea	12,500.00	75,000.00
25.	Restroom Panel & Electrical	26050.00	00003	1	ls	80,000.00	80,000.00
26.	Power to Restroom	26050.00	00003	1,000	lf	48.00	48,000.00
27.	Power to Splash Pad (from Restroom)	26050.00	00003	200	lf	48.00	9,600.00
28.	Branch Power to Ramadas	26050.00	00003	1,455	lf	38.00	55,290.00
29.	Weatherproof GFI @ Ramadas, small	26050.00	00003	12	ea	1,600.00	19,200.00
30.	Weatherproof Miscellaneous - Added infrastructure & pullboxes	26050.00	00003	20	ea	1,600.00	32,000.00
31.	Weatherproof GFI @ Ramadas, Grand and Lake Ramada's	26050.00	00003	4	ea	1,600.00	6,400.00
32.	Ramada Light, (small)	26050.00	00003	12	ea	1,750.00	21,000.00
33.	Lighting in Grand and Lake Ramada's	26050.00	00003	4	ea	1,750.00	7,000.00
34.	Basketball court light 25' pole & LED luminaire	26050.00	00003	8	ea	4,850.00	38,800.00
35.	Single head Playground Light, 18' pole, LED luminaire	26050.00	00003	2	ea	4,650.00	9,300.00
36.	Connection/Conduit to Well	26050.00	00003	1	al	35,000.00	35,000.00
37.	SCADA @ Pump Skid, Allowance	26050.00	00003	1	al	95,000.00	95,000.00
38.	Ancillary Convenience Power and Conduit, not shown, Allowance	26050.00	00003	1	al	20,000.00	20,000.00
39.	WAP Infrastructure, conduit & boxes, Allowance	26050.00	00003	1	al	15,000.00	15,000.00
40.	Misc. COMM Conduits not shown, Allowance	26050.00	00003	1	al	25,000.00	25,000.00
	Subtotal						**1,914,980.00**

Current Estimate 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

Item #	Division / Shell & TI - Conceptual - Description/Scope Of Work	CSI Code	Refer.	Estimate Est 0 Qty.	U/M	Unit Price	Refer. TOTALS
17	Special/Owner - Allowances						
	Subtotal						0.00
	COSTS TOTALS:						**$9,086,609.23**
1.	General Conditions					1.9%	174,041.01
2.	Construction Contingency					0.4%	40,681.56
3.	Insurance					1.0%	93,013.32
4.	Bond					1.0%	93,943.45
5.	Contractors Fee					6.0%	569,297.31
6.	Sales Tax					6.045%	607,981.07
	TOTAL						**10,665,566.95**
					Owner and Design Contingency	0.3%	32,217.05
					Project Total		**10,697,784.00**

Buckeye Sundance Park II
Contract No. 2020006, CO #3
Willmeng Construction, Inc.

Est. Date: 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

No.	EXCLUSIONS:
	The following items are clarifications and exclusion for this estimate
	The following qualifications and exclusions are for GMP1 for Sundance Park Phase 2a1. All Work on GMP2 or Phase 2b1 is not included in this estimate.
1.	The estimate is based on the 90% Sundance Park Phase 2a2 drawings by J2 Engineering and Environmental Design dated 4-30-2021 pages 1 thru 277. Sundance Park Phase 2a1 GMP #1 (reconciled to the 100% design by J2 Engineering dated 2-16-2021 pages 1-67) are shown in this proposal for reference only as a tool for reviewing total project costs. Concrete thickness priced per J2 Engineering "Concrete Exhibit" dated 10-20-2021.
2.	The limits of the scopes of work shown within each GMP (GMP #2 and GMP #3) are not dilineated in the plans. The scope of work within each GMP is based on phasing limits discussed with the City of Buckeye. The general scopes are defined as follows: GMP #2 includes remainder lake scope, utilities at northeast section of improvements, restroom building and basketball courts. GMP #3 includes north parking lot, north fields w/ sports lightingplayground, splash pad, amenities and ramadas and utilities within these limits. Within GMP #3, the (8) ramadas on the west & north side of the soccer fields and the 50' x 120' Grand Ramada, along with associated amentities have been deferred by the City of Buckeye to future phases. Future phases will include south (2) fields with sports lighting, west parking (including lighting), deferred ramadas and amenities and west storm drain infrastructure.
3.	Design & Engineering Fees are excluded; Architectural, Interior Design, Structural, Mechanical, Plumbing, Electrical, Civil, geotechnical, SWPPP, and Landscaping.
4.	As-built certification (by RLS) and redlines are included in the estimate. Preparation of electronic media As-Built drawings, mylar reproduction, or any form of CAD is not included.
5.	Dust control plan, dust permit, street sweeping, construction water, silt fence, SWPPP implementations and maintenance are included in the estimate. Engineered SWPPP drawings and City of Buckeye required submittals are not included.
6.	There are scope items shown in the plans that have been deferred to future phases to overcome the budget constraints. These variances have been reviewed and accepted/agreed to with the City of Buckeye. These variances are noted as: a) GMP #3 includes credits from GMP #1 underruns including: Landscape DG & Rip Rap, hydroseed, storm drain pipe and headwall (including trash rack and railing). b) Earthwork Savings provided in GMP #2 and GMP #3 based on efficiencies gained expanding GMP #3 scope/limits. c) Construction and Design Contingencies have been adjusted to reflect Willmeng-Buckeye agreed upon Contingency adjustments. Construction Contingency reduced $230,000 overall and Design Contingency reduced by $120,000. These adjustments are made in the contingency values in GMP #3. d) Defer (8x) 20' x 20' ramadas, including all amenities and flatwork. These ramadas are the (4) west ramadas and (4) north ramadas of the north field. The area will be finished as loose 1/4" minus DG. e) Defer 50' x 120' Grand Ramada, including all amenities, Masonry wall & CIP Counters and flatwork. The area will be finished as loose 1/4" minus DG. f) Sidewalk thickness has been from 6" thick to 4" thick within the limits of GMP #3 per the J2 Concrete exhibit dated 10/20/2021. g) Deleting turf and landscaping from the "grassy hills" from the play area and replacing them with loose 1/4" minus DG. These areas include: (1) location south of Grand Ramada and (2) locations south of restroom building.
7.	The following allowances are included in the estimate: a) APS Primary infrastructure (design not complete at time of this proposal). Allowance total $144,022.00. b) Data and WIFI conduit/infrastructure. Allowance total is $40,000.00 c) Well/SCADA conduit and infrastructure, miscellaneous electrical/communication, etc. Allowance is $150,000.00 d) 50amp Twist Lock Receptacle Infrastructure. Allowance total is $75,000. No design/final locations determined at time of bid. e) Allowance for storm drain manholes at 3x-42" culvert east of lake. Allowance totals $37,500.00 (5x manholes at $7,500/ea)
8.	It is assumed that all scope within this GMP will not be restricted or impacted by a lack of permitting or the ability for the City to provide inspections knowing that the plans are currently at the 90% stage. If our work is impacted by either of these, then a time extension will be granted based on these impacts.
9.	This GMP is established based on the 90% plans. All scopes could change as the 100% plans are developed. Upon receiving the 100% plans and identifying the changes, respective scopes of work will be repriced as applicable. These changes (increases or decreases in cost) will be managed by the Design Contingency or Contractors Contingency as necessary (dependent upon the change). New scopes of work as agreed upon between Willmeng and the City will be managed through the Project Buy-out/savings or Owner's Contingency depending upon the change and overall standing of the GMP.
10.	Due to the nature of this project (GMP based on 90% plans and not on the final plans), CMAR can utilize Project Buy-out/savings to manage scope variations between pay items and from the 90% plans to 100% stage without approval from the City. In addition, it is assumed any savings in GMP 1 and GMP 2 can be used by the project for scope within GMP 3 if needed and vice versa.
11.	There could be material price changes from the time subcontractors provide pricing to when subcontracts can be executed. If applicable, these changes (increases in cost) will be managed by the Project Buy-out/savings and Contractors Contingency as necessary.
12.	Manufacture or Supplier delays in manufacturing, shipping or delivery of critical equipment, parts, supplies, etc. for the project that are out of the direct control of the Contractor shall be considered as acts of Force Majeure. These delays will be considered "uncontrollable delays" and will extend critical path completion dates, substantial completion dates and project final completion dates accordingly in accordance with the Contract without negative impact on the Contractor for such uncontrollable delays.

Est. Date: 18-Jan-22

Buckeye Sundance Park II - Phase 2a1 GMP1 & Phase 2a2 90% DD Estimate (GMPs #2 & #3)

No.	EXCLUSIONS:
	The following items are clarifications and exclusion for this estimate
13.	Offsite improvements are not included in this phase.
14.	New Decomposed Granite (DG) will not match existing due to aging/weathering of existing DG.
15.	RipRap priced as 3"-8" Madison Gold, 12" thick with filter fabric only. Madison Gold riprap only available in this size. If a bigger riprap is required, a different color will need to be selected and the pricing may vary from what is included in the GMPs (additional costs applied against Owner's Contingency).
16.	GMP #5 is not anticipated to be constructed as part of this phase of improvements due to funding availibility. Due to this, the Site Facilities & Management and Contingency (reflected in the summary breakout) is based on a 6-month construction duration. The total contingency dollars reflected in the breakdown is applied across GMPs #1 - GMP #4.
17.	Excludes dewatering, lime stabilization, termite pretreat or any special soil treatments.
18.	Existing soil materials will be used for the lake ballast
19.	Geotextile and lake liner will be installed on screened existing soil. Excludes Overexcavation and import of dirt and/or pre-engineered fill materials.
20.	Two 8 OZ Geotextile layers will be installed, one beneath the lake liner, and one on top throughout the entire lake.
21.	Lake liner is black color. Other colors are available at additional cost.
22.	Excludes Costs related to blasting, hard dig, crushing & screening and/or abnormal soil conditions.
23.	Sand at north soccer fields is priced as "Peoria Park Blend" sand. USGA sand is not readily available from suppliers and suppliers could not provide a timeline of its availability.
24.	Excludes Modifications. Maintenance and repairs to the existing park and facilities.
25.	Excludes any provisions or requirements for the existing power/water companies and overhead power lines on site
26.	The estimate excludes any water testing or treatment for the lake water. Irrigation/canal water will be used to fill the new lake. No special chemicals nor filtration is included in the scope.
27.	Fish stocking for the lake is excluded. Any additional requirements for the Arizona Game and Finish are not included in the estimate.
28.	While everyone is aware of COVID-19, the impacts remain unknown. Currently, we have made no adjustment to our Pricing Structure or Schedule to account for future potential impacts due to COVID-19 or other such pandemics.
29.	Adds and Deducts included are priced based on conceptual design or conversations. Willmeng reserves the right to re-price upon final design of the additions and deducts.
30.	Excludes the cost of sod. All grass areas are priced as stolons.
31.	Excludes water and power facilities needed to provide irrigation for stolons for grow-in or establishment. Excludes temporary power setups, temporary water, generators, etc. necessary to run irrigation system and lake pumps.
32.	Ramadas (Classic Recreation and Nucor) are 5-6 month lead time after order is placed (after engineering/shop drawings approved).
33.	Excludes hauloff of stockpoile located in the west parking lot. This stockpile will continue to receive excess material/spoils and the cost to haul it off will be figured in future phase pricing.
34.	Proposals/Bids and Construction Schedules are valid for a maximum of 15 calendar days from the date of the quotation, or less if otherwise set forth in a subcontractor/suppliers bid proposal. Due to the volatility of the market as a result of the pandemic and/or supply chain issues, increases in material pricing between the time of this proposal and when material is procurred by subcontractors/vendors will be funded via Design Contingency. Proposals and bids for scopes not awarded and contracted within these time periods are void and will require a re-quote of costs and revised project scheduling.
35.	Excludes hauloff of stockpoile located in the west parking lot. This stockpile will continue to receive excess material/spoils and the cost to haul it off will be figured in future phase pricing.

METRO
ENGINEERING & SURVEY, LLC.

UTRACS # 10712

June 24th, 2021

PROJECT: Sundance Park
PROJ NO: IIa-2 (GMP2)
LOCATION: Buckeye, Arizona

Subject: Proposal to provide Professional Survey Services.

Dear Ms. Wisenbaugh,

Metro Engineering and Survey, LLC. is an Arizona certified **DBE member** and pleased to present this proposal to you to provide Professional Services for the above referenced project.

In order for Metro Engineering and Survey, LLC. to provide the Construction Surveying & Layout, the Client or representatives of the Client, shall supply:

1. A hard copy of the Approved plans and special provisions for this project.
2. Electronic CADD file.

SURVEY SCOPE OF WORK

This proposal covers items listed in below scope of work, and any additional work not covered by this proposal will be addressed with a change order or with a separate proposal.

1. Calculations and Control Verification.
2. Stake all easements on parcel.
3. Stake Parcel Boundary at 100' intervals.
4. Layout all asphalt and concrete removals.
5. Rough grade entire site on 100' grid.
6. Bluetop subgrade of all parking lots, fields, PCCP areas and building pad on a 50' grid.
7. Bluetop all ABC and sand base courses on a 50' grid.
8. Stake corners of all proposed riprap pads.
9. Stake Storm drain pipe every 50' and all related structures.
10. Stake waterline every 50' including angle points, grade breaks, hydrants, valves and tees.
11. Stake sewer line every 50' including manholes, angle points, tie-ins and grade breaks.
12. Stake both ends of all pipe sleeves.
13. Stake lake plumbing lines every 50' including angle points.
14. Stake detached sidewalk every 50' including Pt's Pc's angle points and grade breaks.
15. Stake all curb every 50' including Pt's, Pc's angle points and grade breaks.

16. Stake large PCCP areas on 25' grid.
17. Layout permanent marking and striping on all parking lots, fields and courts.
18. Stake approximately 15 new sign posts.
19. Stake all new lighting poles and pull boxes.
20. Stake block walls at pump and maintenance areas enclosures.
21. Stake centerline of posts and benches for all ramadas.
22. Stake grid lines and finish floor elevation for restroom building.
23. As-builts per City of Buckeye specifications.
24. Work shall be done under the direct supervision of a registered land surveyor.
25. Office Calculations, Research, Travel and Supervision.

ESTIMATED COSTS AND ANTICIPATED FEES

Proposal is based on the needed survey crew(s) working approximately 72 days.

The items associated with this proposal are presented below:

1.)	Construction Surveying and Layout	: **$126,875.00**

Notes/Exclusions

1. This proposal is based on a mutually agreed upon contract
2. Proposal is good for 30 days from date of quotation.
3. 48-hour notice given for scheduled work.
4. This estimated fee is for a one-time only staking and location for each line item. It is contractor's responsibility for the protection of all staking.
5. If additional staking is required, work shall be paid on an hourly basis at our current billing rates.
6. Our office or field crew chief must be notified immediately if any discrepancies or inaccuracy of stakes is suspected. If notification is not given and we are not afforded the opportunity to either verify or correct these inaccuracies we shall accept no responsibility or liability for those items. Any questions regarding accuracy of construction layout will not be considered unless the reference points from which the layout occurred are preserved intact in their original and undisturbed state.
7. Work not included in the above survey scope of work is excluded from this proposal.

Client will be billed as the work is completed or on a pre-negotiated schedule based on a Net 30 term.

Metro Engineering and Survey, LLC. appreciates the opportunity to provide technical services to you, and looks forward to performing this work. Should you have any questions regarding this submittal, please do not hesitate to call.

Sincerely,

Brandon Gallimore

Metro Engineering and Survey, LLC.

R·A·M·M

RICKER • ATKINSON • McBEE • MORMAN
& ASSOCIATES, INC.

Geotechnical Engineering • *Construction Materials Testing*
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282
Telephone (480) 921-8100 • Facsimile (480) 921-4081

Willmeng Construction
2048 North 44th Street, Suite 200
Phoenix, Arizona 85008

November 2, 2020
(Revised: June 23, 2021)

Attn: Anita Wisenbaugh / Email: (awisenbaugh@willmeng.com)

Re: Sundance Park Phase 2
22865 West Lower Buckeye Road
Buckeye, Arizona

RAMM Proposal No. PT20965

Ricker, Atkinson, McBee, Morman & Associates, Inc. is pleased to submit this proposal to conduct Materials Testing Services for the above-referenced project.

The following scope of work and **estimated fee** are based on our experience with similar projects, a review of the project plans (90% Review Set) and specifications provided. **Charges will be based only on actual time spent and testing performed to provide the services required.**

On this project there will be no overtime premium for weekday work and no minimum charge per trip.

PHASE 2a1

Materials Testing

Earthwork: Compaction testing during subgrade preparation and fill placement in exterior concrete areas and lake improvement areas.

		Unit Rates	Amount	
30	Hours	$ 46.00	$ 1,380.00	
10	Trips	70.00	700.00	
2	Standard Proctors	120.00	240.00	
1	ABC Sieve and P.I.	200.00	200.00	
			Subtotal	$ 2,520.00

Concrete: Sampling and compressive strength testing of concrete based on the specified minimum testing frequency of one set of 4 cylinders per 100 or less c.y. and at least one set per day's placement (assume 8 sets). Sampling and compressive strength testing of concrete based on the assumed testing frequency of three cores per day's placement.

		Unit Rates	Amount	
50	Hours	$ 46.00	$ 2,300.00	
17	Trips	70.00	1,190.00	
32	Cylinders	15.00	720.00	
9	Shotcrete Cores	70.00	630.00	
			Subtotal	$ 3,460.00

PHASE 2a1 MATERIALS TESTING TOTAL: $ 5,980.00

PHASE 2a2

Materials Testing

Earthwork: Compaction testing during subgrade preparation and fill placement in new building and exterior concrete areas, and sub-floor aggregate base. Includes pad certification.

		Unit Rates	Amount	
50	Hours	$ 46.00	$ 2,300.00	
16	Trips	70.00	1,120.00	
2	Standard Proctors	120.00	240.00	
1	ABC Sieve and P.I.	200.00	200.00	
			Subtotal	$ 3,860.00

Concrete: Sampling and compressive strength testing of concrete based on the specified minimum testing frequency of one set of 4 cylinders per 100 or less c.y. and at least one set per day's placement (assume 20 sets).

		Unit Rates	Amount	
60	Hours	$ 46.00	$ 2,760.00	
18	Trips	70.00	1,260.00	
80	Cylinders	15.00	1,200.00	
			Subtotal	$ 5,220.00

Masonry: Compressive strength testing of grout based on an assumed minimum testing frequency of one set of grout per 5,000 sq. ft. of masonry construction (estimate 10 sets grout).

		Unit Rates	Amount	
30	Hours	$ 46.00	$ 1,380.00	
10	Trips	70.00	700.00	
50	Specimens - Grout	15.00	750.00	
			Subtotal	$ 2,830.00

Trench Backfill: Compaction testing of bedding and backfill for new utility lines.

		Unit Rates	Amount	
25	Hours	$ 46.00	$ 1,150.00	
8	Trips	70.00	560.00	
			Subtotal	$ 1,710.00

Asphalt Pavement: Sampling and testing of subgrade, aggregate base and asphalt concrete materials in new pavement areas.

		Unit Rates	Amount	
30	Hours	$ 46.00	$ 1,380.00	
10	Trips	70.00	700.00	
3	AC Marshall / Extraction & Gradation	130/140	810.00	
			Subtotal	$ 2,890.00

PHASE 2a2 MATERIALS TESTING TOTAL: $ 16,510.00

Fee includes reports for all inspections, test results, transportation, clerical and postage. We look forward to working with you on this project.

Respectfully submitted,
RICKER, ATKINSON, MCBEE, MORMAN & ASSOCIATES, INC.

Armando Lagunas
Project Manager
/al

14114 N. 88th Ave.
Peoria, AZ 85381

Office 623.435.9656
Fax: 623.435.0626

ROC #269010

Date: June 26, 2021
To: Willmeng Construction, Inc.
Phone: (602) 803-3513
Email: estimators@willmeng.com
Attn: Anita Wisenbaugh
Re: Buckeye – Sundance Park Phase II

PROPOSAL

AE Concrete LLC shall furnish all labor, material, equipment, and supervision to perform the following scope of work:

SITE CONCRETE - GMP 3: $1,518,720.00

- 1 EA restroom building – 1,150 SF 4" SOG over 4" ABC with continuous footings, turn downs (as shown on plans).
- 149,200 SF 6" sidewalk gray broom finish
- 14,640 SF 6" sidewalk gray exposed aggregate finish
- 11,350 SF 6" concrete post-tension slab (basketball court, finishes by others)
- 4 EA basketball pole bases
- 8,790 SF 6" concrete splash pad (staining by others)
- 3,030 SF 4" sub slab at playground (rubberized surface by others)
- 4 EA ramada concrete countertop w/ footings
- 5,965 SF valley gutter (MAG 240)
- 4,610 LF vertical curb (MAG 222, A)
- 190 LF curb and gutter (MAG 220-1, A)
- 275 LF ribbon curb (MAG 220-1, B)
- 615 LF modified single curb w/ openings (Detail CV-603)
- 155 LF 6" raised concrete header
- 950 LF 12" concrete header
- 4 EA handicap ramps
- 800 SF 2' wide truncated domes
- 56 EA ramada footings
- 4 EA swing gate pole bases
- 1 EA drinking fountain w/ dog bowl base
- 5 EA pet waste station bases
- 26 EA litter receptacle baes
- 4 EA bike racks – install only (bike racks by others)

- 2 EA pipe bollards – install only (pipe bollards by others)
- 630 LF cmu wall footing

SITE CONCRETE – GMP 4: $431,580.00

- 50,690 SF 6" sidewalk gray broom finish
- 485 LF modified single curb w/ openings (Detail CV-603)
- 2,405 LF vertical curb (MAG 220-1, A)
- 1,140 LF curb and gutter (MAG 220-1, A)
- 20 LF 6" raised concrete header
- 2 EA handicap ramps
- 3 EA swing gate pole bases
- 485 SF 2' wide truncated domes
- 17 EA pipe bollards – install only (pipe bollards by others)
- 2 EA gate pole bases (maintenance yard)
- 325 LF cmu wall footing (maintenance yard)
- 50 LF cmu wall footing (maintenance yard)

FOR A TOTAL SUM OF: $1,950,300.00

Alternates:

- **Textura Fees $4,073.00**

Exclude:

- **Sand Blasting/Sealers**
- **Blue Stain**
- **Acid Etching**
- **Lake Maintenance / Pump Yard**
- **Trash Enclosure**
- **Light pole bases (direct burial)**
- **Playground equipment foundations**
- **Fabric Shade Canopy foundations**
- **Polishing of countertops**

Qualifications:

1) No special prep or patching material for future coatings.
2) Plywood shall be B-B per ACI 347 class "B" standards.
3) Embeds shall not penetrate forms.
4) Protection to be by others after AE Concrete is complete with a specific area of work.
5) No lean concrete at footings.
6) No allowance for confined space conditions.
7) No allowance for shoring or reshore.
8) **All sub grade to be + or - .10' at all areas including site by others.**
9) Spoils to be stockpiled on site.
10) Floor slab to be compatible with laser screed, i.e.: (electrical, plumbing, etc.)
11) No form liners, sandblast, colored vertical concrete included.
12) Any electrical hazard to be controlled by others.
13) No water stops included in pricing.
14) All color is priced at 0 lb per cubic yard of concrete.
15) This proposal includes 0 concrete pumps, remainder to be tail gate.
16) Sanitary facilities, power, dumpsters to be provided by others.
17) Ready Mix wash out pits/areas to be provided by General Contractor.

18) Light pole base to be jeep rig drilled, no allowance for hard dig.

Exclusions:
1) Taxes, permits, bonds, fees.
2) Site work except as specified in proposal.
3) Pre-treat.
4) Unknown underground obstructions.
5) Private Locating or repair of utilities.
6) Precast concrete.
7) Man holes or mechanical pads.
8) Water proofing.
9) Caulking, coatings, joint sealants, sealers.
10) Mass excavation or backfill.
11) Haul off or hard dig.
12) Engineered fills, slurry fills or over excavation/re-compaction
13) Stair nosings, hand rail tubs.
14) Supply of embeds, i.e.: Plates, bolts, simpson ties, bollards, bike racks etc.
15) Welding & A706 Weldable Rebar
16) Survey.
17) Testing.
18) Dry packing of steel on Masonry or Light Pole Base Anchor Bolts
19) De watering.
20) Demolition.
21) Vapor barrier.
22) Protection of floors (new or existing).
23) Backfill other trades work.
24) Use of any equipment larger than a standard 416 Cat Hoe.
25) Off hour or overtime work (no prevailing wages.)
26) Repair of damage by others.
27) Curing other than liquid curing compound.
28) Offsite work of any kind.
29) All traffic control required for offsite work.
30) Head walls
31) Catch Basins
32) Shoring of slabs on metal deck.
33) Establish elevations for other trades
34) Dust control on hard roads other than during pours.
35) Wet cure of slab on grade.
36) Site dust control for areas without AE Concrete work in progress.
37) Rip-Rap or grouting of Rip-Rap.

This proposal is based on the following documents: **90% DRAWINGS DATED 4/30/21**

This proposal will expire in 30 days

Thank you for the opportunity to bid on this project.

Kurt J Hunter

Kurt J Hunter
AE Concrete LLC

14114 N. 88th Ave.
Peoria, AZ 85381

Office 623.435.9656
Fax: 623.435.0626

ROC #269010

Date: July 19, 2021
To: Willmeng Construction, Inc.
Phone: (602) 803-3513
Email: mploeger@willmeng.com
Attn: Mike Ploeger
Re: Buckeye – Sundance Park Phase II

PROPOSAL REV 1

AE Concrete LLC shall furnish all labor, material, equipment, and supervision to perform the following scope of work:

SITE CONCRETE - GMP 3: $1,574,510.00

- 1 EA restroom building – 1,150 SF 4" SOG over 4" ABC with continuous footings, turn downs (as shown on plans).
- 149,200 SF 6" sidewalk gray broom finish
- 14,640 SF 6" sidewalk gray exposed aggregate finish
- 11,350 SF 6" concrete post-tension slab (basketball court, finishes by others)
- 4 EA basketball pole bases
- 8,790 SF 6" concrete splash pad (staining by others) - $50,103.00
- 3,030 SF 4" sub slab at playground (rubberized surface by others)
- 4 EA ramada concrete countertop w/ footings
- 52 LF 4' wide CIP seat walls (sand blasting by others)
- 450 LF 2' wide & varying width seat walls (sand blasting by others)
- 200 LF 1' wide seat walls (sand blasting by others)
- 5,965 SF valley gutter (MAG 240)
- 4,610 LF vertical curb (MAG 222, A)
- 190 LF curb and gutter (MAG 220-1, A)
- 275 LF ribbon curb (MAG 220-1, B)
- 615 LF modified single curb w/ openings (Detail CV-603)
- 155 LF 6" raised concrete header
- 950 LF 12" concrete header
- 4 EA handicap ramps
- 800 SF 2' wide truncated domes
- 56 EA ramada footings - $50,790.00
- 4 EA swing gate pole bases - $2,180.00
- 1 EA drinking fountain w/ dog bowl base - $165.00

- 5 EA pet waste station bases - $825.00
- 26 EA litter receptacle bases - $4,290.00
- 4 EA bike racks – install only (bike racks by others) - $720.00
- 2 EA pipe bollards – install only (pipe bollards by others) - $400.00
- 630 LF cmu wall footing
- Pump house enclosure (includes perimeter wall footings, 6" slab on grade at lower & upper areas, CIP stairs, turn down at raised pump pad, 5 each bollards, 6 each shade canopy footings(no details), gate track foundation (embeds by others) - $55,790.00

SITE CONCRETE – GMP 4: $431,580.00

- 50,690 SF 6" sidewalk gray broom finish
- 485 LF modified single curb w/ openings (Detail CV-603)
- 2,405 LF vertical curb (MAG 220-1, A)
- 1,140 LF curb and gutter (MAG 220-1, A)
- 20 LF 6" raised concrete header
- 2 EA handicap ramps
- 3 EA swing gate pole bases - $1,635.00
- 485 SF 2' wide truncated domes
- 17 EA pipe bollards – install only (pipe bollards by others) - $3,400.00
- 2 EA gate pole bases (maintenance yard) - $550.00
- 325 LF cmu wall footing (maintenance yard)
- 50 LF cmu wall footing (maintenance yard)

FOR A TOTAL SUM OF: $2,006,090.00

Alternates:

- **Textura Fees $4,073.00**

Exclude:

- **Sand Blasting/Sealers**
- **Blue Stain**
- **Acid Etching**
- ~~**Lake Maintenance / Pump Yard**~~
- **Trash Enclosure**
- **Light pole bases (direct burial)**
- **Playground equipment foundations**
- **Fabric Shade Canopy foundations**
- **Polishing of countertops**

Qualifications:
1) No special prep or patching material for future coatings.
2) Plywood shall be B-B per ACI 347 class "B" standards.
3) Embeds shall not penetrate forms.
4) Protection to be by others after AE Concrete is complete with a specific area of work.
5) No lean concrete at footings.
6) No allowance for confined space conditions.
7) No allowance for shoring or reshore.
8) All sub grade to be + or - .10' at all areas including site by others.

9) Spoils to be stockpiled on site.
10) Floor slab to be compatible with laser screed, i.e.: (electrical, plumbing, etc.)
11) No form liners, sandblast, colored vertical concrete included.
12) Any electrical hazard to be controlled by others.
13) No water stops included in pricing.
14) All color is priced at 0 lb per cubic yard of concrete.
15) This proposal includes 0 concrete pumps, remainder to be tail gate.
16) Sanitary facilities, power, dumpsters to be provided by others.
17) Ready Mix wash out pits/areas to be provided by General Contractor.
18) Light pole base to be jeep rig drilled, no allowance for hard dig.

Exclusions:
1) Taxes, permits, bonds, fees.
2) Site work except as specified in proposal.
3) Pre-treat.
4) Unknown underground obstructions.
5) Private Locating or repair of utilities.
6) Precast concrete.
7) Man holes or mechanical pads.
8) Water proofing.
9) Caulking, coatings, joint sealants, sealers.
10) Mass excavation or backfill.
11) Haul off or hard dig.
12) Engineered fills, slurry fills or over excavation/re-compaction
13) Stair nosings, hand rail tubs.
14) Supply of embeds, i.e.: Plates, bolts, simpson ties, bollards, bike racks etc.
15) Welding & A706 Weldable Rebar
16) Survey.
17) Testing.
18) Dry packing of steel on Masonry or Light Pole Base Anchor Bolts
19) De watering.
20) Demolition.
21) Vapor barrier.
22) Protection of floors (new or existing).
23) Backfill other trades work.
24) Use of any equipment larger than a standard 416 Cat Hoe.
25) Off hour or overtime work (no prevailing wages.)
26) Repair of damage by others.
27) Curing other than liquid curing compound.
28) Offsite work of any kind.
29) All traffic control required for offsite work.
30) Head walls
31) Catch Basins
32) Shoring of slabs on metal deck.
33) Establish elevations for other trades
34) Dust control on hard roads other than during pours.
35) Wet cure of slab on grade.
36) Site dust control for areas without AE Concrete work in progress.
37) Rip-Rap or grouting of Rip-Rap.

This proposal is based on the following documents: **90% DRAWINGS DATED 4/30/21**

This proposal will expire in 30 days

Thank you for the opportunity to bid on this project.

Kurt J Hunter

Kurt J Hunter
AE Concrete LLC

14114 N. 88th Ave.
Peoria, AZ 85381

Office 623.435.9656
Fax: 623.435.0626

ROC #269010

Date: November 2, 2021
To: Willmeng Construction, Inc.
Phone: (602) 803-3513
Email: mploeger@willmeng.com
Attn: Mike Ploeger
Re: Buckeye – Sundance Park Phase II

PROPOSAL REV 2

AE Concrete LLC shall furnish all labor, material, equipment, and supervision to perform the following scope of work:

SITE CONCRETE - GMP 3: $1,458,520.00

- 1 EA restroom building – 1,150 SF 4" SOG over 4" ABC with continuous footings, turn downs (as shown on plans).
- 44,730 SF 6" sidewalk gray broom finish
- 4,680 SF 6" sidewalk gray exposed aggregate finish
- 104,470 SF 4" sidewalk gray broom finish
- 9,960 SF 4" sidewalk gray exposed aggregate
- 11,350 SF 6" concrete post-tension slab (basketball court, finishes by others)
- 4 EA basketball pole bases
- 8,790 SF 6" concrete splash pad (staining by others) - $50,103.00
- 3,030 SF 4" sub slab at playground (rubberized surface by others)
- 4 EA ramada concrete countertop w/ footings
- 52 LF 4' wide CIP seat walls (sand blasting by others)
- 450 LF 2' wide & varying width seat walls (sand blasting by others)
- 200 LF 1' wide seat walls (sand blasting by others)
- 5,965 SF valley gutter (MAG 240)
- 4,610 LF vertical curb (MAG 222, A)
- 190 LF curb and gutter (MAG 220-1, A)
- 275 LF ribbon curb (MAG 220-1, B)
- 615 LF modified single curb w/ openings (Detail CV-603)
- 155 LF 6" raised concrete header
- 950 LF 12" concrete header
- 4 EA handicap ramps
- 800 SF 2' wide truncated domes
- 56 EA ramada footings - $50,790.00

- 4 EA swing gate pole bases - $2,180.00
- 1 EA drinking fountain w/ dog bowl base - $165.00
- 5 EA pet waste station bases - $825.00
- 26 EA litter receptacle bases - $4,290.00
- 4 EA bike racks – install only (bike racks by others) - $720.00
- 2 EA pipe bollards – install only (pipe bollards by others) - $400.00
- 630 LF cmu wall footing
- Pump house enclosure (includes perimeter wall footings, 6" slab on grade at lower & upper areas, CIP stairs, turn down at raised pump pad, 5 each bollards, 6 each shade canopy footings (no details), gate track foundation (embeds by others) - $55,790.00

SITE CONCRETE – GMP 4: $413,540.00

- 5,840 SF 6" sidewalk gray broom finish
- 44,850 SF 4" sidewalk gray broom Finish
- 485 LF modified single curb w/ openings (Detail CV-603)
- 2,405 LF vertical curb (MAG 220-1, A)
- 1,140 LF curb and gutter (MAG 220-1, A)
- 20 LF 6" raised concrete header
- 2 EA handicap ramps
- 3 EA swing gate pole bases - $1,635.00
- 485 SF 2' wide truncated domes
- 17 EA pipe bollards – install only (pipe bollards by others) - $3,400.00
- 2 EA gate pole bases (maintenance yard) - $550.00
- 325 LF cmu wall footing (maintenance yard)
- 50 LF cmu wall footing (maintenance yard)

FOR A TOTAL SUM OF: $1,872,060.00

Alternates:

- **Textura Fees $4,073.00**
- **Add color to 4" & 6" exposed aggregate(up to $40/yard color) - $13,180.00**

Exclude:

- **Sand Blasting/Sealers**
- **Blue Stain**
- **Acid Etching**
- **Trash Enclosure**
- **Light pole bases (direct burial)**
- **Playground equipment foundations**
- **Fabric Shade Canopy foundations**
- **Polishing of countertops**

Qualifications:
1) No special prep or patching material for future coatings.
2) Plywood shall be B-B per ACI 347 class "B" standards.
3) Embeds shall not penetrate forms.

4) Protection to be by others after AE Concrete is complete with a specific area of work.
5) No lean concrete at footings.
6) No allowance for confined space conditions.
7) No allowance for shoring or reshore.
8) All sub grade to be + or - .10' at all areas including site by others.
9) Spoils to be stockpiled on site.
10) Floor slab to be compatible with laser screed, i.e.: (electrical, plumbing, etc.)
11) No form liners, sandblast, colored vertical concrete included.
12) Any electrical hazard to be controlled by others.
13) No water stops included in pricing.
14) All color is priced at_____0_____lb per cubic yard of concrete.
15) This proposal includes __0__ concrete pumps, remainder to be tail gate.
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17) Ready Mix wash out pits/areas to be provided by General Contractor.
18) Light pole base to be jeep rig drilled, no allowance for hard dig.

Exclusions:
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2) Site work except as specified in proposal.
3) Pre-treat.
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6) Precast concrete.
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This proposal is based on the following documents: **90% DRAWINGS DATED 4/30/21**

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Kurt J Hunter

Kurt J Hunter
AE Concrete LLC

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ROC #269010

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To: Willmeng Construction, Inc.
Phone: (602) 803-3513
Email: mploeger@willmeng.com
Attn: Mike Ploeger
Re: Buckeye – Sundance Park Phase II

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- 4 EA ramada concrete countertop w/ footings
- 52 LF 4' wide CIP seat walls (sand blasting by others)
- 450 LF 2' wide & varying width seat walls (sand blasting by others)
- 200 LF 1' wide seat walls (sand blasting by others)
- 5,965 SF valley gutter (MAG 240)
- 4,610 LF vertical curb (MAG 222, A)
- 190 LF curb and gutter (MAG 220-1, A)
- 275 LF ribbon curb (MAG 220-1, B)
- 615 LF modified single curb w/ openings (Detail CV-603)
- 155 LF 6" raised concrete header
- 950 LF 12" concrete header
- 4 EA handicap ramps
- 800 SF 2' wide truncated domes
- 56 EA ramada footings - $50,790.00
- 4 EA swing gate pole bases - $2,180.00
- 1 EA drinking fountain w/ dog bowl base - $165.00
- 5 EA pet waste station bases - $825.00
- 26 EA litter receptacle bases - $4,290.00
- 4 EA bike racks – install only (bike racks by others) - $720.00
- 2 EA pipe bollards – install only (pipe bollards by others) - $400.00

- 630 LF cmu wall footing
- Pump house enclosure (includes perimeter wall footings, 6" slab on grade at lower & upper areas, CIP stairs, turn down at raised pump pad, 5 each bollards, 6 each shade canopy footings (no details), gate track foundation (embeds by others) - $55,790.00

SITE CONCRETE – GMP 4: $413,540.00

- 5,840 SF 6" sidewalk gray broom finish
- 44,850 SF 4" sidewalk gray broom Finish
- 485 LF modified single curb w/ openings (Detail CV-603)
- 2,405 LF vertical curb (MAG 220-1, A)
- 1,140 LF curb and gutter (MAG 220-1, A)
- 20 LF 6" raised concrete header
- 2 EA handicap ramps
- 3 EA swing gate pole bases - $1,635.00
- 485 SF 2' wide truncated domes
- 17 EA pipe bollards – install only (pipe bollards by others) - $3,400.00
- 2 EA gate pole bases (maintenance yard) - $550.00
- 325 LF cmu wall footing (maintenance yard)
- 50 LF cmu wall footing (maintenance yard)

FOR A TOTAL SUM OF: $1,872,060.00

Alternates:

- **Textura Fees $4,073.00**
- **Add color to 4" & 6" exposed aggregate(up to $40/yard color) - $13,180.00**

Unit Pricing:

- **4" sidewalk gray broom finish - $4.29/SF**
- **5" sidewalk gray broom finish - $4.80/SF**
- **6" sidewalk gray broom finish - $5.25/SF**

Exclude:

- **Sand Blasting/Sealers**
- **Blue Stain**
- **Acid Etching**
- **1Trash Enclosure**
- **Light pole bases (direct burial)**
- **Playground equipment foundations**
- **Fabric Shade Canopy foundations**
- **Polishing of countertops**

Qualifications:

1) No special prep or patching material for future coatings.
2) Plywood shall be B-B per ACI 347 class "B" standards.
3) Embeds shall not penetrate forms.
4) Protection to be by others after AE Concrete is complete with a specific area of work.
5) No lean concrete at footings.
6) No allowance for confined space conditions.
7) No allowance for shoring or reshore.
8) **All sub grade to be + or - .10' at all areas including site by others.**
9) Spoils to be stockpiled on site.

10) Floor slab to be compatible with laser screed, i.e.: (electrical, plumbing, etc.)
11) No form liners, sandblast, colored vertical concrete included.
12) Any electrical hazard to be controlled by others.
13) No water stops included in pricing.
14) All color is priced at 0 lb per cubic yard of concrete.
15) This proposal includes 0 concrete pumps, remainder to be tail gate.
16) Sanitary facilities, power, dumpsters to be provided by others.
17) Ready Mix wash out pits/areas to be provided by General Contractor.
18) Light pole base to be jeep rig drilled, no allowance for hard dig.

Exclusions:
1) Taxes, permits, bonds, fees.
2) Site work except as specified in proposal.
3) Pre-treat.
4) Unknown underground obstructions.
5) Private Locating or repair of utilities.
6) Precast concrete.
7) Man holes or mechanical pads.
8) Water proofing.
9) Caulking, coatings, joint sealants, sealers.
10) Mass excavation or backfill.
11) Haul off or hard dig.
12) Engineered fills, slurry fills or over excavation/re-compaction
13) Stair nosings, hand rail tubs.
14) Supply of embeds, i.e.: Plates, bolts, simpson ties, bollards, bike racks etc.
15) Welding & A706 Weldable Rebar
16) Survey.
17) Testing.
18) Dry packing of steel on Masonry or Light Pole Base Anchor Bolts
19) De watering.
20) Demolition.
21) Vapor barrier.
22) Protection of floors (new or existing).
23) Backfill other trades work.
24) Use of any equipment larger than a standard 416 Cat Hoe.
25) Off hour or overtime work (no prevailing wages.)
26) Repair of damage by others.
27) Curing other than liquid curing compound.
28) Offsite work of any kind.
29) All traffic control required for offsite work.
30) Head walls
31) Catch Basins
32) Shoring of slabs on metal deck.
33) Establish elevations for other trades
34) Dust control on hard roads other than during pours.
35) Wet cure of slab on grade.
36) Site dust control for areas without AE Concrete work in progress.
37) Rip-Rap or grouting of Rip-Rap.

This proposal is based on the following documents: **90% DRAWINGS DATED 4/30/21**

This proposal will expire in 30 days

Thank you for the opportunity to bid on this project.

Kurt J Hunter

Kurt J Hunter
AE Concrete LLC

PROPOSAL

Torrent Resources Incorporated
AZ Lic. ROC070465 A, ROC047067 B-4; ADWR 363
CA Lic. 528080 A, C-42, HAZ
NV Lic. 0035350 A ~ NM Lic. 90504 GF04

1509 East Elwood Street
Phoenix Arizona 85040-1391
phone 602-268-0785
fax 602-268-0820
www.TorrentResources.com
An evolution of McGuckin Drilling

California
661-947-9836
Nevada
702-366-1234

To: Willmeng Construction Inc
2048 North 44th Street #200
Phoenix, AZ 85008

Re: Sundance Park II
22865 W Lower Buckeye Rd
Buckeye, AZ

Proposal: TRI # 20-11-1-7-R1

June 25, 2021

Note: The detail on the drawings does not meet the City of Buckeye requirements. Therefore, we are bidding the overall depth for this project based on our drilling history in the area and providing city of Buckeye detail for recommended effective settling capacities in the settling chambers and component sizing.

Item No. 1:

8 - ***MaxWell*® Plus** Drainage Systems consisting of:

8 – Type IV ***MaxWell*®** Drywells
120' estimated overall depth
14' deep settling chambers
8"∅ drainage components
30"∅ covers

8 – Primary Settling Chambers consisting of:
15' overall depth
10LF – 4"∅ connecting pipes from primary settling chambers to ***MaxWell*®** @ 4' invert
30"∅ grates

Item No. 1 Price (qty 8):	$ 15,400.00 /ea	**Item No. 1 Total(qty 8):**	$ 123,200.00
***Slurry (Item No. 1) Price (qty 8):**	$ 1,100.00 /ea	***Slurry (Item No. 1) Total (qty 8):**	$ 8,800.00
****Perc. Test Price (qty 8):**	$ 900.00 /ea	****Perc. Test Total (qty 8):**	$ 7,200.00
		Drywell Registration:	$ 850.00
		Total:	$ 140,050.00

Note: The above pricing does not include the installation of a concrete pad around the primary settling chamber, which is typically required by the Town of Buckeye Standard Detail No. B-501. City Inspector to determine if necessary after installation. ***If required the cost will be $2,000.00/ea.***

Note: The above unit price is for the quantity shown; any changes to the quantity installed will affect unit price. If additional mobilizations are required, charges will apply.

***Slurry Backfill:** Backfill the trench and the top 4' around the settling chamber with two-sack ABC Stabilizing Slurry Mix.

****Percolation Test:** We propose to perform 10 constant head percolation tests provided there is a fire hydrant within 400LF of each drywell and adequate water pressure is obtainable. If not, additional costs may be incurred. If the water level cannot be stabilized in the drywell with one hose, additional costs may be incurred for an additional hose. This may be necessary to provide sufficient water pressure and produce a stabilized percolation rate. Price does not include providing water for the perc test(s).

Inclusions:
Provide auxiliary water equipment to help control dust in immediate work area only. PureFlo® Debris Shield and Hydrophobic Absorbent Pillow; Penetrate a minimum of 10' into permeable porous soils; Maintenance Data Sheet and ***MaxWell*® FIVE-YEAR** Warranty; Municipal inspection and Bluestake coordination as required; Proper site protection and adherence to OSHA regulations*; Variance in total drywell depth of 120', ADD $58/LF for additional depth, DEDUCT $20/LF for less than 120'. If project total add or deduct is less than $250 no credit or charge will be made. **** Did you know? All Torrent Resources Field Personnel are OSHA 30-Hour certified at the company's expense to ensure safety is always put first.***

Exclusions:
Abandonment of Well (Wet Well) Adjustment of rim(s) to final grade elevation. Blockouts, stubouts or connections. Concrete pads around the grate. Moving or hauling of spoil, site or access dust control, engineered staking, site access, sales tax, bonds, permits, correction for unstable soils and excavation through rock-like soil conditions. Providing water for haul/access roads or percolation tests.

Note: Proposal pricing is valid for 60 days from proposal date.

We appreciate the opportunity of quoting the above to you on the Sundance Park II project and look forward to working with you through its successful completion. In the meantime, should you have any questions or require additional information, please do not hesitate to contact me.

Regards,

Dominic Zorn
Sales Engineer
Torrent Resources, Inc

This bid is based on reviewing the following drawing dates and addenda:
Drawings: Civil Improvement Plan Sheets 31-37 & 89 Dated 4/30/21
Addenda: None

PROPOSAL

Torrent Resources Incorporated
AZ Lic. ROC070465 A, ROC047067 B-4; ADWR 363
CA Lic. 528080 A, C-42, HAZ
NV Lic. 0035350 A ~ NM Lic. 90504 GF04

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fax 602-268-0820
www.TorrentResources.com
An evolution of McGuckin Drilling

California
661-947-9836
Nevada
702-366-1234

TORRENT RESOURCES

To: Willmeng Construction Inc
2048 North 44th Street #200
Phoenix, AZ 85008

Re: Sundance Park II
22865 W Lower Buckeye Rd
Buckeye, AZ

Proposal: TRI # 20-11-1-7-R2

July 9, 2021

Note: The detail on the drawings does not meet the City of Buckeye requirements. Therefore, we are bidding the overall depth for this project based on our drilling history in the area and providing city of Buckeye detail for recommended effective settling capacities in the settling chambers and component sizing.

Item No. 1:

8 - ***MaxWell*® Plus** Drainage Systems consisting of:

8 – Type IV ***MaxWell*®** Drywells
120' estimated overall depth
14' deep settling chambers
8"∅ drainage components
30"∅ covers

8 – Primary Settling Chambers consisting of:
15' overall depth
10LF – 4"∅ connecting pipes from primary settling chambers to ***MaxWell*®** @ 4' invert
30"∅ grates

Item No. 1 Price (qty 8):	$ 15,400.00 /ea	**Item No. 1 Total(qty 8):**	$ 123,200.00
***Slurry (Item No. 1) Price (qty 8):**	$ 1,100.00 /ea	***Slurry (Item No. 1) Total (qty 8):**	$ 8,800.00
****Perc. Test Price (qty 8):**	$ 900.00 /ea	****Perc. Test Total (qty 8):**	$ 7,200.00
		Drywell Registration:	$ 850.00
		Total:	$ 140,050.00

Alternate Scope: Seepage Pits

Drill 55' with a 6' auger, backfill bottom 5' with native soil, install 4" pvc perforated pipe, and install ¾" washed rock up to pipe invert.

Item No. 1 Price (qty 2):	$ 7,275.00 /ea	**Total:**	$ 14,550.00

Note: The above pricing does not include the installation of a concrete pad around the primary settling chamber, which is typically required by the Town of Buckeye Standard Detail No. B-501. City Inspector to determine if necessary after installation. ***If required the cost will be $2,000.00/ea.***

Note: The above unit price is for the quantity shown; any changes to the quantity installed will affect unit price. If additional mobilizations are required, charges will apply.

***Slurry Backfill:** Backfill the trench and the top 4' around the settling chamber with two-sack ABC Stabilizing Slurry Mix.

****Percolation Test:** We propose to perform 10 constant head percolation tests provided there is a fire hydrant within 400LF of each drywell and adequate water pressure is obtainable. If not, additional costs may be incurred. If the water level cannot be stabilized in the drywell with one hose, additional costs may be incurred for an additional hose. This may be necessary to provide sufficient water pressure and produce a stabilized percolation rate. Price does not include providing water for the perc test(s).

Inclusions:
Provide auxiliary water equipment to help control dust in immediate work area only. PureFlo® Debris Shield and Hydrophobic Absorbent Pillow; Penetrate a minimum of 10' into permeable porous soils; Maintenance Data Sheet and ***MaxWell*® FIVE-YEAR** Warranty; Municipal inspection and Bluestake coordination as required; Proper site protection and adherence to OSHA regulations*; Variance in total drywell depth of 120', ADD $58/LF for additional depth, DEDUCT $20/LF for less than 120'. If project total add or deduct is less than $250 no credit or charge will be made. **** Did you know? All Torrent Resources Field Personnel are OSHA 30-Hour certified at the company's expense to ensure safety is always put first.***

Exclusions:
Abandonment of Well (Wet Well) Adjustment of rim(s) to final grade elevation. Blockouts, stubouts or connections. Concrete pads around the grate. Moving or hauling of spoil, site or access dust control, engineered staking, site access, sales tax, bonds, permits, correction for unstable soils and excavation through rock-like soil conditions. Providing water for haul/access roads or percolation tests.

Note: Proposal pricing is valid for 60 days from proposal date.

We appreciate the opportunity of quoting the above to you on the Sundance Park II project and look forward to working with you through its successful completion. In the meantime, should you have any questions or require additional information, please do not hesitate to contact me.

Regards,

Dominic Zorn
Sales Engineer
Torrent Resources, Inc

This bid is based on reviewing the following drawing dates and addenda:
Drawings: Civil Improvement Plan Sheets 31-37 & 89 Dated 4/30/21
Addenda: None

PROPOSAL

Torrent Resources Incorporated
AZ Lic. ROC070465 A, ROC047067 B-4; ADWR 363
CA Lic. 528080 A, C-42, HAZ
NV Lic. 0035350 A ~ NM Lic. 90504 GF04

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California
661-947-9836
Nevada
702-366-1234

To: Willmeng Construction Inc
2048 North 44th Street #200
Phoenix, AZ 85008

Re: Sundance Park II
22865 W Lower Buckeye Rd
Buckeye, AZ

Proposal: TRI # 20-11-1-7-R3

January 12, 2022

Note: The detail on the drawings does not meet the City of Buckeye requirements. Therefore, we are bidding the overall depth for this project based on our drilling history in the area and providing city of Buckeye detail for recommended effective settling capacities in the settling chambers and component sizing.

Item No. 1:

8 - ***MaxWell*® Plus** Drainage Systems consisting of:

8 – Type IV ***MaxWell*®** Drywells
120' estimated overall depth
14' deep settling chambers
8"∅ drainage components
30"∅ covers

8 – Primary Settling Chambers consisting of:
15' overall depth
10LF – 4"∅ connecting pipes from primary settling chambers to ***MaxWell*®** @ 4' invert
30"∅ grates

Item No. 1 Price (qty 8):	$ 16,100.00 /ea	**Item No. 1 Total(qty 8):**	$ 128,800.00
***Slurry (Item No. 1) Price (qty 8):**	$ 1,100.00 /ea	***Slurry (Item No. 1) Total (qty 8):**	$ 8,800.00
****Perc. Test Price (qty 8):**	$ 1,000.00 /ea	****Perc. Test Total (qty 8):**	$ 8,000.00
		Drywell Registration:	$ 850.00
		Total:	$ 146,450.00

Alternate Scope: Seepage Pits

Drill 55' with a 6' auger, backfill bottom 5' with native soil, install 4" pvc perforated pipe, and install ¾" washed rock up to pipe invert.

Item No. 1 Price (qty 2):	$ 7,500.00 /ea	**Total:**	$ 15,000.00

Note: The above pricing does not include the installation of a concrete pad around the primary settling chamber, which is typically required by the Town of Buckeye Standard Detail No. B-501. City Inspector to determine if necessary after installation. ***If required the cost will be $2,000.00/ea.***

Note: The above unit price is for the quantity shown; any changes to the quantity installed will affect unit price. If additional mobilizations are required, charges will apply.

***Slurry Backfill:** Backfill the trench and the top 4' around the settling chamber with two-sack ABC Stabilizing Slurry Mix.

****Percolation Test:** We propose to perform 8 constant head percolation tests provided there is a fire hydrant within 400LF of each drywell and adequate water pressure is obtainable. If not, additional costs may be incurred. If the water level cannot be stabilized in the drywell with one hose, additional costs may be incurred for an additional hose. This may be necessary to provide sufficient water pressure and produce a stabilized percolation rate. Price does not include providing water for the perc test(s).

Inclusions:
Provide auxiliary water equipment to help control dust in immediate work area only. PureFlo® Debris Shield and Hydrophobic Absorbent Pillow; Penetrate a minimum of 10' into permeable porous soils; Maintenance Data Sheet and ***MaxWell*® FIVE-YEAR** Warranty; Municipal inspection and Bluestake coordination as required; Proper site protection and adherence to OSHA regulations*; Variance in total drywell depth of 120', ADD $58/LF for additional depth, DEDUCT $20/LF for less than 120'. If project total add or deduct is less than $250 no credit or charge will be made. **** Did you know? All Torrent Resources Field Personnel are OSHA 30-Hour certified at the company's expense to ensure safety is always put first***.

Exclusions:
Abandonment of Well (Wet Well) Adjustment of rim(s) to final grade elevation. Blockouts, stubouts or connections. Concrete pads around the grate. Moving or hauling of spoil, site or access dust control, engineered staking, site access, sales tax, bonds, permits, correction for unstable soils and excavation through rock-like soil conditions. Providing water for haul/access roads or percolation tests.

Note: Proposal pricing is valid for 60 days from proposal date.

We appreciate the opportunity of quoting the above to you on the Sundance Park II project and look forward to working with you through its successful completion. In the meantime, should you have any questions or require additional information, please do not hesitate to contact me.

Regards,

Dominic Zorn
Sales Engineer
Torrent Resources, Inc

This bid is based on reviewing the following drawing dates and addenda:
Drawings: Civil Improvement Plan Sheets 31-37 & 89 Dated 4/30/21
Addenda: None

Rummel Construction, Inc.
General Engineering Contractor
License No. ROC114845 A, ROC114846 B-04

Contract/Proposal No. 20217279
P. (480)222.9922 , F. (480)222.9923
7520 E. Adobe Drive • Scottsdale, AZ • 85255

TO:	Willmeng Construction	**PROJECT NAME:**	Sundance Park Phase 2
		LOCATION:	Lower Buckeye & 231rd Ave (Buckeye, AZ)
		PLAN DATE:	4/30/2021 90% Plans
EMAIL:	mploeger@willmeng.com	**ARCHITECT:**	J2 Engineering
ATTN:	Mike Ploeger	**SOIL ENGINEER:**	RAMM
DATE:	June 29, 2021	**REPORT DATE:**	October 6, 2020

We propose to furnish all labor and material necessary to complete work as described per our unit prices.
All work will be performed in accordance with the plans and specifications.

Proposal of Work To Be Performed

No.	Description	Quantity	Unit	Unit Price	Extended Price
GMP 3					
1	RESTORE MOBILIZATION	1	EA	$ 9,000.00	$ 9,000.00
2	CONSTRUCTION WATER	1	LS	$ 12,000.00	$ 12,000.00
3	SAWCUT & REMOVE ASPHALT	7,845	SF	$ 1.05	$ 8,237.25
4	REMOVE CURB	505	LF	$ 5.00	$ 2,525.00
5	REMOVE CONCRETE PAVEMENT	4,130	SF	$ 2.00	$ 8,260.00
6	REMOVE CONCRETE SCUPPER	1	EA	$ 1,600.00	$ 1,600.00
7	EXCAVATION FOR ENTRANCE	1,920	CY	$ 5.35	$ 10,272.00
8	EXCAVATION FOR NURSERY AREA	1,510	CY	$ 5.15	$ 7,776.50
9	3FT OX PAD/RAMADA/BASKETBALL COURTS	3,240	CY	$ 6.30	$ 20,412.00
10	RESTORE ASPHALT PAVING AREAS	17,020	SY	$ 1.20	$ 20,424.00
11	RESTORE HARDSCAPE AROUND LAKE	1	LS	$ 58,000.00	$ 58,000.00
12	RESTORE CURB GRADE	5,440	LF	$ 2.65	$ 14,416.00
13	RESTORE BASIN AREAS (EXLUDES SOCCER FIELDS)	1	LS	$ 26,000.00	$ 26,000.00
14	TRAFFIC CONTROL	1	LS	$ 1,600.00	$ 1,600.00
15	PAVING MOBILIZATION	1	EA	$ 5,500.00	$ 5,500.00
16	6" ABC MAINTENANCE YARD	500	SY	$ 21.40	$ 10,700.00
17	2" AC ON 6" ABC	12,445	SY	$ 23.75	$ 295,568.75
18	3" AC ON 6" ABC	4,575	SY	$ 30.00	$ 137,250.00
19	WATER VALVE ADJUSTMENTS	5	EA	$ 710.00	$ 3,550.00
				SUBTOTAL GMP 3	**$ 653,091.50**
GMP 4					
1	CONSTRUCTION WATER	1	LS	$ 6,500.00	$ 6,500.00
2	RESTORE MOBILIZATION	1	EA	$ 9,000.00	$ 9,000.00
3	EXCAVATION FOR ENTRANCE	2,665	CY	$ 4.95	$ 13,191.75
4	STOCKPILE HAUL OFF	3,808	CY	$ 10.75	$ 40,936.00
5	RESTORE ASPHALT PAVING AREAS	8,810	SY	$ 1.20	$ 10,572.00
6	RESTORE CURB GRADE	3,925	LF	$ 2.50	$ 9,812.50
7	RESTORE LANDSCAPE AREAS (EXCLUDES SOCCER FIELDS)	1	LS	$ 26,000.00	$ 26,000.00
8	SAWCUT & REMOVE ASPHALT	120	LF	$ 11.30	$ 1,356.00
9	TRAFFIC CONTROL	1	LS	$ 1,500.00	$ 1,500.00
10	PAVING MOBILIZATION	1	EA	$ 5,800.00	$ 5,800.00
11	2" AC ON 6" ABC	2,025	SY	$ 25.30	$ 51,232.50
12	3" AC ON 6" ABC	6,785	SY	$ 28.50	$ 193,372.50
13	WATER VALVE ADJUSTMENTS	2	EA	$ 710.00	$ 1,420.00
				SUBTOTAL GMP 4	**$ 370,693.25**
				Project Subtotal	**$ 1,023,784.75**
	This proposal is based on Prime TPT - Subcontractor		State/Co Tax		Excluded
			City Sales Tax		Excluded
				Project Total	**$ 1,023,784.75**

This proposal is to become part of the contract. This proposal is subject to change if not accepted within 30 days of the date hereon.
This proposal is conditioned upon the negotiation of terms and conditions of a mutually agreeable contract form setting forth the material terms and conditions of the agreement between the parties.
This proposal shall not be effective in the event that the Owner/Contractor seeks to have Rummel Construction defend and/or indemnify it or them from damages resulting from it or their negligent acts or omissions.
Payment to be based on actual field-measured quantities unless otherwise stated. Monthly progress payments on completed work due 30 days after completion and acceptance of our work, no retention is to be withheld. Interest will be charged at the rate of 1.5% per month on all late balances. Any costs or fees incurred in the pursuit of the collection of this account will be paid by the Owner.
Thank you for the opportunity to bid on this project.

ACCEPTANCE OF CONTRACT/PROPOSAL

The above prices, specifications and conditions on the front of this proposal are satisfactory and are hereby accepted, giving RUMMEL CONSTRUCTION authorization to complete work as specified. Funding verification and further payment terms to be established prior to starting work.

OFFERER:	Rummel Construction, Inc.	**OFFEREE:**	
BY:	Matt Mallia	**ACCEPTED BY:**	
TITLE:	Project Manager	**TITLE:**	
DATE:	June 29, 2021	**DATE:**	

Rummel Construction, Inc.
General Engineering Contractor
License No. ROC114845 A, ROC114846 B-04

Contract/Proposal No. 20217279
P. (480)222.9922 , F. (480)222.9923
7520 E. Adobe Drive • Scottsdale, AZ • 85255

TO:	Willmeng Construction	**PROJECT NAME:**	Sundance Park Phase 2
		LOCATION:	Lower Buckeye & 231rd Ave (Buckeye, AZ)
		PLAN DATE:	4/30/2021 90% Plans
EMAIL:	mploeger@willmeng.com	**ARCHITECT:**	J2 Engineering
ATTN:	Mike Ploeger	**SOIL ENGINEER:**	RAMM
DATE:	June 29, 2021	**REPORT DATE:**	October 6, 2020

We propose to furnish all labor and material necessary to complete work as described per our unit prices.
All work will be performed in accordance with the plans and specifications.

Job Specific Conditions and Exclusions

1. This proposal excludes tax based on the project being classified as a Prime Contracting TPT project and Rummel Construction, Inc. performing as a subcontractor. An Arizona 5005 form (or a tax exempt form acceptable to Rummel Construction, Inc.) will need to be included in our subcontract agreement if pricing is accepted. Should the project tax classification change or the scopes of work being proposed are contracted separately, Rummel
2. Asphalt & ABC material pricing is good through 12-31-21.
3. Excludes purchase and placement of ABC under concrete areas such as ramadas, basketball courts, splash pads etc.
4. This proposal is based on water being available onsite at a minimum rate of 500 GPM allocated to Rummel Construction. This rate is to be maintained and available 24 hours a day, 7 days a week for the duration of the work. Price based on water availability to site by owner. Any costs associated with procurement to the site to be paid for by others.
5. Estimated working days for the GMP 3 is 50 days and GMP is 25 days.
6. Excludes footing excavation/backfill, cut-off wall excavation/backfill and fine grading for concrete/landscape areas. Subgrade will be provided at +/- 0.10ft.
7. Proposal is based on a balanced site. Our current takeoff indicates the site is approximately 3808 CY long. This is based on a 20% shrink and a ground loss of 0.20' on the entire site. Excludes handling spoils from other trades.
8. Bid item to re-establish the hardscape areas is based on grade being within +/- .50' prior to mobilization and will be re-established to within +/- .10'. Any work necessary to re-establish subgrade to within +/- .50' tolerance will be performed on a T&M basis.
9. Water purchase is for Rummel Construction Inc. scope of work only.
10. Excludes excavation & backfill for culvert areas.
11. Excludes purchase and placement of rip rap.
12. Excludes excavation and/or finish grading for soccer fields.
13. Excludes purchase and placement of decomposed granite.
14. Excludes seal coat, prime coat, fog coat, weed killer in asphalt paving areas.
15. 3ft over-excavation has been provided below subgrade for ramada, basketball courts, splash pad areas only.

Standard Conditions and Exclusions

1. This proposal is based on the availability of the necessary construction materials, i.e., cement, asphalt, aggregates, and water. Should any shortage occur outside of Rummel Construction, Inc.'s control, Rummel Construction, Inc. will not be held liable for any damages or costs which may result from said shortage.
2. Excludes bonds, tax, plans, permits, fees, traffic control, engineering and testing.
3. This proposal is exclusive of construction survey and layout. Survey to be provided by others, survey requests shall be satisfied in accordance with Rummel Construction's activity schedule, as to avoid delay of the work.
4. Excludes NPDES, SWPPP, erosion control and related items.
5. Excludes removal of subterranean items or debris that have been dumped onsite. Excludes utility disconnects and/or relocates.
6. Payment terms per Arizona Prompt Payment Statute.
7. Proposal is based on one mobilization unless noted otherwise.
8. Material which cannot be ripped with a CAT D9 Dozer at 500 cy/hour to be excavated at T&M rates. Any blasting or hammer hoe work by others.
9. Excludes sorting of oversize material which is unsuitable for structural fill. Proposal excludes limited compaction or selective grading.
10. Rummel Construction will not be accountable for balance after utility installs, our scope of work to be certified at time of mass grade completion.
11. Excludes structural excavation and backfill unless stated otherwise.
12. Our proposal is contingent on the Owners acceptance to Rummel Construction, Inc.'s current insurance coverage. The CG 2010 11/85 or equivalent Completed Operations endorsement may not be available or may subject to a premium which will be passed on to the Owner for reimbursement.
13. Proposal is based on providing a flat building envelope where applicable. No provisions have been made to grade to final lot grading details.
14. No allowance is included to stabilize and/or remove expansive or unsuitable material and replace with granular material in accordance with M.A.G. Specification Section 340.3.1. Overexcavation of soft, expansive or unsuitable materials and installation of granular materials will be analyzed and priced separately if required.
15. Proposal is based on documents downloaded at receipt of Invitation to Bid. It is the Owner's responsibility to ensure proper notification was given to Rummel Construction, Inc. regarding changes/additions to bid documents.
16. This proposal is subject to change if not accepted within 30 days of the date hereon. Entire proposal / conditions to become part of the contract.

ACCEPTANCE OF CONTRACT/PROPOSAL

The above prices, specifications and conditions on the front of this proposal are satisfactory and are hereby accepted, giving RUMMEL CONSTRUCTION authorization to complete work as specified. Funding verification and further payment terms to be established prior to starting work.

OFFERER:	Rummel Construction, Inc.	**OFFEREE:**	
BY:	Matt Mallia	**ACCEPTED BY:**	
TITLE:	Project Manager	**TITLE:**	
DATE:	June 29, 2021	**DATE:**	

Rummel Construction, Inc.
General Engineering Contractor
License No. ROC114845 A, ROC114846 B-04

P. (480)222.9922 , F. (480)222.9923
7520 E. Adobe Drive • Scottsdale, AZ • 85255

Contract/Proposal No. 20217279R1

TO:	Willmeng Construction	**PROJECT NAME:**	Sundance Park Phase 2
		LOCATION:	Lower Buckeye & 231rd Ave (Buckeye, AZ)
		PLAN DATE:	4/30/2021 90% Plans
EMAIL:	mploeger@willmeng.com	**ARCHITECT:**	J2 Engineering
ATTN:	Mike Ploeger	**SOIL ENGINEER:**	RAMM
DATE:	January 17, 2022	**REPORT DATE:**	October 6, 2020

We propose to furnish all labor and material necessary to complete work as described per our unit prices.
All work will be performed in accordance with the plans and specifications.

Proposal of Work To Be Performed

No.	Description	Quantity	Unit	Unit Price	Extended Price
GMP 3					
1	RESTORE MOBILIZATION	1	EA	$ 9,000.00	$ 9,000.00
2	CONSTRUCTION WATER	1	LS	$ 12,000.00	$ 12,000.00
3	SAWCUT & REMOVE ASPHALT	7,845	SF	$ 1.10	$ 8,629.50
4	REMOVE CURB	505	LF	$ 7.00	$ 3,535.00
5	REMOVE CONCRETE PAVEMENT	4,130	SF	$ 2.00	$ 8,260.00
6	REMOVE CONCRETE SCUPPER	1	EA	$ 1,650.00	$ 1,650.00
7	EXCAVATION FOR ENTRANCE	1,920	CY	$ 5.85	$ 11,232.00
8	EXCAVATION FOR NURSERY AREA	1,510	CY	$ 7.45	$ 11,249.50
9	3FT OX PAD/RAMADA/BASKETBALL COURTS	3,240	CY	$ 6.35	$ 20,574.00
10	RESTORE ASPHALT PAVING AREAS	17,020	SY	$ 1.65	$ 28,083.00
11	RESTORE HARDSCAPE AROUND LAKE	1	LS	$ 62,000.00	$ 62,000.00
12	RESTORE CURB GRADE	5,440	LF	$ 2.80	$ 15,232.00
13	RESTORE BASIN AREAS (EXLUDES SOCCER FIELDS)	1	LS	$ 28,000.00	$ 28,000.00
14	TRAFFIC CONTROL	1	LS	$ 1,600.00	$ 1,600.00
15	PAVING MOBILIZATION	1	EA	$ 7,000.00	$ 7,000.00
16	6" ABC MAINTENANCE YARD	500	SY	$ 24.00	$ 12,000.00
17	2" AC ON 6" ABC	12,445	SY	$ 28.00	$ 348,460.00
18	3" AC ON 6" ABC	4,575	SY	$ 34.50	$ 157,837.50
19	WATER VALVE ADJUSTMENTS	5	EA	$ 725.00	$ 3,625.00
				SUBTOTAL GMP 3	**$ 749,967.50**

		Project Subtotal	**$ 749,967.50**
This proposal is based on Prime TPT - Subcontractor	State/Co Tax		Excluded
	City Sales Tax		Excluded
		Project Total	**$ 749,967.50**

This proposal is to become part of the contract. This proposal is subject to change if not accepted within 30 days of the date hereon.
This proposal is conditioned upon the negotiation of terms and conditions of a mutually agreeable contract form setting forth the material terms and conditions of the agreement between the parties.
This proposal shall not be effective in the event that the Owner/Contractor seeks to have Rummel Construction defend and/or indemnify it or them from damages resulting from it or their negligent acts or omissions.

Payment to be based on actual field-measured quantities unless otherwise stated. Monthly progress payments on completed work due 30 days after completion and acceptance of our work, no retention is to be withheld. Interest will be charged at the rate of 1.5% per month on all late balances. Any costs or fees incurred in the pursuit of the collection of this account will be paid by the Owner.

Thank you for the opportunity to bid on this project.

ACCEPTANCE OF CONTRACT/PROPOSAL

The above prices, specifications and conditions on the front of this proposal are satisfactory and are hereby accepted, giving RUMMEL CONSTRUCTION authorization to complete work as specified. Funding verification and further payment terms to be established prior to starting work.

OFFERER:	Rummel Construction, Inc.	**OFFEREE:**	
BY:	Matt Mallia	**ACCEPTED BY:**	
TITLE:	Project Manager	**TITLE:**	
DATE:	January 17, 2022	**DATE:**	

Rummel Construction, Inc.
General Engineering Contractor
License No. ROC114845 A, ROC114846 B-04

P. (480)222.9922 , F. (480)222.9923
7520 E. Adobe Drive • Scottsdale, AZ • 85255

Contract/Proposal No. 20217279R1

TO:	Willmeng Construction	**PROJECT NAME:**	Sundance Park Phase 2
		LOCATION:	Lower Buckeye & 231rd Ave (Buckeye, AZ)
		PLAN DATE:	4/30/2021 90% Plans
EMAIL:	mploeger@willmeng.com	**ARCHITECT:**	J2 Engineering
ATTN:	Mike Ploeger	**SOIL ENGINEER:**	RAMM
DATE:	January 17, 2022	**REPORT DATE:**	October 6, 2020

We propose to furnish all labor and material necessary to complete work as described per our unit prices.
All work will be performed in accordance with the plans and specifications.

Job Specific Conditions and Exclusions

1. This proposal excludes tax based on the project being classified as a Prime Contracting TPT project and Rummel Construction, Inc. performing as a subcontractor. An Arizona 5005 form (or a tax exempt form acceptable to Rummel Construction, Inc.) will need to be included in our subcontract agreement if pricing is accepted. Should the project tax classification change or the scopes of work being proposed are contracted separately, Rummel
2. Asphalt & ABC material pricing is good through 9-30-2022.
3. Excludes purchase and placement of ABC under concrete areas such as ramadas, basketball courts, splash pads etc.
4. This proposal is based on water being available onsite at a minimum rate of 500 GPM allocated to Rummel Construction. This rate is to be maintained and available 24 hours a day, 7 days a week for the duration of the work. Price based on water availability to site by owner. Any costs associated with procurement to the site to be paid for by others.
5. Estimated working days for the GMP 3 is 50 days.
6. Excludes footing excavation/backfill, cut-off wall excavation/backfill and fine grading for concrete/landscape areas. Subgrade will be provided at +/- 0.10ft.
7. Proposal is based on a balanced site. Our current takeoff indicates the site is approximately 3808 CY long. This is based on a 20% shrink and a ground loss of 0.20' on the entire site. Excludes handling spoils from other trades.
8. Bid item to re-establish the hardscape areas is based on grade being within +/- .50' prior to mobilization and will be re-established to within +/- .10'. Any work necessary to re-establish subgrade to within +/- .50' tolerance will be performed on a T&M basis.
9. Water purchase is for Rummel Construction Inc. scope of work only.
10. Excludes excavation & backfill for culvert areas.
11. Excludes purchase and placement of rip rap.
12. Excludes excavation and/or finish grading for soccer fields.
13. Excludes purchase and placement of decomposed granite.
14. Excludes seal coat, prime coat, fog coat, weed killer in asphalt paving areas.
15. 3ft over-excavation has been provided below subgrade for ramada, basketball courts, splash pad areas only.
16. Excludes any work associated with GMP 4.
17. Pricing is based upon 90% plans as listed on our proposal.

Standard Conditions and Exclusions

1. This proposal is based on the availability of the necessary construction materials, i.e., cement, asphalt, aggregates, and water. Should any shortage occur outside of Rummel Construction, Inc.'s control, Rummel Construction, Inc. will not be held liable for any damages or costs which may result from said shortage.
2. Excludes bonds, tax, plans, permits, fees, traffic control, engineering and testing.
3. This proposal is exclusive of construction survey and layout. Survey to be provided by others, survey requests shall be satisfied in accordance with Rummel Construction's activity schedule, as to avoid delay of the work.
4. Excludes NPDES, SWPPP, erosion control and related items.
5. Excludes removal of subterranean items or debris that have been dumped onsite. Excludes utility disconnects and/or relocates.
6. Payment terms per Arizona Prompt Payment Statute.
7. Proposal is based on one mobilization unless noted otherwise.
8. Material which cannot be ripped with a CAT D9 Dozer at 500 cy/hour to be excavated at T&M rates. Any blasting or hammer hoe work by others.
9. Excludes sorting of oversize material which is unsuitable for structural fill. Proposal excludes limited compaction or selective grading.
10. Rummel Construction will not be accountable for balance after utility installs, our scope of work to be certified at time of mass grade completion.
11. Excludes structural excavation and backfill unless stated otherwise.
12. Our proposal is contingent on the Owners acceptance to Rummel Construction, Inc.'s current insurance coverage. The CG 2010 11/85 or equivalent Completed Operations endorsement may not be available or may subject to a premium which will be passed on to the Owner for reimbursement.
13. Proposal is based on providing a flat building envelope where applicable. No provisions have been made to grade to final lot grading details.
14. No allowance is included to stabilize and/or remove expansive or unsuitable material and replace with granular material in accordance with M.A.G. Specification Section 340.3.1. Overexcavation of soft, expansive or unsuitable materials and installation of granular materials will be analyzed and priced separately if required.
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ACCEPTANCE OF CONTRACT/PROPOSAL

The above prices, specifications and conditions on the front of this proposal are satisfactory and are hereby accepted, giving RUMMEL CONSTRUCTION authorization to complete work as specified. Funding verification and further payment terms to be established prior to starting work.

OFFERER:	Rummel Construction, Inc.	**OFFEREE:**	
BY:	Matt Mallia	**ACCEPTED BY:**	
TITLE:	Project Manager	**TITLE:**	
DATE:	January 17, 2022	**DATE:**	

PROPOSAL AND CONTRACT

DEGAN CONSTRUCTION LLC
PO Box 60245, Phoenix Az 85082
P. 602-795-8475 F. 602-795-8476
EMAIL: DWHETTEN@DEGANCON.COM

To:	Willmeng Construction	**Contact:**	Mike Ploeger
Address:	2048 North 44th Street, Ste 200 Phoenix, AZ 85008	**Phone:** **Fax:**	480-826-7313
Project Name:	Sundance Park II - Phase 2a2	**Bid Number:**	20-331
Project Location:	22865 West Lower Buckeye Road, Buckeye, AZ	**Bid Date:**	11/2/2020

Please see the attached bid proposal. This has been revised to be accordingly to the revised 90% preliminary plans. This proposal will be adjusted when new plans are provided.

Item Description	Estimated Quantity	Unit	Total Price
Sewer			
4" SDR-35 PVC Sewer	179.00	LF	$15,268.70
2-way Sewer Cleanout W/Box & Cover	2.00	EACH	$1,657.28
1000 Gal. Sewer Septic Tank	1.00	EACH	$11,214.18
4' Dia. Sewer Manhole	1.00	EACH	$9,315.42
Total Price for above Sewer Items:			**$37,455.58**
Storm Drain			
18" RGRCP SD Pipe	738.00	LF	$77,364.54
24" HDPE SD Pipe	104.00	LF	$11,370.32
30" RGRCP Class III SD Pipe	263.00	LF	$53,883.44
42" RGRCP Class III SD Pipe	1,971.00	LF	$573,304.77
Total Price for above Storm Drain Items:			**$715,923.07**
Water			
8" PVC C900 Domestic Water Line (Irrigation Back Up)	3,058.00	LF	$175,896.16
8" PVC C900 Water Line (Reclaimed)	2,003.00	LF	$116,434.39
8" Water Valve	7.00	EACH	$14,195.44
Fire Hydrant Assembly Complete	5.00	EACH	$46,133.05
8" Vertical Realignment	2.00	EACH	$15,548.42
Connect To Existing 8" PVC C900 Water Line	1.00	EACH	$1,047.88
TS&V To Connect To Existing 8" Water Line	1.00	EACH	$5,588.90
4" DIP Water Line	23.00	LF	$4,177.03
6" Water Backflow Prevention Assembly	1.00	EACH	$10,214.03
4" C900 PVC Water Line	249.00	LF	$9,227.94
2" Water Service	2.00	EACH	$6,540.28
2" Reduce Pressure Backflow Assembly	2.00	EACH	$5,140.14
2" Water Meter (Install Only, Includes Box And Cover)	2.00	EACH	$981.02
2" Air Release Valve	1.00	EACH	$4,614.30
Total Price for above Water Items:			**$415,738.98**
Total Bid Price:			**$1,169,117.63**

Notes:

- The above cost excludes performance and payment bonds.

- ASSUMPTIONS: Site to be mass graded prior to our scope of work, ABC for bedding of RGRCP pipe, 1/2 sac slurry from bedding to spring line, ABC to 1' cover of pipe and then native material to backfill to finished grade.
- EXCLUSIONS: Box culvert, Catch basins, Headwalls, Riprap, Sewer Seepage Pit, FDC, Engineering, Inspection or Permit Fees, Hauloff, Dewatering, Sales Taxes, Soil Testing, Surveying, Quality Control Testing, Hard Dig, Landscaping, Dust Control/SWPPP, Removal of Trade Spoils,Traffic Control, Asphalt R&R, Material price increases greater than 5% from the proposal date.

Payment Terms:

Terms of Payment shall be as follows: ____ UPON COMPLETION ____ OTHER ARRANGEMENTS ____ PROGRESS ____ INITIALS

ACCEPTED: The above prices, specifications and conditions are satisfactory and hereby accepted. **Buyer:** _____ **Signature:** _____ **Date of Acceptance:** _____	**CONFIRMED:** **Degan Construction, LLC** **Authorized Signature:** _____ **Estimator:** Ethan Bluth

Bid Proposal - GMP 2

KINKAID CIVIL CONSTRUCTION
ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 6-28-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
100	SD #8 - Catch Basin (COB B-510)	5.00	EA		
200	SD #9 - Dual 10' x 6' Box Culvert	114.00	LF		
300	SD #18 - 18" x 42" RCP Lateral Tie-In	1.00	EA		
400	SD #19 - Catch Basin (MAG 535)	2.00	EA		
500	SD - (6) Barrel Headwall (42")	2.00	EA		
600	SD - 18" RGRCP	688.00	LF		
700	SD - 24" HDPE	120.00	LF		
800	SD - 30" RGRCP	280.00	LF		
900	SD - 42" RGRCP	1,136.00	LF		
1000	SD - 24" HDPE Flared End Section	4.00	EA		
1100	SD - Double Barrel Headwall (42")	2.00	EA		
1200	SD - Triple Barrel Headwall (30")	2.00	EA		
1300	SD - Triple Barrel Headwall (42")	1.00	EA		
1400	SD - Wings for Dual 10' x 6' Box Culvert	2.00	EA		
	Storm Drain				**1,124,366.42**
1500	WT #1 - Rmv Blowoff & CTE 8" Waterline	1.00	EA		
1600	WT #2 - 8" PVC C900 DR14	1,228.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	5.00	EA		
1800	WT #4 - 8" Vertical Realignment	4.00	EA		
1900	WT #5 - 2" Copper Type K	20.00	LF		
2000	WT #5 - 2" RP Backflow Preventer	1.00	EA		
2100	WT #5 - 8" x 2" Water Service, Box & Cover	1.00	EA		
2200	WT #7 - 8" Meter Assembly & Vault	1.00	EA		
2300	WT #7 - 8" RP Backflow Preventer	1.00	EA		
2400	WT #8 - 4" PVC C900 DR14	300.00	LF		
2500	WT #9 - 4" MJxFL GV,B&C	1.00	EA		
2600	WT #10 - 6" RP Backflow Preventer	1.00	EA		
2700	WT #11 - 6" DIP CL350	21.00	LF		
2800	WT #12 - 8" PVC C900 DR14 (Reclaimed Water)	2,000.00	LF		
2900	WT #13 - Connect 8" to Ex. Wet Well	1.00	EA		
3000	WT #14 - 8" x 2" Air Release Valve	1.00	EA		

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
3100	WT #16 - 1" PVC SCH80	908.00	LF		
3200	WT #16 - 1" Quick Coupler Assembly	18.00	EA		
3300	WT #16 - 1.5" PVC SCH80	440.00	LF		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	18.00	EA		
3500	WT #17 - 2" Ball Valve Assembly, Box & Cover	1.00	EA		
3600	WT #18 - 1" RP Backflow Preventer	2.00	EA		
3800	WT #20 - 4" PVC CL 200 DR21	650.00	LF		
3900	WT - 2" PVC SCH80	140.00	LF		
4000	WT - Fittings	58.00	EA		
	Waterline				**359,075.16**
4100	FL #1 - 4" DIP CL350	22.00	LF		
4200	FL #3 - 4" Fire Riser	1.00	EA		
4300	FL #4 - 6" MJxFL GV,B&C	1.00	EA		
4400	FL #5 - Fire Hydrant	1.00	EA		
4500	FL - 6" DIP CL350	18.00	LF		
4600	FL - Fittings	2.00	EA		
	Fireline				**10,369.16**
4700	SS #2 - 4" PVC SDR35	180.00	LF		
4800	SS #3 - 4" Two-Way Cleanout	2.00	EA		
4900	SS #4 - 1,000 Gal Septic Tank	1.00	EA		
5000	SS #5 - 4' Sewer Manhole w/ 24" F/C	1.00	EA		
5200	SS - 4" Sewer Cleanout	3.00	EA		
5300	SS - Fittings	3.00	EA		
	Sewer				**25,316.74**
GRAND TOTAL					**1,519,127.48**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

Special Clarifications:

* Box culvert pricing includes precast box culverts and NOT CIP box culverts.
* Sewer seepage pits shall be installed by others.

Clarifications:

* Proposal includes (1) mobilization/demobilization
- Additional will be billed at $3,500.00
* If necessary, bond rate of 1.2% will apply to proposal
* Material pricing is good for 30 days after proposal date
* Schedule based upon (5) 8 hr work days
* Dust control for KCC work activities is included
* Labor, equipment & materials included
* Scope of work is inclusive of bid items listed above

* Unit prices are for reference only; any additional work performed outside the scope listed will not be based upon these units and will be billed per MAG Specification 109
* Geotech report acknowledged
* Third party certification for backflow prevention assembly included
* Excavated material will be stockpiled onsite for removal/use by others
* Proposal based upon planset dated 04/30/2021

Bid Proposal - GMP 2

KINKAID CIVIL CONSTRUCTION
ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 8-2-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
100	SD #8 - Catch Basin (COB B-510)	5.00	EA		
200	SD #9 - Dual 10' x 6' Box Culvert	114.00	LF		
300	SD #18 - 18" x 42" RCP Lateral Tie-In	1.00	EA		
400	SD #19 - Catch Basin (MAG 535)	2.00	EA		
550	SD - (6) Barrel Straight Headwall (42")	2.00	EA		
600	SD - 18" RGRCP	688.00	LF		
700	SD - 24" HDPE	120.00	LF		
800	SD - 30" RGRCP	280.00	LF		
900	SD - 42" RGRCP	1,136.00	LF		
1000	SD - 24" HDPE Flared End Section	4.00	EA		
1150	SD - Double Barrel Straight Headwall (42")	2.00	EA		
1250	SD - Triple Barrel Straight Headwall (30")	2.00	EA		
1350	SD - Triple Barrel Straight Headwall (42")	1.00	EA		
	Storm Drain				**1,076,516.98**
1500	WT #1 - Rmv Blowoff & CTE 8" Waterline	1.00	EA		
1600	WT #2 - 8" PVC C900 DR14	1,228.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	5.00	EA		
1800	WT #4 - 8" Vertical Realignment	4.00	EA		
1900	WT #5 - 2" Copper Type K	20.00	LF		
2000	WT #5 - 2" RP Backflow Preventer	1.00	EA		
2100	WT #5 - 8" x 2" Water Service, Box & Cover	1.00	EA		
2200	WT #7 - 8" Meter Assembly & Vault	1.00	EA		
2300	WT #7 - 8" RP Backflow Preventer	1.00	EA		
2400	WT #8 - 4" PVC C900 DR14	300.00	LF		
2500	WT #9 - 4" MJxFL GV,B&C	1.00	EA		
2600	WT #10 - 6" RP Backflow Preventer	1.00	EA		
2700	WT #11 - 6" DIP CL350	21.00	LF		
2800	WT #12 - 8" PVC C900 DR14 (Reclaimed Water)	2,000.00	LF		
2900	WT #13 - Connect 8" to Ex. Wet Well	1.00	EA		
3000	WT #14 - 8" x 2" Air Release Valve	1.00	EA		
3100	WT #16 - 1" PVC SCH80	908.00	LF		

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
3200	WT #16 - 1" Quick Coupler Assembly	18.00	EA		
3300	WT #16 - 1.5" PVC SCH80	440.00	LF		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	18.00	EA		
3500	WT #17 - 2" Ball Valve Assembly, Box & Cover	1.00	EA		
3600	WT #18 - 1" RP Backflow Preventer	2.00	EA		
3900	WT - 2" PVC SCH80	140.00	LF		
4000	WT - Fittings	58.00	EA		
	Waterline				**358,245.09**
4100	FL #1 - 4" DIP CL350	22.00	LF		
4200	FL #3 - 4" Fire Riser	1.00	EA		
4300	FL #4 - 6" MJxFL GV,B&C	1.00	EA		
4400	FL #5 - Fire Hydrant	1.00	EA		
4500	FL - 6" DIP CL350	18.00	LF		
4600	FL - Fittings	2.00	EA		
	Fireline				**10,382.01**
4700	SS #2 - 4" PVC SDR35	180.00	LF		
4800	SS #3 - 4" Two-Way Cleanout	2.00	EA		
4900	SS #4 - 1,000 Gal Septic Tank	1.00	EA		
5000	SS #5 - 4' Sewer Manhole w/ 24" F/C	1.00	EA		
5200	SS - 4" Sewer Cleanout	3.00	EA		
5300	SS - Fittings	3.00	EA		
	Sewer				**25,350.99**
GRAND TOTAL					**1,470,495.07**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

Special Clarifications:

* Box culvert pricing includes precast box culverts and NOT CIP box culverts.
* Sewer seepage pits shall be installed by others.

Clarifications:

* Proposal includes (1) mobilization/demobilization
- Additional will be billed at $3,500.00
* If necessary, bond rate of 1.2% will apply to proposal
* Material pricing is good for 30 days after proposal date
* Schedule based upon (5) 8 hr work days
* Dust control for KCC work activities is included
* Labor, equipment & materials included
* Scope of work is inclusive of bid items listed above
* Unit prices are for reference only; any additional work performed outside the scope listed will not be based upon these units and will be billed per MAG Specification 109
* Geotech report acknowledged

* Third party certification for backflow prevention assembly included
* Excavated material will be stockpiled onsite for removal/use by others
* Proposal based upon planset dated 04/30/2021

Bid Proposal - GMP 3

KINKAID CIVIL CONSTRUCTION
ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 8-2-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
1600	WT #2 - 8" PVC C900 DR14	1,778.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	2.00	EA		
3100	WT #16 - 1" PVC SCH80	320.00	LF		
3200	WT #16 - 1" Quick Coupler Assembly	8.00	EA		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	8.00	EA		
3700	WT #19 - 6" MJxFL GV,B&C	1.00	EA		
4000	WT - Fittings	23.00	EA		
	Waterline				**149,537.14**
4300	FL #4 - 6" MJxFL GV,B&C	4.00	EA		
4400	FL #5 - Fire Hydrant	4.00	EA		
4500	FL - 6" DIP CL350	82.00	LF		
4600	FL - Fittings	5.00	EA		
	Fireline				**36,924.45**
GRAND TOTAL					**186,461.59**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

Special Clarifications:

* Box culvert pricing includes precast box culverts and NOT CIP box culverts.
* Sewer seepage pits shall be installed by others.

Clarifications:

* Proposal includes (1) mobilization/demobilization
- Additional will be billed at $3,500.00
* If necessary, bond rate of 1.2% will apply to proposal

* Material pricing is good for 30 days after proposal date
* Schedule based upon (5) 8 hr work days
* Dust control for KCC work activities is included
* Labor, equipment & materials included
* Scope of work is inclusive of bid items listed above
* Unit prices are for reference only; any additional work performed outside the scope listed will not be based upon these units and will be billed per MAG Specification 109
* Geotech report acknowledged
* Third party certification for backflow prevention assembly included
* Excavated material will be stockpiled onsite for removal/use by others
* Proposal based upon planset dated 04/30/2021

Bid Proposal - GMP 2

KINKAID CIVIL CONSTRUCTION
ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 10-18-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
100	SD #8 - Catch Basin (COB B-510)	5.00	EA		
200	SD #9 - Dual 10' x 6' Box Culvert	114.00	LF		
300	SD #18 - 18" x 42" RCP Lateral Tie-In	1.00	EA		
400	SD #19 - Catch Basin (MAG 535)	2.00	EA		
550	SD - (6) Barrel Straight Headwall (42")	2.00	EA		
600	SD - 18" RGRCP	688.00	LF		
700	SD - 24" HDPE	120.00	LF		
800	SD - 30" RGRCP	280.00	LF		
900	SD - 42" RGRCP	1,136.00	LF		
1000	SD - 24" HDPE Flared End Section	4.00	EA		
1150	SD - Double Barrel Headwall (42")	2.00	EA		
1250	SD - Triple Barrel Headwall (30")	2.00	EA		
1350	SD - Triple Barrel Headwall (42")	1.00	EA		
	Storm Drain				**1,251,850.86**
1500	WT #1 - Rmv Blowoff & CTE 8" Waterline	1.00	EA		
1600	WT #2 - 8" PVC C900 DR14	1,228.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	5.00	EA		
1800	WT #4 - 8" Vertical Realignment	4.00	EA		
1900	WT #5 - 2" Copper Type K	20.00	LF		
2000	WT #5 - 2" RP Backflow Preventer	1.00	EA		
2100	WT #5 - 8" x 2" Water Service, Box & Cover	1.00	EA		
2200	WT #7 - 8" Meter Assembly & Vault	1.00	EA		
2300	WT #7 - 8" RP Backflow Preventer	1.00	EA		
2400	WT #8 - 4" PVC C900 DR14	300.00	LF		
2500	WT #9 - 4" MJxFL GV,B&C	1.00	EA		
2600	WT #10 - 6" RP Backflow Preventer	1.00	EA		
2700	WT #11 - 6" DIP CL350	21.00	LF		
2800	WT #12 - 8" PVC C900 DR14 (Reclaimed Water)	2,000.00	LF		
2900	WT #13 - Connect 8" to Ex. Wet Well	1.00	EA		
3000	WT #14 - 8" x 2" Air Release Valve	1.00	EA		
3100	WT #16 - 1" PVC SCH80	908.00	LF		

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
3200	WT #16 - 1" Quick Coupler Assembly	18.00	EA		
3300	WT #16 - 1.5" PVC SCH80	440.00	LF		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	18.00	EA		
3500	WT #17 - 2" Ball Valve Assembly, Box & Cover	1.00	EA		
3600	WT #18 - 1" RP Backflow Preventer	2.00	EA		
3900	WT - 2" PVC SCH80	140.00	LF		
4000	WT - Fittings	58.00	EA		
	Waterline				**399,688.60**
4100	FL #1 - 4" DIP CL350	22.00	LF		
4200	FL #3 - 4" Fire Riser	1.00	EA		
4300	FL #4 - 6" MJxFL GV,B&C	1.00	EA		
4400	FL #5 - Fire Hydrant	1.00	EA		
4500	FL - 6" DIP CL350	18.00	LF		
4600	FL - Fittings	2.00	EA		
	Fireline				**11,635.46**
4700	SS #2 - 4" PVC SDR35	180.00	LF		
4800	SS #3 - 4" Two-Way Cleanout	2.00	EA		
4900	SS #4 - 1,000 Gal Septic Tank	1.00	EA		
5000	SS #5 - 4' Sewer Manhole w/ 24" F/C	1.00	EA		
5200	SS - 4" Sewer Cleanout	3.00	EA		
5300	SS - Fittings	3.00	EA		
	Sewer				**26,130.95**
GRAND TOTAL					**1,689,305.87**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

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* Material pricing is good for 30 days after proposal date
* Schedule based upon (5) 8 hr work days
* Dust control for KCC work activities is included
* Labor, equipment & materials included
* Scope of work is inclusive of bid items listed above
* Unit prices are for reference only; any additional work performed outside the scope listed will not be based upon these units and will be billed per MAG Specification 109
* Geotech report acknowledged

* Third party certification for backflow prevention assembly included
* Excavated material will be stockpiled onsite for removal/use by others
* Proposal based upon planset dated 04/30/2021

Bid Proposal - GMP 3

KINKAID CIVIL CONSTRUCTION
ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 6-28-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
1600	WT #2 - 8" PVC C900 DR14	1,778.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	2.00	EA		
3100	WT #16 - 1" PVC SCH80	320.00	LF		
3200	WT #16 - 1" Quick Coupler Assembly	8.00	EA		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	8.00	EA		
3700	WT #19 - 6" MJxFL GV,B&C	1.00	EA		
3800	WT #20 - 4" PVC CL 200 DR21	733.00	LF		
4000	WT - Fittings	23.00	EA		
	Waterline				**161,290.74**
4300	FL #4 - 6" MJxFL GV,B&C	4.00	EA		
4400	FL #5 - Fire Hydrant	4.00	EA		
4500	FL - 6" DIP CL350	82.00	LF		
4600	FL - Fittings	5.00	EA		
	Fireline				**36,670.51**
GRAND TOTAL					**197,961.25**

NOTES:

Exclusions:

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Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 8-2-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
1600	WT #2 - 8" PVC C900 DR14	1,778.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	2.00	EA		
3100	WT #16 - 1" PVC SCH80	320.00	LF		
3200	WT #16 - 1" Quick Coupler Assembly	8.00	EA		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	8.00	EA		
3700	WT #19 - 6" MJxFL GV,B&C	1.00	EA		
4000	WT - Fittings	23.00	EA		
	Waterline				**149,537.14**
4300	FL #4 - 6" MJxFL GV,B&C	4.00	EA		
4400	FL #5 - Fire Hydrant	4.00	EA		
4500	FL - 6" DIP CL350	82.00	LF		
4600	FL - Fittings	5.00	EA		
	Fireline				**36,924.45**
GRAND TOTAL					**186,461.59**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

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* Proposal based upon planset dated 04/30/2021

6/28/2021 2:11:17PM

Bid Proposal

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ROC #299009 KA

4505 E. Virginia Street
Mesa, AZ 85215

Contact: **Estimating**
Phone: **(480) 646-4438 / 602-717-9931**
Email: **Bids@kinkaidcivil.com**

Quote To: Willmeng Construction Inc.
Attn: Mike Plueger

Project Owner:
Project Name: Sundance Park Phase II
Bid Date: 6-28-2021
Addenda:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
100	SD #8 - Catch Basin (COB B-510)	5.00	EA		
200	SD #9 - Dual 10' x 6' Box Culvert	114.00	LF		
300	SD #18 - 18" x 42" RCP Lateral Tie-In	1.00	EA		
400	SD #19 - Catch Basin (MAG 535)	2.00	EA		
500	SD - (6) Barrel Headwall (42")	2.00	EA		
600	SD - 18" RGRCP	688.00	LF		
700	SD - 24" HDPE	120.00	LF		
800	SD - 30" RGRCP	280.00	LF		
900	SD - 42" RGRCP	1,136.00	LF		
1000	SD - 24" HDPE Flared End Section	4.00	EA		
1100	SD - Double Barrel Headwall (42")	2.00	EA		
1200	SD - Triple Barrel Headwall (30")	2.00	EA		
1300	SD - Triple Barrel Headwall (42")	1.00	EA		
1400	SD - Wings for Dual 10' x 6' Box Culvert	2.00	EA		
	Storm Drain				**1,134,439.30**
1500	WT #1 - Rmv Blowoff & CTE 8" Waterline	1.00	EA		
1600	WT #2 - 8" PVC C900 DR14	3,020.00	LF		
1700	WT #3 - 8" MJxFL GV,B&C	7.00	EA		
1800	WT #4 - 8" Vertical Realignment	4.00	EA		
1900	WT #5 - 2" Copper Type K	20.00	LF		
2000	WT #5 - 2" RP Backflow Preventer	1.00	EA		
2100	WT #5 - 8" x 2" Water Service, Box & Cover	1.00	EA		
2200	WT #7 - 8" Meter Assembly & Vault	1.00	EA		
2300	WT #7 - 8" RP Backflow Preventer	1.00	EA		
2400	WT #8 - 4" PVC C900 DR14	300.00	LF		
2500	WT #9 - 4" MJxFL GV,B&C	1.00	EA		
2600	WT #10 - 6" RP Backflow Preventer	1.00	EA		
2700	WT #11 - 6" DIP CL350	21.00	LF		
2800	WT #12 - 8" PVC C900 DR14 (Reclaimed Water)	2,000.00	LF		
2900	WT #13 - Connect 8" to Ex. Wet Well	1.00	EA		
3000	WT #14 - 8" x 2" Air Release Valve	1.00	EA		

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
3100	WT #16 - 1" PVC SCH80	1,240.00	LF		
3200	WT #16 - 1" Quick Coupler Assembly	26.00	EA		
3300	WT #16 - 1.5" PVC SCH80	440.00	LF		
3400	WT #17 - 1" Ball Valve Assembly, Box & Cover	26.00	EA		
3500	WT #17 - 2" Ball Valve Assembly, Box & Cover	1.00	EA		
3600	WT #18 - 1" RP Backflow Preventer	2.00	EA		
3700	WT #19 - 6" MJxFL GV,B&C	1.00	EA		
3800	WT #20 - 4" PVC CL 200 DR21	1,380.00	LF		
3900	WT - 2" PVC SCH80	140.00	LF		
4000	WT - Fittings	81.00	EA		
	Waterline				**493,876.08**
4100	FL #1 - 4" DIP CL350	22.00	LF		
4200	FL #3 - 4" Fire Riser	1.00	EA		
4300	FL #4 - 6" MJxFL GV,B&C	5.00	EA		
4400	FL #5 - Fire Hydrant	5.00	EA		
4500	FL - 6" DIP CL350	108.00	LF		
4600	FL - Fittings	6.00	EA		
	Fireline				**38,514.75**
4700	SS #2 - 4" PVC SDR35	180.00	LF		
4800	SS #3 - 4" Two-Way Cleanout	2.00	EA		
4900	SS #4 - 1,000 Gal Septic Tank	1.00	EA		
5000	SS #5 - 4' Sewer Manhole w/ 24" F/C	1.00	EA		
5200	SS - 4" Sewer Cleanout	3.00	EA		
5300	SS - Fittings	3.00	EA		
	Sewer				**25,533.48**
GRAND TOTAL					**1,692,363.61**

NOTES:

Exclusions:

* Sales tax, liquidated damages, compaction testing, survey, permits, purchase of construction water, overtime, crew standby hrs. due to delays caused by others, utility conflicts not indicated on drawings, temporary irrigation tie-ins (unless otherwise indicated), re-routing of existing water during final tie-in or during construction, valve/manhole/catch basin final adjustments (unless otherwise indicated), concrete removal/replacement (unless otherwise indicated), asphalt removal/replacement (unless otherwise indicated), private utility locating (unless otherwise indicated), SWPPP implementation, Hard Dig, Traffic Control (unless otherwise indicated), Sanitary Sewer Bypass (unless otherwise indicated)

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* Unit prices are for reference only; any additional work performed outside the scope listed will not be based upon these units and will be billed per MAG Specification 109
* Geotech report acknowledged
* Third party certification for backflow prevention assembly included
* Excavated material will be stockpiled onsite for removal/use by others
* Proposal based upon planset dated 04/30/2021

TF CONTRACTING SERVICES LLC (TFC)
PO BOX 10500, PHOENIX, AZ 85064
ROC-330970 (A-GENERAL ENGINEERING)

Preliminary Estimate

To:	Willmeng	**Contact:**	Mike Ploeger
Address:	Phoenix	**Phone:**	
		Fax:	
Project Name:	Sundance Park Phase II	**Bid Number:**	21.092
Project Location:	231st Ave & W Lower Buckeye Rd, Buckeye, AZ	**Bid Date:**	9/30/2021

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
A - GMP 2 Storm Drain System					
1	42" RGRCP Class IV	1,273.00	LF	$241.70	$307,684.10
2	30" RGRCP Class IV	360.00	LF	$162.66	$58,557.60
3	24" HDPE	104.00	LF	$123.10	$12,802.40
4	18" RGRCP Class IV	672.00	LF	$112.69	$75,727.68
5	24" Flared End Section	4.00	EACH	$1,531.58	$6,126.32
6	Catch Basin MAG 535 Type F	3.00	EACH	$4,911.06	$14,733.18
	Total Price for above A - GMP 2 Storm Drain System Items:				**$475,631.28**
B - GMP 2 Sewerline System					
7	4" PVC SDR-35	158.00	LF	$40.93	$6,466.94
8	4" Cleanout Single	5.00	EACH	$1,093.60	$5,468.00
9	Man Hole 48" Diameter - Non Coated	1.00	EACH	$13,444.55	$13,444.55
10	Septic System - CL1500 Clarifier Traffic Rated	1.00	EACH	$22,955.62	$22,955.62
	Total Price for above B - GMP 2 Sewerline System Items:				**$48,335.11**
C - GMP 2 Waterline System					
11	Tie-Into Existing 8" PVC Waterline	1.00	EACH	$2,754.43	$2,754.43
12	8" PVC C900 DR-14	1,192.00	LF	$70.17	$83,642.64
13	4" PVC C900 DR-14	304.00	LF	$35.78	$10,877.12
14	4" PVC Class 200 DR-21	632.00	LF	$31.87	$20,141.84
15	1.5" PVC SCH-80	572.00	LF	$17.80	$10,181.60
16	1" PVC SCH-80	998.00	LF	$15.63	$15,598.74
17	8" Gate Valve, Box & Cover	4.00	EACH	$2,598.65	$10,394.60
18	6" Gate Valve, Box & Cover	2.00	EACH	$2,017.14	$4,034.28
19	4" Gate Valve, Box & Cover	2.00	EACH	$1,792.37	$3,584.74
20	Standard Bury City Of Buckeye Fire Hydrants	1.00	EACH	$4,832.07	$4,832.07
21	Fire Riser 4"	1.00	EACH	$4,327.94	$4,327.94
22	Vertical Realignment 8"	4.00	EACH	$6,675.11	$26,700.44
23	Ball Valve Assembly	17.00	EST	$885.53	$15,054.01
24	Quick Coupler Assembly - Swing Joint Assembly & Quick Coupler Assembly BY OTHERS	17.00	EST	$449.00	$7,633.00
25	6" Water Meter W/ Vault	1.00	EACH	$24,204.42	$24,204.42
26	2" Water Service - Excluding Meter	1.00	EACH	$3,503.15	$3,503.15
27	Backflow 8" City Of Buckeye Std. Dtl. 31352	1.00	EACH	$20,376.88	$20,376.88
28	Backflow 6" City Of Buckeye Std. Dtl. 31352	1.00	EACH	$14,818.66	$14,818.66
29	RPP Backflow 2"	1.00	EACH	$2,760.77	$2,760.77
30	RPP Backflow 1"	2.00	EACH	$2,054.34	$4,108.68
	Total Price for above C - GMP 2 Waterline System Items:				**$289,530.01**
D - GMP 2 Raw Waterline System					
31	Raw Water Tie-Into Existing 8"	1.00	EACH	$3,775.54	$3,775.54

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
32	Raw Water 8" PVC C900 DR-14	1,939.00	LF	$63.10	$122,350.90
33	Raw Water ARV City Of Buckeye Std. Dtl 31340-1	1.00	EACH	$7,169.99	$7,169.99
	Total Price for above D - GMP 2 Raw Waterline System Items:				**$133,296.43**
E - GMP 3 Waterline System					
34	8" PVC C900 DR-14	1,749.00	LF	$65.91	$115,276.59
35	4" PVC Class 200 DR-21	752.00	LF	$30.59	$23,003.68
36	1" PVC SCH-80	322.00	LF	$15.67	$5,045.74
37	8" Gate Valve, Box & Cover	3.00	EACH	$2,598.65	$7,795.95
38	6" Gate Valve, Box & Cover	4.00	EACH	$1,975.71	$7,902.84
39	Standard Bury City Of Buckeye Fire Hydrants	4.00	EACH	$4,665.09	$18,660.36
40	Ball Valve Assembly	8.00	EST	$900.03	$7,200.24
41	Quick Coupler Assembly - Swing Joint Assembly & Quick Coupler Assembly BY OTHERS	8.00	EST	$452.64	$3,621.12
	Total Price for above E - GMP 3 Waterline System Items:				**$188,506.52**

Total Bid Price: $1,135,299.35

Notes:

- **GC Provided**:
  Dust Control Permit, Fees & Signage (TFC to provide water truck and site measures during construction)SWPPP NOI, Permit, Fees, Inspections & Signage (TFC to provide straw wattles and stakes for spoil piles)Project SignageSales Tax, Permits, Bonding Fees, Inspection FeesMaterials TestingConstruction Survey / Staking / Layout / Certified As-BuiltsConstruction Water, Backflow & Meter
- We propose to furnish labor, equipment, and materials - complete in accordance with the plans and specifications supplied to us for the above mentioned project. All material is guaranteed to be as specified. All work will be completed in a workmanlike manner according to the standard practices. Any alternations or deviations from the above specifications involving extra costs, will be executed only upon written orders and will become an extra charge over the above proposed estimate.
- (Below are standard exclusions to this proposal unless specifically included in line item above.)
  - Sales Tax, Permits, Bonding Fees, Const. Staking, Compaction Testing & Inspection Fees.
  - Sales Tax will be added unless proof of Prime Contractor Status is Provided.
  - As-Builts.
  - Water for Construction.
  - Concrete Demolition.
  - Removal or Relocating of Existing Utilities.
  - Hard Dig or Rock Excavation. Hard Dig Defined As Any Material A 70,000 # Excavator Cannot Dig Effectively At A Production Rate OF 30 LF Per Hour At An Average Depth of 5ft.
  - If collapsing soil is encountered and traditional trench shoring can not be used, benching of trenches may be required and an additional cost may be incurred.
  - Adjustments of valve boxes. Manhole Ring and covers, and cleanout ring and covers to final grade in paved areas.
  - Water Meter or Meter Installation.
  - City Fees including but not limited to meter fees, water shutdown fees, or sewer fees.
  - Hauloff of excess material generated by our work is excluded.
  - Prices are good for 30 days only due to the current volatility of material costs.
  - WRAP Insurance is excluded. If required it is to be provided by others and TF Contracting Services must be named as additional insured.
  - SWPP by others.
- Prices are good for 30 days only due to the current volatility of material costs

ACCEPTED:	**CONFIRMED:**
The above prices, specifications and conditions are satisfactory and are hereby accepted.	**TF Contracting PE**
Buyer: _____	
Signature: _____	**Authorized Signature:** _____
Date of Acceptance: _____	**Estimator:** Chris Berger estimating@tfcontractingaz.com

Proposal

TF CONTRACTING SERVICES LLC (TFC)
PO BOX 10500, PHOENIX, AZ 85064
ROC-330970 (A-GENERAL ENGINEERING)

To:	Willmeng	**Contact:**	Mike Ploeger
Address:	Phoenix	**Phone:**	
		Fax:	
Project Name:	Sundance Park Phase II	**Bid Number:**	21.092
Project Location:	231st Ave & W Lower Buckeye Rd, Buckeye, AZ	**Bid Date:**	1/4/2022

Item #	Item Description	Estimated Quantity	Unit	Unit Price	Total Price
B - GMP 2 Sewerline System					
2	4" PVC SDR-35	158.00	LF	$42.25	$6,675.50
3	4" Cleanout Single	5.00	EACH	$1,142.67	$5,713.35
4	Man Hole 48" Diameter - Non Coated	1.00	EACH	$14,015.11	$14,015.11
5	Septic System - Precast 2010-SA 1000 Gallon	1.00	EACH	$26,293.12	$26,293.12
	Total Price for above B - GMP 2 Sewerline System Items:				**$52,697.08**
C - GMP 2 Waterline System					
6	Tie-Into Existing 8" PVC Waterline	1.00	EACH	$2,883.63	$2,883.63
7	8" PVC C900 DR-14	1,192.00	LF	$77.38	$92,236.96
8	4" PVC C900 DR-14	304.00	LF	$38.96	$11,843.84
9	4" PVC Class 200 DR-21	632.00	LF	$33.70	$21,298.40
10	1.5" PVC SCH-80	572.00	LF	$18.63	$10,656.36
11	1" PVC SCH-80	998.00	LF	$16.50	$16,467.00
12	8" Gate Valve, Box & Cover	4.00	EACH	$2,660.45	$10,641.80
13	6" Gate Valve, Box & Cover	2.00	EACH	$1,992.38	$3,984.76
14	4" Gate Valve, Box & Cover	2.00	EACH	$1,696.08	$3,392.16
15	Standard Bury City Of Buckeye Fire Hydrants	1.00	EACH	$4,978.85	$4,978.85
16	Fire Riser 4"	1.00	EACH	$3,999.38	$3,999.38
17	Vertical Realignment 8"	4.00	EACH	$7,015.30	$28,061.20
18	Ball Valve Assembly	17.00	EST	$813.03	$13,821.51
19	Quick Coupler Assembly	17.00	EST	$936.97	$15,928.49
20	6" Water Meter W/ Vault MAG 345-1	1.00	EACH	$25,168.65	$25,168.65
21	2" Water Service - Excluding Meter	1.00	EACH	$4,035.93	$4,035.93
22	Backflow 8" City Of Buckeye Std. Dtl. 31352	1.00	EACH	$22,896.67	$22,896.67
23	Backflow 6" City Of Buckeye Std. Dtl. 31352	1.00	EACH	$15,635.21	$15,635.21
24	RPP Backflow 2"	1.00	EACH	$3,260.89	$3,260.89
25	RPP Backflow 1"	2.00	EACH	$2,184.62	$4,369.24
	Total Price for above C - GMP 2 Waterline System Items:				**$315,560.93**
D - GMP 2 Raw Waterline System					
26	Raw Water Tie-Into Existing 8"	1.00	EACH	$3,940.87	$3,940.87
27	Raw Water 8" PVC C900 DR-14	1,939.00	LF	$70.44	$136,583.16
28	Raw Water ARV City Of Buckeye Std. Dtl 31340-1	1.00	EACH	$7,812.56	$7,812.56
	Total Price for above D - GMP 2 Raw Waterline System Items:				**$148,336.59**

Total Bid Price: $516,594.60

Notes:

- **GC Provided**:
  Dust Control Permit, Fees & Signage (TFC to provide water truck and site measures during construction), SWPPP NOI, Permit, Fees, Inspections & Signage (TFC to provide straw wattles and stakes for spoil piles), Project Signage, Sales Tax, Permits, Bonding Fees, Inspection Fees, Materials Testing, Construction Survey / Staking / Layout / Certified As-Builts, Construction Water, Backflow & Meter
- We propose to furnish labor, equipment, and materials - complete in accordance with the plans and specifications supplied to us for the above mentioned project. All material is guaranteed to be as specified. All work will be completed in a workmanlike manner according to the standard practices. Any alternations or deviations from the above specifications involving extra costs, will be executed only upon written orders and will become an extra charge over the above proposed estimate.
- (Below are standard exclusions to this proposal unless specifically included in line item above.)
  · Sales Tax, Permits, Bonding Fees, Const. Staking, Compaction Testing & Inspection Fees.
  · Sales Tax will be added unless proof of Prime Contractor Status is Provided.
  · As-Builts.
  · Water for Construction.
  · AC Pavement Removals and/or Replacements
  · Concrete Demolition.
  · Removal or Relocating of Existing Utilities.
  · Hard Dig or Rock Excavation. Hard Dig Defined As Any Material A 70,000 # Excavator Cannot Dig Effectively At A Production Rate OF 30 LF Per Hour At An Average Depth of 5ft.
  · If collapsing soil is encountered and traditional trench shoring can not be used, benching of trenches may be required and an additional cost may be incurred.
  · Adjustments of valve boxes. Manhole Ring and covers, and cleanout ring and covers to final grade in paved areas.
  · Water Meter or Meter Installation.
  · City Fees including but not limited to meter fees, water shutdown fees, or sewer fees.
  · Hauloff of excess material generated by our work is excluded.
  · Prices are good for 30 days only due to the current volatility of material costs.
  · WRAP Insurance is excluded. If required it is to be provided by others and TF Contracting Services must be named as additional insured.
  · SWPP by others
  · Proposal includes standard "Blue" C900 waterline pipe for the Raw/Reclaimed Water Line in lieu of purple pipe. Pipe suppliers are not quoting purple C900 and have stated it's not available from the manufacturers. TFC to provide purple tracer wire and purple detection tape with the blue c900 pipe.
- Prices are good for14 days only due to the current volatility of material costs

ACCEPTED:	**CONFIRMED:**
The above prices, specifications and conditions are satisfactory and are hereby accepted.	**TF Contracting Proposal**
Buyer: _____	
Signature: _____	**Authorized Signature:** _____
Date of Acceptance: _____	**Estimator:** Chris Berger estimating@tfcontractingaz.com

Quotation

DATE June 25, 2021

3025 E. Campbell Road
Gilbert, AZ 85234
Phone: 480-664-6367 Fax: 480-664-6343
email: denny@dennyclarkmasonryconcrete.com

Quotation valid until: July 25, 2021
Prepared by: Jeff Shoulders

TO: Willmeng
ATTN: ESTIMATING
JOB: Sundance Park Phase II
22865 W. Lower Buckeye Rd.
Buckeye, Az. 85326

Plan Date: 4-30-21

Job Specifications		AMOUNT
Materials and Labor per plans for:		
Restroom		$60,582.00
Maintenance & Storage Building with Bin walls		$56,672.00
Maintenance & Pump Enclosure		$45,238.00
614` of Screen Walls		$44,280.00
Ramada Base x 4		$6,150.00
Grey Smooth & Splitface CMU		
Exclude Cast In Place Concrete		
Comments or special instructions:		
	TOTAL	
	MATERIAL TAXES (IF MRRA JOB)	$212,922.00
		RESALE

If you have any questions concerning this quotation, contact Denny at 480-664-6367

THANK YOU FOR YOUR BUSINESS!

G & G MASONRY

PO Box 5277
Peoria, AZ 85385
(602) 942-1983 Main
(602) 978-8806 Fax
License 321570

Masonry Bid Proposal

Date: June 28, 2021

To: Anita Wisenbaugh - Willmeng Construction

From: Melonie Leslie, President

Project: **Buckeye - Sundance Park II**
Project Address: 22865 W. Lower Buckeye Road, Buckeye, AZ 85326

Maintenance and Pump Enclosure (240 LF):	$	48,474.00
Ramada Counter Bases (Qty 4):	$	8,112.00
CMU Screen Wall (614 LF):	$	46,159.00
Restroom (Qty 1):	$	66,820.00
GMP3 Masonry Proposal:	**$**	**169,565.00**

NW Storage & Maintenane Yard	$	69,962.00
GMP4 Masonry Proposal:	**$**	**69,962.00**

Inclusions:

1) Labor
2) Equipment
3) Block - regular gray 8-8-16 and splitface one side 8-8-16 and splitface two side 8-8-16
4) Mortar
5) Duro wire
6) Grout
7) Rebar (furnished and installed)
8) Set miscellaneous steel embeds (under 200 pounds only) as required at time of masonry construction (embeds furnished by others)
9) Set hollow metal frames at start of masonry construction (frames and spreaders furnished by others)
10) Masonry lintels where required
11) Maintenance and Pump Enclosure (240 LF) - pattern per HS304, splitface one side only
12) Ramada Counter Bases (Qty 4) - pattern per HS312, splitface one side only
13) CMU Screen Wall (614 LF) - pattern per HS313, splitface two sides
14) Restroom (Qty 1) - pattern per elevations
15) NW Storage & Maintenane Yard - pattern per HS303, splitface one side only
16) Masonry trash cleanup to dumpster (dumpster and dumpster removal to be provided by others)

Exclusions:

1) Caulking and sealing
2) Dry packing
3) Miscellaneous steel embeds, angles or lintels
4) Flashing
5) Footings
6) Crane hoisting
7) Site dust control
8) Sales tax
9) Bond
10) Permits
11) Water supply
12) Inspection/testing fees
13) Surveying
14) Cast in place concrete
15) Pedestrian/traffic control

Bid proposal based on:

1) 90% Drawings dated 4/30/21

Note: The above bid proposal is valid for 30 days and is subject to change upon receiving city approved construction documents. Bid proposal subject to receiving a job specific AZ5003 form.

STOLL MASONRY INC.

PROPOSAL# 1666

License CR 34890

Masonry Bid Proposal

To: Estimating Dept **Date: 6/24/21**
Attention: Estimator
From: Don Stoffers, Jr
Project: Sundance Park Ph 2 - Preliminary **Sections:** Masonry
Address: 22865 W Lower Buckeye Rd, Buckeye **Addendum:** . .
Architect: J2 Engineering **Latest Plan Date:** 4/30/21

We offer the following price for the performance of all masonry work covered by applicable construction documents.

1	Rest Rm. CMU stem	$8,900
2	Rest Room AFF	$38,400
3	Site (balance)	$131,100

Total for Above: $178,400

Stoll Masonry, Inc requires a minimum eight week lead time from date of letter of intent or contract on all projects. Proposal valid only if signed and returned within seven days of bid confirming low bidder with your firm.

The following is a list of our customary inclusions and exclusions:

YES	NO		YES	NO		YES	NO	
X		Block		X	CMU Water Repellent		X	Dampproofing
	X	Brick		X	Integral Color CMU		X	Caulking
	X	Glass Block	X		Grouting Door Jambs		X	Metal Flashing
	X	Stone		X	Wall Bracing		X	Demolition
	X	Precast	X		Shoring Masonry Lintels		X	Staining
X		Mortar		X	Templates		X	Sandblasting
X		Grout		X	Steel Lintels		X	Vapor Barrier
X		Rebar		X	Bolts		X	Lath Plaster
	X	Insulation		X	Misc. Steel Imbeds		X	Dry Packing
X		Labor	X		Setting H.M. Doors		X	Mortar Wash
X		Equipment	X		Stem		X	Taxes
X		Clean-Up		X	Concrete Footer		X	Bond
X		Site Masonry	X		Joint Reinforcing		X	Power Wash

Accepted By: _____

[Name & Company Name]

Please send back a signed copy if low bidder with your firm

*Contact **Don Stoffers, Jr [Don@StollMasonry.com]** Estimator if you have any questions.*

STOLL MASONRY INC.

PROPOSAL# 1666

License CR 34890

Masonry Bid Proposal

To: Estimating Dept
Attention: Estimator
From: Don Stoffers, Jr
Project: Sundance Park Ph 2 - Preliminary
Address: 22865 W Lower Buckeye Rd, Buckeye
Architect: J2 Engineering

Date: 7/12/21
Rev.#1

Sections: Masonry
Addendum: . .
Latest Plan Date: 4/30/21

We offer the following price for the performance of all masonry work covered by applicable construction documents.

1	Rest Rm. CMU stem	$8,900
2	Rest Room AFF	$38,400
3	Site (balance)	$133,700

Total for Above: $181,000

Low site screen split 2 sided material balance 1side

Stoll Masonry, Inc requires a minimum eight week lead time from date of letter of intent or contract on all projects.
Proposal valid only if signed and returned within seven days of bid confirming low bidder with your firm.

The following is a list of our customary inclusions and exclusions:

YES	NO		YES	NO		YES	NO	
X		Block		X	CMU Water Repellent		X	Dampproofing
	X	Brick		X	Integral Color CMU		X	Caulking
	X	Glass Block	X		Grouting Door Jambs		X	Metal Flashing
	X	Stone		X	Wall Bracing		X	Demolition
	X	Precast	X		Shoring Masonry Lintels		X	Staining
X		Mortar		X	Templates		X	Sandblasting
X		Grout		X	Steel Lintels		X	Vapor Barrier
X		Rebar		X	Bolts		X	Lath Plaster
	X	Insulation		X	Misc. Steel Imbeds		X	Dry Packing
X		Labor	X		Setting H.M. Doors		X	Mortar Wash
X		Equipment	X		Stem		X	Taxes
X		Clean-Up		X	Concrete Footer		X	Bond
X		Site Masonry	X		Joint Reinforcing		X	Power Wash

Accepted By: _____
[Name & Company Name]

Please send back a signed copy if low bidder with your firm.

*Contact **Don Stoffers, Jr [Don@StollMasonry.com]** Estimator if you have any questions.*

CASTLE STEEL INC.

3828 N. 35th Ave. Phoenix, Az. 85017 (602) 243-2766

R.O.C. # 203912
City of Phx. Approved Fabricator
Maricopa Cnty Dust Reg. # SC0800100

Attention: Mike Ploeger
Willmeng
RE: Sundance Park PH 2
Date 7/16/2021

Allow us to tender our quotation on this project, subject to the following Inclusions, Exclusions, Terms and Conditions:

Scope of Work

We propose to furnish the following labor and equipment to fabricate and erect the following in accordance with issued drawings: No specifications, except as may be noted below in our Inclusions, Exclusions and Terms and Conditions.

We Acknowledge Addenda (0)

This offering includes the following: ***Quote No. 1672 90% Drawings***

1. NW Maintenance /Storage Enclosure, 16 each bollards, 8 angle corner guards, I set gates. Sheet HS-303
2. Maintenance and Pump Enclosure. 4 each bollards, 3 each stair rails, 2 rolling gate.
3. Pistol Gates primed painted per sheets HS 201-204, HS209 signs by others
4. One each Restroom, HSS columns not galvanized, HSS beams not galvanized, angle frame galvanized and mesh stainless, 22 gauge galvanized sub deck, bird stops between HSS beams. Standing seam roof deck by others
5. Ramada Counter top support angles galvanized per sheet 118 4 locations.
6. Detailing
7. HSS column and beams one coat shop primer.

Clarifications:

1. The design team is fully responsible for any errors, omissions, conflicts, Violations and improper use of material, if shown on bid documents. Castle Steel, Inc has prepared this quotation based on measured quantities as specifically shown on the drawings. If during the preparation of shop drawings we discover errors, omissions or conflicts that affect pricing. Castle Steel, Inc will immediately submit change orders relating to such incurred costs.
2. Castle Steel will not accept any penalties in any type or form due to impedances in schedule related to unapproved change orders or other trades. Castle Steel Inc is not responsible for these impedances nor will it accept responsibility.
3. Castle Steel Inc does not assume or interpret locations of details not shown or designed on the drawings. If a details is not provided at time of bid this detail is not included in this proposal unless specified above. The responsibility of the design of the building is the responsibility of others and all details not referenced, shown or designed are not included. If these details are added at a later date they will be added into the base scope of work via change order. No work will progress until these change orders are approved by the proper personnel.

This offering excludes the following:

SPECIFIC EXCLUSIONS:

1. All PEMB scope of work including anchor bolts
2. Any and all anchor bolts required for other trades
3. Any and all Demo Work
4. All engineering
5. All Gates & Fencing
6. Primary Fall Protection System Detail 2/S-J-00-3
7. Support Beam and Column for FRP Grating System
8. Typ. Railing Detail 10/A-K-03-0

GENERAL EXCLUSIONS: (Unless Specifically Included Elsewhere).

1. All cable railing
2. Any Item not identified in our Inclusions
3. Any and all bike racks

4. Access Doors, Panels & Hatches
5. Anchorage Devices for Other Trades
6. Backup plates for other trades
7. Barricades, Fences, Lights, and Shoring
8. Any other devises necessary for safety of other than our workmen
9. Bolts, Wood to wood, wood to masonry, other trades
10. Bonds (cost of) unless otherwise noted
11. Bituminous Coatings
12. Brackets, hangers and frames for other trades
13. Building Permits course of construction insurance
14. Burglar Bars
15. Carport Canopies
16. Cast Iron Items, as well as all other Non-Carbon steel items
17. Catch Basins
18. Caulking and Sealant
19. Chain Link Items
20. Chrome Items Closet Rods
21. Cold Formed Steel (metal studs)
22. Simpson clip

A. This proposal is subject to acceptance within **5** days from the date tendered and shall be subject to satisfactory arrangement of details. The Code of Standard Practice of the Americans Institute of Steel Construction, Ninth Edition, 1989, is hereby made a part of this proposal and shall govern in all matters to which it is applicable not otherwise provided herein.

B. It is understood that in the event of errors, nonconforming material/workmanship, or installation difficulties being experienced with items provided hereunder, we shall be properly notified in writing, given reasonable time to inspect as to the validity of such claims and a reasonable time to repair. In absence of proper notice as described above, we will accept no responsibilities for such claims.

C. The inability of the contractor to be paid shall not be grounds for withholding monthly payments or final retention.

D. Due to availability and extreme volatility in the steel market, pricing is based on current steel pricing and is subject to availability of material and Mill allotments. Upon award availability and pricing will be reviewed for acceptance based on current market conditions.

We propose to provide this project as described above,

For the price of **$175,100.00** excluding all tax & bond.

Thank you for the opportunity to quote on this project.

Sincerely,

Mike Bode
Castle Steel, Inc.
mbode@castlesteelinc.com

AISC CERTIFIED FABRICATOR & ERECTOR

CASTLE STEEL INC.

3828 N. 35th Ave. Phoenix, Az. 85017 (602) 243-2766

R.O.C. # 203912
City of Phx. Approved Fabricator
Maricopa Cnty Dust Reg. # SC0800100

Attention: Mike Ploeger
Willmeng
RE: Sundance Park PH 2
Date 11/3/2021 - Updated

Allow us to tender our quotation on this project, subject to the following Inclusions, Exclusions, Terms and Conditions:

Scope of Work

We propose to furnish the following labor and equipment to fabricate and erect the following in accordance with issued drawings: No specifications, except as may be noted below in our Inclusions, Exclusions and Terms and Conditions.

We Acknowledge Addenda (0)

This offering includes the following: ***Quote No. 1672 90% Drawings***

1. NW Maintenance /Storage Enclosure, 16 each bollards, 8 angle corner guards, I set gates. Sheet HS-303
2. Maintenance and Pump Enclosure. 4 each bollards, 3 each stair rails, 2 rolling gate.
3. Pistol Gates primed painted per sheets HS 201-204, HS209 signs by others
4. One each Restroom, HSS columns not galvanized, HSS beams not galvanized, angle frame galvanized and mesh stainless, 22 gauge galvanized sub deck, bird stops between HSS beams. Standing seam roof deck by others
5. Ramada Countertop support angles galvanized per sheet 118 - 4 locations.
6. Detailing
7. HSS column and beams one coat shop primer.

Clarifications:

1. The design team is fully responsible for any errors, omissions, conflicts, Violations and improper use of material, if shown on bid documents. Castle Steel, Inc has prepared this quotation based on measured quantities as specifically shown on the drawings. If during the preparation of shop drawings we discover errors, omissions or conflicts that affect pricing. Castle Steel, Inc will immediately submit change orders relating to such incurred costs.
2. Castle Steel will not accept any penalties in any type or form due to impedances in schedule related to unapproved change orders or other trades. Castle Steel Inc is not responsible for these impedances nor will it accept responsibility.
3. Castle Steel Inc does not assume or interpret locations of details not shown or designed on the drawings. If a details is not provided at time of bid this detail is not included in this proposal unless specified above. The responsibility of the design of the building is the responsibility of others and all details not referenced, shown or designed are not included. If these details are added at a later date they will be added into the base scope of work via change order. No work will progress until these change orders are approved by the proper personnel.

This offering excludes the following:

SPECIFIC EXCLUSIONS:

1. All PEMB scope of work including anchor bolts
2. Any and all anchor bolts required for other trades
3. Any and all Demo Work
4. All engineering
5. All Gates & Fencing
6. Primary Fall Protection System Detail 2/S-J-00-3
7. Support Beam and Column for FRP Grating System
8. Typ. Railing Detail 10/A-K-03-0

GENERAL EXCLUSIONS: (Unless Specifically Included Elsewhere).

1. All cable railing
2. Any Item not identified in our Inclusions
3. Any and all bike racks

4. Access Doors, Panels & Hatches
5. Anchorage Devices for Other Trades
6. Backup plates for other trades
7. Barricades, Fences, Lights, and Shoring
8. Any other devises necessary for safety of other than our workmen
9. Bolts, Wood to wood, wood to masonry, other trades
10. Bonds (cost of) unless otherwise noted
11. Bituminous Coatings
12. Brackets, hangers and frames for other trades
13. Building Permits course of construction insurance
14. Burglar Bars
15. Carport Canopies
16. Cast Iron Items, as well as all other Non-Carbon steel items
17. Catch Basins
18. Caulking and Sealant
19. Chain Link Items
20. Chrome Items Closet Rods
21. Cold Formed Steel (metal studs)
22. Simpson clip

A. This proposal is subject to acceptance within **5** days from the date tendered and shall be subject to satisfactory arrangement of details. The Code of Standard Practice of the Americans Institute of Steel Construction, Ninth Edition, 1989, is hereby made a part of this proposal and shall govern in all matters to which it is applicable not otherwise provided herein.

B. It is understood that in the event of errors, nonconforming material/workmanship, or installation difficulties being experienced with items provided hereunder, we shall be properly notified in writing, given reasonable time to inspect as to the validity of such claims and a reasonable time to repair. In absence of proper notice as described above, we will accept no responsibilities for such claims.

C. The inability of the contractor to be paid shall not be grounds for withholding monthly payments or final retention.

D. Due to availability and extreme volatility in the steel market, pricing is based on current steel pricing and is subject to availability of material and Mill allotments. Upon award availability and pricing will be reviewed for acceptance based on current market conditions.

We propose to provide this project as described above,

For the price of **$188,781.00** excluding all tax & bond.

Alternate – 001 Remove West Entrance Pistol Gates: ($10,795.00)

Thank you for the opportunity to quote on this project.

Sincerely,

Jason Wallace PE
Castle Steel, Inc.

AISC CERTIFIED FABRICATOR & ERECTOR

Pro Steel Erectors II, Inc.
623-825-3078 Phone
623-561-5062 Fax
6714 W. Frier Dr. Ste. #104
Glendale, AZ 85303

Date: **06-28-2021**

Project: **Buckeye Sundance Park GMP 3 and 4 Fab and Erect.**

Location: Buckeye

We are pleased to provide this quotation for the above referenced project. This proposal is subject to the following: inclusions, exclusions, terms and conditions referenced in this proposal.
This entire document becomes an integral part of Bid Documents upon acceptance. We will not be held liable for any failure to pass along the information contained herein.

Drawings: GN102-GN104, CV102, CV200-CV217, CV301-CV317, CV308A, CV308B, CV401-CV406, CV501-CV517, CV507A, CV507B, CV601-CV606, HS101, HS200-HS217, HS301-HS318, HS401-HS404, HS501-HS503, LS102, LS103, LS200-LS216, LS300-LS305, LS401, LS402, LP101, LP201, LP202, LP301, LP401-LP407, G100, G900, A210, A214, A300, A310, A400, A600, A700, A701, S001, S002, S011, S012, S021, S031, S061, S062, S101, S301, S401, S601
Plan date: **04-30-2021**
Specification:
Addendums:
Schedule rec'd & reviewed : NO

Proposal Inclusions:

1. Headwall rails per CV-601
2. GMP 4
    a. Maintenance
        i. Maintenance storage enclosure gate HS303
        ii. Bollards X 16
3. GMP 3
    a. Restroom (Galvanized)
        i. HSS posts atop masonry wall det 301
        ii. HSS 8x4; hss 12x8 framing; Hss 4x2 rakers
        iii. Cont angle det 301-303
        iv. Roof deck G90 screwed
        v. WWM / angle framing between masonry wall and deck det 302
        vi. Restroom building double gate.
    b. Lake pump enclosure
        i. 20' Maintenance pump enclosure gate HS304
        ii. Handrail per LP407
        iii. Bollards X 5 FOB
4. Ramadas 20x20' In 20 locations
        i. Columns (footings by others)
        ii. Beams (all steel)
        iii. Purlins gage metal
        iv. Plywood
        v. Standing seam metal panels
        vi. Prime painted
        vii. Engineering
5.

Headwall rails:	**$123,350.00**
GMP 3:	**$214,250.00**
GMP 4:	**$19,625.00**
Ramadas:	**$684,050.00**

** Pro Steel has AISC ACSE certifications.*

Specific Exclusions:

1. Ramada/Pavilion markers HS-318
2. Column footings.
3. All concrete.
4. Splash pad shade structure hs503
5. Steel letters hs 312
6. Chain link fence / gate hs311
7. 40x50 and 120x50 Ramadas HS-318
8. Pump shade structure
9. Trash racks
10. Entry gate HS307 FOB
11. Lake edge cable SS railing hs 305
12. Signs and markers per HS318
13. Restroom counter/ partition supports
14. Stainless steel rails and cable rails.
15. Trash enclosure gates
16. Steel plate counters.
17. Roof 2 line safety cable
18. Removal of safety cable and posts
19. BIM requirement unless otherwise shown * additional cost will incur
20. Any time any non-weldable coating; per AWS is used, Fabricator is responsible for ensuring that coating does not occur where field welds will be applied.
21. Sales tax
22. Supply of any shim packs
23. Temporary power supply within existing building
24. Touch up painting
25. Davis bacon wages
26. Traffic control
27. Night work
28. Removal of equipment or materials at the close of shifts (will remain with jobsite while working)
29. Indian preference hiring practice (TERO)
30. Bollards
31. Hanger tabs
32. Sump pans
33. Grouting of all base and bearing plates
34. Supplying bolts, concrete anchors, screws, and any misc. fasteners.
35. Demolition
36. All taxes, bonds, permits and liquidated damages
37. Special inspections
38. Light gauge framing, Specification section 05400/05410
39. Safety cable for other trades at roof level(s) and at stairs where rail will be placed
40. Erection of embeds and loose lintels
41. Items shown on civil, mechanical, plumbing or electrical drawings
42. Field painting of steel
43. Touch up painting or cleaning greater than SSPC-3.
44. Dust control
45. Core Drilling
46. Surveying by a Registered Engineer or Registered Surveyor
47. Mock ups

Fabricator Requirements:

Release Information as needed :

- GC critical path/ schedule that they are pursuing
- GC contract with you – we would request that prior to signature that we review for potential issues for erection
- Approval drawings – so that we can review for erectability and erection aids that need to be added for schedule
- Add us to the GC contact list so that we can get our hands on RFIS and changes as they come about
- Change order work needs to be understood that prior to doing we will need approved change order and added days need to be given to GC for schedule
- Delivery drivers call 30 mins prior to delivery to make sure

GENERAL CONDITIONS:

1) Work and jobsite condition to be in accordance with AISC CODE OF STANDARD PRACTICE and OSHA Standards.
2) Work accomplished during standard eight-hour workday, 40-hour workweek, unless otherwise noted.
3) Steel is to be shipped to job site per load list provided by Pro Steel Erectors
4) Materials must be delivered in a timely manner to assure a continuous erection operation.
5) All field-welded connections shall be designed with permanent erection bolts, unless architecturally displeasing.
6) Others to provide: A) Clear, firm site with maintained road, back fill in place, level to a approximate grade for operation of a erection crane or forklift whichever is deemed necessary by Pro Steel Erectors. B) Removal or protection of all existing utilities which interfere with the erection of the structure or limit the operation of the erection crane
7) Pro Steel Erectors will not be responsible for delays or defaults where occasioned by any cause of any kind and extent beyond its control, including but not limited to delays caused by the Owner, General Contractor, Architect and or Engineers, civil disorder, fires, floods, accidents, and acts of God. Pro Steel Erectors shall be entitled to equitable adjustment in the subcontract amount for additional costs due to unanticipated delays or accelerations of the project.
8) Pro Steel erectors will not be responsible for damages near existing glass and finishes installed prior to field erection being completed.
9) All work is guaranteed against defects in workmanship for a period of (1) year from date of installation. The exclusive remedy shall be that Pro Steel Erectors will replace or repair any part of its work which is found to be defective. Pro Steel Erectors shall not be responsible for damage to its work by other parties or for improper use of equipment by others.
10) Purchaser shall, if contractor does not, purchase and maintain all risk insurance upon the full value of the entire work and/or materials delivered of the jobsite which shall include the interest of Pro Steel Erectors.
11) Pro Steel Erectors shall issue certificates of insurance as required by specifications.
12) Contractor will clean anchor bolts or column beam pockets and set an indelible mark on elevation nut at each column location.
13) All safety shall be per OSHA guidelines.
14) Others will provide shim material for setting column elevations; bottom nuts will not be used.

PAYMENT TERMS

1) Monthly progress payments to Pro Steel Erectors will be due on or before 30 days from date submitted. Retention payment shall be due 30 days after the described work of this proposal is completed.
2) The Purchaser will withhold retention from Pro Steel Erectors equal to that being withheld by the Contractor from the Purchaser with respect to Pro's work. At 50 percent completion, upon satisfactory progress, the Purchaser shall not withhold any further retention.

3) Timely payments for suitable work preformed are required for continued performance. Any amount past due shall earn interest at the rate of eighteen percent (18%) annually
4) This Proposal shall be incorporated into and made part of any contract, purchase order, or letter to proceed, the terms and conditions of this proposal shall supersede and take presidents over any and all other terms and conditions of this sale.

TERMS OF SALE

Issuance of a contract, notice to proceed or commencement of work by Pro Steel Erectors II Inc, constitutes acceptance of this proposal and our general specifications, terms and conditions. This proposal shall be incorporated into any and all agreements, contracts, or purchase orders unless prior written arrangements have been made.

THIS QUOTATION SHALL REMAIN VALID FOR 30 DAYS FROM THE COVER PAGE DATE. WRITTEN NOTIFICATION TO PROCEED IS REQUIRED WITHIN THIS TIME PERIOD.

Thank you for the opportunity to quote on this project, we look forward to working with you.

Sincerely,

Pro Steel Erectors II Inc.

Tara Krantz

623-825-3078

Desert Sealants
Licensed - Bonded - Insured
3634 E. Southern Ave #06
Phoenix, AZ 85040
Fax: (480)-357-3608
INSULATION, CAULKING & FIRESTOPPING
(480) 358-1974
ROC CR-5 269955 & CR-40 299326

www.desertsealants.com

	CAULKING PROPOSAL
Job Name Address	**Buckeye – Sundance Park Phase II** **22865 West Lower Buckeye Rd.** **Buckeye, AZ 85326**
Attn:	Estimating Department
Date	**06/25/2021**
Notes:	

Location of Joint Sealants:

New Sidewalk Expansion Joints
Sidewalk to Vertical Surface Expansion Joints

BASE BID: $27, 996.00

Note: Bidding 2 Part Polyurethane with standard colors. There will be an additional cost if custom color is required in lieu of standard colors. Exclude caulking at exterior window frames, plumbing fixtures, electrical fixtures, and fire stopping. Exclude tax and bonds. Please note: signature on this proposal constitute a contract between Desert Sealants and the Contractor. For questions, please contact Eric Lopez at elopez@desertsealants.com or at 480-358-1974. Thank you!

RITE-WAY
THERMAL

June 24, 2021

Attention: Estimating

Project Name: Sundance Park Phase 2
Jobsite address: Buckeye, AZ
Plans dated: 4/30/21
Spec Section: N/A

Items Included:

Joint Sealants:

1) **Furnish and install Sika polyurethane joint sealants at the:**
   Site masonry control joints
   Site sidewalk expansion/isolation joints
   Bollards
   Masonry control joints
   Hollow metal door frames
   Interior slab to cmu isolation joints

   Phase 3 joint sealants: $ 31,690
   Phase 4 joint sealants: $ 6,790
   Excludes sales tax on material:

Items Excluded:

1. Shop drawings, engineering, permits, inspections and overtime/weekends.
2. Sales tax, liquidated damages, pollution/mold insurance, and bonds (2.5% if required).
3. Joint signed warranties, standard installation and manufacturer warranties included.
4. Existing building/site joints, Phase 2A1, recessed joints, concrete/patch repair or removal, site concrete control joints, interior sawcut joints, firestop, acoustic sealant, custom color, hybrid sealants, flashing/roofing, gyp board joints, cutting of compressible joint filler, preformed joint sealants, expansion joint systems, fixtures, millwork, MEP, dissimilar materials as general scope, protection of installed sealants, and anything not specifically mentioned above.

Qualifications:

1. **Pricing quoted is good for 30 days after which proposal is subject to material price increases**.
2. Proposal includes standard 1yr installation and standard manufacturer warranty.
3. If pollution or mold insurance is required for this project, an additional cost will be added to this proposal.
4. Davis Bacon/prevailing wages are not included in this proposal.
5. Our minimum daily charge is $1,000.
6. We assume all work associated with Phase 2A1 will be done at a later date.
7. If zip strip is not used at slab expansion/isolation joints, contractor will be responsible for grinding down fiber board to create a joint for sealant.
8. Any damage to Rite-Way Thermal work, which is not exclusively caused by Rite-Way Thermal, will be considered damage by other trades and Rite-Way Thermal will be compensated for any repairs

6677 W Frye Rd, Suite 30 ♦ Chandler, AZ 85226 ♦ Office 480-686-8432 ♦ Fax 480-686-8436 ♦ AZ ROC # 265592

of damage by others. Repair work must be approved by the contractor prior to Rite-Way Thermal performing the work.

9. Any additional work performed is to be priced prior to starting and approved by the contractor.
10. All areas of work to be free of debris and obstacles to provide a safe and productive install.

Sincerely,

Michael Sandvig/PM

_____

Approved: Date: PO#:

msandvig@rwtusa.com
(O) 480.686.8432
(F) 480.686.8436
6677 W Frye Rd. Suite 30
Chandler, AZ 85226
AZ ROC# 265592
New Mexico #371332

WWW.RITE-WAYTHERMAL.COM

Insulation ♦ Firestop ♦ Joint Sealants ♦ Expansion Joints ♦ Waterproofing

FLYNN BEC LP
3062 N. Maple Street
Mesa, AZ 85215
T: 623.937.1210 **W**: www.flynncompanies.com

Date: June 29, 2021

PROPOSAL #M21-117

To

Willmeng Construction
2048 N. 44th St#200
Phoenix, AZ 85008
Attention: Anita Wisenbaugh
Email:awisenbaugh@willmeng.com
Contact#: 602-803-3513

Project

Buckeye Sundance Park Phase II
22865 West Lower Buckeye Road
Buckeye, AZ 85326

Spec Section: **NONE- SHEET METAL ROOFING**
NONE-METAL SOFFIT PANEL

Scope of Work: We propose to supply and install the prefinished standing seam metal roof panels and metal soffit panel with matching trims at the proposed restroom building per A214 and A300.

Clarifications: **Proposed Restroom Building (QTY1) A214/A300 Plans**

1. **Standing Seam Metal Roof Panel** based on 24-gauge Ultra Seam us-175 Lock-Seam x 12" wide color to be selected per manufactures standard Kynar 500 non-metallic finish. Pricing includes 1-layer of self-adhered underlayment.
2. **Soffit Panel** based on 24-gauge Ultra Seam us-175 Lock-Seam x 12" wide color to be selected per manufactures standard Kynar 500 non-metallic finish. Pricing includes 1-layer of self-adhered underlayment.

Exclusions:

1. **Metal Deck by others.**
2. **Any and all work at Ramadas HS-308**
3. **Any and all structural elements by others.**
4. **Any and all wire mesh secured to steel framing per keynote 089.A3**
5. Any and all items not specifically set forth under the above scope of work.
6. **All general sheet metal flashing not associated with the standing seam roof and soffit panels at proposed restroom building.**
7. Any and all framing required.
8. All bonds including performance and payment bonds.
9. Building and/or specialty permits (if required) are not included.
10. Sales/privilege taxes unless noted below.

BASE BID:
THIRTY THOUSAND EIGHT HUNDRED SIXTY DOLLARS 00/100……..……$30,860.00

*Due to instability in the steel industry and related products, material price increases may be beyond our control and therefore this proposal may be subject to a cost increase to reflect the additional costs that may be incurred by FLYNN BEC LP subsequent to this proposal. Although every effort will be made to procure materials and avoid any increases to this proposal, this may sometimes be beyond our control.

FLYNN BEC LP
3062 N. Maple Street
Mesa, AZ 85215
T: 623.937.1210 **W**: www.flynncompanies.com

This proposal is based on the use of an AIA401 or other previously approved form of contract and the application of the AZ Prompt Payment Statutes for this project.

The scope of work includes inspection of the work surface for suitability, dryness and cleanliness for scheduling work. FLYNN BEC LP does not include in the inspection any determination as to slope, structural support, attachment, structural integrity or compliance with any building codes or regulations of any nature. It is the responsibility of the Owner, Architect or General Contractor to verify proper support, attachment, alignment, slope and structural integrity of the building structure including expansion and contraction in a manner that will provide a stable base for the roofing or wall system.

All provisions, exclusions and exceptions of this proposal shall become part of any contract issued for work accepted as a result of this proposal and will supersede contract provision to the contrary. This proposal shall be incorporated as part of the contract or purchase order by reference or inclusion.

This proposal shall be subject to acceptance for a period of thirty (15) days following the date above. Flynn BEC LP at its sole discretion, may extend that period but reserves the right to declare the proposal expired, or modify it or any it's content and express condition of extension.

Terms of Payment: Monthly progress or by other written terms

Subcontract agreement is subject to credit approval.

This proposal is based on plans and specifications by DFDG Architecture dated 4/29/21.

We acknowledge addenda 0.

Submitted by:
FLYNN BEC LP

Brad Wilembrecht

623-937-1210

Brad.Wilembrecht@flynncompanies.com

Buckeye - Sundance Park Phase II

22865 West Lower Buckeye Road, Buckeye, AZ 85326, United States of America

Sent proposal: $30,860

Submitted Jul 2, 2021 at 11:05 AM MST

AARA Construction Inc

238 S Hamilton Pl, Gilbert, AZ 85233, USA

AARA Construction | Estimator | +1 602-437-9323 | estimating@aarametals.com

LINE ITEMS

Description	Quantity	Unit Cost	Total Cost
Metal Roofing & Wall Panels			$30,860
Base Bid			**$30,860**

ADDITIONAL INFORMATION

Buckeye - Sundance Park Phase II

22865 West Lower Buckeye Road, Buckeye, AZ 85326, United States of America

Notes

Date: June 29, 2021 PROPOSAL #M21-117
Willmeng Construction
2048 N. 44th St#200
Phoenix, AZ 85008
Attention: Anita Wisenbaugh
Email:awisenbaugh@willmeng.com Contact#: 602-803-3513
480-232-9323
Buckeye Sundance Park Phase II
22865 West Lower Buckeye Road
Buckeye, AZ 85326
To Project
Spec Section: NONE- SHEET METAL ROOFING
NONE-METAL SOFFIT PANEL
Scope of Work: We propose to supply and install the prefinished standing seam metal roof panels and metal soffit panel with matching trims at the proposed restroom building per A214 and A300.
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Exclusions:
1. Metal Deck by others.
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3. Any and all structural elements by others.
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9. Building and/or specialty permits (if required) are not included.
10. Sales/privilege taxes unless noted below.
BASE BID:
THIRTY THOUSAND EIGHT HUNDRED SIXTY DOLLARS 00/100.....
$30,860.00
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powered by BUILDINGCONNECTED

Buckeye - Sundance Park Phase II

22865 West Lower Buckeye Road, Buckeye, AZ 85326, United States of America

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Subcontract agreement is subject to credit approval.
This proposal is based on plans and specifications by DFDG Architecture dated 4/29/21.
We acknowledge addenda 0.
Submitted by:

FLYNN BEC LP
Brad Wilembrecht
623-937-1210
Brad.Wilembrecht@flynncompanies.com

ATTACHMENTS

M21-117 BUCKEYE SUNDA... (262 KB)

Empire Doors & Windows

Phone (602)438-4415
Fax (602)438-4502

COMMERCIAL QUOTE/ PURCHASE AGREEMENT

Due Date	ROC # 218483	Date	Estimate / Job #
8/2/2021	Rep JRM	6/18/2021	8541

\\ *QUOTE IS GOOD FOR ONLY 30 DAYS //

Job name: Sundance Park

Willmeng Construction
2048 N. 44th Street STE#200
Phoenix, AZ 85008

Phone: 480-968-4755 EXT36 Fax: 480-404-6780
E-mail: payapplication@willmeng.. P.O. No. QUOTE ONLY

NOTE: All itemized pricing is done with the assumption that the entire scope of work will be required. Pricing Will increase per item in the event that only certain items are purchased. All doors and windows are order per customer. All orders are tailored to each specific need. There for, there are no returns on this type of items. Empire Doors, Windows, Hardware and More does not keep stock or inventory on any of these Items. Other items and non-custom hardware can be returned @ a 45% restocking fee. Fees will apply on all returned items. Any purchase made by credit card will be refunded to the original credit card minus 6% applicable fee. Any returned made after 30 days of initial purchase will be refunded as a store credit minus 45% restocking applicable fee.

*****COMMERCIAL PROJECT STANDARD LEAD-TIMES*****

All projects require a minimum of 25 -35 day L.T. This is only after we receive a signed contract or PO from customer

$ NOTE * IF SUBMITTALS ARE REQUIRED PLEASE IMMEDIATELY ADD 15-17 ADDITIONAL WORK DAYS TO STANDARD LEAD TIME.*** $**

***All customers are REQUIRED to provide us with a Reasonable TWO week notice for our due installations. Any rescheduling by customer to be done in writing and will have to be approved by our office personnel only. ***Change orders to initial pricing constitutes additional managing and handling cost, lead times and will only be processed after signed change order is received. It's customer's responsibility to immediately inspect all materials specially wood doors. All material damages noted after delivery will not be Empire's responsibility. Any repairs or replacements will be in addition to original cost.

Dear customer, TEXTURA Fees are not included in your bid and we are not responsible for them. If you plan to use any specific payment management method please include corresponding fees in addition to our quote.

Item	Qty	Products / Description
		PROJECT: SUNDANCE PARK 22865 W. LOWER BUCKEYE RD. BUCKEYE, AZ 85326 PROJECT #: 20.1328 ARCHITECT: DFDG ARCHITECTURE 602-954-9060 CONTACT: ANITA WISENBAUGH 602-803-3513 PLAN DATE: 04 / 29 / 2021 ** Thank you for considering Empire as your partner in this project, please review this estimate closely as ONLY material listed within is included in your price. ** PLEASE NOTE MATERIAL TAX OF $499.23 IS EXCLUDED AS ARE ALL OTHER FEES

FIELD VERIFICATION WILL BE PERFORMED ON ALL POTENTIAL INSTALLATIONS.
Ordering and scheduling measurement verifications constitutes the understanding that a sale has been made. When measurements are confirmed,a deposit of 55% needs to be paid to the verifier.All Frames, doors, windowsand Hardware are special order. Changes or cancellations must be made in writing within 8 hours from date of purchase agreement. Final Sale on pre hung, machined or special order Doors and Windows. The above price, specifications and terms are satisfactory and hereby accepted. Payment to be made as outlined by Check, Cash or (For credit: expect a 4% processing fee in addition to final price.Provide credit card number,expiration date & address). By signing below, you authorize Empire to charge you or your credit card the amount noted.

Subtotal	
Sales Tax ...	
Total	

It is agreed between Empire and the undersigned purchaser as follows: Empire agrees to furnish all products specified above. If installation is included, Empire agrees to supply all material and labor necessary for the installation of items listed above. NO CAULKING, PAINTING OR STAINING included unless otherwise stated in writing above. Any alteration or deviation from the above specifications will be involving extra cost and will be executed ONLY upon a written change order. The cost will become an extra charge over and above the estimate. This is to include, but not limited to, hidden damages that are uncovered during the course of the job, additional work required by local building inspectors, home owner associations and or any other governmental entity that may apply. All elements of this agreement are contingent upon strikes, accidents or delays beyond our control.

All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

NOTE: YOU ARE REQUIRED to supply an adequate working area for all of our installations. Our Installers need to effectively maneuver themselves and their materials at the locality and vicinity of installation. A radius of 6 feet of clear space is the minimum required. For your safety, all customers are required to remain 8 Feet away from installation area. You are here NOTED that if our installers have to relocate, remove, uninstall or adjust any finished or unfinished materials of any sort you will be charged an additional cost of labor above and beyond the original agreed price. Empire, Empire affiliates or any of Empire employees will NOT be responsible for damages on internal wall components damaged by the use of fasteners like nails, screws or others. Example of possible damage can be plastic and copper piping as well as any drainage, electrical, mechanical and other

Signature:_____ Date:_____/_____/_____

By signing, you authorize Empire to charge your credit card the amount noted above.

Empire Doors & Windows

Phone (602)438-4415
Fax (602)438-4502

COMMERCIAL QUOTE/ PURCHASE AGREEMENT

Due Date 8/2/2021

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E-mail: payapplication@willmeng.. P.O. No. QUOTE ONLY

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***All customers are REQUIRED to provide us with a Reasonable TWO week notice for our due installations. Any rescheduling by customer to be done in writing and will have to be approved by our office personnel only. ***Change orders to initial pricing constitutes additional managing and handling cost, lead times and will only be processed after signed change order is received. It's customer's responsibility to immediately inspect all materials specially wood doors. All material damages noted after delivery will not be Empire's responsibility. Any repairs or replacements will be in addition to original cost.

Dear customer, TEXTURA Fees are not included in your bid and we are not responsible for them. If you plan to use any specific payment management method please include corresponding fees in addition to our quote.

Item	Qty	Products / Description	
LEAD TIMES		****LEAD TIMES **** Approximate lead time is 15-35 work days, AFTER we receive a signed & approved PO from your office. Along with a signed & approved submittal package.	
EXCLUDES		****THIS QUOTE EXCLUDES **** ANYTHING NOT LISTED WITHIN THIS ESTIMATE, ALL MATERIAL & LABOR ON EXISTING DOORS, FRAMES & HARDWARE, INSTALLATION OF WELDED HM FRAMES, ALL ALUMINUM STOREFRONT MATERIAL, GLASS, GLAZING, KEYING, All finishing, touch up, staining of existing doors, after hour or week end work, demo, card readers, electric strikes, electrical wire connections, electrical components & accessories, bituminous coatings, primer, paint, All keying, installation of ANY Store fronts, exterior or interior welded hollow metal frames & grouting.	
INCLUDES		****THIS QUOTE INCLUDES**** • (5) OPENINGS • FRAMES ARE BID FOR EXISTING MASONRY, 7-1/4" METAL STUD & DRYWALL WALLS • HOLLOW METAL FRAMES BID AS 16ga WELDED UNITS AS MFR BY STEELCRAFT • HOLLOW METAL DOOR BID AS 18ga FLUSH SEAMLESS EDGE AS MFR BY DKS. • HARDWARE BID USING: HAGER, IVES, LCN, SCHLAGE 'ND' SERIES & PEMKO PRODUCTS. • ALL CYLINDERS BID AS 'STANDARD' NON IC CORE, KEYING IS EXCLUDED. • INSTALLATION OF LISTED MATERIAL EXCLUDING WELDED HM FRAMES. • JOB PHASING PER YOUR BREAK DOWN • ALL WELDED HOLLOW METAL FRAMES DELIVERED AT (1) TIME • DOORS & HARDWARE DELIVERED PER PHASE SCHEDULE (3) PHASES	
12 Doors & ...	1	** FRAMES: (5) **	$1,223.00

FIELD VERIFICATION WILL BE PERFORMED ON ALL POTENTIAL INSTALLATIONS.
Ordering and scheduling measurement verifications constitutes the understanding that a sale has been made. When measurements are confirmed,a deposit of 55% needs to be paid to the verifier.All Frames, doors, windowsand Hardware are special order. Changes or cancellations must be made in writing within 8 hours from date of purchase agreement. Final Sale on pre hung, machined or special order Doors and Windows. The above price, specifications and terms are satisfactory and hereby accepted. Payment to be made as outlined by Check, Cash or (For credit: expect a 4% processing fee in addition to final price.Provide credit card number,expiration date & address). By signing below, you authorize Empire to charge you or your credit card the amount noted.

Subtotal
Sales Tax ...
Total

It is agreed between Empire and the undersigned purchaser as follows: Empire agrees to furnish all products specified above. If installation is included, Empire agrees to supply all material and labor necessary for the installation of items listed above. NO CAULKING, PAINTING OR STAINING included unless otherwise stated in writing above. Any alteration or deviation from the above specifications will be involving extra cost and will be executed ONLY upon a written change order. The cost will become an extra charge over and above the estimate. This is to include, but not limited to, hidden damages that are uncovered during the course of the job, additional work required by local building inspectors, home owner associations and or any other governmental entity that may apply. All elements of this agreement are contingent upon strikes, accidents or delays beyond our control.

All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

NOTE: YOU ARE REQUIRED to supply an adequate working area for all of our installations. Our Installers need to effectively maneuver themselves and their materials at the locality and vicinity of installation. A radius of 6 feet of clear space is the minimum required. For your safety, all customers are required to remain 8 Feet away from installation area. You are here NOTED that if our installers have to relocate, remove, uninstall or adjust any finished or unfinished materials of any sort you will be charged an additional cost of labor above and beyond the original agreed price. Empire, Empire affiliates or any of Empire employees will NOT be responsible for damages on internal wall components damaged by the use of fasteners like nails, screws or others. Example of possible damage can be plastic and copper piping as well as any drainage, electrical, mechanical and other

Signature:_____ Date:_____/_____/_____

By signing, you authorize Empire to charge your credit card the amount noted above.

Empire Doors & Windows

Phone (602)438-4415
Fax (602)438-4502

COMMERCIAL QUOTE/ PURCHASE AGREEMENT

Due Date 8/2/2021

ROC # 218483	Date	Estimate / Job #
Rep JRM	6/18/2021	8541

\\ *QUOTE IS GOOD FOR ONLY 30 DAYS //**

Job name: Sundance Park

Willmeng Construction
2048 N. 44th Street STE#200
Phoenix, AZ 85008

Phone: 480-968-4755 EXT36 Fax: 480-404-6780
E-mail: payapplication@willmeng.. P.O. No. QUOTE ONLY

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Dear customer, TEXTURA Fees are not included in your bid and we are not responsible for them. If you plan to use any specific payment management method please include corresponding fees in addition to our quote.

Item	Qty	Products / Description	
		16GA 3070 HOLLOW METAL FRAMES WITH 2" HEADS (2) 16GA 3070 8-1/4" ASA 445 (2) 16GA 3070 8-1/4" ASA 445 C/R (1) 16GA 6070 8-1/4" ASA 845 C/R PREP FOR FLUSHBOLTS * ALL WELDED FRAMES TO BE INSTALLED BY OTHERS * ALL ALUMINUM STOREFRONT, SLIDING DOORS & FRAMES ARE EXCLUDED * EXISTING FIELD CONDITIONS UNKNOWN	
12 Doors & ...	1	** DOORS: (6) **	$1,610.00
		18GA HOLLOW METAL DOORS: QUOTED AS 3070 NOT 3072 (4) 18GA 3070 FLUSH 161 445 (1) 18GA 3070 FLUSH 161 445 (ACT) (1) 18GA 3070 FLUSH F.B. 445 (INACT) * EXTERIOR DOOR BID AS 18ga HOLLOW METAL NOT SC WOOD AS SPEC'D * ALL DOORS TO BE PAINTED BY OTHERS * EXCLUDES LABOR ON ALL EXISTING DOORS & FRAMES * INCLUDES INSTALLATION	
22 Hardware...	1	** HARDWARE: (5) **	$2,972.00

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Subtotal	
Sales Tax ...	
Total	

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All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

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Item	Qty	Products / Description
		INCLUDES HARDWARE FOR (5) OPENINGS USING: IVES, LCN & HAGER; HINGES, CLOSERS, STOPS SCHLAGE; 'ND' SERIES LOCKS & LEVERS PEMKO; TRESHOLD, SWEEP & SEALS (18) 5BB1 4.5X4.5 626 HINGES (1) ND40S SPA 626 PRIVACY LOCK (2) ND80PD SPA 626 STOREROOM LOCK (2) 30S 4"X16" 630 PUSH PLATE (2) 33L 630 PULL PLATE (3) 80-033 H 626 CORES (2) FB45X 626 FLUSH BOLTS (2) 4040XP RW/PA689 CLOSER (4) 190S 8" X 34" 630 KICKPLATE (6) 242F 626 FLOOR STOP (4) 272A 36" 628 THRESHOLD (1) 272A 78" 628 THRESHOLD (4) 18100CNB 36" 628 SWEEP (2) 18100CNB 42" 628 SWEEP (5) 303AS 25' 628 WEATHER STRIPPING * ALL KEYING, HARDWARE FOR EXISTING DOORS EXCLUDED * PLEASE NOTE THERE IS SIGNIFICANT SAVINGS IF WE VALUE ENGINEER THIS PROJECTS HARDWARE

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Item	Qty	Products / Description	
Install charges	1	** ENGINEERING, DELIVERY, INSTALLATION ** * CHARGE TO INSTALL LISTED MATERIAL, EXCLUDING ALL HOLLOW METAL FRAMES * EXCLUDES ALL LABOR ON EXISTING OPENINGS * INCLUDES (3) MOBILIZATIONS TO JOB SITE PER PHASE SCHEDULE PROVIDED	$2,488.00
Delivery Cha...	4	Delivery charge for any doors, frames, windows etc. Standard charge covers a radius of 25 miles from Empire's office to destination. Customer must be at home to accept materials. Standard delivery charges only covers the safe transportation of your materials to the front of your Front Garage or building. Additional charges WILL be added if customer requires special Drop off location. Empire, employees or associates are NOT responsible for any materials after they have been unloaded.	
labor order p...	1	Charge includes Quote and order processing, Surcharge, handling, sale processing, engineering, submittal creation, procurement, order managing, project managing, order release and scheduling.	

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Item	Qty	Products / Description
NOTES FO...		**** PLEASE NOTE **** • This price is PER specifications SUPPLIED. Our quotes are presented to all customers as a quantification of what we see is required in a given project. It is our customer's responsibility to check and confirm that quantities are right and that you have accounted for all openings required, Specially any last minute changes. Any opening not accounted for in original quote should become a change order in addition to the original contract. • ALL MATERIAL tax is EXCLUDED. • When placing order please provide Empire Doors with a 5005 tax form IF YOU WISH TO EXCLUDE TAX AS BID. • Please be advised – IF any change orders are required they MUST be fully executed AND returned to Empire PRIOR to any material being ordered and/or commencement of any work. Unexecuted change orders may hold up your project. • Any time Empire is required to lien a project due to late or non-payment OR use 3rd party billing procedures or programs, ALL associated costs will be added to amount owed. • If installation is NOT accepted, an ENGINEERING & DELIVERY charge of $550.00 will be added and we reserve the right to review our price and adjust accordingly, if needed. • This price good for 30 days. • Job is material and installation. • Bid per architects' plans dated ??/??/???? • All keying to be done by others. We are excluding keying of any kind. • Value pricing should be on bottom line when requested. Please note the add-on to the bottom line if you shoes to purchase specified manufactures.

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DELIVERY ...		**** DELIVERY & INSTALLATION **** • OUR price includes Engineering, Installation & Delivery to the job site • Includes installation of ALL new material to be supplied as listed within • ALL work to be performed during regular business hours of 6a-3p Monday through Friday. • Excludes work on anything other than listed above. • Any unusual installation conditions will be determined on a case by case basis and change order if needed. • Extraordinary conditions for installation like too many trades in the way will be reason for additional charges. (We work on doors and it is important to properly coordinate installations so we are the only one or one of the few trades in the project.) • We included (4) trips to job site, if more trips required there will be a $100.00 mobilization/phasing fee for each occurrence. • It is the contractor's responsibility to confirm day and time of installation. Additional fees will be added in the event that empire's installers cannot perform their job because of superintendent's unfortunate scheduling. • If for ANY reason EMPIRE cannot install on our pre scheduled time due to job site conditions beyond our control you will be assessed a $100.00 mobilization fee for that and ALL further attempts.

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Sales Tax ...	$0.00
Total	**$8,293.00**

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Phoenix, AZ. 85040
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Item	Qty	Products / Description
		PROJECT: SUNDANCE PARK PHASE II 22865 W. LOWER BUCKEYE RD. BUCKEYE, AZ 85326 PROJECT #: 20.1328 ARCHITECT: DFDG ARCHITECTURE 602-954-9060 CONTACT: MIKE / TINO 480-968-4755 PLAN DATE: 04 / 29 / 2021 ** Thank you for considering Empire as your partner in this project, please review this estimate closely as ONLY material listed within is included in your price. ** PLEASE NOTE MATERIAL TAX OF $511.27 IS EXCLUDED AS ARE ALL OTHER FEES

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Subtotal	
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All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

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Due Date 11/17/2021

ROC # 218483	Date	Estimate / Job #
Rep WF	11/17/2021	8786

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Item	Qty	Products / Description	
LEAD TIMES		****LEAD TIMES **** Approximate lead time is 15-35 work days, AFTER we receive a signed & approved PO from your office. Along with a signed & approved submittal package.	
EXCLUDES		****THIS QUOTE EXCLUDES **** ANYTHING NOT LISTED WITHIN THIS ESTIMATE, ALL MATERIAL & LABOR ON EXISTING DOORS, FRAMES & HARDWARE, INSTALLATION OF WELDED HM FRAMES, ALL ALUMINUM STOREFRONT MATERIAL, GLASS, GLAZING, KEYING, All finishing, touch up, staining of existing doors, after hour or week end work, demo, card readers, electric strikes, electrical wire connections, electrical components & accessories, bituminous coatings, primer, paint, All keying, installation of ANY Store fronts, exterior or interior welded hollow metal frames & grouting.	
INCLUDES		****THIS QUOTE INCLUDES**** • (5) OPENINGS • FRAMES ARE BID FOR EXISTING MASONRY, 7-1/4" METAL STUD & DRYWALL WALLS • HOLLOW METAL FRAMES BID AS 16ga WELDED UNITS AS MFR BY STEELCRAFT • HOLLOW METAL DOOR BID AS 18ga FLUSH SEAMLESS EDGE AS MFR BY DKS. • HARDWARE BID USING: IVES, LCN, SCHLAGE 'ND' SERIES & PEMKO PRODUCTS. • ALL CYLINDERS BID AS 'STANDARD' IC CORE, KEYING IS EXCLUDED. • INSTALLATION OF LISTED MATERIAL EXCLUDING WELDED HM FRAMES. • JOB PHASING PER YOUR BREAK DOWN • ALL WELDED HOLLOW METAL FRAMES DELIVERED AT (1) TIME • DOORS & HARDWARE DELIVERED PER PHASE SCHEDULE (3) PHASES	
12 Doors & ...	1	** FRAMES: (5) **	$1,586.00

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		16GA HOLLOW METAL FRAMES WITH 2" HEADS (2) 16GA 3070 8-1/4" ASA 345 (2) 16GA 3070 8-1/4" BLANK 345 C/R (1) 16GA 6070 8-1/4" FB 645 C/R PREP FOR * ALL WELDED FRAMES TO BE INSTALLED BY OTHERS * ALL ALUMINUM STOREFRONT, SLIDING DOORS & FRAMES ARE EXCLUDED * EXISTING FIELD CONDITIONS UNKNOWN	
12 Doors & ...	1	** DOORS: (6) **	$1,419.00
		18GA HOLLOW METAL DOORS: QUOTED AS 3070 NOT 3072 (3) 18GA 3070 FLUSH 161 345 (2) 18GA 3070 FLUSH RP 345 (1) 18GA 3070 FLUSH F.B. 345 (INACT) * ALL DOORS TO BE PAINTED BY OTHERS * EXCLUDES LABOR ON ALL EXISTING DOORS & FRAMES * INCLUDES INSTALLATION	
22 Hardware...	1	** HARDWARE: (5) **	$2,940.00

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Item	Qty	Products / Description
		INCLUDES HARDWARE FOR (5) OPENINGS USING: CALROYAL HINGES LCN DOOR CLOSER CLOSERS,IVES STOPS SCHLAGE; 'ND' SERIES LOCKS & LEVERS PEMKO; TRESHOLD, SWEEP & SEALS (18) BB31 4.5X4.5 626 NRP HINGES (1) ND40S SPA 626 PRIVACY LOCK (2) ND80JD SPA 626 STOREROOM LOCK (2) 80-033 I/C CORE 626 (2) 8200 4"X16" 630 PUSH PLATE (2) 8203 4" X 16" 630 PULL PLATE (2) FB457 626 MANUAL FLUSH BOLTS (3) 4040XP RW/PA689 CLOSER (CLOSERS @ RESTROOMS ONLY) (4) 8400 12" X 34" 630 KICKPLATE (4) WS406/407 CCV WALL STOP 626 (4) 272A 36" 628 THRESHOLD (1) 272A 72" 628 THRESHOLD (5) 222AV 36" 628 DOOR BTM (4) 303AS 36" X 84" 628 WEATHER STRIPING (1) 303AS 72" X 84" 628 WEATHER STRIPING * ALL KEYING, HARDWARE FOR EXISTING DOORS EXCLUDED * PLEASE NOTE THERE IS SIGNIFICANT SAVINGS IF WE VALUE ENGINEER THIS PROJECTS HARDWARE

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Item	Qty	Products / Description
Install charges	1	** ENGINEERING, INSTALLATION ** $1,722.00 * CHARGE TO INSTALL LISTED MATERIAL, EXCLUDING ALL HOLLOW METAL FRAMES * EXCLUDES ALL LABOR ON EXISTING OPENINGS * INCLUDES (3) MOBILIZATIONS TO JOB SITE PER PHASE SCHEDULE PROVIDED
Delivery Cha...	4	Delivery charge for any doors, frames, windows etc. Standard charge covers a radius of 25 miles from Empire's office to destination. Customer must be at home to accept materials. Standard delivery charges only covers the safe transportation of your materials to the front of your Front Garage or building. Additional charges WILL be added if customer requires special Drop off location. Empire, employees or associates are NOT responsible for any materials after they have been unloaded.
labor order p...	1	Charge includes Quote and order processing, Surcharge, handling, sale processing, engineering, submittal creation, procurement, order managing, project managing, order release and scheduling.

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Phone: 480-968-4755 EXT36 **Fax: 480-404-6780**
E-mail: thernandez@willmeng.com **P.O. No. QUOTE ONLY**

NOTE: **All itemized pricing is done with the assumption that the entire scope of work will be required. Pricing Will increase per item in the event that only certain items are purchased. All doors and windows are order per customer. All orders are tailored to each specific need. There for, there are no returns on this type of items. Empire Doors, Windows, Hardware and More does not keep stock or inventory on any of these Items. Other items and non-custom hardware can be returned @ a 45% restocking fee. Fees will apply on all returned items. Any purchase made by credit card will be refunded to the original credit card minus 6% applicable fee. Any returned made after 30 days of initial purchase will be refunded as a store credit minus 45% restocking applicable fee.**

*******COMMERCIAL PROJECT COVID-19 LEAD-TIMES CAN CHANGE AT ANY TIME*******

All projects require a minimum of 25 -35 day L.T. This is only after we receive a signed contract or PO from customer*

$ NOTE * IF SUBMITTALS ARE REQUIRED PLEASE IMMEDIATELY ADD 15-17 ADDITIONAL WORK DAYS TO STANDARD LEAD TIME.*** $**

*****All customers are REQUIRED to provide us with a Reasonable TWO week notice for our due installations. Any rescheduling by customer to be done in writing and will have to be approved by our office personnel only. ***Change orders to initial pricing constitutes additional managing and handling cost, lead times and will only be processed after signed change order is received. It's customer's responsibility to immediately inspect all materials specially wood doors. All material damages noted after delivery will not be Empire's responsibility. Any repairs or replacements will be in addition to original cost.**

Dear customer, TEXTURA Fees are not included in your bid and we are not responsible for them. If you plan to use any specific payment management method please include corresponding fees in addition to our quote.

Item	Qty	Products / Description
NOTES FO...		**** PLEASE NOTE **** • This price is PER specifications SUPPLIED. Our quotes are presented to all customers as a quantification of what we see is required in a given project. It is our customer's responsibility to check and confirm that quantities are right and that you have accounted for all openings required, Specially any last minute changes. Any opening not accounted for in original quote should become a change order in addition to the original contract. • ALL MATERIAL tax is EXCLUDED. • When placing order please provide Empire Doors with a 5005 tax form IF YOU WISH TO EXCLUDE TAX AS BID. • Please be advised – IF any change orders are required they MUST be fully executed AND returned to Empire PRIOR to any material being ordered and/or commencement of any work. Unexecuted change orders may hold up your project. • Any time Empire is required to lien a project due to late or non-payment OR use 3rd party billing procedures or programs, ALL associated costs will be added to amount owed. • If installation is NOT accepted, an ENGINEERING & DELIVERY charge of $550.00 will be added and we reserve the right to review our price and adjust accordingly, if needed. • This price good for 30 days. • Job is material and installation. • Bid per architects' plans dated ??/??/???? • All keying to be done by others. We are excluding keying of any kind. • Value pricing should be on bottom line when requested. Please note the add-on to the bottom line if you shoes to purchase specified manufactures.

FIELD VERIFICATION WILL BE PERFORMED ON ALL POTENTIAL INSTALLATIONS.
Ordering and scheduling measurement verifications constitutes the understanding that a sale has been made. When measurements are confirmed,a deposit of 55% needs to be paid to the verifier.All Frames, doors, windowsand Hardware are special order. Changes or cancellations must be made in writing within 8 hours from date of purchase agreement. Final Sale on pre hung, machined or special order Doors and Windows. The above price, specifications and terms are satisfactory and hereby accepted. Payment to be made as outlined by Check, Cash or (For credit: expect a 4% processing fee in addition to final price.Provide credit card number,expiration date & address). By signing below, you authorize Empire to charge you or your credit card the amount noted.

Subtotal
Sales Tax ...
Total

It is agreed between Empire and the undersigned purchaser as follows: Empire agrees to furnish all products specified above. If installation is included, Empire agrees to supply all material and labor necessary for the installation of items listed above. NO CAULKING, PAINTING OR STAINING included unless otherwise stated in writing above. Any alteration or deviation from the above specifications will be involving extra cost and will be executed ONLY upon a written change order. The cost will become an extra charge over and above the estimate. This is to include, but not limited to, hidden damages that are uncovered during the course of the job, additional work required by local building inspectors, home owner associations and or any other governmental entity that may apply. All elements of this agreement are contingent upon strikes, accidents or delays beyond our control.

All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

NOTE: YOU ARE REQUIRED to supply an adequate working area for all of our installations. Our Installers need to effectively maneuver themselves and their materials at the locality and vicinity of installation. A radius of 6 feet of clear space is the minimum required. For your safety, all customers are required to remain 8 Feet away from installation area. You are here NOTED that if our installers have to relocate, remove, uninstall or adjust any finished or unfinished materials of any sort you will be charged an additional cost of labor above and beyond the original agreed price. Empire, Empire affiliates or any of Empire employees will NOT be responsible for damages on internal wall components damaged by the use of fasteners like nails, screws or others. Example of possible damage can be plastic and copper piping as well as any drainage, electrical, mechanical and other

Signature:_____ Date:_____/_____/_____

By signing, you authorize Empire to charge your credit card the amount noted above.

Empire Doors & Windows Hardware and More
4202 E. Elwood St. Suite 17
Phoenix, AZ. 85040
Phone (602)438-4415
Fax (602)438-4502

COMMERCIAL PURCHASE AGREEMENT

Due Date 11/17/2021

ROC # 218483	Date	Estimate / Job #
Rep WF	11/17/2021	8786

\\ *QUOTE IS GOOD FOR ONLY 30 DAYS //**

Job name: Sundance Park PHASE II

Willmeng Construction
2048 N. 44th Street STE#200
Phoenix, AZ 85008

Phone: 480-968-4755 EXT36 Fax: 480-404-6780
E-mail: thernandez@willmeng.com P.O. No. QUOTE ONLY

NOTE: All itemized pricing is done with the assumption that the entire scope of work will be required. Pricing Will increase per item in the event that only certain items are purchased. All doors and windows are order per customer. All orders are tailored to each specific need. There for, there are no returns on this type of items. Empire Doors, Windows, Hardware and More does not keep stock or inventory on any of these Items. Other items and non-custom hardware can be returned @ a 45% restocking fee. Fees will apply on all returned items. Any purchase made by credit card will be refunded to the original credit card minus 6% applicable fee. Any returned made after 30 days of initial purchase will be refunded as a store credit minus 45% restocking applicable fee.

*******COMMERCIAL PROJECT COVID-19 LEAD-TIMES CAN CHANGE AT ANY TIME*******

All projects require a minimum of 25 -35 day L.T. This is only after we receive a signed contract or PO from customer*

$ NOTE * IF SUBMITTALS ARE REQUIRED PLEASE IMMEDIATELY ADD 15-17 ADDITIONAL WORK DAYS TO STANDARD LEAD TIME.*** $**

***All customers are REQUIRED to provide us with a Reasonable TWO week notice for our due installations. Any rescheduling by customer to be done in writing and will have to be approved by our office personnel only. ***Change orders to initial pricing constitutes additional managing and handling cost, lead times and will only be processed after signed change order is received. It's customer's responsibility to immediately inspect all materials specially wood doors. All material damages noted after delivery will not be Empire's responsibility. Any repairs or replacements will be in addition to original cost.

Dear customer, TEXTURA Fees are not included in your bid and we are not responsible for them. If you plan to use any specific payment management method please include corresponding fees in addition to our quote.

Item	Qty	Products / Description
DELIVERY ...		**** DELIVERY & INSTALLATION **** • OUR price includes Engineering, Installation & Delivery to the job site • Includes installation of ALL new material to be supplied as listed within • ALL work to be performed during regular business hours of 6a-3p Monday through Friday. • Excludes work on anything other than listed above. • Any unusual installation conditions will be determined on a case by case basis and change order if needed. • Extraordinary conditions for installation like too many trades in the way will be reason for additional charges. (We work on doors and it is important to properly coordinate installations so we are the only one or one of the few trades in the project.) • We included (4) trips to job site, if more trips required there will be a $100.00 mobilization/phasing fee for each occurrence. • It is the contractor's responsibility to confirm day and time of installation. Additional fees will be added in the event that empire's installers cannot perform their job because of superintendent's unfortunate scheduling. • If for ANY reason EMPIRE cannot install on our pre scheduled time due to job site conditions beyond our control you will be assessed a $100.00 mobilization fee for that and ALL further attempts.

FIELD VERIFICATION WILL BE PERFORMED ON ALL POTENTIAL INSTALLATIONS.
Ordering and scheduling measurement verifications constitutes the understanding that a sale has been made. When measurements are confirmed,a deposit of 55% needs to be paid to the verifier.All Frames, doors, windowsand Hardware are special order. Changes or cancellations must be made in writing within 8 hours from date of purchase agreement. Final Sale on pre hung, machined or special order Doors and Windows. The above price, specifications and terms are satisfactory and hereby accepted. Payment to be made as outlined by Check, Cash or (For credit: expect a 4% processing fee in addition to final price.Provide credit card number,expiration date & address). By signing below, you authorize Empire to charge you or your credit card the amount noted.

Subtotal	$8,301.00
Sales Tax ...	$511.27
Total	**$8,812.27**

It is agreed between Empire and the undersigned purchaser as follows: Empire agrees to furnish all products specified above. If installation is included, Empire agrees to supply all material and labor necessary for the installation of items listed above. NO CAULKING, PAINTING OR STAINING included unless otherwise stated in writing above. Any alteration or deviation from the above specifications will be involving extra cost and will be executed ONLY upon a written change order. The cost will become an extra charge over and above the estimate. This is to include, but not limited to, hidden damages that are uncovered during the course of the job, additional work required by local building inspectors, home owner associations and or any other governmental entity that may apply. All elements of this agreement are contingent upon strikes, accidents or delays beyond our control.

All products suplied and installed by us, are warranted for one year. It is highly recommended that you completely read and understand our manufactures' warranty. They differ in length and coverage. In doubt, IT IS YOUR RESPONSIBILITY to ask for any additional details or request all full written warranty documents for all different products on your purchase. Factory finish on doors are warranted for one year from the time of invoice. Should the factory finish be proven defective, Empire and affiliates hold the right to at its own option repair or refinish existing door. For more information on product warranty please visit our vendor's web site.

NOTE: YOU ARE REQUIRED to supply an adequate working area for all of our installations. Our Installers need to effectively maneuver themselves and their materials at the locality and vicinity of installation. A radius of 6 feet of clear space is the minimum required. For your safety, all customers are required to remain 8 Feet away from installation area. You are here NOTED that if our installers have to relocate, remove, uninstall or adjust any finished or unfinished materials of any sort you will be charged an additional cost of labor above and beyond the original agreed price. Empire, Empire affiliates or any of Empire employees will NOT be responsible for damages on internal wall components damaged by the use of fasteners like nails, screws or others. Example of possible damage can be plastic and copper piping as well as any drainage, electrical, mechanical and other

Signature:_____ Date:_____/_____/_____
By signing, you authorize Empire to charge your credit card the amount noted above.

16539

PROPOSAL

Sun Door and Trim, Inc.
2631 North 37th Drive
Phoenix, Arizona 85009
(602) 305-8050 T (602) 305-8292 F
ROC091522 Commercial
ROC091517 Residential

Date **6/25/2021**

Submitted To **Willmeng Construction**
Attention **Anita Wisnebaugh**
Phone **602-803-3513** *Fax* **480-557-6788**

Project Buckeye Sundance II Restroom
Located 231st Ave. & Lower Buckeye Rd., Buckeye
Per Plans Dated 09-03-20 : 90% Drawings - BUDGET
Project Bid By Barrett Welch *Phone Ext* 3269
barrettwelch@sundoorandtrim.com

We hereby submit specifications and estimates for:
No Use/Sales/Other Taxes or Consulting Meetings Included (Unless Noted Otherwise)

Furnish, Stock and Install:
1. Hollow Metal Frames: 16 GA A60 - Face Welded - Primed [FOB Truck @ Jobsite, Set by Others]
   1 Ea. 6-0 x 7-2 x 534
   4 Ea. 3-0 x 7-2 x 534

2. Hollow Metal Doors: 18 GA A60 - Polystyrene Core - Tac & Bondo Seamless Edges - Screw Applied Top Cap - Weepholes
   1 Pr. 2/3-0 x 7-2 x 1-3/4" - Flush
   4 Ea. 3-0 x 7-2 x 1-3/4" - Flush

3. Finish Hardware as Scheduled by SDT: Schlage Grade 1 Cylindrical Locksets, Falcon Deadbolt, LCN Surface Closers. 626 & 689 Finishes. SFIC. Final Core & Keying by Others.

Total For Above: $10,647.00 - Includes professional in-house installation by Sun Door and Trim installers, not subcontracted out.
+ Add for Tax & Bond if necessary.

Notes:
1. Bid based on normal daytime work hours.
2. This is a budget quotation only - Price may fluctuate based on final scope and specified materials.
3. No hardware schedule provided. Hardware budgeted as listed above per SDT standard materials.

Excludes:
1. Any bituminous coating of frames.
2. Any gates or associated hardware.
3. 1/4" Steel Plate Door at Ramada Counter and any associated hardware specifically excluded.

Lead times after receipt of approved schedules and veneer samples (may vary due to manufacturer's current production and shipping schedule): Shop Drawings: 1-2 wks, Hollow Metal Frames: 6-8 wks, Hollow Metal Doors: 6-8 wks, Finish Hardware: 4-6 wks.	Not included (Unless Noted Otherwise): Other/Use Taxes, Sales Taxes, Payment / Performance Bonds.Project phasing. Stain / paint (uno). Set hollow metal frames. Master keying. Sort thru doors / frames for specific openings unless by prior agreement. Set pocket frames. Glass, glazing. Door / frame touchup due to construction / move in damage. Minor wall damage due to frame installation. Aluminum storefront / herculite hardware. Knox box. Elec wiring, termination, testing etc. Consistent coloring veneers for natural birch.

Bid is based on Sun Door's current insurance coverage. Bid is valid based upon mutually agreed upon terms and conditions for this project, project schedule availability, availability of materials, and material/manufacturers price increases. See General Qualifications provided by Sun Door and Trim, inc.

All material is guaranteed to be as specified unless noted otherwise. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control.

General Qualifications

Sun Door and Trim, Inc.

Buckeye Sundance II Restroom

6/25/2021

The following qualifications shall apply, unless specifically noted otherwise in this proposal:

1. Any subcontract resulting from this proposal is contingent upon credit approval.
2. Any subcontract resulting from this proposal shall require an agreement be reached with mutually acceptable terms and conditions, prior to execution (the "Subcontract"). Regardless of the language of the Subcontract that a Subcontract is the entire writing or that prior agreements are not incorporated or the existence of a "merger" clause, these terms are incorporated as if set forth within that Subcontract. Where conflicting language between this proposal and the Subcontract exist, the proposal's terms shall prevail.
3. For customers with Credit Accounts, payment terms are thirty (30) days from invoice date, unless other terms provided in this proposal.
4. Retention shall not apply to material only contracts. Retention when required for installed projects shall be a maximum of 10% of progress billings. Retention billings outstanding beyond
30 days after Notice of Completion shall not exceed the value of the punchlist items and any associated labor.
4a. No Vendor or Manufacturer Quotes or Invoices will be provided, under any circumstance, regardless of contract language or past performance.
5. A construction schedule that has been reviewed and mutually agreed upon is required for acceptance of a contract.
6. When installation is NOT included in this proposal, delivery is end of truck only. Unloading and distribution of materials without installation is expressly excluded.
7. Material and labor costs associated with accelerated construction schedules are excluded, unless specifically discussed in this proposal.
8. All labor included in the estimate associated with this proposal has been calculated at straight time. For a single shift during normal business hours.
9. All sales or use taxes are excluded from this proposal, unless specifically included.
10. All bonds are specifically excluded from this proposal. Should a bond be required, it shall be limited to a duration of one year from completion of the contracted work.
11. Regardless of construction schedules, all materials are subject to all manufacturer's published lead times after all approvals. All materials purchased in advance to meet the project construction schedule will be invoiced in the month received. Such billings will be paid within standard Sun Door and Trim terms based on a mutually agreed upon schedule of values.
12. This proposal specifically omits indemnification of the General Contractor and any additional insured's for their own passive, or active negligence.
13. Replacement of materials by others is excluded. Only materials specifically damaged by Sun Door and Trim employees, or its subcontractors will be addressed.
14. Fees associated with the application for, or acquisition of any permits, or approvals from any governing agency are excluded.
15. In order to comply with delivery requirements to meet the project construction schedule, Sun Door will manufacture, supply and install materials from dimensions and tolerances shown in the approved shop drawings, without field measurement. The General Contractor and/or Architect must approve the submitted shop drawings prior to release for production. We are not responsible for items not called out in architectural drawings. We are not responsible for items that only appear in non-architectural drawings which will not be reviewed by us, including but not limited to mechanical, structural, electrical, plumbing or landscape drawings.
16. Any work and/or materials required to accommodate errors by others will be discussed in advance and reimbursed.
17. Requested overtime labor shall include the cost of the labor premium AND lost efficiencies with increased supervisory requirements.
18. Additional operating costs associated with schedule delays, or acceleration will quoted and fairly compensated. Associated trade stacking, multiple crew requirements, added supervision, or increased phasing would be discussed in advance as part of these costs.
19. Warranty terms and conditions are strictly limited to those provided by the manufacturer, unless noted otherwise.
20. Inspection, testing, or approval fees required by any authority other than the contracted parties is excluded.
21. Liquidated damages are excluded, unless specifically noted otherwise in this proposal, and regardless of any conflicting terms in the Subcontract.
22. Prior to the start of change order work, a reasonably negotiated cost will be agreed upon.
23. Errors & Omissions liability insurance is not part of this proposal. Any design assist support services will be performed under the responsibility of the Arch/ G.C.
23a. Buyer/Owner/GC shall keep the Project adequately insured against any loss to Seller by reason of damage to Sellers Product or Work or Sellers Vehicle, equipment and tools by any occurrence during the course of work.
24. Sun Door and Trim reserves the right to review the Prime Contract for the construction project. We reserve the right to fairly resolve any issues identified.
25. Building code requirements are the sole responsibility of the design team.
26. This proposal excludes participation in either Owner Controlled Insurance Program (OCIP), or Contractor Controlled Insurance Programs (CCIP), unless specifically noted in this proposal.
27. Door, Frame and Hardware schedules are produced using Odyssey(c) Software Systems - utilizing a integrated vertical format recognized by DHI. Older Horizontal and separated Door, and Hardware formats are not available and not included as part of this proposal.
27a. This proposal does not include any provisions for customer specialized or project specific software/electronic compliance, regardless of contract terms.

THIS SECTION SPECIFICALLY APPLIES TO PROPOSALS THAT INCLUDE INSTALLATION SERVICES:

28. The G.C. will provide areas in advance for adequate storage and staging of materials on the job site. Additional storage requirements may add cost.
29. Distribution of materials to upper floors of multi-story buildings is excluded, unless an operating freight elevator, or lift is provided for out use during normal business hours.
30. Mobilizations required to perform the work to meet industry typical requirements for non-phased work has been included. Sun Door and Trim reserves the right to pursue costs for additional mobilizations to accommodate phased, or fast track construction schedules.
31. Uninterrupted access to our work area during business hours is required.
32. Moving of stockpiled materials is not included.
33. Support facilities and services such as water, gas, trash removal, elevators, etc. are not included.
34. Participation in composite clean-up crews is excluded. Sun Door will only provide clean-up for debris caused by our scope of work. Trash Removal to an onsite dumpster provided by Others IS included.
35. Sufficient cost-free parking will be provided for Sun Door employees and subcontractors.
36. If there is to be glazing work in conjunction with Sun Door's scope of work, and Sun Door is not doing the glazing, Sun Door and Trim will not be responsible for pulling or setting any vinyl, replacing any vinyl, adjustments of any kind to accommodate glazing scope.
37. All proposed work is to be done in accordance with industry historical standards. This includes, but is not limited too, required backing by others, welded Hollow Metal Frames set by others, structural engineering is by others, coordination of trades is by others, glazing vinyl is the sole responsibility of the glazier.
38. Protection from materials from other trades after installation is excluded.
39. Daily Quality Control Reports are to be reviewed and signed daily by onsite superintendent. These reports may be created using a field based electronic reporting system and signatures may be captured electronically.

PAYMENT TERMS UNLESS OTHERWISE NOTED IN THIS PROPOSAL:

40. Orders totaling less than $1500.00 will be prepaid before any orders are placed
40. A 50% deposit is required for any orders in excess of $1500.00; Balance due immediately upon completion of work.
41. Payment terms are subject to change at the sole discretion of Sun Door and Trim, Inc.
42. Regardless of conflicting terms in the Subcontract, should payment not be made according to the Terms and Conditions set forth in this Agreement, I/we agree to pay interest at the rate of twenty-four percent (24%) per annum on the delinquent balance from the initial date of service/sale until the default is satisfied. I/we agree to pay a one-time default fee of $50.00 if my/our account is not paid within thirty days of the date of service/sale. I/we agree to pay all collection costs whether or not a legal action is initiated including, but not limited to attorneys' fees, process server fees and court filing fees initiated as a result of default. All legal action will be adjudicated in a Maricopa County, Arizona court. I/we further agree to pay a $25.00 returned check fee if my/our check is returned for any reason.
43. All pricing is based upon payment by cash or check and is reflective of a cash/check discount. Credit Cards may be accepted at full price, typically 6% higher than quoted price.
44. All services are at expense of customer; any release or order to proceed constitutes intent to purchase and agreement to pay for services.
45. Customer is responsible for payment for any and all expenses incurred through termination of contract or cancellation of project.

5213 S 30th Street, B200 - Phoenix, AZ 85040
(602) 243-9097 Phone (602) 243-0278 Fax
License #164983

June 14, 2021

Estimators

Willmeng

PROJECT: **SUNDANCE PARK PHASE 2 RESTROOMS**
22865 W LOWER BUCKEYE RD
BUCKEYE, AZ PER PLAN 4-29-21

LABOR & MATERIAL FOR THE FOLLOWING: **$ 63,479.00**

SITE

Paint 25 bollards
Paint 10,864 SF of 10' CMU wall
Paint 2 metal gates
Paint 2 rolling gates
Paint 873 LF of lake fence rail & posts
Paint 4 vehicle gates
Paint 1,119 LF of ramada beams & rafters
Paint misc handrails

EXTERIOR

Paint 1,916 SF of 12' CMU wall

Rick Farnell
Adobe Paint, L.L.C.
RF:acs

INTERIOR

Pint 1,066 SF of epoxy metal deck

Paint 6 doors

Paint 5 door frames

Paint 4,841 SF of 12' CMU walls w/blockfill & epoxy

Paint 78 LF of steel beam

Protection

EXCLUDES

Sign fins

Sales tax

Off hours / weekends

Rick Farnell
Adobe Paint, L.L.C.
RF:acs

Proposal

SIGNS PLUS

Illuminated & Non-Illuminated Architectural Signage • Awnings
Canopies • Fascia • Neon • Outdoor Lighting • Flagpoles • Crane Service
STATEWIDE FROM PRESCOTT VALLEY & PHOENIX

Proposal Submitted To:	Project:	Date:
Willmeng Construction	**Sign Package**	**June 22, 2021**
Contact Name:	**Phone Number:**	**Fax Number:**
Anita Wisenbaugh	**602-803-3513**	
Address:	**Job Site:**	
22865 W Lower Buckeye Rd. Buckeye, AZ	**22865 W Lower Buckeye Rd. Buckeye, AZ**	

Signs Plus Hereby Proposes Labor and Material Necessary for the Completion of the Following:

1) Prepare fabrication drawings and submit to customer and landlord for approvals. Prepare city sign permit application and submit for sign permit approvals.

2) Fabricate and install one (1) set of LED illuminated reverse pan channel letters per customer provide design shown on sheet 149/277. Overall height to be 4'-10".

3) Fabricate and install one (1) set of LED illuminated reverse pan channel letters per customer provide design shown on sheet 149/277. Overall height to be 4'-10".

4) Fabricate five (5) sets of vinyl graphic lettering to be applied to customer supplied gate panels shown on sheet 148/277. Install graphics onto panels and install panels into existing customer provided gates.

5) Fabricate and install twenty-four (24) double sided flag mounted panels with pocket displays shown on sheet 150/277. Pocket panels to fabricated using plexiglass faces.

6) Fabricate and install seven (7) single sided Fishing Prohibited panels shown on sheet 150/277. Panels to be mounted on customer provided existing posts.

7) Fabricate and install three (3) sets of non-illuminated reverse pan channel letters per customer provide design shown on sheet 252/277. Overall height of letters to be 12". Signs to read "Men", "Family", and "Women".

Price: **$60,127.01** (plus actual permit cost - plus applicable sales tax)

Terms: 50% down Bal/Net 15

Terms and Conditions: All materials are guaranteed to be as specified and all work is to be completed in accordance with standard practices. The company or individual purchasing the above stated products (known from this point on as "customer"), or other, must provide adequate supply of power to within 6' of all illuminated signs prior to installation unless other written contractual arrangements have been made. Customer is responsible for ensuring prior to installation that installation site is free and clear of obstacles that may impede installation. If noted, price includes applicable sales tax in state of Arizona, however, customer is responsible for sales tax obligations in other states if applicable. Price doesn't include permits, including sidewalk permits and police detail, taxes, engineering, or installation unless otherwise specified. In cases requiring digging, install price is based on normal digging conditions. Should rock, water, or other impediments arise, additional labor and / or equipment may be charged. Repairs associated with damage sustained during excavation associated with damage sustained during excavation to unmarked utilities ouside the jurisdiction of Arizona Bluestake are the responsibility of the customer. Any alteration of the above specifications involving extra costs will be executed only upon written orders and will become an extra charge over and above this proposal. All agreements are contingent upon strikes, accidents, or delays beyond the control of Signs Plus.

Signs Plus Signature/Name:	Date:	Note: Due to the volatility of material prices, this proposal may be withdrawn if signed proposal is not received within	30	days of proposal date
Steven Johnson	6/22/2021			

Acceptance of Proposal: The above prices, specifications, and conditions are satisfactory and are hereby accepted. Signs Plus is authorized to do the work as specified and payment(s) will be made as outlined above. Signs Plus provides a one year unconditional warranty on material and workmanship, excluding fluorescent and other lamps. I, the undersigned, acknowledge that if payment(s) are not made as outlned, that the customer will be held liable for all monies owed and for any legal fees that arise in the attempt to collect payment(s), and that the customer may be changed 1.5% per month, 18% per annum, until balance is paid in full.

Printed Name: **Signature:** **Date:**

2507 West Villa Rita Drive, Phoenix, Arizona 85023 • (623) 780-1544

SMITHCRAFT
CUSTOM ARCHITECTURAL SIGNS
3643 South 7th Street | Phoenix, AZ 85040.1130
602.268.1349 ph | smithcraftsigns.com

Date: June 25, 2021
To: Willmeng Construction
Job: Sundance Park PH II
Address: 22865 West Lower Buckeye Road, Buckeye, AZ 85326

Contact: Anita Wisenbaugh
Phone: (602) 803-3513
Email: awisenbaugh@willmeng.com

Thank you for the opportunity submit a proposal for this project.
To accept, please sign the bottom of this quotation and return.

Quote Submitted by: Tracie Beck

Tracie@smithcraftsigns.com
602.775.5769
623.418.1315

SCOPE of WORK			
	Quantity	Unit Cost	Total Cost
Fabricate and Install: (1) Primary Identity Entry ID All letters and logo are fabricated out of aluminum in lieu of steel. Letters and logo: painted with Matthews paint/ illuminated with white LED's, 3000k color temperature is specified/ clear polycarbonate backs and are through-bolted through wall. A painted 4" x 4" square tube aluminum raceway houses the power supplies on the back of the wall. NOTE: Design drawing does not show polycarbonate backs but it is important to include them to mitigate nesting and open cavities. Structure by others.			
	1	$37,040.00	$37,040.00
Fabricate and Install: (23) Ramada/ Pavilion Markers Panel size is 16" wide x 93" long x .188" thickness routed and painted aluminum decorated with vinyl graphics. Sign panels are double-faced. Panels are mounted to structural columns of Ramadas by drilling and tapping holes and bolting painted angle to columns. Sign is bolted to angle with tamperproof binding screws or some other mounting. NOTE: Glass paper holder panels are estimated as tempered glass - not laminated glass with safety wire. Laminated glass with safety wire is NOT an available product.			
	23	$2,140.00	$49,220.00

SC SIGNS

6/25/21
2/4

Fabricate and Install: (7) Fishing Signs Signs are 9" x 20" x .188" aluminum painted on 2 sides, direct print and clear coated. Sign panels are brake formed in the middle. Holes must be drilled and tapped into fence structure and signs mounted with tamper proof screws or bolts. NOTE: To be installed on existing lake railing.			
	7	$547.00	$3,829.00
Fabricate and Install: (5) Gate Graphics Signs are 9" x 20" x .188" aluminum painted on 2 sides and decorated with vinyl graphics. Sign panels are brake formed in the middle. Holes must be drilled and tapped into fence structure and signs mounted with tamper proof screws or bolts. NOTE: Panels to be dropped off at SmithCraft's plant.			
	5	$2,770.00	$13,850.00
Fabricate and Install: (1) Set of 12" Pan Channel Letters- MEN 2" Deep/ Non-Illuminated			
	1	$915.00	$915.00
Fabricate and Install: (1) Set of 12" Pan Channel Letters- WOMEN 2" Deep/ Non-Illuminated			
	1	$1,525.00	$1,525.00
Fabricate and Install: (1) 12" Pan Channel Letters- FAMILY 2" Deep/ Non-Illuminated			
	1	$1,830.00	$1,830.00
Fabricate and Install: (3) ADA Compliant Exterior Restroom Signs MEN, WOMEN, FAMILY			
	3	$125.00	$375.00
Subtotal			$108,584.00
ADD ALTERNATES			
Fabricate and Install: (1) IRRIGATION RECYCLED WATER Sign Fence Attachment- Quantity Unknown			
	TBD	$185.00	
Fabricate and Install: (1) IRRIGATION RECYCLED WATER Sign Post Attachment- Quantity Unknown			
	TBD	$340.00	

Excluded: Sales Tax, Permits and Procurement if required.

Standard Terms & Conditions

- Lead-times vary and will be determined upon receipt of approved production drawings, deposits and permits (if applicable).
- The price shown is good for thirty (30) days.
- This quote does not include sales, local or other taxes. Taxes shall be calculated at final billing.

• If you have an applicable tax exemption, please provide your certificate.
• Unless explicitly stated in the table above, this quote does not include permits, permit acquisition costs, street/lane closure costs, engineering, phased or partial installation mobilizations, Davis Bacon Act wages and processing, equipment rentals, copying charges, shipping, crating and packing, postage, expenses for badging, orientation meetings, background checks or additional labor and costs related to hard dig conditions.
• SmithCraft will make necessary arrangements for underground locating with BlueStake prior to excavation. If locators are in error or non-responsive, and damage during excavation occurs, SmithCraft will not be held responsible.
• For ground signs, quoted price presumes softscape conditions, no underground obstructions or unusual conditions, including, but not limited to "hard digs" at the sign locations.
• Installation presumes ample space and access to the area behind wall signs, easily drilled fascia materials, adequate existing structural attachment points.
• Customer shall provide dedicated electrical circuits of suitable capacity and approved type within 6 feet of sign locations (with a sufficient whip), prior to installation. Time clocks on the circuit, if desired, shall be by others.
• We will do our best to avoid damage, but please note, landscape repair is the responsibility of the Customer.
• All work shall be performed during our normal business hours, unless otherwise agreed.
• Night work, weekend work or holiday work charges have typical added cost of $89 per shift/per man.
• All SmithCraft conceptual artwork, fabrication drawings and details are the exclusive property of SmithCraft. Such information may not be used by others without written authorization from an officer of SmithCraft.
• If install cannot proceed as scheduled due to site readiness issues beyond SmithCraft's control, and if no reasonable notice is provided by customer, "trip charges" of $225 or "wait charges" assessed at $89 per manhour shall be owed.

Warranty

• SmithCraft's warranty periods are as follows: three (3) years for signs we fabricate and install; one (1) year on exterior digital prints and vinyl products; and one (1) year on parts and ninety (90) days on labor for our scope of work if we are repairing or servicing work originally performed by others. These warranties are voidable if others perform work on our product(s).
• Our warranties cover defects in sign design, materials and workmanship - not property damage caused by others (i.e. vehicular damage, vandalism, cleaning products or mishandling). For more information on care and maintenance of our signs, please see SmithCraft's Care & Maintenance Instructions.

Payment Terms

• Fifty percent (50%) deposit is due at the commencement of the order.
• Balance due is Net 30 days, unless otherwise noted. Late fees will be assessed on all accounts more than 30 days past due, accruing at a rate of 2% per month.
• In the event payment is not made when due, Customer shall reimburse all costs of collection, attorney's fees and court costs.
• In the event of non-payment, Customer further authorizes and empowers SmithCraft, including its agents or representatives, to enter the premises wherever its product has been installed and to take and remove the same. Customer waives any claim for trespass, damage related to the installation, removal or repossession of the product(s).

Lien Notice

Customer agrees that the property where the signs are located may be liened to enforce payment.

6/25/21
4/4

Quote Date:	6/25/21
Quote Amount:	$108,584

I have read the above and agree with the terms and conditions of agreement between SmithCraft (Contractor), an Arizona Corporation and licensed contractor, and:

Acceptance of Quotation: _____
Signature & Title

_____
Date

Arizona Washroom Partitions

4849 South 36th Street • Phoenix, AZ 85040 • Lic. ROC177163 • Phone 602-437-8036 • sales@azwashroom.com

To: Willmeng Construction
Attn: Anita Wisenbaugh

Date: June 25, 2021
Quote: **21-2413**
Project: Buckeye – Sundance Park Phase II
22865 W. Lower Buckeye Rd.
Buckeye, AZ 85326

Addenda Seen: 0

Toilet Partitions by Bradley, FOB AWP:
Series 500, solid phenolic, floor braced. Stainless steel hinges, brackets, and latches.
Color: Folkstone Celesta 692-58

Materials

7	Toilet Compartments	
2	Urinal Screens, Wall Hung	$ 7,090.00

Labor

Deliver and install partitions. One trip.	$ 1,360.00

Toilet Accessories by Bobrick, Koala, Foundations, et al, FOB AWP:
Materials

3	B-5806X18	Grab Bar, 1 1/4" OD, Snap Flange, 18"	
3	B-5806X36	Grab Bar, 1 1/4" OD, Snap Flange, 36"	
3	B-5806X42	Grab Bar, 1 1/4" OD, Snap Flange, 42"	
3	B-715 115V	Hand Dryer, 115V, Elan, Automatic, Surface Mount	
6	B-270	Sanitary Napkin Disposal, Surface Mount	
3	*KB310-SSW	Koala Baby Changing Station, Horizontal, S/S, Surface Mt.	
1	100SSE-SM	Foundations, Adult Changing Station, Surface Mounted, SS	
8	CTP-2	Royce Rolls Toilet Paper Dispenser, Double, Surface Mount	
5	LSV	Royce Rolls Soap Dispenser, Vert., Surface Mount	
5	ASG1836	Royce Rolls Mirror, Replaceable Glass, 18x36	$ 12,430.00

* Quoted replacement for discontinued KB110-SSWM, subject to approval.

Labor

Deliver and install accessories. Same trip as above.	$ 570.00

Note: Project assumed to be a Modification. Materials pricing EXCLUDES TPT tax for contractors, subject to contractor supplying a valid Arizona Form 5000 Transaction Privilege Tax Exemption Certificate.

Prices good for 60 days.
Terms: Net 30. Add 3% if paying by credit card.

Excluded: Bonds, backing, blocking, wall cuts, framing, and caulking. Grab Bar backing must be provided at proper location to allow installation. ADA pipe insulation and signage. Lockers.

Respectfully Submitted,

Dale S. Vanniman

Please sign below and return to Arizona Washroom Partitions to indicate acceptance of this quotation and authorization to proceed with the order. Partition color selected is Folkstone Celesta 692-58.

Signature _____ Date _____ P.O. Number _____

Providing washroom partitions and accessories in Arizona for more than 40 years

inter·co
RESTROOM & LOCKER SUPPLY, INC.
www.inter-co.com AZ R.O.C. #307688

QUOTE

Customer Copy

Quote #	**1009393 - 2**	*E-mail*	**awisenbaugh@willmeng.com**
Date	**29-Jun-2021**	*Sales Person*	**Jake Vigen**
Customer	**Willmeng**		**Tel: (623) 398-6295 Ext.503**
Attn:	**Anita Wisenbaugh**		**Fax:(623) 398-8449**
Project	**Sundance Park Phase II**		**jvigen@inter-co.com**

Terms

QUOTATION GOOD FOR 15 DAYS FROM ABOVE DATE

Lockers

24 Hadrian Five Tier Emperor Locker Metal Standard Colors

Supply And Install **$8,897.00** **+ 659.02 (tax)**

Toilet Partitions

7 OHB w/ Continuous Mounting Brackets/Hinges
2 Wall Hung Urinal Screen

Supply And Install **$5,793.00** **+ 401.10 (tax)**

Washroom Accessories

3 Grab Bar 42"
3 Grab Bar 36"
3 Grab Bar 18"
8 Toilet Tissue Dispenser With Shelf
5 Soap Dispenser Vertical, Surface Mount
6 Napkin Disposal, Surface Mount Stainless Steel
3 Automatic Hand Dryer
-Supply only, no electrical work performed
5 Mirror 18"x36"
1 Shelf & Mop Holder-36 In
3 Stainless Steel Wall Mount Baby Changing Station
1 Foundations Adult Changing Table Metal

Supply And Install **$9,667.00** **+ 741.84 (tax)**

ESTIMATOR NOTES
-Hand dryers will be supplied only, no electrical work performed.

The following terms and conditions shall apply to this transaction, irrespective of any term or condition in any other documentation to the contrary:

- **The quoted price includes addendums issued up to Addendum # 0**
- **For all credit card transactions of $2,500 and over Inter-Co will add a 3% processing fee to the quoted amount.**
- **This project has been priced as a single phase; the quoted price will increase if there is more than one trip to site required.**
- **Installation shall be completed by an installer who has been factory trained. Any installation completed by an installer who is not factory trained will invalidate the warranty provided by Inter-Co for the installation.**
- **Installation shall be completed during regular business hours; installation outside of regular business hours or weekends shall be subject to an additional charge.**
- **All accounts are C.O.D., unless credit has been approved in advance by Inter-Co. For C.O.D. customers payment in full must be made prior to delivery of material to site.**
- **The materials supplied for this project shall be subject only to the manufacturer's standard warranty. The installation shall be subject to**

inter·co
RESTROOM & LOCKER SUPPLY, INC.
www.inter-co.com AZ R.O.C. #307688

QUOTE

Customer Copy

Quote #	1009393 - 2	*E-mail*	awisenbaugh@willmeng.com
Date	29-Jun-2021	*Sales Person*	Jake Vigen
Customer	**Willmeng**		Tel: (623) 398-6295 Ext.503
Attn:	Anita Wisenbaugh		Fax:(623) 398-8449
Project	**Sundance Park Phase II**		jvigen@inter-co.com

Terms

QUOTATION GOOD FOR 15 DAYS FROM ABOVE DATE

Inter-Co's one (1) year standard warranty for installation, which warranty will be ineffective if your account is not on good standing.

- All quoted prices are subject to the addition of applicable taxes based on the type of work being completed and the applicable jurisdiction.
- In the event that Inter-Co is called to site for installation prior to the site being ready for installation, the customer shall be charged and pay a return trip charge, prior to Inter-Co returning to site.
- Inter-Co shall not be responsible for any damage to tile if such damage is the result of insufficient adhesive on the tile or low quality tile.
- Due to potential changes in the cost of materials, the quoted price shall automatically expire after 15 days from the date of the quote if not accepted in writing by the customer by such date.
- Inter-Co is not responsible for the cost of removing any existing toilet partitions, lockers, washroom accessories or other items unless otherwise stated in this quote.
- Inter-Co shall not be responsible for any defects in the toilet partition system due to insufficient backing, structural steel or other structural support.
- All washroom accessory deliveries shall include delivery to curbside, ground level. The customer shall be responsible for delivering/distributing washroom accessories inside the building or project site.
- This quote is based on one colour selection for toilet partitions and lockers. In the event of multiple colour selections a manufacturer's upcharge may apply.
- Toilet partition, locker and washroom accessory orders may be cancelled prior to Inter-Co ordering the material, however such cancelled orders shall be subject to a minimum 35% cancellation fee. Toilet partition, locker and washroom accessory orders cannot be cancelled and are not subject to credit after Inter-Co has ordered the material.
- Supply Only Jobs to be site-measured by Customer and Inter-Co shall have no responsibility for incorrect measurements.
- Inter-Co does not complete any electrical installations and such electrical work shall be sourced by the customer.
- The quoted price is subject to change if both/all divisions are not completed by Inter-Co.

Partitions & Accessories Co.®
www.partitionsco.com

1220 South Pasadena Mesa, AZ 85210
Phone (480) 969-6606 | Fax (480)-969-0459
License ROC # CR60 110352| Tax ID#07370669
Quote is good for 30 Days from date of proposal

Thursday, July 01, 2021 **Proposal # B202158rev1**

Refer to proposal number when you call

TO:	Willmeng Construction	**JOB:**	Sundance Park II
ATTN:	**Anita**	**LOCATION:**	BUCKEYE
EMAIL:	**awisenbaugh@willmeng.com**	**PHONE:**	

Toilet Partitions By: Accurate- Folkstone Celesta
(7) Stalls/Phenolic- Black Core/Floor Mounted/Full Height Stainless Steel Hardware
(2) Floor to Ceiling Screens/Phenolic- Black Core/Floor to Ceiling/Full Height Stainless Steel Brackets

Specification Section – Toilet Accessories- Bid as equal to Royce Rolls when applicable.

Qty.	No.	Description	Manufacturer Name
3	125SX42	Grab Bar	Bobrick Washroom Equipment
3	125SX36	Grab Bar	Bobrick Washroom Equipment
3	125SX18	Grab Bar	Bobrick Washroom Equipment
8	SPECIALTY-A	Royce Rolls Ringer CTP-2: Toilet paper holder	Royce Rolls Ringer
6	0852	Sani Wste Disp-SM	American Specialties Inc.
5	M-1510 18X36	Channel Framed Mirror	Meek Manufacturing Co
5	0347	Soap Disp-Liq,Verticle Valve-SM	American Specialties Inc.
3	BOBRICK ACCESS	B-715 115V- Elan Surf Mtd Auto Hand Dryer	Bobrick Washroom Equipment
3	KB310-SSWM	Horizontal WM SS BCS	Bobrick Washroom Equipment
1	SPECIALTY-A	Foundations 100SSE-SM- adult changing station	Foundations
1	1315-4	Shelf/Utility Hook/Mop Strip w/Dry 36"L-SM	American Specialties Inc.

Furnished & Installed: $16,570.00

Partitions and Accessories Co. Mike Owen | 480-969-6606 | mike@partitionsco.com

NOTE: Full height hinge/bracket systems for toilet partitions require flat and level wall surface for the full height of the hinge/bracket system. Partitions & Accessories Co. will not be responsible for any gaps created by different wall elevations due to a difference in materials. **Exclusions:** Waiver of subrogation, bonds, cutouts, backing, blocking, liquidated damages, tackable wall panels, **hand dryer installation (if applicable)**, installation of owner furnished accessories, demolition, reinstallation of existing partitions & accessories, structural and header support, and drilling or tapping of the steel, sway braces or support systems, pocket doors. **Hand Dryers, material only – installation by others.**

To place the order, please sign and return a copy to us for processing.

PRINTED NAME/TITLE: _____ Signature: _____ Date:_____

Customers without an open account or if material is non-stock may be required to pay 50% down. We require a credit application completed and approved prior to establishing an account. Customers with an open account are required to pay "net 10 days". We herewith submit our estimate for furnishing the material which is to be manufacturer's standard construction unless specifically mentioned. See Manufactures catalog for further information. This quotation is based upon plans available to us as of this date. The price listed herein is subject to revision in the event of "last minute" addenda; bulletins; or amendments received by us after this date. Usage of any part of this proposal constitutes acceptance of the proposal and all associated terms and conditions in their entirety. Quotation is for immediate acceptance within 30 days, subject to change without notice thereafter. All shipments contingent upon strikes, fires, accidents or other delays beyond our control. If quotation is freight allowed, it is based on material delivered to tailgate, consignee's jobsite. Consignee responsible for unloading and storing of materials. Consignee shall inspect material and is solely responsible for shortage or damage if not recorded on freight bill. If there is a shortage or damage consignee is responsible for filing claim with carrier. ALL COSTS OF COLLECTION INCLUDING REASONABLE ATTORNEY FEES TO BE PAID BY PURCHASER. LATE CHARGES OF 10% OF THE UNPAID BALANCE WILL ACCRUE MONTHLY. (MINIMUM OF $50.00 PER MONTH.) Any litigation necessary falls under the jurisdiction of Maricopa County, Arizona.

Estimate

AZ121732

To: **Willmeng Construction**
Attn: Anita Wisenbaugh
2048 North 44th Street, Ste 200
Phoenix, AZ 85008

Estimate Date	Salesperson
07/28/2021	Andrew Ross

Sundance Park Phase II - Furnishings and Athletic

Estimated Shipping Date	Shipped Via	FOB	Terms
4-16 Weeks	Truck - AZ	Buckeye	Net 30

Quantity	Description	Unit Price	Total Extended
4	Wabash # CN420P, 6' Bench with back, Contemporary Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,061.00	$4,244.00
10	Wabash # CN425P, 6' Bench without Back, Contemporary Series, Perforated Pattern, portable/surface mount Color: CHARCOAL	$956.00	$9,560.00
14	Wabash # MC104N, Mounting Plate Covers (Set of 4) Color: CHARCOAL	$72.00	$1,008.00
54	Wabash # SG111P, 8’ Picnic Table with 2-3/8” OD frame, Signature Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,162.00	$62,748.00
44	Wabash # SG115P, 8' ADA Accessible Picnic Table with 2-3/8" OD frame, Signature Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,096.00	$48,224.00
98	Wabash # SG135N Surface Mount Package for 2 3/8" Legs (set of 2) Color: CHARCOAL	$24.00	$2,352.00
24	Wabash # LR305P, 32-Gallon Receptacle with side door, Perforated Pattern, portable - Color: CHARCOAL	$635.00	$15,240.00
24	Wabash # FT110N, Flat Top Lid with 14” diameter opening Color: CHARCOAL	$109.00	$2,616.00
24	Wabash # LR310N, 32-Gallon Rigid Plastic Liner	$39.00	$936.00
24	Wabash # LR105N, Surface Mount Post Package Color: CHARCOAL	$78.00	$1,872.00
	Subtotal		$148,800.00
	Less Special Discount on Wabash		($22,320.00)
4	PW Athletic # 1608-01P, Rainbow Bike Rack, 36” high x 22” wide, powder coated - Color: 250 BRONZE OR 270 QUARTZ GRAY TO MATCH SW	$325.00	$1,300.00
4	PW Athletic # M3-2, Surface mount leg package for bicycle rack	$63.00	$252.00
12	PW Athletic # 1140-00SM, Single Grill, 18” x 20” surface mount - BLACK	$398.00	$4,776.00
8	PW Athletic # 1140-20, 28" X 36" Large Group Grill w/utility Shelf, Surface Mount - BLACK	$887.00	$7,096.00
4	PW Athletic # 1523G, 4-1/2" OD Single Gooseneck Basketball Post with 4' Offset, galvanized	$876.00	$3,504.00
4	PW Athletic # 30, Heavy-Duty 1" solid White Polyethylene Fan Backboard with solid Polyethylene Target	$1,332.00	$5,328.00

Estimate

AZ121732

Quantity	Description	Unit Price	Total Extended
4	PW Athletic # 39, Extra Heavy-Duty Double Rim with Universal Mount Plate	$250.00	$1,000.00
4	PW Athletic # 34, Super Nylon Net	$17.00	$68.00
	Subtotal		$23,324.00
	Less Special Discount on PW Athletic		($1,166.20)
5	Dogipot #1003-L, "Dogipot" Pet Station, inground, includes forest green aluminum bag dispenser, instructions, (2) rolls (200 each) of brown bags, direct bury galvanized mounting post, 10-gallon steel trash receptacle, (50) trash liner bags, pet sign	$385.00	$1,925.00
	Subtotal		$1,925.00
	Less Special Discount on Dogipot		($96.25)
1	Most Dependable #10145-18smss chilled with bottle filler and pet fountain *NO INSTALL INCLUDED	$8,555.00	$8,555.00
	Subtotal		$8,555.00
1	Private Locator Fee	$425.00	$425.00
1	Wabash Shipping	$16,950.00	$16,950.00
1	PW Athletic Shipping *Must Will Call pick up in Mesa, Arizona	$0.00	$0.00
1	DogiPot Shipping	$219.00	$219.00
1	MDF Shipping	$888.00	$888.00
1	Installation by a Factory Certified Licensed Contractor to include: -Install 4 EA CN420P Surface mount 6’ bench with back with MC104N plate covers -Install 10 EA CN425P, Surface mount 6’ bench without back with MC104N plate covers -Install 54 EA SG111P 8’ Surface mount picnic table with SG135 surface mount package brackets *includes tack welded coupling nut to hex bolt and epoxy -Install 44 EA SG115P 8’ ADA picnic table with SG135 surface mount package brackets *includes tack welded coupling nut to hex bolt and epoxy -Install 24 EA SG305P 32 gal receptacles with side door, liners, FT110 flat top lids and Surface mount post package (20 standard SM using elevated mount piece, 4 EA with subgrade concrete footings and SM elevated mount piece) -Install 4 EA PWA 1608-01P bike racks Surface Mount -Install 12 EA PWA 1140-00SM single grills, Surface mount with subgrade concrete footings per plans -Install 8 EA PWA 1140-20 large group grill, Surface with subtrade concrete footings per plans -Install 4 EA PWA 1523G 4.5” OD goosenecks, #30 1” solid white polyethylene backboards with targets, #39 double rims and #34 nylon nets -Install 5 EA Dogipot 1003-L pet waste stations, Inground	$44,881.00	$44,881.00

Estimate

AZ121732

Quantity	Description	Unit Price	Total Extended
	**CY425P is obsolete and CN430P is Inground and we quoted the Surface mount version CN420P in it's place **Surface Mounted Furnishings are tack welded with stainless steel wedge anchors. No epoxy used **All Grounding will be handled by others (electrician) per the GC ***The supplied Surface Mount clips available from the furnishings manufacturer are powder coated steel, not stainless		
THIS ESTIMATE IS SUBJECT TO THE ATTACHED TERMS AND CONDITIONS		**Subtotal**	$222,384.55
THANK YOU FOR THIS CHANCE TO ESTIMATE Dave Bang Associate, INC. IS PLEASED TO SUBMIT THE ABOVE ESTIMATE FOR YOUR CONSIDERATION. SHOULD YOU PLACE AN ORDER, BE ASSURED IT WILL RECEIVE OUR PROMPT ATTENTION. THIS ESTIMATE IS SUBJECT TO THE ATTACHED TERMS AND CONDITIONS, AND IS VALID FOR 30 DAYS. THEREAFTER, IT IS SUBJECT TO CHANGE WITHOUT NOTICE.		**Tax (6.045%)**	$13,443.15
		Total	$235,827.70

Accepted By
Print Name: _____ Signature: _____ Date: _____

PLEASE SIGN AND RETURN ONE COPY WHEN ORDERING. ***THANK YOU!***

Estimate

AZ121732

Terms & Conditions

1. General Notes

*Assembly and Installation NOT included unless otherwise noted

*For AZ M.R.R.A. Projects ONLY, price includes any tax that was paid at the Point of Purchase unless otherwise noted.

*Tax NOT included unless otherwise noted - Tax will be added to your invoice if approved exemption certificate is not received by product ship date.

*Customer responsible for quoted quantities and model numbers, please check!

*Payment and Performance bonds are NOT included unless otherwise stated. If required, additional charges of 3% to quote total will apply.

*Price reflects quoted quantity. Please request revision if alternate quantity is desired.

2. Payment / Ordering

*TO ORDER, please sign quote and return via email or fax to avoid any shipping delays. Fax or email copy deemed to be legal equivalent of original. If Payment with Order is required, please sign quote below and return with payment. All past due accounts subject to 1 ½% monthly finance charge. In the event legal action is required to effect collection venue shall be Mesa, AZ.

3. Shipping / Unloading

*Shipped by Common Carrier – Customer will need 2-4 people to unload. Liftgate NOT included. Items will be boxed and / or stretch wrapped to pallets and customer is responsible for offloading. Delivery Drivers do NOT unload

**IMPORTANT: Customer is responsible for receiving and checking quantities and condition at time of delivery - Please note any shortages or damages on delivery copy.

*Equipment will ship to Dave Bang Associates yard in Mesa, AZ. If installation was purchased, the installers will deliver to site at the time of installation. Please request an updated or revised quote if any of the equipment will ship elsewhere.

*If quoted, Will Call Pick up address and times are:

Dave Bang Associates, Inc.

140 N. Gilbert Road, Mesa, AZ 85203

Appointments Required: Monday-Friday from 8:00am to 2:00pm

*Notwithstanding anything to the contrary in any Contract Documents, Customer understands that estimated shipment times for materials are an estimate only. We have no control over shipment dates. We thus make no guarantee to Owner or Customer regarding the projected shipment dates for materials and shall not be liable for any loss caused by the timing of shipments

4. Engineered Wood Fiber

*NOTE: Some Engineered Wood Fiber will be left outside play area after installation if installation has been purchased

*Customer to provide access for Engineered Wood Fiber delivery with tractor truck and 53' trailer.

*Compaction of the Engineered Wood Fiber is NOT included in the installation cost, if desired, please request an updated proposal. If Compaction of the Engineered Wood Fiber was purchased, a high capacity water source such as a hydrant must be available. If applicable, the cost of a meter and / or the cost of the water is NOT included in the proposal. If we need to acquire the meter and / or pay for the water, please request an updated proposal.

5. General Notes for Purchased Installation

*Installation does NOT include ground preparation, excavation, safety surfacing, and/or safety surfacing borders, prep work, flat work, grading, rerouting of water, electric, drainage or sprinkler lines unless otherwise noted in the proposal

*Demo of existing equipment or safety surfacing is NOT included unless otherwise stated in the proposal

*ROCK CLAUSE: Pricing is based on normal soil conditions which would allow an auger on a tractor to dig footings. If rocks/boulders interfere with the progress of the excavation, additional fees may apply.

*ACCESS CLAUSE: Installation based on clear access to area. Crane service is NOT included. Customer to provide access for bobcat to work area, bobcat will be provided by installer. Minimum access shall be 7' wide and 7' high. If adequate access is not provided additional charges may apply and repairs to landscape and irrigation may be required. Customer is responsible for any repairs to landscape if proper access is not provided.

*UTILITY CLAUSE: Installation to include marking of utilities by Blue Stake. Blue Stake CANNOT locate any private lines, PVC or plastic water lines. Installation does NOT include repair or relocating any underground utilities, such as drainage, irrigation, live water lines, main low voltage lines, gas, electrical, communication, or sewer etc. Customers responsibility to provide locations of any utilities prior to commencement of work.

*Customer is responsible for all landscape repairs such as, but not limited to damaged trees, bushes, lawn, curbing, sidewalks and/or asphalt paving caused by materials truck and/or 2-ton bobcat needed to complete project.

*Before we proceed with the playground installation, the playground area MUST be compacted, be free of debris, and excavated accordingly. Please call for details.

*Concrete pad for surface mount items NOT included and MUST be provided by customer unless otherwise stated.

*Surface mount anchoring to asphalt and paver areas is NOT included unless otherwise stated.

*Private Utility Locator is NOT included unless otherwise noted. Private Utility Locator CANNOT locate any PVC or plastic water lines

*Installation does NOT include saw cutting and/or core drilling unless otherwise noted

*Installation does NOT include jackhammering. Please call for details.

*Area MUST have normal soil conditions and be level.

*All Athletic Equipment Goals such as soccer, football, etc, install location MUST be marked out by customer prior to installation, if installation was purchased

6. Temporary Fencing

*Security guards and/or temporary fencing to prevent injuries, vandalism and/or accidental damage to install area or to the rubberized surface while it sets is NOT included unless noted on quote. If desired, the installers can put up caution tape, but Temporary Fencing is recommended. Although the fencing, if provided, is intended to provide this security, the overall security of the property is ultimately the responsibility of customer. We are not responsible for any vandalism or injuries even with the provision of the fencing.

7. ADA Access

*Play Equipment MUST be installed over an impact-absorbing surface such as ADA compliant Engineered Wood Fiber or Rubber Surfacing. If not quoted, please call for details.

*This area is NOT ADA compliant without the installation of compliant surfacing and an accessible route up to and into the playground area. Please call for details.

8. Poured-in-Place Rubber Surfacing

*Rubber Surfacing cure time is normally 48-72 hours and can vary depending on weather conditions.

*Rubber Surfacing cannot be installed during extreme weather conditions and may also not be installed if rain or frost is forecast during the cure time.

*48-Hour Manned Security is NOT included for rubber unless otherwise noted.

9. Ramada / Shade Shelters

*Ramada / Shade Shelter installation price EXCLUDES – unless otherwise stated in this quote - engineering, permits, permit submittal, site plans, special inspections, soil reports, impact fees, special assessment fees. Customer is responsible for any and all of these items if required by the City.

*Ramada / Shade Shelter manufacture time is 6-8 weeks. Permitting can add 2-4 weeks or more to lead time. PLEASE NOTE: Shade Orders are NOT released into production until permit is issued!

*Ramada / Shade Shelter installation price EXCLUDES concrete pad, footings, masonry columns, electrical wiring and lights unless otherwise noted.

10. Prevailing Wages

*Prevailing Wages NOT included unless otherwise noted. (ie: Davis Bacon, TERO, ect.) If this is a Prevailing Wage project, please request alternate pricing.

*If Prevailing Wages / Davis Bacon Wages were INCLUDED, all other special work fees NOT included - Additional Labor Charges may apply if alternate labor is required.

11. Stock Items

*DBA Stock Item(s): Model number and color based on availability at time of order – taken from Scratch & Dent / Overstock - sold AS IS with NO warranty. Photo (s) of stock item(s) available upon request at the time of order.

12. Indemnity Provision

*Notwithstanding anything to the contrary in any Contract Documents we shall have no duty to defend or indemnify Owner, Customer, or any other party we agree to defend or indemnify in any Contract Documents for that portion of any claim arising out of the comparative fault of any party we agree to defend or indemnify in any Contract Documents.

13. Insurance

Available Insurance

Umbrella / Excess Liability:

Each Occurrence - $2,000,000.00

Aggregate - $2,000,000.00

General Liability Limits:

Deductible - $2,500.00

Each Occurrence - $1,000,000.00

Damage to Rented Premises - $100,000.00

Medical Expense - $5,000.00

Personal & Adv Injury - $1,000,000.00

General Aggregate (per project) - $2,000,000.00
Products Comp/OP Agg - $2,000,000.00
Excludes Contractual Liability
Available Endorsements:
Additional Insured Ongoing Operations CG2010
Additional Insured Completed Operations CG 2037
Primary Noncontributory IFG-G-0094
Waiver of Subrogation CG 2404
Per Project Aggregate IFG-G-0065
Per Location Aggregate IFG-G-0064
Auto Liability Limits:
(Any Auto, Hired Autos, Non-Owned Autos)
Combined Single Limit $1,000,000.00
Available Endorsements:
Auto Blanket Additional Insured/Waiver of Subrogation CAT353
Workers Compensation and Employers Liability:
Each Accident - $1,000,000.00
Disease (Ea Employee) - $1,000,000.00
Disease (Policy Limit) - $1,000,000.00
Waiver of Subrogation Endorsement available upon request
AZ WC000313

Initial: _____

Contemporary Series 4' or 6' Bench with Back



Choose colors:

Top & seats (plastisol):_____

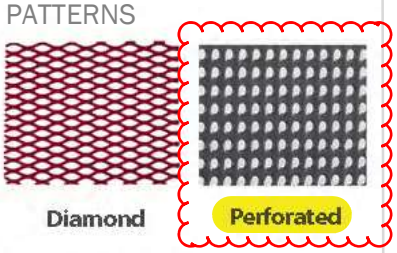
Frame (powder coated):_____

Our Contemporary Portable benches with back are available here in either a 4' or 6' length and are constructed from heavy duty 2 3/8" OD steel tubing. Each foot pad has 1/2" diameter holes that can also be used to anchor the bench down (surface mount hardware not included). Optional mounting plate covers can be used to give your installation a clean look (for portable units use set of 4). Seats are coated in 1/4" of our durable PLASTISOL coating, while the frames and support tubes are coated in our AAMA 2604-05 compliant powder-coating. Select between our DIAMOND, PERFORATED, RIB or SLAT patterns. Optional bolt on center armrests can be used with any Contemporary bench with back (excluding our SLAT pattern).

CN400 – 4' Bench with Back – Portable/Surface Mt

CN420 – 6' Bench with Back – Portable/Surface Mt

PATTERNS







COLORS



*Powder-coating available in all colors above. *Plastisol-coating available in all color shown above except: White & Orange. **Dome top lids available in Gray, Red, Brown, Blue, Green or Black*

MOUNTING OPTIONS

PORTABLE / Contemporary center armrest (not for slat pattern)

SURFACE MOUNT (must add mounting package)

Sundance Park Phase II
Contract No. 2022000.0078
Willmeng Construction, Inc.



Contemporary Series 4' or 6' Bench without Back

Our Contemporary Portable/Surface Mount benches without back are available here in a 4' or 6' length and are constructed from heavy duty 2 3/8" OD steel tubing. Each foot pad has 1/2" diameter holes that can also be used to anchor the bench down (surface mount hardware not included). Optional mounting plate covers can be used to give your installation a clean look (for inground units use our set of 2). Seats are coated in 1/4" of our durable PLASTISOL coating, while the frames and support tubes are coated in our AAMA 2604-05 compliant powder-coating. Select between our DIAMOND, PERFORATED, RIB or SLAT patterns.

CN405 – 4' Bench without Back – Port/Surface Mt.

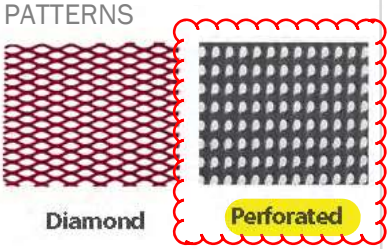
CN425 – 6' Bench without Back – Port/surface Mt.

Choose colors:

Top & seats (plastisol):_____

Frame (powder coated):_____

PATTERNS





Rib Pattern



Slat

COLORS



*Powder-coating available in all colors above. *Plastisol-coating available in all color shown above except: White & Orange. **Dome top lids available in Gray, Red, Brown, Blue, Green or Black*

MOUNTING OPTIONS

PORTABLE / Contemporary center armrest (not for slat pattern)

SURFACE MOUNT (must add mounting package)



WABASH - MOUNTING PLATE COVERS

Mounting covers can be used on any inground or surface mount 2 7/8" diameter tubed framework. This is a set of 3.

MC103 – Mounting-plate covers (set of 3) (for 3-legged tables)

Mounting covers can be used on any inground or surface mount 2 7/8" diameter tubed framework. This is a set of 4.

MC104 – Mounting-plate covers (set of 4)

Mounting covers can be used on any inground or surface mount 2 7/8" diameter tubed framework. This is a set of 6.

MC106 – Mounting-plate covers (set of 6) (for 11' tables)

Choose colors: _____

PATTERNS



COLORS



MOUNTING OPTIONS

SURFACE MOUNT (mounting package)

SIGNATURE SERIES PICNIC TABLES 6' & 8' - PORTABLE



Our standard Signature Series picnic tables are our most popular offering. These are portable units that can be surface mounted down with the use of our surface mount adapter kit (sold separately). Choose between our light-duty 1-5/8" OD or our heavy-duty 2-3/8" OD framework; between 6' or 8' lengths and between DIAMOND or PERFORATED patterns. All tops and seats are coated in our rugged Plastisol coating, while the framework is coated in our AAMA 2604-05 compliant Powder coating.

SG105 – 6' Picnic table – 1 5/8 O.D. frame – 208 lb.

SG106 – 6' Picnic table – 2 5/8 O.D. frame – 225 lb.

SG110 – 8' Picnic table – 1 5/8 O.D. frame – 253 lb.

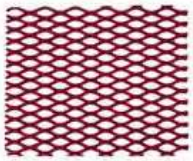
SG111 – 8' Picnic table – 2 5/8 O.D. frame – 270 lb.

Choose colors:

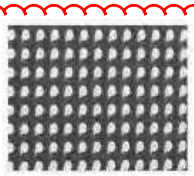
Top & seats (plastisol): _____

Frame (powder coated): _____

PATTERNS



Diamond



Perforated

COLORS



*Powder-coating available in all colors above. *Plastisol-coating available in all color shown above except: White & Orange. **Dome top lids available in Gray, Red, Brown, Blue, Green or Black*

MOUNTING OPTIONS

PORTABLE

SURFACE MOUNT (mounting package available)

SIGNATURE SERIES PICNIC TABLES - 8' ADA ACCESSIBLE – PORTABLE



8' ADA Accessible Signature Series Picnic Tables with 2 3/8" OD Heavy-Duty Frame. Wheelchair accessibility is available on both ends. The tops and seats are coated in our rugged Plastisol coating, while the framework is coated in our AAMA2604-05 compliant powder coating - Choose between our DIAMOND PATTERN or PERFORATED PATTERN

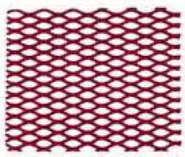
SG115 – 8' Picnic table – 2 3/8" O.D. frame - Portable

Choose colors:

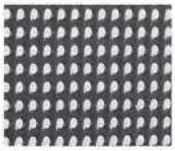
Top & seats (plastisol):_____

Frame (powder coated):_____

PATTERNS



Diamond



Perforated

COLORS



*Powder-coating available in all colors above. *Plastisol-coating available in all color shown above except: White & Orange. **Dome top lids available in Gray, Red, Brown, Blue, Green or Black*

MOUNTING OPTIONS

PORTABLE

SURFACE MOUNT (mounting package available)

Sundance Park Phase II
Contract No. 2022000, 2023
Willmeng Construction, Inc.

WABASH - SURFACE MOUNT PACKAGE FOR 1 5/8 LEGS (SET OF 2)



The surface mount adapter package can be used with any 1 5/8" OD Frame - Two adapters per package. Each adapter has a 1/2" diameter hole to use with lagging hardware (not provided) - At least one package per table recommended.

SG130 – Surface-mount package for 1 5/8” legs (set of 2) (for Portable tables)

SG135N - Surface Mount Package for 2 3/8 Legs (Set of 2)

Choose colors: _____

PATTERNS



Solid

COLORS



*Powder-coating available in all colors above. *Plastisol-coating available in all color shown above except: White & Orange. **Dome top lids available in Gray, Red, Brown, Blue, Green or Black*

MOUNTING OPTIONS

SURFACE MOUNT (must add mounting package)

STANDARD RECEPTACLES



LR300(R) with SB100
(Sold separately)



LR300(S) with FT100
(Sold separately)



LR305(P) with FT100
(Sold separately)

STANDARD RECEPTACLES

Options: Liners, lids and mounting posts available separately for use on any size. See lids on page 77.

Perforated and rib pattern 32-Gallon receptacles available with side door option.

Patterns: Diamond, perforated, rib or slat

MODEL	DESCRIPTION	DIAMOND (D) WEIGHT	PERFORATED (P) WEIGHT
LR200	22-Gallon receptacle	57 lb.	76 lb.
LR300	32-Gallon receptacle	67 lb.	85 lb.
LR305	32-Gallon receptacle with side door	Not Available	111 lb.

MODEL	DESCRIPTION	RIB (R) WEIGHT	SLAT (S) WEIGHT
LR200	22-Gallon receptacle	88 lb.	161 lb.
LR300	32-Gallon receptacle	106 lb.	175 lb.
LR305	32-Gallon receptacle with side door	111 lb.	Not Available

MODEL	ACCESSORIES FOR ITEMS ABOVE (PATTERN OPTIONS - NOT AVAILABLE)	WEIGHT
LR210	22-Gallon receptacle liner	4 lb.
LR310	32-Gallon receptacle liner	7 lb.
LR100	In-ground post package	12 lb.
LR105	Surface-mount post package	12 lb.

ACCESSORIES CONTINUED

RECEPTACLE LID OPTIONS

FT116



FT105



FT117



AL100



RECEPTACLE LIDS

Choose from several lid options for use on all Wabash Valley receptacles. All styles will fit any of our Standard, Flare-top or Tapered receptacles. (We offer a Flat-top lid specifically for our 55-Gallon receptacle, as other lid options won't fit.) All lids come standard with heavy-duty stainless-steel aircraft cables to secure them to the receptacles.

Choose your lid and style:

Powder-coated Flat-top lids in inward or outward slope.

Bonnet lids in solid, ashtray or serving tray options.

Cast ash/trash lid.

Foam-molded plastic dome-top lid.

Flat-top recycle lid labeled "Recycle Only" with 5" diameter hole opening.

Dome-top recycle lid labeled "Recycle Only" in black with 4" diameter hole opening.



FT100



FT106



SB100



DT100



TB100



FT115



FT110



AB100



DT101



FT107

MODEL	DESCRIPTION	WEIGHT
FT100	Flat-top lid with 8"-diameter opening – Inward slope	9 lb.
FT105	Flat-top lid with 8"-diameter opening – Outward slope	7 lb.
FT106	Flat-top recycle lid with 5"-diameter opening – Outward slope	7 lb.
FT107	Recycle Flat-top lid – No label with 5"-diameter opening – Outward slope	7 lb.
FT110	Flat-top lid with 14"-diameter opening	8 lb.
FT115	Flat-top lid for 55-Gallon receptacle	12 lb.
FT116	Flat-top with solid bonnet for 55-Gallon receptacle	16 lb.
FT117	Flat-top with ash bonnet for 55-Gallon receptacle	16 lb.
AL100	Ash/Trash lid	13 lb.
DT100	Dome-top lid	12 lb.
DT101	Dome-top recycle lid	7 lb.
SB100	Flat-top with solid bonnet – Inward slope	16 lb.
SB105	Flat-top with solid bonnet – Outward slope	14 lb.
AB100	Flat-top with ashtray bonnet – Inward slope	16 lb.
AB105	Flat-top with ashtray bonnet – Outward slope	14 lb.
TB100	Flat-top with tray bonnet	21 lb.

This lid can be ordered for use on any 32-Gallon receptacle purchased prior to 2002.		WEIGHT
DT200	Dome-top lid – (black color only)	10 lb.



Rainbow Bike Rack

Our Rainbow Bike Racks are beautifully formed to an inverted "U". These racks are sold individually and can be configured in many patterns. The Rainbow is manufactured from either 2-3/8" O.D. galvanized steel or stainless steel with M1 Permanent Mount. Other mount options available are M3 Surface Mount, see below. Optional powder coating is available in any of our 16 powder coat colors.

1608-01G - 36' high x 22' wide galvanized

1608-01P - 36' high x 22' wide powder coated

1608-01SS - 36' high x 22' wide stainless steel

1608-DSP - Designer Series 36' high x 22' wide powder coated

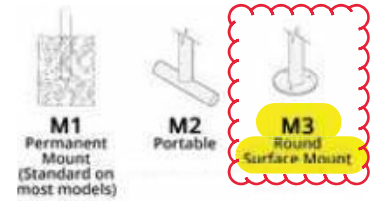
1608-ENG - 36' high x 23' wide -logo panel

1608-02 - 2 loop 36'H x 22'W x 28'L - 4 spaces

1608-04 - 4 loop 36'H x 22'W x 28'L - 8 spaces

Choose colors: _____

Mounting Options





COLORS



1140-00SM like this ONLY surface mount







FLAT IRON OUTDOOR GRILLS

PW's Grills provide you with choices, industry leading innovations, and the highest quality material available on the market. Our Cool Grip handles are located on the sides, where they are safe away from the heat and easy to adjust. High temp powder coated grilling surface and body, and a flat iron grilling surface with bent edges to help provent food loss from adjustments.

All of our grills feature 360 degrees of full rotation ability and sit on a super rigid 3-1/2" O.D. black powder coated post. We also offer utility shelves for both single and double grills, making grilling with multiple utensils and condiments easy! Our new Flat Iron Grills have the LARGEST grilling surface area on the market!

1140-00 - Single Grill, 18" x 20", In-Ground Mount 96 lbs.

1140-00SH - 7" x 20" Shelf for Single Grill 13 lbs.

1140-05 - Single Grill, Galvanized, In-Ground Mount 102 lbs.

1140-05SH - 7" x 20" Shelf for Single Grill, Galvanized 13 lbs.

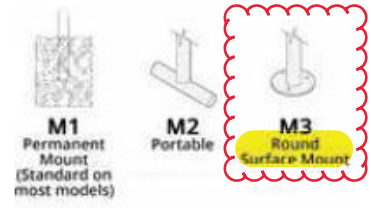
1140-10 - Double Grill, 32" x 20", In-Ground Mount 164 lbs.

1140-10SH - 7.5" x 9.5" Side Shelf for Double Grill 7 lbs.

1140-20 - 28" x 36" Large Group Grill with Shelf, Surface Mount 215 lbs.

Choose colors: _____

PW COLOR AND MOUNTING OPTIONS









Single Gooseneck Post

Our Single Gooseneck Basketball Posts feature several different outer diameter galvanized steel pipes ranging from 3-1/2" up to 6-5/8" that are engineered to a 4, 5 or 6 foot offset. Posts come galvanized as standard, however we do have Powder Coating options available.

1516 - 4-1/2" O.D., 4' offset (no bracing) 178 lbs.

1521 - 3-1/2" O.D., 4' offset 135 lbs.

1523 - 4-1/2" O.D., 4' offset 185 lbs.

1520 - 4-1/2" O.D., 5' offset 195 lbs.

1525 - 4-1/2" O.D., 6' offset 210 lbs.

1540 - 5-9/16" O.D., 4' offset 260 lbs.

1541 - 5-9/16" O.D., 5' offset 275 lbs.

1527 - 5-9/16" O.D., 6' offset 290 lbs.

1560 - 6-5/8" O.D., 6' offset 376 lbs.

1565 - 6-5/8" O.D., 8' offset 425 lbs.

Choose colors: _____

POWDER COAT COLORS

200 Series (Super Durable) &
500 Series (Super Durable, Anti-Graffiti)

205 Orange
210 Apple
215 Yellow
220 Raven (textured)
225 Wicker
235 Navy Blue
240 Royal Blue
242 Sky Blue
245 Cast Bronze
265 Hunter Green
270 Quartz Gray
275 Slate Gray
285 Red
290 Silver
295 Violet
510 Black
515 Regal Blue
520 Bronze
525 Brown
530 Clay
535 Ivory
540 Tan
545 Terracotta
550 White
555 Dark Green
815 Ash Gray
820 Charcoal Gray
835 Burgundy
840 Colonial Red
855 Medium Bronze
865 Light Green
880 Dark Bronze

2 PICK A BACKBOARD

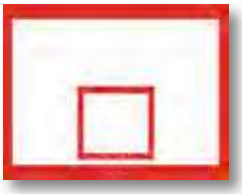

#27 Polycarbonate


#24T Polyethylene with Target


#24 Polyethylene


#10 Perforated Steel


#19 Aluminum


#20 Fiberglass Target & Perimeter -


#25(12-Gauge) Steel


#26 (1/4") Steel


#22 Cast Aluminum


#14 Galvanized Steel


#18 Fiberglass with Target & Perimeter


#30 Polyethylene with Target


#13 (1/4") Steel


#23 Polyethylene

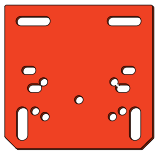
For full Backboard specifications please see pages 14-16

3 PICK A GOAL WITH A NET

UNIVERSAL MOUNT PLATE ON ALL OF OUR GOALS!

Trouble finding the goal to fit your exact size requirements?

The PW "Easy-Mount" back plate is engineered to accommodate a variety of hole patterns, guaranteeing you that it will fit on most front-mount backboards!




Model #44 Heavy-Duty Double Rim with Universal Mounting Plate
Compatible with Nets 33 & 35


Model #45 Heavy-Duty Double Rim with Universal Mounting Plate
Compatible with Nets 34 & 36

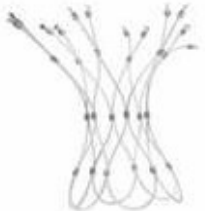

#33 Chain Net


#34 Super Nylon Net


Model #39 Extra Heavy-Duty Double Rim with Universal Mounting Plate
Compatible with Nets 33, 34, & 35


Model #41-FLEX Breakaway Extra Heavy-Duty Double Rim with Universal Mounting Plate
Compatible with Nets 33, 34 & 35


#35 Super Chain Net -


#36 Vinyl Cable Net

For full Goal & Net specifications please see page 17

"*The GREEN Solution to Dog Pollution*".

DOGIPOT®

"*The Clean Solution to Dog Pollution*".

DOGIPOT® PET STATION (ITEM #1003-L)

SPECIFICATION, INSTALLATION AND OPERATION SHEET



YOUR DOGIPOT• PET STATION INCLUDES:

- Aluminum **DOGIPOT•** Pet Sign, with mounting hardware (two (2) 2¼" tap bolts, washers and locknuts)
- Aluminum **DOGIPOT•** JUNIOR Bag Dispenser (ITEM #1002-2), with mounting hardware (two (2) bolts, washers and locknuts)
- Two (2) keys for Dispenser locking front access panel
- Two (2) rolls of OXO-BIODEGRADABLE **DOGIPOT•** Litter Pick Up Bags (ITEM #1402) (200 count per roll), installed in **DOGIPOT•** JUNIOR Bag Dispenser
- 10 Gallon Steel Trash Receptacle (ITEM #1206-L) with attached hinged lid and trash liner bag retainer bands, with mounting hardware (one (1) 2½" x ¼" diameter and one (1) 2¾" x ¼" diameter bolts, washers and locknuts)
- One (1) box OXO-BIODEGRADABLE **DOGIPOT•** Liner Trash Bags (ITEM #1404) (50 Count)

SEPARATE SHIPPING BOX

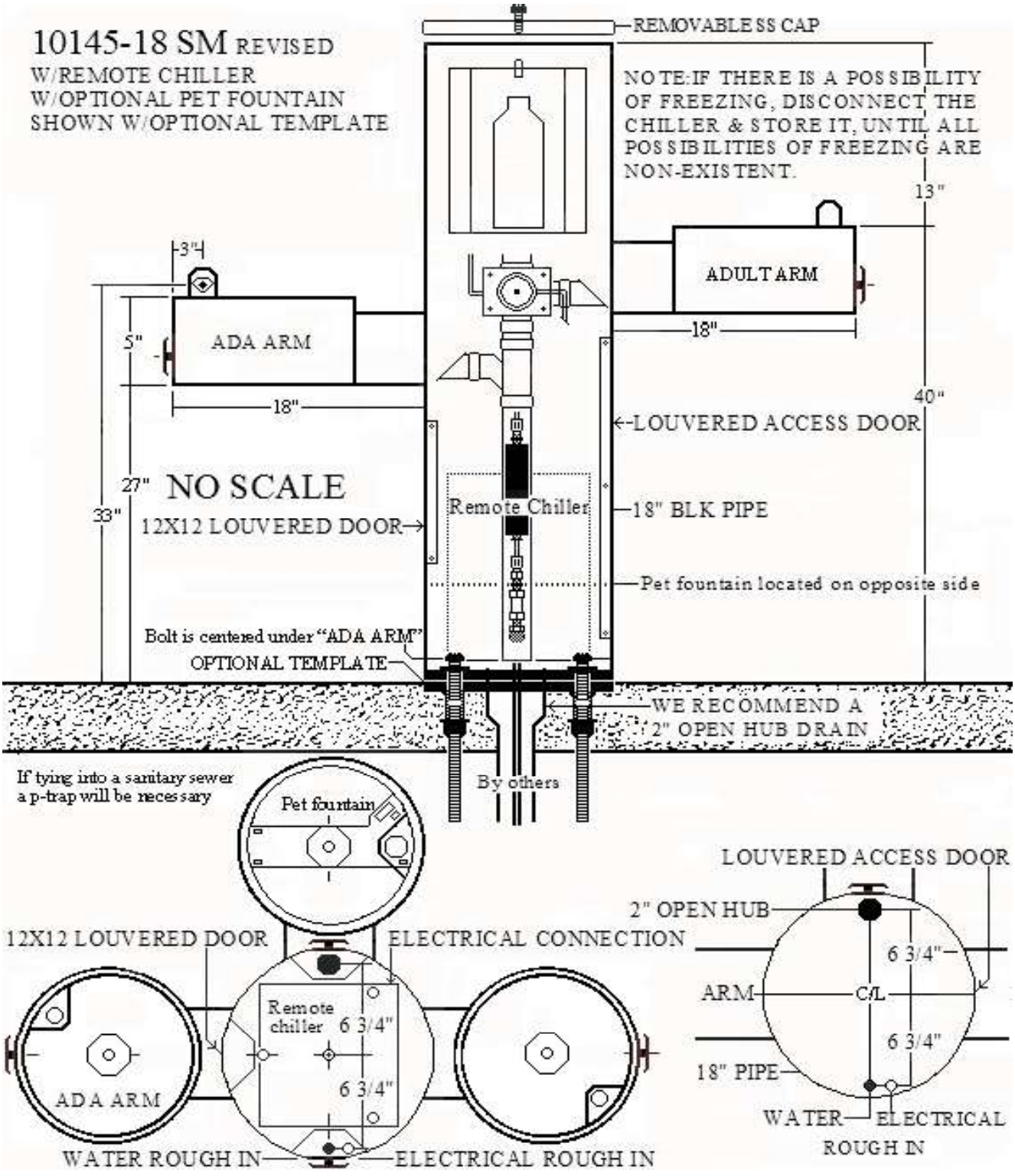
- 2" x 2" x 4'- 8' Galvanized Steel Telescopic Mounting Post, with installation hardware (two (2) carriage bolts (2½" x 5/16" diameter), washers and locknuts)

PLEASE CHECK THE ABOVE INVENTORY AND CALL YOUR DISTRIBUTOR IF ANY PARTS ARE MISSING.

INSTALLATION AND OPERATION INSTRUCTIONS

1. Select a good visible spot in your community or park where you want to install the **DOGIPOT•** Pet Station.
2. Prior to installation, remove the 1¾" x 1¾" x 4' portion of the mounting post from the 2" x 2" x 4' portion of the mounting post before cementing. **Insert the larger portion of the mounting post (2" x 2" x 4') approx. 14" into an 18" deep by 8" diameter hole filled with a 40 lb. bag of "ready to use" concrete mix.** To stabilize the post while cementing, place a rod, bolt or other device through the two bottom holes, prior to inserting into the ground and cementing. Level the post in a straight vertical position and let concrete dry for at least 12 hours.
3. After the concrete is dry, insert the smaller portion of the post (1¾" x 1¾" x 4') into the larger cemented portion of the post (2' x 2' x 4') until the first 4 holes are lined up between the two posts. Use two (2) carriage bolts, washers and locknuts to fix the telescope post in position, the upper bolt in the top overlapping hole, pointing from right to left and the lower bolt in the bottom overlapping hole, pointing from front to back. The total height above ground with both post parts should now be approx. 6'6".
4. Start by installing the **DOGIPOT•** Pet Sign on top of the 1¾" post, with the upper hole matching the most upper hole in the square post using the enclosed 2½" bolts, washers and locknuts. Continue installing the Aluminum **DOGIPOT•** JUNIOR Bag Dispenser according to the mounting instructions enclosed with the Dispenser, ensuring that the upper edge of the Dispenser is approx. **1" below** the lower edge of the **DOGIPOT•** Pet Sign.
5. Install the Steel **DOGIPOT•** Trash Receptacle through the pre-drilled top oval holes in the back wall of the receptacle and through the square post with the remaining bolts, washers and locknuts, using the 2¾" bolt on top and the 2½" bolt below. **The upper edge of the trash receptacle must be approximately 12½" below the lower end of your Aluminum DOGIPOT• JUNIOR Bag Dispenser so that the lid may completely open.** The upper back wall of the trash receptacle is supposed to touch the head of the lower post carriage bolt, which creates some space between the post and the receptacle, allowing the receptacle lid to open from left to right, without touching the post.
6. Insert one of the enclosed OXO-BIODEGRADABLE **DOGIPOT•** Liner Trash Bags into the trash receptacle, folding it over the interior retainer bands. As with any powder coated steel product constantly exposed to the elements, proper installation and general maintenance will help prevent and minimize corrosion and expand the life of the steel trash receptacle (can be upgraded to aluminium (ITEM #1206A-L) for an additional charge). **DOGIPOT•** offers Product Maintenance Paint to help cover any paint chips which may occur in the powder coating during the life of the product.
7. **ENJOY WATCHING PET OWNERS PICK UP AFTER THEIR DOGS!**

MOST DEPENDABLE
FOUNTAINS



Estimate

AZ122952

To: **Willmeng Construction**
Attn: Anita Wisenbaugh
2048 North 44th Street, Ste 200
Phoenix, AZ 85008

Estimate Date	Salesperson
11/01/2021	Andrew Ross

Sundance Park Phase II - Furnishings and Athletic

Estimated Shipping Date	Shipped Via	FOB	Terms
4-16 Weeks	Truck - AZ	Buckeye	Net 30

Quantity	Description	Unit Price	Total Extended
4	Wabash # CN420P, 6' Bench with back, Contemporary Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,061.00	$4,244.00
10	Wabash # CN425P, 6' Bench without Back, Contemporary Series, Perforated Pattern, portable/surface mount Color: CHARCOAL	$956.00	$9,560.00
14	Wabash # MC104N, Mounting Plate Covers (Set of 4) Color: CHARCOAL	$72.00	$1,008.00
54	Wabash # SG111P, 8’ Picnic Table with 2-3/8” OD frame, Signature Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,162.00	$62,748.00
44	Wabash # SG115P, 8' ADA Accessible Picnic Table with 2-3/8" OD frame, Signature Series, Perforated Pattern, portable / surface mount Color: CHARCOAL	$1,096.00	$48,224.00
98	Wabash # SG135N Surface Mount Package for 2 3/8" Legs (set of 2) Color: CHARCOAL	$24.00	$2,352.00
24	Wabash # LR305P, 32-Gallon Receptacle with side door, Perforated Pattern, portable - Color: CHARCOAL	$635.00	$15,240.00
24	Wabash # FT110N, Flat Top Lid with 14” diameter opening Color: CHARCOAL	$109.00	$2,616.00
24	Wabash # LR310N, 32-Gallon Rigid Plastic Liner	$39.00	$936.00
24	Wabash # LR105N, Surface Mount Post Package Color: CHARCOAL	$78.00	$1,872.00
	Subtotal		$148,800.00
	Less Special Discount on Wabash		($14,880.00)
4	PW Athletic # 1608-01P, Rainbow Bike Rack, 36” high x 22” wide, powder coated Color: 250 BRONZE OR 270 QUARTZ GRAY TO MATCH SW	$406.25	$1,625.00
4	PW Athletic # M3-2, Surface mount leg package for bicycle rack	$75.60	$302.40
12	PW Athletic # 1140-00, Single Grill, 18" X 20"	$478.00	$5,736.00
12	PW Athletic # 1140-00-10SMPOST, Surface mount post for BBQ 1140-00	$110.00	$1,320.00
8	PW Athletic # 1140-20, 28" X 36" Large Group Grill w/utility Shelf, Surface Mount - BLACK	$1,355.00	$10,840.00
4	PW Athletic # 1523G, 4-1/2" OD Single Gooseneck Basketball Post with 4' Offset, galvanized	$1,095.00	$4,380.00

Estimate

AZ122952

Quantity	Description	Unit Price	Total Extended
4	PW Athletic # 30, Heavy-Duty 1" solid White Polyethylene Fan Backboard with solid Polyethylene Target	$1,889.00	$7,556.00
4	PW Athletic # 39, Extra Heavy-Duty Double Rim with Universal Mount Plate	$263.00	$1,052.00
4	PW Athletic # 34, Super Nylon Net	$18.00	$72.00
	Subtotal		$32,883.40
	Less Special Discount on PW Athletic		($1,644.17)
5	Dogipot #1003-L, "Dogipot" Pet Station, inground, includes forest green aluminum bag dispenser, instructions, (2) rolls (200 each) of brown bags, direct bury galvanized mounting post, 10-gallon steel trash receptacle, (50) trash liner bags, pet sign	$385.00	$1,925.00
	Subtotal		$1,925.00
	Less Special Discount on Dogipot		($96.25)
1	Most Dependable #10145-18smss chilled with bottle filler and pet fountain *NO INSTALL INCLUDED	$8,555.00	$8,555.00
	Subtotal		$8,555.00
1	Private Locator Fee	$425.00	$425.00
1	Wabash Shipping	$18,107.00	$18,107.00
1	PW Athletic Shipping *Must Will Call pick up in Mesa, Arizona	$0.00	$0.00
1	DogiPot Shipping	$219.00	$219.00
1	MDF Shipping	$929.00	$929.00
1	Installation by a Factory Certified Licensed Contractor to include: -Install 4 EA CN420P Surface mount 6’ bench with back with MC104N plate covers -Install 10 EA CN425P, Surface mount 6’ bench without back with MC104N plate covers -Install 54 EA SG111P 8’ Surface mount picnic table with SG135 surface mount package brackets *includes tack welded coupling nut to hex bolt and epoxy -Install 44 EA SG115P 8’ ADA picnic table with SG135 surface mount package brackets *includes tack welded coupling nut to hex bolt and epoxy -Install 24 EA SG305P 32 gal receptacles with side door, liners, FT110 flat top lids and Surface mount post package (20 standard SM using elevated mount piece, 4 EA with subgrade concrete footings and SM elevated mount piece) -Install 4 EA PWA 1608-01P bike racks Surface Mount -Install 12 EA PWA 1140-00SM single grills, Surface mount with subgrade concrete footings per plans -Install 8 EA PWA 1140-20 large group grill, Surface with subtrade concrete footings per plans -Install 4 EA PWA 1523G 4.5” OD goosenecks, #30 1” solid white polyethylene backboards with targets, #39 double rims and #34 nylon nets -Install 5 EA Dogipot 1003-L pet waste stations, Inground	$46,381.00	$46,381.00

Estimate

AZ122952

Quantity	Description	Unit Price	Total Extended
	**CY425P is obsolete and CN430P is Inground and we quoted the Surface mount version CN420P in it's place **Surface Mounted Furnishings are tack welded with stainless steel wedge anchors. No epoxy used **All Grounding will be handled by others (electrician) per the GC ***The supplied Surface Mount clips available from the furnishings manufacturer are powder coated steel, not stainless *This quote replaces AZ121732		

THIS ESTIMATE IS SUBJECT TO THE ATTACHED TERMS AND CONDITIONS	**Subtotal**	$241,603.98
THANK YOU FOR THIS CHANCE TO ESTIMATE Dave Bang Associate, INC. IS PLEASED TO SUBMIT THE ABOVE ESTIMATE FOR YOUR CONSIDERATION. SHOULD YOU PLACE AN ORDER, BE ASSURED IT WILL RECEIVE OUR PROMPT ATTENTION. THIS ESTIMATE IS SUBJECT TO THE ATTACHED TERMS AND CONDITIONS, AND IS VALID FOR 30 DAYS. THEREAFTER, IT IS SUBJECT TO CHANGE WITHOUT NOTICE.	**Tax (6.045%)**	$14,604.96
	Total	$256,208.94

Accepted By
Print Name: _____ Signature: _____ Date: _____

PLEASE SIGN AND RETURN ONE COPY WHEN ORDERING. ***THANK YOU!***

Estimate

AZ122952

Terms & Conditions

1. General Notes

*Assembly and Installation NOT included unless otherwise noted

*For AZ M.R.R.A. Projects ONLY, price includes any tax that was paid at the Point of Purchase unless otherwise noted.

*Tax NOT included unless otherwise noted - Tax will be added to your invoice if approved exemption certificate is not received by product ship date.

*Customer responsible for quoted quantities and model numbers, please check!

*Payment and Performance bonds are NOT included unless otherwise stated. If required, additional charges of 3% to quote total will apply.

*Price reflects quoted quantity. Please request revision if alternate quantity is desired.

2. Payment / Ordering

*TO ORDER, please sign quote and return via email or fax to avoid any shipping delays. Fax or email copy deemed to be legal equivalent of original. If Payment with Order is required, please sign quote below and return with payment. All past due accounts subject to 1 ½% monthly finance charge. In the event legal action is required to effect collection venue shall be Mesa, AZ.

3. Shipping / Unloading

*Shipped by Common Carrier – Customer will need 2-4 people to unload. Liftgate NOT included. Items will be boxed and / or stretch wrapped to pallets and customer is responsible for offloading. Delivery Drivers do NOT unload

**IMPORTANT: Customer is responsible for receiving and checking quantities and condition at time of delivery - Please note any shortages or damages on delivery copy.

*Equipment will ship to Dave Bang Associates yard in Mesa, AZ. If installation was purchased, the installers will deliver to site at the time of installation. Please request an updated or revised quote if any of the equipment will ship elsewhere.

*If quoted, Will Call Pick up address and times are:

Dave Bang Associates, Inc.

140 N. Gilbert Road, Mesa, AZ 85203

Appointments Required: Monday-Friday from 8:00am to 2:00pm

*Notwithstanding anything to the contrary in any Contract Documents, Customer understands that estimated shipment times for materials are an estimate only. We have no control over shipment dates. We thus make no guarantee to Owner or Customer regarding the projected shipment dates for materials and shall not be liable for any loss caused by the timing of shipments

4. Engineered Wood Fiber

*NOTE: Some Engineered Wood Fiber will be left outside play area after installation if installation has been purchased

*Customer to provide access for Engineered Wood Fiber delivery with tractor truck and 53' trailer.

*Compaction of the Engineered Wood Fiber is NOT included in the installation cost, if desired, please request an updated proposal. If Compaction of the Engineered Wood Fiber was purchased, a high capacity water source such as a hydrant must be available. If applicable, the cost of a meter and / or the cost of the water is NOT included in the proposal. If we need to acquire the meter and / or pay for the water, please request an updated proposal.

5. General Notes for Purchased Installation

*Installation does NOT include ground preparation, excavation, safety surfacing, and/or safety surfacing borders, prep work, flat work, grading, rerouting of water, electric, drainage or sprinkler lines unless otherwise noted in the proposal

*Demo of existing equipment or safety surfacing is NOT included unless otherwise stated in the proposal

*ROCK CLAUSE: Pricing is based on normal soil conditions which would allow an auger on a tractor to dig footings. If rocks/boulders interfere with the progress of the excavation, additional fees may apply.

*ACCESS CLAUSE: Installation based on clear access to area. Crane service is NOT included. Customer to provide access for bobcat to work area, bobcat will be provided by installer. Minimum access shall be 7' wide and 7' high. If adequate access is not provided additional charges may apply and repairs to landscape and irrigation may be required. Customer is responsible for any repairs to landscape if proper access is not provided.

*UTILITY CLAUSE: Installation to include marking of utilities by Blue Stake. Blue Stake CANNOT locate any private lines, PVC or plastic water lines. Installation does NOT include repair or relocating any underground utilities, such as drainage, irrigation, live water lines, main low voltage lines, gas, electrical, communication, or sewer etc. Customers responsibility to provide locations of any utilities prior to commencement of work.

*Customer is responsible for all landscape repairs such as, but not limited to damaged trees, bushes, lawn, curbing, sidewalks and/or asphalt paving caused by materials truck and/or 2-ton bobcat needed to complete project.

*Before we proceed with the playground installation, the playground area MUST be compacted, be free of debris, and excavated accordingly. Please call for details.

*Concrete pad for surface mount items NOT included and MUST be provided by customer unless otherwise stated.

*Surface mount anchoring to asphalt and paver areas is NOT included unless otherwise stated.

*Private Utility Locator is NOT included unless otherwise noted. Private Utility Locator CANNOT locate any PVC or plastic water lines

*Installation does NOT include saw cutting and/or core drilling unless otherwise noted

*Installation does NOT include jackhammering. Please call for details.

*Area MUST have normal soil conditions and be level.

*All Athletic Equipment Goals such as soccer, football, etc, install location MUST be marked out by customer prior to installation, if installation was purchased

6. Temporary Fencing

*Security guards and/or temporary fencing to prevent injuries, vandalism and/or accidental damage to install area or to the rubberized surface while it sets is NOT included unless noted on quote. If desired, the installers can put up caution tape, but Temporary Fencing is recommended. Although the fencing, if provided, is intended to provide this security, the overall security of the property is ultimately the responsibility of customer. We are not responsible for any vandalism or injuries even with the provision of the fencing.

7. ADA Access

*Play Equipment MUST be installed over an impact-absorbing surface such as ADA compliant Engineered Wood Fiber or Rubber Surfacing. If not quoted, please call for details.

*This area is NOT ADA compliant without the installation of compliant surfacing and an accessible route up to and into the playground area. Please call for details.

8. Poured-in-Place Rubber Surfacing

*Rubber Surfacing cure time is normally 48-72 hours and can vary depending on weather conditions.

*Rubber Surfacing cannot be installed during extreme weather conditions and may also not be installed if rain or frost is forecast during the cure time.

*48-Hour Manned Security is NOT included for rubber unless otherwise noted.

9. Ramada / Shade Shelters

*Ramada / Shade Shelter installation price EXCLUDES – unless otherwise stated in this quote - engineering, permits, permit submittal, site plans, special inspections, soil reports, impact fees, special assessment fees. Customer is responsible for any and all of these items if required by the City.

*Ramada / Shade Shelter manufacture time is 6-8 weeks. Permitting can add 2-4 weeks or more to lead time. PLEASE NOTE: Shade Orders are NOT released into production until permit is issued!

*Ramada / Shade Shelter installation price EXCLUDES concrete pad, footings, masonry columns, electrical wiring and lights unless otherwise noted.

10. Prevailing Wages

*Prevailing Wages NOT included unless otherwise noted. (ie: Davis Bacon, TERO, ect.) If this is a Prevailing Wage project, please request alternate pricing.

*If Prevailing Wages / Davis Bacon Wages were INCLUDED, all other special work fees NOT included - Additional Labor Charges may apply if alternate labor is required.

11. Stock Items

*DBA Stock Item(s): Model number and color based on availability at time of order – taken from Scratch & Dent / Overstock - sold AS IS with NO warranty. Photo (s) of stock item(s) available upon request at the time of order.

12. Indemnity Provision

*Notwithstanding anything to the contrary in any Contract Documents we shall have no duty to defend or indemnify Owner, Customer, or any other party we agree to defend or indemnify in any Contract Documents for that portion of any claim arising out of the comparative fault of any party we agree to defend or indemnify in any Contract Documents.

13. Insurance

Available Insurance

Umbrella / Excess Liability:

Each Occurrence - $2,000,000.00

Aggregate - $2,000,000.00

General Liability Limits:

Deductible - $2,500.00

Each Occurrence - $1,000,000.00

Damage to Rented Premises - $100,000.00

Medical Expense - $5,000.00

Personal & Adv Injury - $1,000,000.00

General Aggregate (per project) - $2,000,000.00
Products Comp/OP Agg - $2,000,000.00
Excludes Contractual Liability
Available Endorsements:
Additional Insured Ongoing Operations CG2010
Additional Insured Completed Operations CG 2037
Primary Noncontributory IFG-G-0094
Waiver of Subrogation CG 2404
Per Project Aggregate IFG-G-0065
Per Location Aggregate IFG-G-0064
Auto Liability Limits:
(Any Auto, Hired Autos, Non-Owned Autos)
Combined Single Limit $1,000,000.00
Available Endorsements:
Auto Blanket Additional Insured/Waiver of Subrogation CAT353
Workers Compensation and Employers Liability:
Each Accident - $1,000,000.00
Disease (Ea Employee) - $1,000,000.00
Disease (Policy Limit) - $1,000,000.00
Waiver of Subrogation Endorsement available upon request
AZ WC000313

Initial: _____

8742 N. 78TH AVE.
PEORIA, AZ 85345
(623) 939-8126 PH
(623) 939-2526 FAX
www.arizonacourtlines.com

June 25th, 2021

Re: **Sundance Park**
Buckeye, AZ

The following is our detailed proposal as an Arizona-based manufacturer for the athletic equipment for the above referenced project:

Outdoor Basketball Backstops— (by Arizona Courtlines)

4	each	GN-44	Outdoor Gooseneck Backstop (4 1/2" dia. with 4' ext.)
4	each	FBB-ALT	Aluminum Fan Shaped Backboard (with target/border)
4	each	FM-2	Front Mount Fixed Goal (Double Rim w/Nylon Net)

TOTAL PRICE (Furnished and Installed): $ 10,380.00

Soccer Goals (by Bison)

4	pair	SC2480PA40EURO	Euro Style Portable Futbol Goal Official 8' x 24' Size With Net and Wheel Kit

TOTAL PRICE (Furnished and Installed): $ 24,084.00

Bicycle Racks (by Arizona Courtlines)

4	each	BR-01	1-Loop Bicycle Rack

TOTAL Additive PRICE (Furnished and Installed): $ 2,625.00

***Must be Combined with Backstops or Goals

Exclusions:

Any and all electrical, any and all demo, quantities other than listed, partial shipments, custom graphics (none shown on plans), permits, performance bonds and taxes.

**Pricing valid for 30 days.

NORCON INDUSTRIES, INC.

• ARIZONA LIC. 088670 / 088671 • NEW MEXICO LIC. 51909
• UTAH LIC. 8378503-5501 • IDAHO PUBLIC WORKS 013159-CC-4

FOLLOWING A TRADITION OF BUSINESS IN ARIZONA SINCE 1917

June 25, 2021

PROJECT**: Buckeye Sundance Park PH 2**

WE ARE PLEASED TO OFFER PRICING FOR THE ABOVE PROJECT AS FOLLOWS:

NO SPECIFICATION – Exterior Athletic Equipment *by Patterson-Williams*

Basketball Equipment

Four (4) ea. – 4 1/2" Galvanized Gooseneck Post; 4' Ext. (No. 1523)
Four (4) ea. – Fan Polyethylene Backboards w/ Target (No. 30)
Four (4) ea. – Extra Heavy Duty Double Rim Goals w/ Nylon Net (No. 39 & 34)

Basketball Equipment as noted herein, **F.O.B. jobsite** **$10,000.00**

For Installation of Basketball Equipment; ADD: **$ 5,000.00**

Bike Racks

Four (4) ea. – 36" H x 23" W Rainbow Bike Racks (No. 1608-01P)
- PW Standard Color Finish
- M3 Surface Mounted

Bike Racks as noted herein, **F.O.B. jobsite** **$ 1,650.00**

For Installation of Bike Racks; ADD: **$ 1,000.00**

Exclusion: SW7675 Sealskin color; not PW standard.
CLARIFICATIONS: 3% Fee of Total for Credit Card Transaction. **The above does not include**; any quantities/sizes/options/products other than those listed above, core drilling, slab opening block outs, offloading, storage/storage fees, protection after delivery/during storage/after installation, permits, bonds and taxes.

WE ACKNOWLEDGE 00 ADDENDUM PRICING IS GOOD FOR 15 **DAYS**

Respectfully,

Tim Norris
Vice-President

Prepared by: Jack Begay

5412 E. CALLE CERRITOS	GUADALUPE, AZ 85283	PHONE: (480) 839-2324	FAX: (480) 839-2281
2840 W. RUTHRAUFF RD., STE. 140P	TUCSON, AZ 85705	PHONE: (520) 325-5752	FAX: (520) 325-5753
1905 VILLA PARK LANE	HOLLADAY, UT 84121	PHONE: (801) 803-8766	NO FAX NUMBER

Send all Remittances & Secure Documents to: Norcon Industries, Inc. • P.O. Box 61988 • Phoenix, AZ 85082-1988

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
6/21/2021	CD062121-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Project	PLAY EQUIPMENT, SHADES, RAMADAS, SAFETY SURFACING, INSTALLATION			
	LANDSCAPE STRUCTURES, INC.			
LSI	PlayBooster® Custom Super Netplex Tower w/Integrated Skyways 30' diam Shade Design #1145287-01-03 (5-12 years)	1	83,985.00	83,985.00
LSI	Loft Direct Bury	1	16,930.00	16,930.00
LSI	Double Bobble Rider DB	1	2,005.00	2,005.00
LSI	Cozy Dome® Direct Bury	1	4,295.00	4,295.00
LSI	CP001153, SINGLE HILL LOOP, 36"OC	4	140.00	560.00
LSI	Rollerslide 56" Deck	1	9,215.00	9,215.00
LSI	267726A, SkyWays Single Post Hypar 16'x16' Shade 8' Entry Height	3	4,325.00	12,975.00
LSI	267726C,SkyWays Single Post Hypar 16'x16' Shade 12' Entry Height	1	4,570.00	4,570.00
LSI	267726F, SkyWays® Single Post Hypar 16'x16' Shade 10' Entrance Height	1	5,660.00	5,660.00
	Sub-Total			140,195.00
Freight	Freight/shipping charges for Play Equipment (150-21-755)	1	6,225.00	6,225.00
Freight	Freight/shipping charges for Shade (150-21-757)	1	3,015.00	3,015.00
Engineering	Engineering Charge for shades (Permits by others)	1	1,250.00	1,250.00
Install	Installation of Playground Equipment and Shades (03459-2)	1	39,254.00	39,254.00
	CLASSIC RECREATION SYSTEMS, INC.			
CRS	20' x 20' Marana, 16" Standing Seam roof, Tube Steel, 2:12 roof pitch, 1 Tier, 10' Eave Height:, 2 Columns, Direct bury TGIC Poly Powder Coat w/ Zinc Rich Primer (Standard colors only **Upcharge for custom colors) Electrical provisions Outlets 2 & Lights 1 - NOTE - Lead time for Ramadas is approximately 19-20 weeks, anchor bolts and permits by others.	20	20,299.00	405,980.00
CRS Structural ...	Structural Calculations (Includes 3 sets - 24" x 36" copies) - NOTE - Lead time for Structural Calcs is approximately 3-4 weeks	1	1,250.00	1,250.00
Freight	Freight/shipping charges (120050)	1	6,625.00	6,625.00
CRS Install	Installation of Ramada (excludes footers, masonry & permits) (03459-2)	20	7,247.00	144,940.00
	SAFETY SURFACING			
EnduraFlex	installation of 3023 SF of UltraFlex at 2.5" depth with 100% Premium colors with aliphatic binder NOTES: 1) Quote does not include excavation, sub base installation, or site prep. 2) Design Work NOT INCLUDED per Dan.	3,023	24.75	74,819.25

-CONTINUES ON NEXT PAGE-

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
6/21/2021	CD062121-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

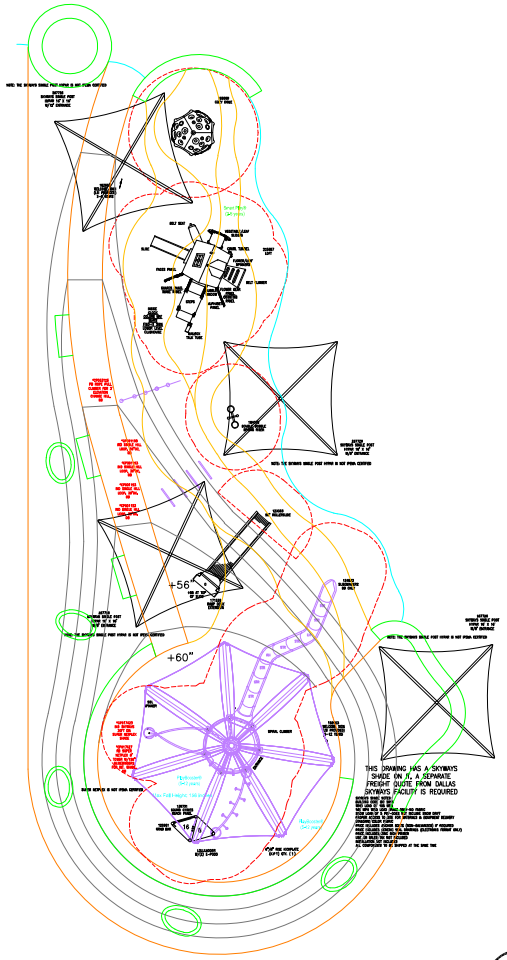
Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Msg I	Pricing is for the above listed material and installation only and does not include storage, security, site preparation, security fencing, prevailing wages, TERO wages, permitting, or any applicable taxes or bonds. Any necessary permits or special inspections are the responsibility of the General Contractor or End Owner. To obtain a performance/payment bond, please add 3.5%, plus appropriate tax, of the total to this quote. - NOTE - ExerPlay reserves the right to revise pricing if any portion of this quote is changed or removed and may result in a delay in ordering materials for this project. There will be a 3.5% fee added to your invoice if you choose to pay by credit card.			
KS	For more information please contact Kevin Solomon at (480) 323-0337, or kevin@exerplay.com - PRICING IS GOOD FOR 30 DAYS -			

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL $823,553.25



Estimated manufacturing time:
8 weeks from the time of LSI order acceptance, or receipt of SkyWays release of fabrication form if applicable.

landscape structures

IT IS THE MANUFACTURERS OPINION AND INTENT THAT THE USE AND LAYOUT OF THESE COMPONENTS CONFORM WITH THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARD ASTM F1487

THIS PLAY AREA & PLAY EQUIPMENT IS DESIGNED FOR AGES 2-12 YEARS UNLESS OTHERWISE NOTED ON PLAN.

IT IS THE MANUFACTURERS OPINION THAT THIS PLAY AREA DOES CONFORM TO THE A.D.A. ACCESSIBILITY STANDARDS, ASSUMING AN ACCESSIBLE PROTECTIVE SURFACING IS PROVIDED, AS INDICATED, OR WITHIN THE ENTIRE USE ZONE.

THIS CONCEPTUAL PLAN WAS BASED ON INFORMATION AVAILABLE TO US. PRIOR TO CONSTRUCTION, DETAILED SITE INFORMATION INCLUDING SITE DIMENSIONS, TOPOGRAPHY, EXISTING UTILITIES, SOIL CONDITIONS, AND DRAINAGE SOLUTIONS SHOULD BE OBTAINED, EVALUATED, & UTILIZED IN THE FINAL DESIGN. PLEASE VERIFY ALL DIMENSIONS OF PLAY AREA, SIZE, ORIENTATION, AND LOCATION OF ALL EXISTING UTILITIES, EQUIPMENT, AND SITE FURNISHINGS PRIOR TO ORDERING. SLIDES SHOULD NOT FACE THE HOT AFTERNOON SUN.

CHOOSE A PROTECTIVE SURFACING MATERIAL THAT HAS A CRITICAL HEIGHT VALUE TO MEET THE MAXIMUM FALL HEIGHT FOR THE EQUIPMENT (REF. ASTM F1487 STANDARD CONSUMER SAFETY PERFORMANCE SPECIFICATION FOR PLAYGROUND EQUIPMENT FOR PUBLIC USE, SECTION 8 CURRENT REVISION). THE SUBSURFACE MUST BE WELL DRAINED. IF THE SOIL DOES NOT DRAIN NATURALLY IT MUST BE TILED OR SLOPED 1/8" TO 1/4" PER FOOT TO A STORM SEWER OR A "FRENCH DRAIN".

ACCESSIBLE/PROTECTIVE SURFACING TO BE A COMBINATION OF UNITARY AND LOOSE FILL MATERIALS.

DESIGNED BY:
ALK

COPYRIGHT: 1/26/2021
LANDSCAPE STRUCTURES, INC.

601 7th STREET SOUTH - P.O. BOX 198
DELANO, MINNESOTA 55328
PH: 1-800-328-0035 FAX: 1-763-972-6091

Date	Previous Drawing #	Initials
6/9/2020	1145287-01-03	ALK
6/13/2020	1145287-01-02	ALK
5/7/2020	1145287-01-01	ALK

5-12

TOTAL ELEVATED PLAY COMPONENTS	4		
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0	REQUIRED	0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	2	REQUIRED	2
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	7	REQUIRED	1
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	3	REQUIRED	3

2-5

TOTAL ELEVATED PLAY COMPONENTS	5		
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY RAMP	0	REQUIRED	0
TOTAL ELEVATED COMPONENTS ACCESSIBLE BY TRANSFER	5	REQUIRED	3
TOTAL ACCESSIBLE GROUND LEVEL COMPONENTS SHOWN	9	REQUIRED	2
TOTAL DIFFERENT TYPES OF GROUND LEVEL COMPONENTS	7	REQUIRED	7

SCALE IN FEET: 0' 5' 10' 20' 40'

Sundance Park
Concept 1
Buckeye, AZ

Exerplay, Inc.

Dan Gardiner

SYSTEM TYPE:
Freestanding

DRAWING #:
1145287-01-04

ISO 14001:2015 CERTIFIED

ISO 9001:2015 Certified



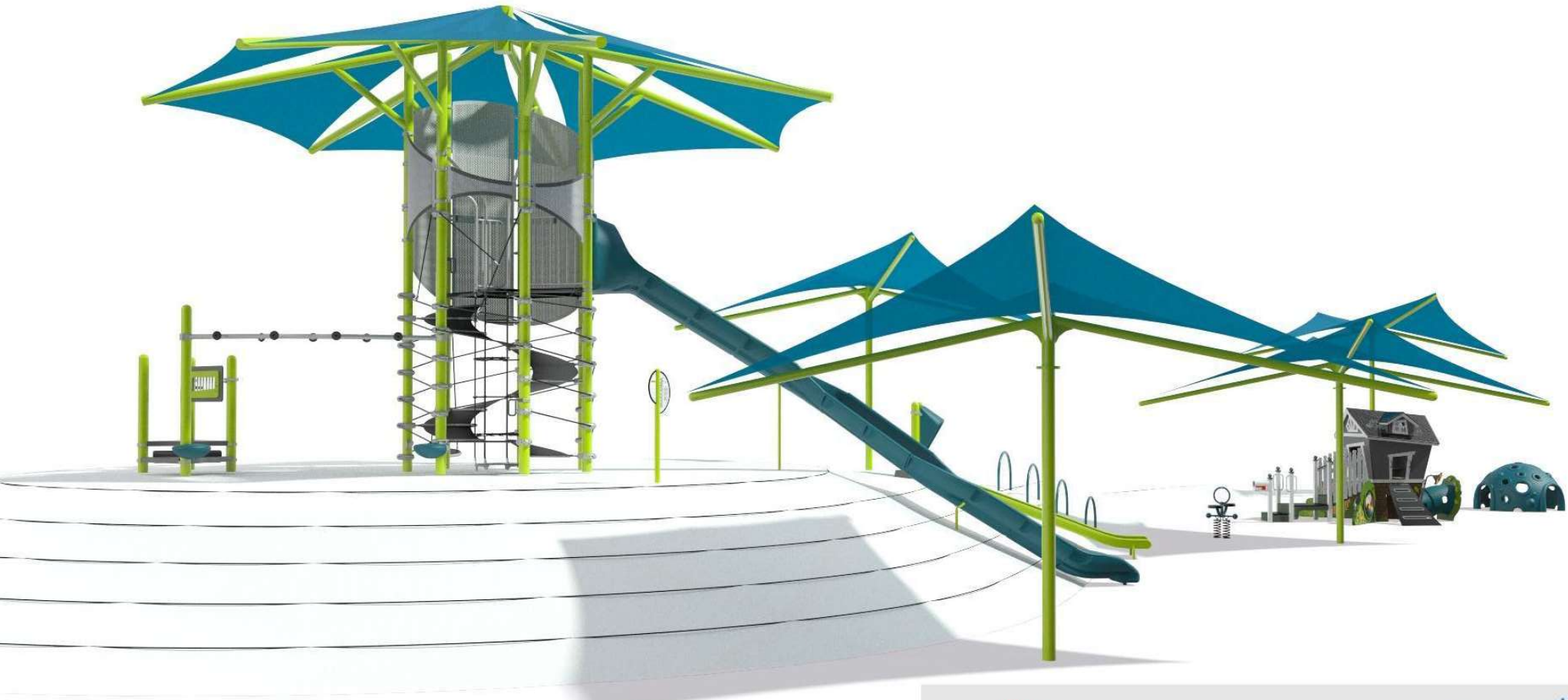
landscape structures

Sundance Park

1145287-01-04-01 • 01.26.2021

exerplay INC

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landscape structures

Sundance Park

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landscape structures

Sundance Park

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exerplay INC

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PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
7/15/2021	CD071521-2
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Project	PLAY EQUIPMENT, SHADES, RAMADAS, SAFETY SURFACING, INSTALLATION			
	LANDSCAPE STRUCTURES, INC.			
LSI	PlayBooster® Custom Super Netplex Tower w/Integrated Skyways 30' diam Shade Design #1145287-01-03 (5-12 years)	1	83,985.00	83,985.00
LSI	Loft Direct Bury	1	16,930.00	16,930.00
LSI	Double Bobble Rider DB	1	2,005.00	2,005.00
LSI	Cozy Dome® Direct Bury	1	4,295.00	4,295.00
LSI	CP001153, SINGLE HILL LOOP, 36"OC	4	140.00	560.00
LSI	Rollerslide 56" Deck	1	9,215.00	9,215.00
LSI	267726A, SkyWays Single Post Hypar 16'x16' Shade 8' Entry Height	3	4,325.00	12,975.00
LSI	267726C,SkyWays Single Post Hypar 16'x16' Shade 12' Entry Height	1	4,570.00	4,570.00
LSI	267726F, SkyWays® Single Post Hypar 16'x16' Shade 10' Entrance Height	1	5,660.00	5,660.00
	Sub-Total			140,195.00
Freight	Freight/shipping charges for Play Equipment (150-21-755)	1	6,225.00	6,225.00
Freight	Freight/shipping charges for Shade (150-21-757)	1	3,015.00	3,015.00
Engineering	Engineering Charge for shades (Permits by others)	1	1,250.00	1,250.00
Install	Installation of Playground Equipment and Shades (03459-2)	1	39,254.00	39,254.00
	CLASSIC RECREATION SYSTEMS, INC.			
CRS	20' x 20' Marana, 16" Standing Seam roof, Tube Steel, 2:12 roof pitch, 1 Tier, 10' Eave Height:, 2 Columns, Direct bury TGIC Poly Powder Coat w/ Zinc Rich Primer (Standard colors only **Upcharge for custom colors) Electrical provisions Outlets 2 & Lights 1 - NOTE - Lead time for Ramadas is approximately 19-20 weeks, anchor bolts and permits by others.	20	20,299.00	405,980.00
CRS Structural ...	Structural Calculations (Includes 3 sets - 24" x 36" copies) - NOTE - Lead time for Structural Calcs is approximately 3-4 weeks	1	1,250.00	1,250.00
Freight	Freight/shipping charges (120050)	1	6,625.00	6,625.00
CRS Install	Installation of Ramada (excludes footers, masonry & permits) (03459-2)	20	7,247.00	144,940.00
	SAFETY SURFACING			
EnduraFlex	Installation of 3023 SF of UltraFlex at 2.5" depth with 100% Premium colors with aliphatic binder (38185) NOTES: 1) Quote does not include excavation, sub base installation, or site prep. 2) Design Work NOT INCLUDED per Dan.	3,023	24.75	74,819.25

-SURFACING CONTINUED ON NEXT PAGE-

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
7/15/2021	CD071521-2
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Turf	Installation of 2635 SF of 60 oz Synthetic turf with Envirofill infill for four (4) areas as noted below. Quote includes no-nail border secure for synthetic turf. (38489) Area 1: 1521 SF w/Border Secure: 411 LF Area 2: 467 SF w/Border Secure: 100 LF Area 3: 393 SF w/Border Secure: 102 LF Area 4: 255 SF w/Border Secure: 65 LF	2,635	15.00	39,525.00
Sub-Base	Sub-Base for Turf, 2" compacted ab sub-base/2" quarter minus, 4" depth, priced per SF (38489)	2,635	5.00	13,175.00
Msg I	Pricing is for the above listed material and installation only and does not include storage, security, site preparation, security fencing, prevailing wages, TERO wages, permitting, or any applicable taxes or bonds. Any necessary permits or special inspections are the responsibility of the General Contractor or End Owner. To obtain a performance/payment bond, please add 3.5%, plus appropriate tax, of the total to this quote. - NOTE - ExerPlay reserves the right to revise pricing if any portion of this quote is changed or removed and may result in a delay in ordering materials for this project. There will be a 3.5% fee added to your invoice if you choose to pay by credit card.			
KS	For more information please contact Kevin Solomon at (480) 323-0337, or kevin@exerplay.com - PRICING IS GOOD FOR 30 DAYS -			

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL $876,253.25

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
11/4/2021	CD110421-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Project	PLAY EQUIPMENT, SHADES, RAMADAS, SAFETY SURFACING, INSTALLATION			
	LANDSCAPE STRUCTURES, INC.			
LSI	PlayBooster® Custom Super Netplex Tower w/Integrated Skyways 30' diam Shade Design #1145287-01-03 (5-12 years)	1	96,945.00	96,945.00
LSI	Loft Direct Bury	1	19,290.00	19,290.00
LSI	Double Bobble Rider DB	1	2,285.00	2,285.00
LSI	Cozy Dome® Direct Bury	1	4,895.00	4,895.00
LSI	CP001153, SINGLE HILL LOOP, 36"OC	4	160.00	640.00
LSI	Rollerslide 56" Deck	1	9,215.00	9,215.00
LSI	267726A, SkyWays Single Post Hypar 16'x16' Shade 8' Entry Height	3	4,925.00	14,775.00
LSI	267726C,SkyWays Single Post Hypar 16'x16' Shade 12' Entry Height	1	5,205.00	5,205.00
LSI	267726F, SkyWays® Single Post Hypar 16'x16' Shade 10' Entrance Height	1	6,450.00	6,450.00
	Sub-Total			159,700.00
Freight	Freight/shipping charges for Play Equipment (150-21-1550)	1	6,250.00	6,250.00
Freight	Freight/shipping charges for Shade (150-21-1551)	1	3,450.00	3,450.00
Engineering	Engineering Charge for shades (Permits by others)	1	1,250.00	1,250.00
Install	Installation of Playground Equipment and Shades (03459-2)	1	39,254.00	39,254.00
	CLASSIC RECREATION SYSTEMS, INC.			
CRS	20' x 20' Marana, 16" Standing Seam roof, Tube Steel, 2:12 roof pitch, 1 Tier, 10' Eave Height:, 2 Columns, Direct bury TGIC Poly Powder Coat w/ Zinc Rich Primer (Standard colors only **Upcharge for custom colors) Electrical provisions Outlets 2 & Lights 1 - NOTE - Lead time for Ramadas is approximately 30-36 weeks, anchor bolts and permits by others.	20	26,992.00	539,840.00
CRS Structural ...	Structural Calculations (Includes 3 sets - 24" x 36" copies) - NOTE - Lead time for Structural Calcs is approximately 3-4 weeks	1	1,250.00	1,250.00
Freight	Freight/shipping charges (120050R2)	1	6,750.00	6,750.00
CRS Install	Installation of Ramada (excludes footers, masonry & permits) (03459-2)	20	7,247.00	144,940.00
	SAFETY SURFACING			
EnduraFlex	Installation of 3023 SF of UltraFlex at 2.5" depth with 100% Premium colors with aliphatic binder (38185) NOTES: 1) Quote does not include excavation, sub base installation, or site prep. 2) Design Work NOT INCLUDED per Dan.	3,023	27.25	82,376.75

-SURFACING CONTINUED ON NEXT PAGE-

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
11/4/2021	CD110421-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Turf	Installation of 2635 SF of 60 oz Synthetic turf with Envirofill infill for four (4) areas as noted below. Quote includes no-nail border secure for synthetic turf. (38489) Area 1: 1521 SF w/Border Secure: 411 LF Area 2: 467 SF w/Border Secure: 100 LF Area 3: 393 SF w/Border Secure: 102 LF Area 4: 255 SF w/Border Secure: 65 LF	2,635	17.00	44,795.00
Sub-Base	Sub-Base for Turf, 2" compacted ab sub-base/2" quarter minus, 4" depth, priced per SF (38489R1)	2,635	5.25	13,833.75
Msg I	Pricing is for the above listed material and installation only and does not include storage, security, site preparation, security fencing, prevailing wages, TERO wages, permitting, or any applicable taxes or bonds. Any necessary permits or special inspections are the responsibility of the General Contractor or End Owner. To obtain a performance/payment bond, please add 3.5%, plus appropriate tax, of the total to this quote. - NOTE - ExerPlay reserves the right to revise pricing if any portion of this quote is changed or removed and may result in a delay in ordering materials for this project. There will be a 3.5% fee added to your invoice if you choose to pay by credit card.			
KS	For more information please contact Kevin Solomon at (480) 323-0337, or kevin@exerplay.com - PRICING IS GOOD FOR 30 DAYS -			

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL $1,043,689.50

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
12/22/2021	CD122221-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Project	PLAY EQUIPMENT, SHADES, RAMADAS, SAFETY SURFACING, INSTALLATION			
	LANDSCAPE STRUCTURES, INC.			
LSI	PlayBooster® Custom Super Netplex Tower w/Integrated Skyways 30' diam Shade Design #1145287-01-03 (5-12 years)	1	96,945.00	96,945.00
LSI	Loft Direct Bury	1	19,290.00	19,290.00
LSI	Double Bobble Rider DB	1	2,285.00	2,285.00
LSI	Cozy Dome® Direct Bury	1	4,895.00	4,895.00
LSI	CP001153, SINGLE HILL LOOP, 36"OC	4	160.00	640.00
LSI	Rollerslide 56" Deck	1	9,215.00	9,215.00
LSI	267726A, SkyWays Single Post Hypar 16'x16' Shade 8' Entry Height	3	4,925.00	14,775.00
LSI	267726C,SkyWays Single Post Hypar 16'x16' Shade 12' Entry Height	1	5,205.00	5,205.00
LSI	267726F, SkyWays® Single Post Hypar 16'x16' Shade 10' Entrance Height	1	6,450.00	6,450.00
	Sub-Total			159,700.00
Freight	Freight/shipping charges for Play Equipment (150-21-1550)	1	6,250.00	6,250.00
Freight	Freight/shipping charges for Shade (150-21-1551)	1	3,450.00	3,450.00
Engineering	Engineering Charge for shades (Permits by others)	1	1,250.00	1,250.00
Install	Installation of Playground Equipment and Shades (PH)	1	39,254.00	39,254.00
	CLASSIC RECREATION SYSTEMS, INC.			
CRS	20' x 20' Marana, 16" Standing Seam roof, Tube Steel, 2:12 roof pitch, 1 Tier, 10' Eave Height:, 2 Columns, Direct bury TGIC Poly Powder Coat w/ Zinc Rich Primer (Standard colors only **Upcharge for custom colors) Electrical provisions Outlets 2 & Lights 1 - NOTE - Lead time for Ramadas is approximately 40-46 weeks, anchor bolts and permits by others.	12	26,992.00	323,904.00
CRS Structural ...	Structural Calculations (Includes 3 sets - 24" x 36" copies) - NOTE - Lead time for Structural Calcs is approximately 3-4 weeks	1	1,250.00	1,250.00
Freight	Freight/shipping charges (120050R3)	1	6,750.00	6,750.00
CRS Install	Installation of Ramada (excludes footers, masonry & permits) (PH)	12	7,247.00	86,964.00
	SAFETY SURFACING			
FlexGround	Installation of 3023 SF of UltraFlex at 2.5" depth with 100% Premium colors with aliphatic binder (38185) NOTES: 1) Quote does not include excavation, sub base installation, or site prep. 2) Design Work NOT INCLUDED	3,023	27.25	82,376.75

-CONTINUED ON NEXT PAGE-

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL

PO Box 1160
Cedar Crest NM 87008-1160
Fax 505. 281.0155
Toll Free 800.457.5444
www.exerplay.com

DATE	NUMBER
12/22/2021	CD122221-1
TERMS:	Net 30

QUOTATION prepared for:

GC Tax Exempt Quote
Sundance Park

Please Issue Purchase Order to:

Exerplay, Inc
PO Box 1160, Cedar Crest, NM 87008
fax to 505-281-0155 or
email to: crystal@exerplay.com

ITEM	DESCRIPTION	QTY	COST	TOTAL
Msg I	Pricing is for the above listed material and installation only and does not include storage, security, site preparation, security fencing, prevailing wages, TERO wages, permitting, or any applicable taxes or bonds. Any necessary permits or special inspections are the responsibility of the General Contractor or End Owner. To obtain a performance/payment bond, please add 3.5%, plus appropriate tax, of the total to this quote. - NOTE - ExerPlay reserves the right to revise pricing if any portion of this quote is changed or removed and may result in a delay in ordering materials for this project. There will be a 3.5% fee added to your invoice if you choose to pay by credit card.			
KS	For more information please contact Kevin Solomon at (480) 323-0337, or kevin@exerplay.com - PRICING IS GOOD FOR 14 DAYS -			

REP
KS

Quote prepared by Crystal Dugan
crystal@exerplay.com

TOTAL $711,148.75



Area	Quote #	Amount	Description
Playground	11259	$ 275,564.80	Burke Proposal #116-132304-4, Ultra Flex ruber surfacing, artificial turf
			concrete subbase for playground EXCLUDED
Splashpad	11251	$ 521,818.00	Water OdysseyProposal #W22785-2A-R2
Shades	11252	$ 49,546.00	Single post shades for playground & splashpad
Ramadas	11253	$ 823,028.00	20' x 20' Monoslope ramadas
Site Furnishings	11257	$ 174,557.00	Amenities excluding sports equipment.
			Bare wire grounding EXCLUDED
Sports Equipment	11258	$ 37,345.00	Basketball & soccer goals, court striping
Total		$ 1,881,858.80	

Play It Safe Playgrounds and Park Equipment, Inc.
85 W. Combs Rd. #101/141
San Tan Valley, AZ. 85140
480-347-8486ph 480-888-8818fax
info@playitsafeplaygrounds.com
www.playitsafeplaygrounds.com

Estimate

Date	Estimate #
6/25/2021	11259

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 PLAYGROND

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	14-16 weeks

Qty	U/M	Description	Unit Price	Total
1	ea	PLAYGROUND Burke #116-132304-4, Nucleus Intensity Synergy custom playstructure with integrated shade designed for ages 2-5 and 5-12 - FREE Burke maintenance kit included! - Burke non-prorated Generations Warranty included! - Play It Safe FREE Supplemental Warranty included! - Free 6-month and 12-month follow up inspection included!	98,825.00	98,825.00
1	ea	FREE - Burke #580-1390, Biba - Structure Kit with Sign	0.00	0.00
1	lump s...	Freight for Burke	8,690.00	8,690.00
1	lump s...	PLAYGROUND INSTALL Install Burke #116-132304-4, Nucleus Intensity Synergy custom playstructure with integrated shade and Burke #580-1390 Biba Kit with Sign	29,000.00	29,000.00
1	lump s...	FREE - Power wash playstructure after install and provide inspection with report	0.00	0.00
		RUBBER SURFACING (3028 SF of 4" subbase provided by others prior - HS-404.2)		

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
6/25/2021	11259

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 PLAYGROND

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	14-16 weeks

Qty	U/M	Description	Unit Price	Total
3,028	sqft	Flexground UltraFlex for 12' Fall Height (5" system), includes design work per spec HS-401 Wearcourse Colors (HS-403.2): - 1356 SF 100% TPV Brown/Beige/Terra Cotta Color - 730 SF 100% TPV Beige Color - 941 SF 100% TPV Brown Premium Color TURF SURFACING	21.60	65,404.80
2,600	sqft	4" Compacted AB Subbase for Turf	5.00	13,000.00
2,600	sqft	Flexground Turf Spring Supreme - 90 oz. Synthetic Turf with Envirofill Infill (80 closest match to SYNBLUE949 / HS-101)	21.60	56,160.00
598	sqft	Border Secure for Turf (HS-404.3 & CV-307) ** Sales tax not included - exemption letter required before order is placed. ** Quote does not include site prep, excavation, concrete pads or borders, temporary fencing or private utility locating. ** Customer responsible for any damage that occurs to rubber surfacing caused by others during 48-72 hour cure time.	7.50	4,485.00
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total $275,564.80

Customer acceptance signature

Estimate

Date	Estimate #
6/25/2021	11251

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASHPAD CONCEPT 1 - REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
1	ea	Water Odyssey #W22785-2A-R2, Concept 1 Oval Splash Pad (Flow Thru System): (1) CGD-10, Glow Dome Controller- control panel including NEMA-12 enclosure, power distribution, DMX Interface LED control card for operating up to (10) individual light fixtures, labeled terminal strips for field connections (3) W381-06, Glow Dome Baby Long Legs, Conservation, (1) 1-002518-003 embed (4) W381-11, Glow Dome Mister, (1) 1-002518-003 embed (1) C003, Cast™ Orbit, (1) 1-000482-002 embed (1) C015, ColorCast™ Zen Shower, (1) 1-000482-002 embed (4) C019C(90), ColorCast™ Snoot Shooter, Water Conserving version, designed for 90 Degree Horizontal Swing Splash Zone, (1) 1-000482-002 embed (1) MS14-2A1B, Massive Splash, 2 Bucket, Linear, (1) MS142A1B-E Embed (1) W012C, Water Cage™, Water Conserving (2) W036C, Baby Long Legs™, Water Conserving, (1) 151501 embed (1) W057, Water Sprout™, (1) 15-1501 embed (1) W071, Water Flower™, (1) 15-1501 embed (2) W074(A), Water Wickets™ 13' Arch, (1)	206,500.00	206,500.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
6/25/2021	11251

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASHPAD CONCEPT 1 - REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
		1-000482-002 embed (2) W074(B), Water Wickets™ 12' Arch, (1) 1-000482-002 embed (1) W124, Pony Tail™, (1) 1-000140-001 embed (1) W139, Water Maypole™, (1) 1-000498-002 embed (1) W355, Lotus Petal, (1) 1-000482-002 embed (6) W380, WaterWand™ Mini Series, (1) 1-000140-001 embed (1) W009, Touch & Go™ Bollard, wired (2) W017, Launch Pad, Wired Activator (Deck Mounted) (1) DSC-8-16, UL-Listed Controller with 1 module for 8 hardwired inputs, 2 modules for 16 wired 24VAC outputs, mounted in a NEMA 4X Enclosure with Lockable Hasp (1) WMF-14, Flanged 4" Stainless Steel Manifold for Wall Mount Installation w/pressure gauge, drain valve, water hammer arrestor, (2) Full Flanged 4"S inlet connections (no plug supplied); (14) discharge assemblies each w/(1) true union ball valve and (1) 24VAC bronze solenoid valve with 15' cord. NOTE: Water pressure to the manifold must not exceed 50 psi. The installer must ensure this requirement is met. (3) WMM-600R Maintenance Minimizer™ Round Drain and Sediment Trap.		
1	lump s...	Freight	6,098.00	6,098.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

Estimate

Date	Estimate #
6/25/2021	11251

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASHPAD CONCEPT 1 - REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
1	lump s...	Install flow thru splash pad per Water Odyssey Design W22785-2A-R2 Concept 1: Includes 3457 SF of gray, heavy broom finish concrete, 1610 SF of splash pad to be stained concrete (SW 6958 Dynamic Blue) . Controller to be wall mounted within 100' of splash pad. Glow dome controller and wiring for glow domes included. Appropriately sized water (with RPBV) and electric line to be provided at controller location by others. Drain line to be provided at splash pad by others. Excavation by others to be provided at 12" below finish grade. Permits if required are not included. Clear and open access to site of installation to be provided during the splash pad installation phase. Allow 90 days for installation of splash pad not including staining of concrete. Haul spoils.	309,220.00	309,220.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

Estimate

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Date	Estimate #
6/25/2021	11251

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASHPAD CONCEPT 1 - REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
		** Exclusions - site prep, permits, permit submittal, electrical work, bonds, engineering, site plans, traffic control, temporary or permanent utilities, dumpster, dumpster fees, surveying, concrete testing, mechanical room and/or chemical room, chemical storage tanks, water treatment chemicals, Environmental Quality permit. ** Finish grade of -12" provided by others prior to arrival. ** Quote assumes system will fit in restroom closet. ** Sales tax not included - exemption letter required before order is placed. ** Quote does not include excavation, temporary fencing or private utility locating.		
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total $521,818.00

Customer acceptance signature

Estimate

Date	Estimate #
6/25/2021	11252

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SHADES

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
		PLAYGROUND AND SPLASH PAD SHADES		
5	lump s...	Square Fabric Hypar Umbrella Shades, 16' x 16' x 10' entry height	5,375.00	26,875.00
1	lump s...	Sealed engineered drawings	1,205.00	1,205.00
1	lump s...	Freight for 5 Shades	3,171.00	3,171.00
1	lump s...	Install (5) Square Fabric Hypar Umbrella Shades, 16' x 16' x 10' entry height, includes bolt down pier footers	18,295.00	18,295.00
		** Permit fees not included. Play It Safe can pull permits if requested but customer would be responsible for all permit fees and associated costs (including architect generated site plans if needed). Additional charges may apply upon full submittal to appropriate municipality. ** Sales tax not included - exemption letter required before order is placed ** Quote does not include site prep, excavation, concrete pad, temporary fencing or private utility locating.		
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total $49,546.00

Customer acceptance signature

Estimate

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Date	Estimate #
6/25/2021	11253

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 RAMADAS

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
20	lump s...	RAMADAS Icon #MC20X20-10S-P2, Monoslope Steel Cantilever Shelters: - 2 Columns on bolt down pier footers each - 24 gauge standing seam metal roof panel - 2:12 Roof Slope - 10' eave height - Anchor Bolts and Templates included - Ecoat / powdercoat frame - Drawing #65370	34,505.00	690,100.00
1	lump s...	Sealed engineered drawings	1,250.00	1,250.00
1	lump s...	Freight for 20 ramadas	41,433.00	41,433.00
1	lump s...	Install (20) Icon #MC20X20-10S-P2, Monoslope Steel Cantilever Shelters: - 2 Columns on bolt down pier footers each	90,245.00	90,245.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

Play It Safe PLAYGROUNDS & PARK EQUIPMENT
7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
6/25/2021	11253

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 RAMADAS

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	20-24 weeks

Qty	U/M	Description	Unit Price	Total
		** Permit fees not included. Play It Safe can pull permits if requested but customer would be responsible for all permit fees and associated costs (including architect generated site plans if needed). Additional charges may apply upon full submittal to appropriate municipality. ** Sales tax not included - exemption letter required before order is placed ** Quote does not include site prep, excavation, concrete pad, temporary fencing or private utility locating.		
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total $823,028.00

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
6/25/2021	11257

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 AMENITIES

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	12-14 weeks

Qty	U/M	Description	Unit Price	Total
		BENCHES, TRASH RECEPTACLES & GRILLS		
4	ea	MyTCoat #BMD06-54-000, MOD Bench with Back, 6' punched metal, Surface Mount, Standard Coating	740.00	2,960.00
10	ea	MyTCoat #BMD06-E-60-000, MOD Bench without Back, 6' punched metal, Surface Mount, Standard Coating	700.00	7,000.00
54	ea	MyTCoat #TRT06-A-01-000, 8' Rectangle Portable Table, punched metal, Surface Mount, Standard Coating	635.00	34,290.00
44	ea	MyTCoat #TRT08-A-01-001, 8' ADA Rectangle Portable Table, punched metal, Surface Mount, Standard Coating	655.00	28,820.00
98	ea	MyTCoat #ASM06-S-00-000, Surface Mount Clamp for 2-3/8" frame (set of 2)	14.00	1,372.00
24	ea	MyTCoat #RRD32-B-00-000, 32 gallon Trash Receptacle, punched metal, access door, Surface Mount, Standard Coating	265.00	6,360.00
24	ea	MyTCoat #RFT32-S-00-000, Flat Top Lid for Trash Receptacle, 12" opening, cable lid locks included	105.00	2,520.00
24	ea	MyTCoat #RLN32-P-00-000, Plastic Liner for Trash Receptacle	35.00	840.00
24	ea	MyTCoat #RSM32-S-00-000, Surface Mount Kit for Trash Receptacle, cable lid locks included	55.00	1,320.00
4	ea	MyTCoat #BKW13-190-PC-SM, Single Loop Bike Rack (3 Bike), powdercoat, Surface Mount	85.00	340.00
12	ea	MyTCoat #GSQ24-S-46-000, Park BBQ Grill, Surface Mount	260.00	3,120.00
1	ea	Material Cost Surcharge	18,595.00	18,595.00
1	lump s...	Freight for MyTCoat amenities	6,100.00	6,100.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
6/25/2021	11257

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 AMENITIES

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	12-14 weeks

Qty	U/M	Description	Unit Price	Total
8	ea	Park Catalog #136-1049, 1008 Square Large Group Park Grill with Utility Shelf, Surface Mount	775.00	6,200.00
1	lump s...	Freight for Park Catalog Group Grill	905.00	905.00
		PET WASTE STATIONS		
5	ea	DogiPot #1003-L, Aluminum Green Pet Waste Station	360.00	1,800.00
1	lump s...	Freight for DogiPot	190.00	190.00
		DRINKING FOUNTAIN		
1	ea	MDF #10145SM, ADA Water Bottle Filler	4,240.00	4,240.00
1	ea	MDF #PET FTN ATT.SM, Attached Pet Fountain	1,045.00	1,045.00
1	ea	MDF #TEMPLATE10 NS, Template 10" Internal Surface Mount Ring	300.00	300.00
1	lump s...	Freight for MDF Water Fountain	500.00	500.00
		INSTALLATION		
1	lump s...	Install (4) Benches with Back, (4) Bike Racks, (98) 8' Picnic Tables, (24) Trash Receptacles and (20) BBQ Grills - all surface mount - Excluded: benches to be grounded with #4 bare wire to 5/8" dia. 8' long copper ground rod	39,770.00	39,770.00
1	lump s...	Install (10) Benches without Back, (5) DogiPots - all inground mount - Excluded: benches to be grounded with #4 bare wire to 5/8" dia. 8' long copper ground rod	4,720.00	4,720.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total

Customer acceptance signature

Estimate

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Date	Estimate #
6/25/2021	11257

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 AMENITIES

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	12-14 weeks

Qty	U/M	Description	Unit Price	Total
1	lump s...	Install (1) Chilled Drinking Fountain with Bottle Filler - ADA, Child and Pet Bowls - Excluded: water, drain and electric (if needed) stub by others and concrete pad ** Sales tax not included - exemption letter required before order is placed ** Quote does not include site prep, excavation, concrete pad, temporary fencing or private utility locating.	1,250.00	1,250.00
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Not responsible for site vandalism. No hard dig (not excavatable with std Bobcat mounted hydraulic auger). Area assumed easily accessible by vehicle & equipment. Off-loading included if delivery coordinated with installation. Items not included unless specified: excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, Stafford Ind. AZROC #220813 and Premier Construction, AZROC #201405 / 252011 NV #85971 / 86185

Total $174,557.00

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
12/8/2021	12131

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x 23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASH PAD - CONCEPT 1 REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	

Qty	U/M	Description	Unit Price	Total
1	lump s...	SPLASH PAD SYSTEM Watery Odyssey #W22785-2A R3, Custom Oval Splash Pad (Concept 1), Flow Thru System (Reference #20210622-155158692): (3) WFIAC-500-CJ, Fountain in a Can, Crown Jet (4) WFIAC-500-JC, Fountain in a Can, Jet Cluster (1) C003, Color Cast Orbit (1) C015, Color Cast Zen Shower (4) C019C(90), Color Cast Snoot Shooter (1) MS14-2A1B, Massive Splash (1) W012C, Water Cage (2) W036C, Baby Long Legs (1) W057, Water Sprout (1) W071, Water Flower (2) W074(A), Water Wickets 13' Arch (2) W074(B), Water Wickets 12' Arch (1) W124, Pony Tail (1) W139, Water Maypole (1) W355, Lotus Petal (6) W380, Water Wand Mini Series (1) W009, Touch & Go Bollard (2) W017, Launch Pad, Wire Activator (deck mounted) (1) CGD-10, Glow Dome Controller (1) DSC-8-16, Dynamic Sequencing Controller (3) WMM-600R, Maintenance Minimizer Round Drain &	188,150.00	188,150.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Off-loading included if delivery coordinated with installation. Items not included unless specified: hard dig, difficult site access, excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, prevailing wages, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, or Premier Construction AZROC #252011 and NV #85971 / 86185. Play It Safe reserves the right to invoice for stored materials or ship to customer for storage before install.

Total

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
12/8/2021	12131

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x 23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASH PAD - CONCEPT 1 REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	

Qty	U/M	Description	Unit Price	Total
		Sediment Trap (1) DM-4000-08-BR-WM, 4" Manifold 8 Ports, Bronze Valves Wall Mount (1) DM-4000-12-BR-WM, 4" Manifold 12 Ports, Bronze Valves Wall Mount		
1	lump s...	Freight & Crating	8,000.00	8,000.00
		SITE WORK & INSTALLATION		
1	lump s...	HS 501: Install flow thru splash pad per Water Odyssey Design W22785-2A-R3 (Concept 1, Revision 3), Flow Thru System, Wall Mount Control System, includes all labor and materials. HS-503: 1825 SF of Standard Gray Heavy Broom Finish Concrete HS-503: 1610 SF of SW6958 - Dynamic Blue Stained Concrete *Controller to be wall mounted within 100' of splash pad at closet in restroom building. Haul spoils.	342,025.00	342,025.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Off-loading included if delivery coordinated with installation. Items not included unless specified: hard dig, difficult site access, excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, prevailing wages, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, or Premier Construction AZROC #252011 and NV #85971 / 86185. Play It Safe reserves the right to invoice for stored materials or ship to customer for storage before install.

Total

Customer acceptance signature

7931 E Pecos Rd #160
Mesa, AZ 85212
ph 480-347-8486 fax 480-783-2427
AZ ROC #294843 / NV Lic #0082749

Estimate

Date	Estimate #
12/8/2021	12131

Customer Information:	Ship To
Willmeng Construction Keyvan Ghahreman / 480-968-4755 x 23 2048 N 44th St #200 Phoenix, AZ 85008	Sundance Park 22865 W Lower Buckeye Rd Buckeye, AZ 85326 SPLASH PAD - CONCEPT 1 REVISION 3

Contact	Terms	FOB	Lead Time
JM	Per Contract	Buckeye	

Qty	U/M	Description	Unit Price	Total
		** Exclusions - sales tax, temporary fencing, private locating, site prep, permits, permit submittal, electrical work, bonds, engineering, site plans, traffic control, temporary or permanent utilities, dumpster, dumpster fees, surveying, concrete testing, mechanical room and/or chemical room, chemical storage tanks, water treatment chemicals, Environmental Quality permit. ** Excavation by others to be provided at 12" below finish grade. ** Quote assumes system will fit in closet. ** Sales tax not included - exemption letter required before order is placed. ** Quote does not include excavation, temporary fencing or private locating. ** Glow dome controller and wiring for glow domes included. Appropriately sized water (with RPBV) and electric line to be provided at controller location by others. Drain line to be provided at splash pad by others. Clear and open access to site of installation to be provided during the splash pad installation phase. Allow 90 days for installation of splash pad not including staining of concrete.		
		Resale - No Tax	0.00%	0.00

Thank you for your business!

Valid for 30 days. Playstructure install includes private utility locating unless specified. Changes to scope, rock, poor soil conditions, water in excavation, unforeseen conditions may incur added charges. Off-loading included if delivery coordinated with installation. Items not included unless specified: hard dig, difficult site access, excavation, site prep, grading, levelling, removal, relocation/repair to existing utility/sprinkler lines, temp fencing, formed concrete, spoils removal from site, site vandalism, sales tax, bonds, prevailing wages, permits, permit submittal, permit costs including architect site plans. 3.5% fee may be added if paid by P-card or credit card. Work may be done by Flexground AZROC #288687 / 283192, Flexground NV #0076764 / 0077757, or Premier Construction AZROC #252011 and NV #85971 / 86185. Play It Safe reserves the right to invoice for stored materials or ship to customer for storage before install.

Total $538,175.00

Customer acceptance signature

ARIZONA CORPORATE BUILDERS, LLC
STEEL BUILDING SPECIALIST

1555 W. University Drive, Suite 108
Tempe, Arizona 85281
(480) 967-0969 phone
(480) 967-2050 fax
ROC NO. 212723 213134

June 25th, 2021 **ACB QUOTE # M21156**

Anita Wisenbaugh
Willmeng Construction
2048 N. 44th St #200, Ste 200, Phoenix, AZ 85008
(602) 803-3513
VIA EMAIL: awisenbaugh@willmeng.com

Re: Proposal for 2 Ramada's for Sundance Park in Buckeye, Arizona.

Arizona Corporate Builders, LLC (ACB) hereby submits the following **STEEL BUILDING SYSTEMS supply and erect p**roposal for 2 Ramada's for Sundance Park in Buckeye, Arizona. This proposal is based on 90% drawings by J2 Engineering & Environmental Design dated 4/30/2021 and per the following abstract.

STEEL BUILDING SYSTEM DESCRIPTION:

***50 x 120*:** Tapered column clear span steel building system 50'-0" wide x 120'-0" long x 18'-4" eave height. Nonexpendable end wall frames or expandable end wall frames. 1/2:12 roof slope. Bypass Endwall Girts with Flush sidewalls girts. Bay Spacing's are 4 @ 30'-7". High and low eaves will have a roof extension of 3'4". Column setbacks will account for the gable extensions.

***40 x 50*:** Tapered column clear span frame steel building system 40' wide x 50'-4" long x 18'4" eave height. Post & beam, nonexpendable end wall frames or expandable end wall frames. 1/2:12 roof slope. Bypass-Inset-Flush Girts at sidewalls and at end walls. Bay Spacing's are 2 @ 25'-2". High and low eaves will have a roof extension of 3'4". Column setbacks will account for the gable extensions.

***All Framing Steel will have a red primer coat only. Any finish painting of the steel will be by others.**

DESIGN PARAMETERS:

- IBC 2018 Building Code
- Building Occupancy Classification: Normal Class II
- 20 PSF Live Load (reducible)
- 0 PSF Ground Snow
- 105 MPH Wind Load Exposure C
- 5 PSF Collateral Load
- Seismic Design: Ss = 0.164, S1 = 0.073
- Site Class D
- Standard deflections.
- Fabricator Inspection Program for Manufacturers of Metal Building Systems MB-107: **STEEL BUILDING SYSTEMS** is in compliance with the Manufactures of Metal Building Systems **(AC472)** requirements for accreditation and is recognized under Section 1704.2.5.1 of the 2015 or 2018 International Building Code.
- **Note:** ***To the best of our knowledge, the design criteria listed above meets the governing building code. The "Engineer of Record" is responsible for verifying the design criteria. The engineer employed by the steel building manufacturer does not serve as the "Engineer of Record". A change in the design requirements may affect the building price.***

BRACING:
Lateral Bracing will be accomplished with X-bracing and portal frames as needed. Some coordination with framed openings will be required.

ROOF SHEETING:
Roof panels to be through fastened 26 gauge 'R' panel lap seam roofing (36" wide x 11/4" ribs @ 12" o/c) in a factory standard 25 year silicon polyester paint finish warranty. Roof is complete with necessary sealants, trim and fasteners. .

WALL SHEETING:
Walls open to wind

ANCHOR BOLTS:
Anchor bolts are included in the quote and are based on the design by the engineer of record. Physical templates and/or shoring for the bolts are not provide

WARRANTIES:
1. Panel Finish Warranty 25-years.
2. 1 Year for Workmanship

ENGINEERING & SHOP DRAWINGS:
Includes One (1) sets of **STEEL BUILDING SYSTEMS** shop drawings, including column location plan and structural calculations sealed by an Arizona registered engineer for the steel building system. Drawings and calculations will be available digitally. Note: Foundation design is not included and is the responsibility of the engineer of record.

BUILDING OPENINGS and ACCESSORIES:
1. All wall open to weather.
2. 3'-4" Eave extensions on both buildings.
   a. Gable extensions will be accommodated with the column setbacks.

PROPOSAL EXCLUSIONS:
- Textura Fees.
- Roof Curbs
- Roof Hatches.
- Bird Netting.
- Sales or use taxes of any kind.
- Sun Shades of any kind.
- Finish painting of steel.
- Jamb Wrap Trim
- Galvanizing of any structural steel.
- Grouting or dry-pack of any kind.
- Special Inspection fees of any kind.
- Cleaning of steel after delivery to jobsite.
- Mezzanine structure including beams, B-deck, ledger, etc.
- Embeds and miscellaneous metals including masonry lintels.
- Misc. steel and structural steel (i.e. any steel sized on drawings, etc.).
- Perforated metal panels.
- Caulking of other materials.
- Fire caulking at firewalls.
- Dump Fees
- Professional surveyor to check layout. ACB to be provided with at least (1) leveling nut to required grade.
- Footing and foundation design.
- Flashings and trims associated with non-metal roof systems.

- Underlayment (Tyvek) of any kind.
- Wood work of any kind (blocking, substrates, etc.).
- Metal blocking or strapping required by other trades for their installations.
- Skylights of any kind (tubular, etc.).
- Composite wall panels.
- Metal wall sheeting for conventional steel structures.
- Metal stud work of any kind.
- Any steel that is designed and sized on the bid documents. This is usually picked up by the Misc. Steel package.
- Interior roof drains for interior gutters.
- Misc. backing and blocking for other trades unless specifically called out in this proposal.
- Cleaning or extreme straightening of anchor bolts.
- Dust abatement activities (i.e. vibration pads, water trucks, etc.).
- Contractual indemnification of others by ACB.
- Prevailing wages, premium wages, Davis Bacon Act wages.
- Provisions for Factory Mutual requirements (i.e. FM-60, FM-90, etc.).
- Provisions for Buy American or Buy America Act requirements.
- Liquidated or actual damages. (this is subject to negotiation).

Anything not specifically listed above

ADDITIONAL CLARIFICATIONS:

- All primary and secondary steel provided in this proposal will be primed with a red oxide primer. Please note that primer is not intended to be a finish paint system. It is intended to protect steel in transport to the jobsite.
- The pricing of this project has assumed that all the materials will be able to ship at a continuous time-frame.
- Contractor to provide access ramps onto the slabs for safe access of forklifts.
- Common walls between buildings are open to framing by others.
- ACB is not carrying any taxes in this pricing. This can be added per request.
- The cost of restricted access is excluded. ACB shall be provided with level access for 24 feet around the full perimeter of the building and the entire floor slab for men, materials and equipment. An adequate lay-down and shake-out area shall be provided adjacent to the access area.
- ACB standard insurance coverage: Commercial General Liability $1 million each occurrence, $2 million general aggregate and $2 million products and completed operations aggregate; Automobile Liability Any Auto $1 million combined single limit; Workman's Compensation Insurance Employer Liability Limits $1,000,000/1,000,000/1,000,000.
- Any separate contract agreement for this work made as a result of this proposal shall be subject to the terms of this proposal in its entirety whether or not this proposal is referenced in the contract. Changes to the inclusions, exclusions and other terms of this proposal shall be void unless agreed to in writing by ACB.
- This quote is good for 30 days, subject to factory increases. Lead times for engineering and materials vary depending upon if the building requires architect approval or if it can be fabricated immediately. Duration commitments can be made at time of order subject to factory backlog. Monthly progress billings will be invoiced by the end of each month, with payment due by the 20th of the following month. Any unpaid balances will accrue interest per Arizona state law. We have figured that payment methods and procedures will follow the Arizona Prompt Pay Law.
- This proposal is subject to reasonable contractual terms.
- No provisions have been included for protection of concrete from tire marks. Typical erection includes the use of extended reach fork-lifts, scissor lifts and man lifts within the building envelope. The rubber tires from this equipment can be expected to leave marks on the concrete. The cleaning or protection from such marks has not been included in this cost.
- (1) mobilization has been included for red iron steel erecting. Additional mobilizations can be provided at additional costs.
- No provisions are included for site specific or special safety training other than the basic OSHA training unless noted otherwise.

PRICING BREAKDOWN:

Arizona Corporate Builders, LLC will supply the above described building for the lump sum price of:

50x120 BASE BID	**$ 170,883.00**	Excluding Tax & Bonds.
40x50 BASE BID	**$ 85,036.00**	Excluding Tax & Bonds

PRICE ESCALATIONS:

Proposed price is based on steel ordered by 7/12/2021 & shipped by TBD. If the above shown order or ship date is not met, the client may incur steel building material cost increases caused by the current volatile steel market. The client will only be responsible for the additional bare costs incurred to us by our manufacturer with-out any added overhead and profit. Sales tax and bond to be added if applicable.

SCHEDULE LEAD TIMES:

1.	Preliminary Reactions for Concrete Foundation:	TBD	days from Notice to Proceed
2.	Stamped Reactions and Anchor Rod Layouts:	TBD	weeks from Notice to Proceed
3.	Final Engineering Packet:	TBD	weeks from Notice to Proceed
4.	Fabrication and Delivery:	TBD	weeks from Release to Fab to start of delivery
5.	Erecting		
	a. Red Iron:	TBD	weeks from delivery
	b. Sheeting and Trims:	INCLUDED	

Respectfully Submitted;

Arizona Corporate Builders, LLC

Jay Sitek - Estimator
Office: 480-967-0969
Cell: 920-843-0226

ARIZONA CORPORATE BUILDERS, LLC
STEEL BUILDING SPECIALIST

1555 W. University Drive, Suite 108
Tempe, Arizona 85281
(480) 967-0969 phone
(480) 967-2050 fax
ROC NO. 212723 213134

June 25th, 2021 - R3 11/5/21 **ACB QUOTE # M21156**

Mike Ploeger
Willmeng Construction
2048 N. 44th St #200, Ste 200, Phoenix, AZ 85008
(o) (480) 968-4755 (c) (480) 487-6810
VIA EMAIL: mploeger@willmeng.com

Re: Proposal for 2 Ramada's for Sundance Park in Buckeye, Arizona.

Arizona Corporate Builders, LLC (ACB) hereby submits the following **STEEL BUILDING SYSTEMS supply and erect p**roposal for 2 Ramada's for Sundance Park in Buckeye, Arizona. This proposal is based on 90% drawings by J2 Engineering & Environmental Design dated 4/30/2021 and per the following abstract.

STEEL BUILDING SYSTEM DESCRIPTION:

***50 x 120*:** Tapered column clear span steel building system 50'-0" wide x 120'-0" long x 18'-4" eave height. Nonexpendable end wall frames or expandable end wall frames. 1/2:12 roof slope. Bypass Endwall Girts with Flush sidewalls girts. Bay Spacing's are 4 @ 30'-7". High and low eaves will have a roof extension of 3'4". Column setbacks will account for the gable extensions.

***40 x 50*:** Tapered column clear span frame steel building system 40' wide x 50'-4" long x 18'4" eave height. Post & beam, nonexpendable end wall frames or expandable end wall frames. 1/2:12 roof slope. Bypass-Inset-Flush Girts at sidewalls and at end walls. Bay Spacing's are 2 @ 25'-2". High and low eaves will have a roof extension of 3'4". Column setbacks will account for the gable extensions.

***All Framing Steel will have a red primer coat only. Any finish painting of the steel will be by others.**

DESIGN PARAMETERS:

- IBC 2018 Building Code
- Building Occupancy Classification: Normal Class II
- 20 PSF Live Load (reducible)
- 0 PSF Ground Snow
- 105 MPH Wind Load Exposure C
- 5 PSF Collateral Load
- Seismic Design: Ss = 0.164, S1 = 0.073
- Site Class D
- Standard deflections.
- Fabricator Inspection Program for Manufacturers of Metal Building Systems MB-107: **STEEL BUILDING SYSTEMS** is in compliance with the Manufactures of Metal Building Systems **(AC472)** requirements for accreditation and is recognized under Section 1704.2.5.1 of the 2015 or 2018 International Building Code.
- **Note:** ***To the best of our knowledge, the design criteria listed above meets the governing building code. The "Engineer of Record" is responsible for verifying the design criteria. The engineer employed by the steel building manufacturer does not serve as the "Engineer of Record". A change in the design requirements may affect the building price.***

BRACING:
Lateral Bracing will be accomplished with X-bracing and portal frames as needed. Some coordination with framed openings will be required.

ROOF SHEETING:
Roof panels to be through fastened 26 gauge 'R' panel lap seam roofing (36" wide x 11/4" ribs @ 12" o/c) in a factory standard 25 year silicon polyester paint finish warranty. Roof is complete with necessary sealants, trim and fasteners. .

WALL SHEETING:
Walls open to wind

ANCHOR BOLTS:
Anchor bolts are included in the quote and are based on the design by the engineer of record. Physical templates and/or shoring for the bolts are not provide

WARRANTIES:
1. Panel Finish Warranty 25-years.
2. 1 Year for Workmanship

ENGINEERING & SHOP DRAWINGS:
Includes One (1) sets of **STEEL BUILDING SYSTEMS** shop drawings, including column location plan and structural calculations sealed by an Arizona registered engineer for the steel building system. Drawings and calculations will be available digitally. Note: Foundation design is not included and is the responsibility of the engineer of record.

BUILDING OPENINGS and ACCESSORIES:
1. All wall open to weather.
2. 3'-4" Eave extensions on both buildings.
   a. Gable extensions will be accommodated with the column setbacks.

PROPOSAL EXCLUSIONS:
- Textura Fees.
- Roof Curbs
- Roof Hatches.
- Bird Netting.
- Sales or use taxes of any kind.
- Sun Shades of any kind.
- Finish painting of steel.
- Jamb Wrap Trim
- Galvanizing of any structural steel.
- Grouting or dry-pack of any kind.
- Special Inspection fees of any kind.
- Cleaning of steel after delivery to jobsite.
- Mezzanine structure including beams, B-deck, ledger, etc.
- Embeds and miscellaneous metals including masonry lintels.
- Misc. steel and structural steel (i.e. any steel sized on drawings, etc.).
- Perforated metal panels.
- Caulking of other materials.
- Fire caulking at firewalls.
- Dump Fees
- Professional surveyor to check layout. ACB to be provided with at least (1) leveling nut to required grade.
- Footing and foundation design.
- Flashings and trims associated with non-metal roof systems.

- Underlayment (Tyvek) of any kind.
- Wood work of any kind (blocking, substrates, etc.).
- Metal blocking or strapping required by other trades for their installations.
- Skylights of any kind (tubular, etc.).
- Composite wall panels.
- Metal wall sheeting for conventional steel structures.
- Metal stud work of any kind.
- Any steel that is designed and sized on the bid documents. This is usually picked up by the Misc. Steel package.
- Interior roof drains for interior gutters.
- Misc. backing and blocking for other trades unless specifically called out in this proposal.
- Cleaning or extreme straightening of anchor bolts.
- Dust abatement activities (i.e. vibration pads, water trucks, etc.).
- Contractual indemnification of others by ACB.
- Prevailing wages, premium wages, Davis Bacon Act wages.
- Provisions for Factory Mutual requirements (i.e. FM-60, FM-90, etc.).
- Provisions for Buy American or Buy America Act requirements.
- Liquidated or actual damages. (this is subject to negotiation).

Anything not specifically listed above

ADDITIONAL CLARIFICATIONS:

- All primary and secondary steel provided in this proposal will be primed with a red oxide primer. Please note that primer is not intended to be a finish paint system. It is intended to protect steel in transport to the jobsite.
- The pricing of this project has assumed that all the materials will be able to ship at a continuous time-frame.
- Contractor to provide access ramps onto the slabs for safe access of forklifts.
- Common walls between buildings are open to framing by others.
- ACB is not carrying any taxes in this pricing. This can be added per request.
- The cost of restricted access is excluded. ACB shall be provided with level access for 24 feet around the full perimeter of the building and the entire floor slab for men, materials, and equipment. An adequate lay-down and shake-out area shall be provided adjacent to the access area.
- ACB standard insurance coverage: Commercial General Liability $1 million each occurrence, $2 million general aggregate and $2 million products and completed operations aggregate; Automobile Liability Any Auto $1 million combined single limit; Workman's Compensation Insurance Employer Liability Limits $1,000,000/1,000,000/1,000,000.
- Any separate contract agreement for this work made as a result of this proposal shall be subject to the terms of this proposal in its entirety whether or not this proposal is referenced in the contract. Changes to the inclusions, exclusions and other terms of this proposal shall be void unless agreed to in writing by ACB.
- This quote is good for 14 days, subject to factory increases. Lead times for engineering and materials vary depending upon if the building requires architect approval or if it can be fabricated immediately. Duration commitments can be made at time of order subject to factory backlog. Monthly progress billings will be invoiced by the end of each month, with payment due by the 20th of the following month. Any unpaid balances will accrue interest per Arizona state law. We have figured that payment methods and procedures will follow the Arizona Prompt Pay Law.
- This proposal is subject to reasonable contractual terms.
- No provisions have been included for protection of concrete from tire marks. Typical erection includes the use of extended reach fork-lifts, scissor lifts and man lifts within the building envelope. The rubber tires from this equipment can be expected to leave marks on the concrete. The cleaning or protection from such marks has not been included in this cost.
- (1) mobilization has been included for red iron steel erecting. Additional mobilizations can be provided at additional costs.
- No provisions are included for site specific or special safety training other than the basic OSHA training unless noted otherwise.

PRICING BREAKDOWN:

Arizona Corporate Builders, LLC will supply the above described building for the lump sum price of:

50x120 BASE BID R3	**$ 182,879.00**	Excluding Tax & Bonds.
40x50 BASE BID R3	**$ 89,322.00**	Excluding Tax & Bonds

Engineering – For ACB to provide engineering for the Above Buildings the cost will be **$27,220.14**. This pricing is included in the above costs. This cost will be non-refundable if this project is canceled.

PRICE ESCALATIONS:

Proposed price is based on steel ordered by 11/18/2021 & shipped by TBD/2022. If the above shown order or ship date is not met, the client may incur steel building material cost increases caused by the current volatile steel market. The client will only be responsible for the additional bare costs incurred to us by our manufacturer with-out any added overhead and profit. Sales tax and bond to be added if applicable.

SCHEDULE LEAD TIMES:

1.	Preliminary Reactions for Concrete Foundation:	TBD	days from Notice to Proceed
2.	Stamped Reactions and Anchor Rod Layouts:	TBD	weeks from Notice to Proceed
3.	Final Engineering Packet:	TBD	weeks from Notice to Proceed
4.	Fabrication and Delivery:	TBD	weeks from Release to Fab to start of delivery
5.	Erecting		
	a. Red Iron:	TBD	weeks from delivery
	b. Sheeting and Trims:	INCLUDED	

Respectfully Submitted;

Arizona Corporate Builders, LLC

Jay Sitek - Estimator
Office: 480-967-0969
Cell: 920-843-0226

RYAN MECHANICAL COMPANY
1325 N. Mondel Drive • Gilbert, Arizona 85233 (480) 497-4526 • FAX (480) 497-4527
C-37R 098919 • L-37 080516 • L-39 097541
www.ryanmechanical.com

June 25th, 2021
A PLUMBING Proposal For
Buckeye, Sundance Park Phase II

Below please find our price for the above listed project. We are providing this bid to insure that you have coverage. Please contact us to review scheduling before awarding this project

PROVIDE & INSTALL: **ADDENDA:** none

1) All plumbing, piping, & fixtures per plan & spec. to 5' out.

TOTAL PRICE…….. $91,214.00

Alt: Add per-Site EDF,(not shown) $8,500.00ea
(includes EDF 5' sewer, 5'-water & drywell)

Bond= + 1.5%

EXCLUSIONS:

1) Permits, fees, taxes & bond.
2) Overflow Drains, Gutter Drains, Scuppers, or Downspouts.
3) **Night Work 5:00PM-3:00AM, (We have early mornings for demolition/noisy work). We cannot do night work at this time.**
4) Material Sales Tax.
5) Mechanical/HVAC/Fire Risers/Cooler Drains/Meters/Gas/Condensates.
6) Site Work, Civil Work, Utility Relocation, Rock/Caliche Excavation, Temporary water, Imported Fills or Spoils Removal

Sincerely,

Joseph P. Ryan
RYAN MECHANICAL CO.
joe@ryanmechanical.com

The Ultimate Plumber, LLC
713 N. 96th Place
Mesa, AZ 85207
estimating@theultimateplumber.com

ROC# 234629
P. (480) 986-7586

PROPOSAL FOR PLUMBING SERVICE

Date:	6/24/2021		
Customer:	Willmeng	**Contact:**	Estimating
Address:		**Phone:**	
Project Name:	**Buckeye Sundance Park Phase II**	**E-Mail:**	
Project Address:			

Thank you for the opportunity to bid on this project. This bid is per plans dated: **4/29/2021**
Addendum(s) # _____ thru _____ Acknowledged in this bid.

This bid includes labor and material for the following:

1	drinking fountain
4	floor drains
2	hose bibbs
5	lavatories
1	mop sink
3	urinals
8	water closets
1	water heater package w/ recirc pump

This bid is for cast iron waste and vent. Copper for all water lines.

Alt.#1		
Alt.#2		
Alt.#3		
VE Option		
Sales Tax	*Sales tax not included, add to total if MRRA* *FEIN 26-0280410 State Tax ID 20172454-F*	$4,540.80

Total Base Bid: **$ 97,000.00**

This bid Excludes the following:

Sales Tax; Premium Labor; Davis Bacon Wages; Badging Fees; Permit Fees; Remobilization; Any work 5' beyond building;
Difficult Dig; Dirt Spoil Haul Away; Any & All Concrete or Asphalt Work; Post Tension X-Ray
Any & All Cast Iron; Any & All Welding; Condensates Roof Drains inside Block Walls;
Fire or Chiller Lines; Grease Interceptor; Water Sterilization; or Any Item not mentioned in above inclusions

THIS PROPOSAL IS GOOD FOR 7 DAYS

Payment terms: Net due upon receipt unless otherwise stated
Each phase is to be invoiced as completed, including any change orders

Upon signing this proposal, you agree to the terms set forth and this becomes our binding contract as well as apart of any contract documents. Prime contractors please complete an AZ form 5005 if this is not an MRRA project. If you are not a prime contractor, sales tax on material will be added to the total bid even if not stated above. As a standard practice The Ultimate Plumber, LLC files.
pre-lien forms for every job

Accepted for: Date: _____

Signature: _____ Title: _____

The Ultimate Plumber, LLC
713 N. 96th Place
Mesa, AZ 85207
estimating@theultimateplumber.com

ROC# 234629
P. (480) 986-7586

PROPOSAL FOR PLUMBING SERVICE

Date:	8/4/2021		
Customer:	Willmeng	**Contact:**	Estimating
Address:		**Phone:**	
Project Name:	**Buckeye Sundance Park Phase II**	**E-Mail:**	
Project Address:			

Thank you for the opportunity to bid on this project. This bid is per plans dated: **4/29/2021**
Addendum(s) # thru Acknowledged in this bid.

This bid includes labor and material for the following:

2	drinking fountains
4	floor drains
2	hose bibbs
5	lavatories
1	mop sink
3	urinals
8	water closets
1	water heater package w/ recirc pump

This bid is for cast iron waste and vent. Copper for all water lines.

Alt.#1		
Alt.#2		
Alt.#3		
VE Option		
Sales Tax	*Sales tax not included, add to total if MRRA* *FEIN 26-0280410 State Tax ID 20172454-F*	$5,084.75

Total Base Bid: **$ 110,000.00**

This bid Excludes the following:

Sales Tax; Premium Labor; Davis Bacon Wages; Badging Fees; Permit Fees; Remobilization; Any work 5' beyond building;
Difficult Dig; Dirt Spoil Haul Away; Any & All Concrete or Asphalt Work; Post Tension X-Ray
Any & All Cast Iron; Any & All Welding; Condensates Roof Drains inside Block Walls;
Fire or Chiller Lines; Grease Interceptor; Water Sterilization; or Any Item not mentioned in above inclusions

THIS PROPOSAL IS GOOD FOR 7 DAYS

Payment terms: Net due upon receipt unless otherwise stated
Each phase is to be invoiced as completed, including any change orders

Upon signing this proposal, you agree to the terms set forth and this becomes our binding contract as well as apart of any contract documents. Prime contractors please complete an AZ form 5005 if this is not an MRRA project. If you are not a prime contractor, sales tax on material will be added to the total bid even if not stated above. As a standard practice The Ultimate Plumber, LLC files.
pre-lien forms for every job

Accepted for: Date: _____

Signature: _____ Title: _____

The Ultimate Plumber, LLC
713 N. 96th Place
Mesa, AZ 85207
estimating@theultimateplumber.com

ROC# 234629
P. (480) 986-7586

PROPOSAL FOR PLUMBING SERVICE

Date:	11/4/2021		
Customer:	Willmeng	**Contact:**	Estimating
Address:		**Phone:**	
Project Name:	**Buckeye Sundance Park Phase II**	**E-Mail:**	
Project Address:			

Thank you for the opportunity to bid on this project. This bid is per plans dated: **4/29/2021**
Addendum(s) # thru Acknowledged in this bid.

This bid includes labor and material for the following:

2	drinking fountains
4	floor drains
2	hose bibbs
5	lavatories
1	mop sink
3	urinals
8	water closets
1	water heater package w/ recirc pump

This bid is for cast iron waste and vent. Copper for all water lines.

Alt.#1		
Alt.#2		
Alt.#3		
VE Option		
Sales Tax	*Sales tax not included, add to total if MRRA* *FEIN 26-0280410 State Tax ID 20172454-F*	$5,330.71

Total Base Bid: **$ 113,500.00**

This bid Excludes the following:

Sales Tax; Premium Labor; Davis Bacon Wages; Badging Fees; Permit Fees; Remobilization; Any work 5' beyond building;
Difficult Dig; Dirt Spoil Haul Away; Any & All Concrete or Asphalt Work; Post Tension X-Ray
Any & All Cast Iron; Any & All Welding; Condensates Roof Drains inside Block Walls;
Fire or Chiller Lines; Grease Interceptor; Water Sterilization; or Any Item not mentioned in above inclusions

THIS PROPOSAL IS GOOD FOR 7 DAYS

Payment terms: Net due upon receipt unless otherwise stated
Each phase is to be invoiced as completed, including any change orders

Upon signing this proposal, you agree to the terms set forth and this becomes our binding contract as well as apart of any contract documents. Prime contractors please complete an AZ form 5005 if this is not an MRRA project. If you are not a prime contractor, sales tax on material will be added to the total bid even if not stated above. As a standard practice The Ultimate Plumber, LLC files.
pre-lien forms for every job

Accepted for: Date: _____

Signature: _____ Title: _____

Proposal

ECHO CANYON ELECTRIC, INC.
QUALITY SERVICE AZ LIC. NO C-11 073762
2820 E MOHAWK LANE, PHOENIX, AZ 85050
(602) 331-3045 FAX (602) 331-3773

PROPOSAL SUBMITTED TO	WILLMENG CONSTRUCTION, INC.		DATE 6/25/2021
STREET		JOB NAME	BUCKEYE SUNDANCE PARK
CITY, STATE and ZIP CODE		JOB LOCATION	BUCKEYE, AZ
ARCHITECT WRIGHT	DATE OF PLANS 4/30/2021		

We Hereby submit specifications and estimates for:

ELECTRICAL PER PLANS & SPEC'S (0) ADDENDA

	Excludes:		Includes:
1	Permit Fees & Sales Tax	1	Electrical
2	Fence & Gate Grounding	2	Musco lighting quote is broken up per break out
3	Utility Company charges	3	All gear will be purchased in GMP 2
4	Formed concrete or asphalt, saw cutting, removal of all materials & patch back	4	The entire lighting package is included in GMP 3
5	Hard Dig	5	Rest room building electrical
6	Dumpster & dumpster fees	6	Aluminum bussing and windings in gear
7	Spoils removal and/or haul-off from site	7	Trenching and back fill with native soil
8	HVAC Control Cabinets, control conduit & wire	8	Lighting control
9	Special Systems		
10	BIM		
11	Special Tests / Testing		
12	Conduit Painting		
13	Survey & Survey Fees		
14	Off-site utilities, street crossings & street lights		
15	All Spare Parts		
16	**Primary and Secondary work for APS**		
17	Sand or slurry back fill for trenches		**GMP 2 (INCLUDES GEAR FULL PACKAGE) $142,460.00**
18	Splash pad wiring and grounding		**GMP 3 (INCLUDES FULL LTG PACKAGE) $966,318.00**
19	Pump / Lake controls conduit		**GMP 4 SOUTH SOCCER FIELDS $415,765.00**
20	Vandal proof pull boxes		**GMP # 4 $66,124.00**
21			

DO TO THE FLUCTUATING COMMODITIES OUR QUOTE ON MATERIAL IS ONLY GOOD FOR 10 DAYS

We propose hereby to furnish material and labor - with a one year warranty, for the sum of:

Dollars ($ 1,590,667.00)

payment to be made as follows:

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized Signature *Ryan Ogg*
RYAN OGG
Note: This Proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal The above prices, specifications and conditions are satisfactory and hereby accepted. You are authorized to do work as specified. Payment will be made as outlined above.

Signature _____

Date of Acceptance: _____ Signature _____

Proposal

ECHO CANYON ELECTRIC, INC.
QUALITY SERVICE AZ LIC. NO C-11 073762
2820 E MOHAWK LANE, PHOENIX, AZ 85050
(602) 331-3045 FAX (602) 331-3773

PROPOSAL SUBMITTED TO	WILLMENG CONSTRUCTION, INC.		DATE 10/29/2021
STREET		JOB NAME	BUCKEYE SUNDANCE PARK
CITY, STATE and ZIP CODE		JOB LOCATION	BUCKEYE, AZ
ARCHITECT WRIGHT	DATE OF PLANS 4/30/2021		

We Hereby submit specifications and estimates for:

ELECTRICAL PER PLANS & SPEC'S (0) ADDENDA

	Excludes:		Includes:
1	Permit Fees & Sales Tax	1	Electrical
2	Fence & Gate Grounding	2	Musco lighting quote is broken up per break out
3	Utility Company charges	3	All gear will be purchased in GMP 2
4	Formed concrete or asphalt, saw cutting, removal of all materials & patch back	4	The entire lighting package is included in GMP 3
5	Hard Dig	5	Rest room building electrical
6	Dumpster & dumpster fees	6	Aluminum bussing and windings in gear
7	Spoils removal and/or haul-off from site	7	Trenching and back fill with native soil
8	HVAC Control Cabinets, control conduit & wire	8	Lighting control
9	Special Systems		BUDGETS
10	BIM		RAMADA RECEPTS $111,709.00 JUST CONDUIT $31,973.00
11	Special Tests / Testing		MUSCO 50A RECEPTS $295,675.00 JUST CONDUIT $101,084.00
12	Conduit Painting		ADD 3 TYPE D POLES $15,844.00
13	Survey & Survey Fees		UP SIZING GEAR $181,425.00
14	Off-site utilities, street crossings & street lights		**ADDER FOR GROUNDING PER SHEET HS-101 $33,065.00**
15	All Spare Parts		**ADDER FOR COPPER BUSSING IN GEAR $3,052.00**
16	**Primary and Secondary work for APS**		*MUSCO LIGHTING MUST BE PURCHASED IN 2021*
17	Sand or slurry back fill for trenches		**GMP 2 (INCLUDES GEAR FULL PACKAGE) $168,616.00**
18	Splash pad wiring and grounding		**GMP 3 (INCLUDES FULL LTG PACKAGE) $1,058,117.00**
19	Pump / Lake controls conduit		**GMP 4 SOUTH SOCCER FIELDS $429,940.00**
20	Vandal proof pull boxes		**GMP # 4 $81,697.00**
21			

DO TO THE FLUCTUATING COMMODITIES OUR QUOTE ON MATERIAL IS ONLY GOOD FOR 10 DAYS

We propose hereby to furnish material and labor - with a one year warranty, for the sum of:

Dollars (**$ 1,738,370.00**)

payment to be made as follows:

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized Signature *Ryan Ogg*
RYAN OGG
Note: This Proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal The above prices, specifications and conditions are satisfactory and hereby accepted. You are authorized to do work as specified. Payment will be made as outlined above.

Signature _____

Date of Acceptance: _____ Signature _____

Proposal

ECHO CANYON ELECTRIC, INC.
QUALITY SERVICE AZ LIC. NO C-11 073762
2820 E MOHAWK LANE, PHOENIX, AZ 85050
(602) 331-3045 FAX (602) 331-3773

PROPOSAL SUBMITTED TO	WILLMENG CONSTRUCTION, INC.		DATE 12/16/2021
STREET		JOB NAME	BUCKEYE SUNDANCE PARK
CITY, STATE and ZIP CODE		JOB LOCATION	BUCKEYE, AZ
ARCHITECT WRIGHT	DATE OF PLANS 4/30/2021		

We Hereby submit specifications and estimates for:

ELECTRICAL PER PLANS & SPEC'S (0) ADDENDA

	Excludes:		Includes:
1	Permit Fees & Sales Tax	1	Electrical
2	Fence & Gate Grounding	2	Musco lighting quote is broken up per break out
3	Utility Company charges	3	All gear will be purchased in GMP 2 (see adder for 1600 amp)
4	Formed concrete or asphalt, saw cutting, removal of all materials & patch back	4	The entire lighting package is included in GMP 3 (not Musco GMP 4)
5	Hard Dig	5	Rest room building electrical
6	Dumpster & dumpster fees	6	Aluminum bussing and windings in gear
7	Spoils removal and/or haul-off from site	7	Trenching and back fill with native soil
8	HVAC Control Cabinets, control conduit & wire	8	Lighting control
9	Special Systems		BUDGETS
10	BIM		RAMADA RECEPTS $111,709.00 JUST CONDUIT $31,973.00
11	Special Tests / Testing		MUSCO 50A RECEPTS $295,675.00 JUST CONDUIT $101,084.00
12	Conduit Painting		ADD 3 TYPE D POLES $15,844.00
13	Survey & Survey Fees		**UP SIZING GEAR $201,076.00**
14	Off-site utilities, street crossings & street lights		**ADDER FOR GROUNDING PER SHEET HS-101 $33,065.00**
15	All Spare Parts		**ADDER FOR COPPER BUSSING IN GEAR $3,052.00**
16	**Primary and Secondary work for APS**		*MUSCO LIGHTING MUST BE PURCHASED IN 2021*
17	Sand or slurry back fill for trenches		**GMP 2 (INCLUDES GEAR FULL PACKAGE) $168,616.00**
18	Splash pad wiring and grounding		***GMP 3 (INCLUDES FULL LTG PKG) $1,065,678.00***
19	Pump / Lake controls conduit		**GMP 4 SOUTH SOCCER FIELDS $429,940.00**
20	Vandal proof pull boxes		***GMP # 4 $81,697.00***
21			

DO TO THE FLUCTUATING COMMODITIES OUR QUOTE ON MATERIAL IS ONLY GOOD FOR 10 DAYS

We propose hereby to furnish material and labor - with a one year warranty, for the sum of:

Dollars ($ 1,745,931.00)

payment to be made as follows:

All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices. Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado, and other necessary insurance. Our workers are fully covered by Workman's Compensation Insurance.

Authorized Signature *Ryan Ogg*
RYAN OGG
Note: This Proposal may be withdrawn by us if not accepted within 30 days.

Acceptance of Proposal The above prices, specifications and conditions are satisfactory and hereby accepted. You are authorized to do work as specified. Payment will be made as outlined above.

Signature _____

Date of Acceptance: _____ Signature _____

FALCON CONTRACTING INC
11030 N. 21st Ave. Phoenix, AZ 85029
602-944-3614
ROC168973 & ROC277976

Quotation

Project:	Buckeye Sundance Park Phase 2
Company Name:	Willmeng
ATTN:	Estimating Department
Date:	6/22/2021

Scope of Work: Onsite pavement markings and signage.

DESCRIPTION	QUANTITY	UNIT TYPE	UNIT PRICE	AMOUNT
Stall Striping	9485	LF		$ -
Hatch Striping	1200	SF		$ -
ADA Symbols	22	EA		$ -
ADA Sign+Round Tube Post	22	EA		$ -
Mobilization - Paint	2	EA		$ -
			TOTAL	$11,734.00

EXCLUSIONS: Traffic control, survey, as-built drawings, special cleaning, bonds, permits, micro seal/slurry seal/seal coat after obliteration, water supply/dump site, night/weekend work, and materials not listed above.

BID CLARIFICATIONS:

Quote is based off the following drawing sheets: CV301-CV314 Dated: 4/30/2021

***ADD OPTION: Red Curb, FIRE LANE NO PARKING Legends, and Fire Lane Signage(city spec). Pricing available on request.
***Paint and steel pricing has been continuously increasing monthly during 2021, and as a result, Falcon reserves the right to review pricing prior to contract acceptance.
***No detail sheet provided, additional items may be required

DISCLAIMER: Taxes are excluded. Standard State of Arizona insurance is provided. Davis Bacon/Prevailing Wages are not acknowledged. Addendums acknowledged: N/A. Unit pricing prevails. Retention will not be held for projects under $10,000. Quote is valid for 30 days.

Customer Acceptance Signature: Date:

PO Number:

Hitt Concrete and Site Construction Inc.
7609 W Escuda Dr.
GLENDALE, AZ 85308 US
(623)696-5152
Paul@hittconcrete.com
www.hittconcrete.com

Estimate

ADDRESS
Willmeng Construction, Inc. 2048 N 44th Street, Suite 200 Phoenix, Arizona 85005

ESTIMATE #	DATE	
7589	06/24/2021	

ACTIVITY	QTY	RATE	AMOUNT
Sundance Park, Phase 2 - Buckeye 22865 W. Lower Buckeye Road, Buckeye, Arizona 85326 GMP #3 - Onsite Striping & Signage			
Onsite Striping & Crosshatch	9,157	0.22	2,014.54
Onsite - ADA Stall Striping & Symbol	12	450.00	5,400.00
Onsite - Sign, ADA (R7-8 AZ) on 1.75" Sq. Perforated Post w/ Sleeve & Anchor in Pavement	12	220.00	2,640.00
Onsite - Pavement Striping: 4SW, 4SY, 8SW, 18SW (4" wide equivalent)	1	100.00	100.00
Onsite - Curb Striping: Yellow Drop-Off	1	50.00	50.00
Onsite - Curb Striping: Red Fire Lane w/ stencil	1,370	0.55	753.50
Onsite - Sign: Fire Lane (R8-3 MOD) on 1.75" Sq. Perforated Post w/ Sleeve & Anchor in Landscape	2	200.00	400.00
Onsite - Sign: Various (R1-1, R1-2, R6-1, R9-3A) on 1.75" Sq. Perforated Post w/Sleeve & Anchor in Pavement	8	220.00	1,760.00
Onsite - Mobilization (MOB)	1	350.00	350.00
Alternate: Fire Lane No Parking Signs (Single) on 2" Round Post @ $155 EA, Paint Fire Lane Curb Red with No Parking Stencil @ .55 Cents PER LF, Hydrant Markers @ $10 EA, Wheel Stops (6 LF) @ Estimate Rate, Extruded Curb @ $9.50 PER LF (Min $2,400), Additional MOBS @ Estimate Rate.			

Sundance Park, Phase 2 - Buckeye
22865 W. Lower Buckeye Road, Buckeye, Arizona 85326
GMP #3 - Onsite Striping & Signage

TOTAL **$13,468.04**

Accepted By

Accepted Date

Hitt Concrete and Site Construction Inc.
7609 W Escuda Dr.
GLENDALE, AZ 85308 US
(623)696-5152
Paul@hittconcrete.com
www.hittconcrete.com

Estimate

ADDRESS
Willmeng Construction, Inc. 2048 N 44th Street, Suite 200 Phoenix, Arizona 85005

ESTIMATE #	DATE	
7590	06/24/2021	

ACTIVITY	QTY	RATE	AMOUNT
Sundance Park, Phase 2 - Buckeye 22865 W. Lower Buckeye Road, Buckeye, Arizona 85326 GMP #4 - Onsite Striping & Signage			
Onsite Striping & Crosshatch 1- 3,500 LF/SF	1	750.00	750.00
Onsite - ADA Stall Striping & Symbol	10	450.00	4,500.00
Onsite - Sign, ADA (R7-8 AZ) on 1.75" Sq. Perforated Post w/ Sleeve & Anchor in Pavement	10	220.00	2,200.00
Onsite - Pavement Marking: Single-Traffic Arrow	1	300.00	300.00
Onsite - Pavement Marking: Multi-Traffic Arrow	1	320.00	320.00
Onsite - Pavement Striping: 4SW, 4SY, 8SW, 18SW (4" wide equivalent)	790	0.22	173.80
Onsite - Curb Striping: Red Fire Lane w/ stencil	1,613	0.55	887.15
Onsite - Sign: Fire Lane (R8-3 MOD) on 1.75" Sq. Perforated Post w/ Sleeve & Anchor in Landscape	1	200.00	200.00
Onsite - Sign: Various (R1-1) on 1.75" Sq. Perforated Post w/Sleeve & Anchor in Pavement	2	220.00	440.00
Onsite - Mobilization (MOB)	1	350.00	350.00
Alternate: Fire Lane No Parking Signs (Single) on 2" Round Post @ $155 EA, Paint Fire Lane Curb Red with No Parking Stencil @ .55 Cents PER LF, Hydrant Markers @ $10 EA, Wheel Stops (6 LF) @			

ACTIVITY	QTY	RATE	AMOUNT
Estimate Rate, Extruded Curb @ $9.50 PER LF (Min $2,400), Additional MOBS @ Estimate Rate.			

Sundance Park, Phase 2 - Buckeye
22865 W. Lower Buckeye Road, Buckeye, Arizona 85326
GMP #3 - Onsite Striping & Signage

TOTAL **$10,120.95**

Accepted By

Accepted Date

Proposal

Moyers Contracting, Inc.
336 W. Cullumber Ave.
Gilbert, AZ 85233
Phone: 480-892-5117 Fax: 480-892-9373

DATE	PROPOSAL #
06/25/21	21-353

TO:

Estimating

PROJECT:

Sundance Park Ph 2
SEC 231st Ave & Lower Buckeye Rd
Buckeye, AZ

Quantity	Description	Unit Price	Amount
1	Lump Sum Parking Lot;	$25,355.00	$25,355.00
	Layout		$0.00
	539 - Stalls		$0.00
	painted yellow crosshatch		$0.00
	20 - Handicap stencils - Thermo tape		$0.00
	20 - Handicap signs - telspar post		$0.00
	3245' Red curb		$0.00
	3 - Fire lane signs		$0.00
	10 - Misc signs - Telspar post		$0.00
	2 - Arrows - Thermo Tape		$0.00
	20 - Core drills		$0.00
	Taken from sheets: PM-101 thru PM-301		$0.00
			$0.00
			$0.00
			$0.00
1	Textura if required	$125.00	$125.00
			$0.00
			$0.00
			$0.00

TOTAL PROPOSAL PRICE $25,480.00

NOTES: **See exclusions & insurance coverage below** **Price good for 60 days**

3 weeks notice needed for scheduling
This price does not include weekend, after hours or night work.

EXCLUSIONS:

Bonds, Sales Tax, Permits, Cleaning or Sweeping, Obliteration, Thermoplastic, Glass Beads, Offsite Striping or Signs, Any signs that require lifting equipment, ground penetrating radar or x-raying of concrete, Temporary Stripe, Utility Locating, Any and All Traffic Control, extruded curb

GENERAL INFORMATION:

Insurance Agent:	Hester Heitel - 602-230-7726
General Aggregate:	$2,000,000.00
Products - Comp/Op Aggregate:	$2,000,000.00
Auto Single Limit:	$1,000,000.00
Umbrella:	$2,000,000.00
Workers Comp:	$1,000,000.00
Bond Rate:	$25.00 per $1000 - $50,000 Aggregate, $50,000 per project
Privilege Tax #	07-460279-Z
ROC #	073794
EIN #	86-0566548

QUOTE

ADAMS FENCE, LLC.
Licensed
ROC 224210

503 W Watkins St.
Phoenix, AZ. 85003
PHONE: (602) 256-7800
FAX : (602) 256-7801

DATE June 23, 2021

Contractor Willmeng

PROJECT Sundance Park phase2 90%
Job Address Buckeye , AZ

Addenda(s) noted	BASE BID	ALTERNATE BID	ALTERNATE BID 2
NONE			

QTY	DESCRIPTION		UNIT PRICE	LINE TOTAL
308	10' tall cmu wall @ NW Maintenane/Storage	HS-303	$198.00	$60,984.00
1	16'x10' tall double gate (bdeck) @ NW Maintenance storage	HS303	$8,500.00	$8,500.00
48	6' tall cmu bin walls @ NW Maintenance/storage		$118.80	$5,702.40
16	6" bollards 5' tall @ NW Maintenance		$575.00	$9,200.00
240	10' tall cmu wall @ Maintenane &Pump	HS-304	$198.00	$47,520.00
1	20' x 10' tall double iron roll gate	HS-304	$10,700.00	$10,700.00
5	6"x5' tall bollards		$575.00	$2,875.00
470	Lake Edge fence 3' tall	HS-305	$288.00	$135,360.00
340	Splash pad fence 3' tall	HS-314	$288.00	$97,920.00
3	14' double gates @ entry		$5,100.00	$15,300.00
3	12' single gate and bollard		$4,375.00	$13,125.00
608	3' tall screen wall item 52	HS-313	$59.50	$36,176.00
523	42" tall hand rail @ head walls (embeds provided)		$64.00	$33,472.00
				$0.00
				$0.00
	Notes: Cmu wall footings,paint, v-track footings by others			$0.00
	Electric static paint @ gates and railing			$0.00
	NO Powdercoating figured in this quote			$0.00

EXCLUSIONS: grading, staking taxes, permits, bonds, fire dept., locks, boxes, signs, mow curbs, saw cutting, and core drilling.

Contact Person: Manuel Armenta (602) 200-4273
manuel@adamsfence.net

SUBTOTAL	$476,834.40
SALES TAX	$0.00
TOTAL	**$476,834.40**

6527 W Northview Ave
Glendale AZ 85301
1-877-97-FENCE
AZROC 317570

Proposal/Contract

Contractor: WILLMENG CONSTRUCTION

Project: SUNDANCE PARK

1 EA Maintenance and Pump Enclosure 20' Rolling Gate **TOTAL $7,500.00**

470' Lake Edge Fence **TOTAL $13,865.00**

340' Playground/Splash Pad Fence **$10,030.00**

2 EA 30' and 18' Entry Gates **TOTAL $14,000.00**

3 EA 10' and 5'8" Pedestrian Gates **TOTAL $13,968.00**

1 EA 16' NW STORAGE AND MAINTENANCE GATE **TOTAL $7,057.00**

Customer Authorization: _____
Customer Name (please print):_____
Date: _____
We appreciate your business. Thank you.

Don Cain
Diamond Iron, LLC.
Cell Phone: **480-843-8866**
Email: Don@diamondiron.com

Permanent Fence Installation - Terms & Conditions

Proposal Terms and Conditions

This bid is based upon the plans, specifications and drawings given to Diamond Iron, LLC. at the time of this bid, and assumes utilization of industry-standard material and labor types and quantities. Diamond Iron, LLC does not provide engineering or architectural services. If any documents provided to Diamond Iron, LLC for reliance in making this bid later prove to be incomplete or inaccurate, to an extent requiring Diamond Iron, LLC to utilize parts or labor in excess of those used in preparing this bid, Diamond Iron, LLC reserves the right to amend this bid as may be necessary to comply with changes in the foregoing documents, and to amend any contract made in reliance upon the price quotes contained in this bid. To the extent that any documents submitted to Diamond Iron, LLC by you for review in making this bid incorporate by reference any other document not given to Diamond Iron, LLC. , or refer Diamond Iron, LLC. to the contents of any other document not given by you to Diamond Iron, LLC. , Diamond Iron, LLC. will not be bound by the contents of any such

document unless: (1) it is a public statute, rule, ordinance, or published industry code (for example, the Int'l Building Code); or (2) such document may be readily downloaded on the internet from a website or other URL to which Diamond Iron, LLC. is given access prior to making this bid. No merger or integration clause in any subsequent contract executed by Diamond Iron, LLC. is intended to supersede this paragraph, because Diamond Iron, LLC. cannot knowingly bind itself to any contract terms contained in documents to which Diamond Iron, LLC is not given access before signing a final contract.

Payment Terms:

Payment due upon completion unless approved for credit. Net 30 terms, w/ regular progress billing as project is completed. Credit approval may be required. Retainage, if applicable, TBD. **Any accounts past due will be charged 1.5% monthly interest (as allowed per State Law).**

Other:

Mechanics Lien: All materials remain the property of Diamond Iron, LLC. until the contract is paid in full. Customer is responsible for obtaining all necessary permits, except where noted. Diamond Iron, LLC. is relieved of all liability related to location and property lines. Diamond Iron, LLC. is not responsible for damage to any underground lines or pipes.

6527 W Northview Ave
Glendale AZ 85301
1-877-97-FENCE
AZROC 317570

Proposal/Contract

Contractor: WILLMENG CONSTRUCTION
Anita Wisenbaugh (602) 803-3513
awisenbaugh@willmeng.com

November 24, 2021

Project: SUNDANCE PARK Cable Fence Around Lake Edge and Playground/Splash Pad

470' Lake Edge Fence **TOTAL $44,425.00**

340' Playground/Splash Pad Fence **$12,495.00**

Total $56,920.00

Customer Authorization: _____
Customer Name (please print):_____
Date: _____
We appreciate your business. Thank you.

Don Cain
Diamond Iron, LLC.
Cell Phone: **480-843-8866**
Email: Don@diamondiron.com

Permanent Fence Installation - Terms & Conditions

Proposal Terms and Conditions

This bid is based upon the plans, specifications and drawings given to Diamond Iron, LLC. at the time of this bid, and assumes utilization of industry-standard material and labor types and quantities. Diamond Iron, LLC does not provide engineering or architectural services. If any documents provided to Diamond Iron, LLC for reliance in making this bid later

prove to be incomplete or inaccurate, to an extent requiring Diamond Iron, LLC to utilize parts or labor in excess of those used in preparing this bid, Diamond Iron, LLC reserves the right to amend this bid as may be necessary to comply with changes in the foregoing documents, and to amend any contract made in reliance upon the price quotes contained in this bid. To the extent that any documents submitted to Diamond Iron, LLC by you for review in making this bid incorporate by reference any other document not given to Diamond Iron, LLC. , or refer Diamond Iron, LLC. to the contents of any other document not given by you to Diamond Iron, LLC. , Diamond Iron, LLC. will not be bound by the contents of any such document unless: (1) it is a public statute, rule, ordinance, or published industry code (for example, the Int'l Building Code); or (2) such document may be readily downloaded on the internet from a website or other URL to which Diamond Iron, LLC. is given access prior to making this bid. No merger or integration clause in any subsequent contract executed by Diamond Iron, LLC. is intended to supersede this paragraph, because Diamond Iron, LLC. cannot knowingly bind itself to any contract terms contained in documents to which Diamond Iron, LLC is not given access before signing a final contract.

Payment Terms:

Payment due upon completion unless approved for credit. Net 30 terms, w/ regular progress billing as project is completed. Credit approval may be required. Retainage, if applicable, TBD. **Any accounts past due will be charged 1.5% monthly interest (as allowed per State Law).**

Other:

Mechanics Lien: All materials remain the property of Diamond Iron, LLC. until the contract is paid in full. Customer is responsible for obtaining all necessary permits, except where noted. Diamond Iron, LLC. is relieved of all liability related to location and property lines. Diamond Iron, LLC. is not responsible for damage to any underground lines or pipes.

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: June 25, 2021

Re: Landscape Construction Bid **– Buckeye Sundance Park – Booster Pump – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the **– Buckeye Sundance Park – Booster Pump – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

Base Bid:	Notes/Exclusions:
• **Complete Irrigation Booster Pump Per Plan and Spec Installed**	• **Per MAG Spec, this bid does NOT include the backflow preventer.**
• **Pump, Filter, Fertilizer Injector and Down Piping to the Irrigation System**	• **This proposal is for budgeting purposes only. Plans not 100% for construction at this time**
	• **This proposal is based off the 90% plan set**
	• **No bid on intake pipe or discharge to the lakes.**
	• **This proposal does not include the aerator system and recirculation pipe around the lake**
	• **Electrical to pump provided by others**
	• **Lead time for this pump is 10 to 12 weeks**
	• **Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs**
	• **Proposal good for 90 days**
Total Base Bid Price: $415,000.00	

This price does not include sales tax, permits, fees or bonds. Our contracting license number is ROC – 170486. If you have any questions, please feel free to give me a call at (623) 516- 0042 or my cell phone at (602) 721-4949

Sincerely,
Nickie Velten

625 W Deer Valley Rd, Suite 103, Box 419, Phoenix, AZ 85027
Phone (623)516-0042 Fax (623)516-0047
Web Site: www.dtrlandscapedevelopment.com

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: June 25, 2021

Re: Landscape Construction Bid – **Buckeye Sundance Park – GMP3 – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the – **Buckeye Sundance Park – GMP3 – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

Base Bid:	Notes/Exclusions:
• 100 – 36" Box Trees	• Per MAG Spec, this bid does NOT include the backflow preventer.
• 60 – 24" Box Trees	• This proposal is for budgeting purposes only. Plans not 100% for construction at this time
• Transplant 2 – Salvaged Saguaros	• This proposal is based off the 90% plan set
• Transplant of 35 – Salvaged Trees (Multiple Box Sizes)	• Sand base for Hydro Sprigging is bid at a 6" depth and is bid as mortar "dirty" sand.
• 1,415 – 5 Gallon Plants	• Root barrier provided on trees specified
• 214,100 – Sq Ft of Hydro Spriggs on 6" of Sand at the rate of 500 bushels/acre per the spec	• All warranty on plant and tree material is valid as long as DTR is in their 90-day maintenance period. We cannot be held liable for any material that we do not control the water on.
• 89,700 – Sq Ft of Hydro Spriggs on Native Soil at the rate of 500 bushels/acre per the spec	• DTR is not responsible for hauling off or disposing of rock and debris caused by construction
• 95,720 – Sq Ft of Native Hydroseed	• Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs
• 3,000 – Tons of Mortar "Dirty" Sand @ a 6" Depth Under 214,100 sq ft of Hydro Spriggs	• DTR is not responsible for the condition of the salvaged trees and can not warranty after transplant
• 830 – Tons of ¼" Minus Madison Gold	VE Options:
• 220 – Tons of 3" to 8" Madison Gold Rip Rap (not grouted with filter fabric)	• Installation of 303,800 Sq Ft of Hydro Spriggs at the rate of 350 bushels/acre (standard rate) @ ($0.08/sq ft) = ($24,304.00)
•	
• 2,665 – Sq ft of Artificial Turf and Nailer Board	
• Complete Irrigation System per Plan without Booster Pump.	
• 90 – Day Maintenance	
Total Base Bid Price: $1,440,000.00	

This price does not include sales tax, permits, fees or bonds. Our contracting license number is ROC – 170486. If you have any questions, please feel free to give me a call at (623) 516- 0042 or my cell phone at (602) 721-4949

Sincerely,
Nickie Velten

625 W Deer Valley Rd, Suite 103, Box 419, Phoenix, AZ 85027
Phone (623)516-0042 Fax (623)516-0047
Web Site: www.dtrlandscapedevelopment.com

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: November 10, 2021

Re: Landscape Construction Bid – **Buckeye Sundance Park – GMP3 – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the – **Buckeye Sundance Park – GMP3 – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

Base Bid:	Notes/Exclusions:
• 100 – 36" Box Trees	• Per MAG Spec, this bid does NOT include the backflow preventer.
• 60 – 24" Box Trees	• This proposal is good for 30 days. After 30 days prices are subject to increases as the market increases
• Transplant 2 – Salvaged Saguaros	• This proposal is based off the 90% plan set
• Transplant of 35 – Salvaged Trees (Multiple Box Sizes)	• Sand base for Hydro Sprigging is bid at a 6" depth and is bid as mortar "Peoria Park Blend" sand as USGA is not available
• 1,415 – 5 Gallon Plants	• Root barrier provided on trees specified
• 214,100 – Sq Ft of Hydro Spriggs on 6" of Sand at the rate of 500 bushels/acre per the spec	• All warranty on plant and tree material is valid as long as DTR is in their 90-day maintenance period. We cannot be held liable for any material that we do not control the water on.
• 89,700 – Sq Ft of Hydro Spriggs on Native Soil at the rate of 500 bushels/acre per the spec	• DTR is not responsible for hauling off or disposing of rock and debris caused by construction
• 95,720 – Sq Ft of Native Hydroseed	• Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs
• 3,000 – Tons of "Peoria Park Blend" Sand @ a 6" Depth Under 214,100 sq ft of Hydro Spriggs	• DTR is not responsible for the condition of the salvaged trees and can not warranty after transplant
• 830 – Tons of ¼" Minus Madison Gold	• Availablity on plant and tree material will vary depending on the time of construction. Substitutions might have to take place.
• 220 – Tons of 3" to 8" Madison Gold Rip Rap (not grouted with filter fabric)	• Artificial turf not part of base bid.
• Complete Irrigation System per Plan without Booster Pump Plus EZ Flo Fertigation System	**Add Alts:**
• 90 – Day Maintenance	• Installation of 2,665 Sq Ft of Artificial Turf with Nailer Board and a 4" Sub Base @ $12.00/sq ft = $31,980.00
• Artificial Turf Not Part of Bid. Bid as an Add Alt	• Installation of 46,300 sq ft of sod in lieu of hydrosprigging from back of sidewalk to sand profile on fields for GMP 3 @ $0.61/sq ft = $28,243.00 • Credit for hydrosprigging @ ($0.09/sq ft) • Sod install @ $0.70/sq ft
	VE Options:
Total Base Bid Price: $1,635,000.00	• Installation of 303,800 Sq Ft of Hydro Spriggs at the rate of 350 bushels/acre (standard rate) @ ($0.08/sq ft) = ($24,304.00)

This price does not include sales tax, permits, fees or bonds. Our contracting license number is ROC – 170486. If you have any questions, please feel free to give me a call at (623) 516- 0042 or my cell phone at (602) 721-4949

625 W Deer Valley Rd, Suite 103, Box 419, Phoenix, AZ 85027
Phone (623)516-0042 Fax (623)516-0047
Web Site: www.dtrlandscapedevelopment.com

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: June 25, 2021

Re: Landscape Construction Bid – **Buckeye Sundance Park – GMP4 – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the – **Buckeye Sundance Park – GMP4 – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

Base Bid:	Notes/Exclusions:
• 127 – 36" Box Trees	• Per MAG Spec, this bid does NOT include the backflow preventer.
• 80 – 24" Box Trees	• This proposal is for budgeting purposes only. Plans not 100% for construction at this time
• Transplant 1 – Salvaged Saguaro	• This proposal is based off the 90% plan set
• Transplant of – Salvaged Tree	• Root barrier provided on trees specified
• 714 – 5 Gallon Plants	• All warranty on plant and tree material is valid as long as DTR is in their 90-day maintenance period. We cannot be held liable for any material that we do not control the water on.
• 260,825 – Sq Ft of Hydro Spriggs on Native Soil at the rate of 500 bushels/acre per the spec	• DTR is not responsible for hauling off or disposing of rock and debris caused by construction
• 393,100 – Sq Ft of Native Hydroseed	• DTR is not responsible for the condition of the salvaged trees and can not warranty after transplant
• 160 – Tons of ¼" Minus Madison Gold	• Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs
• 570 – Tons of 3" to 8" Madison Gold Rip Rap (not grouted with filter fabric)	
• Complete Irrigation System per Plan without Booster Pump.	VE Options:
• 90 – Day Maintenance	• Installation of 260,825 Sq Ft of Hydro Spriggs at the rate of 350 bushels/acre (standard rate) @ ($0.08/sq ft) = ($20,866.00)
Total Base Bid Price: $575,000.00	

This price does not include sales tax, permits, fees or bonds. Our contracting license number is ROC – 170486. If you have any questions, please feel free to give me a call at (623) 516- 0042 or my cell phone at (602) 721-4949

Sincerely,
Nickie Velten

625 W Deer Valley Rd, Suite 103, Box 419, Phoenix, AZ 85027
Phone (623)516-0042 Fax (623)516-0047
Web Site: www.dtrlandscapedevelopment.com

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: November 10, 2021

Re: Landscape Construction Bid – **Buckeye Sundance Park – GMP4 – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the – **Buckeye Sundance Park – GMP4 – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

Base Bid:	Notes/Exclusions:
• 127 – 36" Box Trees	• Per MAG Spec, this bid does NOT include the backflow preventer.
• 80 – 24" Box Trees	• This proposal is good for 30 days. After 30 days prices are subject to increase as the market increases
• Transplant 1 – Salvaged Saguaro	• This proposal is based off the 90% plan set
• Transplant of – Salvaged Tree	• Root barrier provided on trees specified
• 714 – 5 Gallon Plants	• All warranty on plant and tree material is valid as long as DTR is in their 90-day maintenance period. We cannot be held liable for any material that we do not control the water on.
• 260,825 – Sq Ft of Hydro Spriggs on Native Soil at the rate of 500 bushels/acre per the spec	• DTR is not responsible for hauling off or disposing of rock and debris caused by construction
• 393,100 – Sq Ft of Native Hydroseed	• DTR is not responsible for the condition of the salvaged trees and cannot warranty after transplant
• 160 – Tons of ¼" Minus Madison Gold	• Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs
• 570 – Tons of 3" to 8" Madison Gold Rip Rap (not grouted with filter fabric)	VE Options:
• Complete Irrigation System per Plan without Booster Pump.	• Installation of 260,825 Sq Ft of Hydro Spriggs at the rate of 350 bushels/acre (standard rate) @ ($0.08/sq ft) = ($20,866.00)
• 90 – Day Maintenance	ADD ALTS:
	• Installation of 260,285 – Sq Ft of Sod in Lieu of Hydrosprigging @ $0.49/sq ft = $127,804.25
Total Base Bid Price: $610,000.00	• Credit for Hydrosprigging @ ($0.09/sq ft) • Installation of Sod @ $0.58/sq ft

This price does not include sales tax, permits, fees or bonds. Our contracting license number is ROC – 170486. If you have any questions, please feel free to give me a call at (623) 516- 0042 or my cell phone at (602) 721-4949

Sincerely,
Nickie Velten

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Web Site: www.dtrlandscapedevelopment.com

DTR
LANDSCAPE DEVELOPMENT, LLC

Date: June 25, 2021

Re: Landscape Construction Bid – **Buckeye Sundance Park – GMP4 – Plans 90%**

Attn: Estimating, Willmeng Construction

Thank you for allowing DTR Landscape Development LLC. to submit the following proposal for the landscape installation of the – **Buckeye Sundance Park – GMP4 – Plans 90%**DTR Landscape Development LLC. has performed all sizes of landscape type work throughout the valley. We have worked very closely with general contractors and owners to accomplish the work desired in the agreed upon time frames. We pride ourselves in quality material and workmanship. The following bid contains all that is in the scope of work per the plans **Inclusive of all addendums** and takes grades from +or- 1/10th. The following is a breakdown of our bid:

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• 160 – Tons of ¼" Minus Madison Gold	• Due to unforeseen circumstances with COVID 19, DTR cannot guarantee availability on materials and pricing may increase due to higher demand and shut downs
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Total Base Bid Price: $575,000.00	• Credit for Hydrosprigging @ ($0.09/sq ft) • Installation of Sod @ $0.58/sq ft

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Sincerely,
Nickie Velten

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CM@RISK SUNDANCE PARK PHASE II
CONSTRUCTION SERVICES CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
WILLMENG CONSTRUCTION, INC.

CONTRACT NO. 2020006

THIS AGREEMENT, made and entered by and between City of Buckeye, an Arizona municipal corporation, hereinafter designated the "City" and Willmeng Construction, Inc., and Arizona corporation, hereinafter designated the "Construction Manager at Risk" or "CM@Risk"

RECITALS

A. The City of Buckeye, Arizona, is authorized and empowered by provisions of the City Charter to execute contracts for construction services.

B. The City intends to construct the Sundance Park Phase II more fully described in Exhibit A attached.

C. To undertake the construction administration of said Project the City has entered into a contract with J2 Engineering and Environmental Design, L.L.C., hereinafter referred to as the "Design Professional."

D. The CM@Risk has represented to the City the ability to provide pre-construction, construction management services and to construct the project and based on this representation the City engages the CM@Risk to provide these services and construct the project.

NOW THEREFORE, for and in consideration of the mutual covenants and considerations hereinafter contained, it is agreed by and between the City and the CM@Risk as follows:

ARTICLE 1
DEFINITIONS

"Agreement ("Contract") means this written document signed by the City and CM@Risk covering the construction phase of the Project, and including other documents itemized and referenced in or attached to and made part of this Contract.

"Change Directive" means a written order prepared and signed by City, directing a change in the Work prior to agreement on an adjustment in the Contract Price and the Contract Time.

"Change Order" means a type of contract amendment issued after execution of this Agreement or future GMP Amendments signed by City and CM@Risk, agreeing to changes to an agreement. The Change Order will state the following: the addition, deletion or revision in the scope of Work; the amount of the adjustment to the Contract Price; and the extent of the adjustment to the Contract Times or other modifications to Contract terms.

"City ("Owner") means the City of Buckeye, a municipal corporation, with whom CM@Risk has entered into this Contract and for whom the services are to be provided pursuant to said Contact.

"City's Representative" means the person designated in Article 8.

"City's Senior Representative" means the person designated in Article 8.

"CM@Risk" means the firm selected by the City to provide construction services as detailed in this Agreement.

"CM@Risk's Contingency" means a fund to cover cost growth during the project used at the discretion of the CM@Risk usually for costs that result from project circumstances. The amount of the CM@Risk's Contingency will be negotiated as a separate line item in each GMP package. Use and management of the CM@Risk's Contingency is described in Article 5.

"CM@Risk's Representative" means the person designated in Article 8.

"CM@Risk's Senior Representative" means the person designated in Article 8.

"Contract Documents" means the following items and documents in descending order of precedence executed by the City and the CM@Risk: (i) all written modifications, amendments and Change Orders; (ii) this Agreement, including all exhibits and attachments; (iii) Construction Documents; (iv) GMP Plans and Specifications.

"Contract Price" means the amount or amounts set forth in Article 5.

"Construction Documents"-The plans, specifications, and drawings prepared by the Design Professional and issued as approved for construction meaning the documents are sealed by the Design Professional, signed and acceptable for permitting.

"Construction Fee" means the lump sum amount for CM@Risk's administrative costs for branch or home office overhead, and profit .

"Contract Time" means the Days as set forth in Article 4 the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

"Cost of the Work" means the direct costs necessarily incurred by the CM@Risk in the proper performance of the Work. The Cost of the Work shall include direct labor costs, subcontract costs, costs of materials and equipment incorporated in the completed construction, costs of other materials and equipment, temporary facilities, permit and license fees, materials testing, and related items. The Cost of the Work shall not include the CM@Risk's Construction Fee, General Conditions Costs, and taxes.

"Critical Path" means the sequence of activities from the start of the Work to the Substantial Completion of the Project. Any delay in the completion of these activities will extend the Substantial Completion date.

"Day(s)" mean calendar days unless otherwise specifically noted in the Contract Documents.

"Design Phase Contract" means the agreement between the City and the CM@Risk for Services provided by the CM@Risk during the design phase which may include the following: design recommendations, project scheduling, constructability reviews, alternate systems evaluation, cost estimates, subcontractor bid phase services and GMP preparation.

"Design Professional" means a qualified, licensed design professional who furnishes design and/or construction administration services required for the Project.

"Differing Site Conditions" means concealed or latent physical conditions or subsurface conditions at the Site that, (i) materially differ from the conditions indicated in the Contract Documents or (ii) are of an unusual nature, differing materially from the conditions ordinarily encountered and generally recognized as inherent in the Work.

"Final Acceptance" means the completion of the Work as prescribed in Article 4.

"Float" means the number of Days by which an activity can be delayed without lengthening the Critical Path and extend the Substantial Completion date.

"General Conditions Costs" includes, but is not limited to the following types of costs for the CM@Risk during the construction phase: (i) payroll costs for project manager or CM@Risk for work conducted at the site, (ii) payroll costs for the superintendent and full-time general foremen, (iii) payroll costs for other management personnel resident and working at the site, (iv) workers not included as direct labor costs engaged in support (e.g. loading/unloading, clean-up, etc.), (v) costs of offices and temporary facilities including office materials, office supplies, office equipment and minor expenses, (vi) cost of utilities, fuel, sanitary facilities, telephone and data services at the site, (vii) costs of liability insurance premiums not included in labor burdens for direct labor costs, (viii) costs of bond premiums, (ix) costs of consultants not in the direct employ of the CM@Risk or Subcontractors.

"Guaranteed Maximum Price" or "GMP" means the sum of the maximum Cost of the Work; the Construction Fee; General Conditions Costs, taxes, and CM@Risk's Contingency including authorized adjustments.

"GMP Plans and Specifications" means the plans and specifications upon which the Guaranteed Maximum Price proposal is based as listed in the GMP proposal.

"Legal Requirements" means all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the Project or Site, the practices involved in the Project or Site, or any Work.

"Notice to Proceed" or "NTP" means the directive issued by the City, authorizing the CM@Risk to start Work. Such notice shall be provided to the CM@Risk at least seven days prior to the commencement date stipulated herein and shall be provided no later than 30 days after the GMP proposal and all the required documentation is received by the City.

"Owner's Contingency" means a fund to cover cost growth during the Project used at the discretion of the Owner usually for costs that result from Owner directed changes or unforeseen site conditions. The amount of the Owner's contingency will be set solely by the Owner and will be in addition to the Project costs included in the CM@Risk's GMP packages. Use and management of the Owner's Contingency is described in Article 5.

"Performance Period" means the period of time allotted in the Contract Documents to substantially complete the Work comprised within a GMP. The Performance Period shall be stated with each GMP proposal and shown on the Project Schedule.

"Payment Request" means the City form used by the CM@Risk to request progress payments for Work in accordance with Article 7.

"Product Data" means illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the CM@Risk to illustrate materials or equipment for some portion of the Work.

"Project" means the Work to be completed in the execution of this Agreement as amended and as described in the Recitals above.

"Project Record Documents" means the documents created pursuant to Article 2.

"Samples" means physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be evaluated.

"Shop Drawings" mean drawings, diagrams, schedules and other data specially prepared for the Work by the CM@Risk or a Subcontractor, Sub-subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

"Site" means the land or premises on which the Project is located.

"Specifications" means the part(s) of the Contract Documents for the construction phase consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto as listed in the GMP proposal.

"Subcontractor" means an individual or firm having a direct contract with the CM@Risk or any other individual or firm having a contract with the aforesaid individual or firm at any tier, who undertakes to perform a part of the construction phase Work for which the CM@Risk is responsible.

"Substantial Completion" means when the Work, or an agreed upon portion of the Work, is sufficiently complete so that City can occupy and use the Project or a portion thereof for its intended purposes. This may include, but is not limited to: (i) approval by City Fire Marshall and local authorities (Certificate of Occupancy); (ii) Elevator Permit; (iii) all systems in place, functional, and displayed to the City or its representative; (iv) all materials and equipment installed; (v) all systems reviewed and accepted by the City. The conditions of Substantial Completion that do not apply to a specific GMP will be listed in the Notice to Proceed Letter pursuant to Article 2.

"Supplier" means a manufacturer, fabricator, supplier, distributor, material man or vendor having a direct contract with CM@Risk or any Subcontractor to furnish materials or equipment to be incorporated in the construction phase Work by CM@Risk or any Subcontractor.

"Work" means the entire completed construction or the various separately identifiable parts thereof, required by the agreement to be furnished during the construction phase. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials, resources and equipment into the construction, and performing or furnishing services and documents as required by the Contract Documents for the construction phase.

ARTICLE 2
CM@RISK'S SERVICES AND RESPONSIBILITIES

1. General Services and Responsibilities

(A) The CM@Risk shall furnish any and all labor, materials, equipment, transportation, utilities, services and facilities required to perform all Work required by the contract document, and to completely and totally construct the same and install the material therein for the City. All Work will be performed in a good and workmanlike and substantial manner and within the care and skill of a qualified CM@Risk in Buckeye, Arizona. The Work shall be to the satisfaction of the City and strictly pursuant to and in conformity with the Project's Contract Documents as modified. It is not required that the services be performed in the sequence in which they are described.

(B) General Services: CM@Risk's Representative shall be reasonably available to City and shall have the necessary expertise and experience required to supervise the Work. CM@Risk's Representative shall communicate regularly with City but not less than once a week and shall be vested with the authority to act on behalf of CM@Risk. CM@Risk's Representative may be replaced only with the written consent of City.

(C) Government Approvals and Permits: Unless otherwise provided, CM@Risk shall obtain or assist the City to obtain all necessary permits, approvals and licenses required for the prosecution of the Work from any government or quasi-government entity having jurisdiction over the Project. **The CM@Risk is specifically reminded of the need to obtain the necessary environmental permits or file the necessary environmental notices.**

(D) Copies of these permits and notices must be provided to the City's Representative prior to starting the permitted activity. This provision does not constitute an assumption by the City of an obligation of any kind for violation of said permit or notice requirements.

(E) CM@Risk shall be responsible for obtaining, and the City shall pay for, all City of Buckeye review and permit(s) fees for building and demolition permits. City will also pay review and permit fees for grading and drainage, water, sewer right-of-way and landscaping. City shall also pay for utility design fees for permanent services.

(F) CM@Risk shall be responsible for all other permits and review fees not specifically listed above. CM@Risk is responsible for the cost of water meter(s), water and sewer taps, fire lines and taps, and all water bills on the project meters until Substantial Completion of the Project. Arrangements for construction water are the CM@Risk's responsibility.

2. Pre-construction Conference

(A) Prior to the commencement of any Work, the City's Representative will schedule a Pre-construction conference.

(B) The purpose of this conference is to establish a working relationship between the CM@Risk, utility firms, and various City agencies. The agenda will include critical elements of the work schedule, submittal schedule, cost breakdown of major lump sum items, Payment Requests and processing, coordination with the involved utility firms, the level of Record Project Documents required and emergency telephone numbers for all representatives involved in the course of construction.

(C) The Notice to Proceed date will be concurred to. After the meeting a Notice to Proceed letter will be issued confirming the construction start date, Performance Period and if applicable, the Substantial Completion date.

(D) The CM@Risk shall provide a schedule of values based on the categories used in the buyout of the Work but not greater than the approved GMP and identifying the CM@Risk's

Contingency. The schedule of values will subdivide the Work into all items comprising the Work.

(E) Minimum attendance by the CM@Risk shall be the CM@Risk's Representative, who is authorized to execute and sign all construction related documents on behalf of the firm, the job superintendent, and the CM@Risk's safety officer.

3. Control of the Work

(A) Unless otherwise provided in the Contract Documents to be the responsibility of City or a separate contractor, CM@Risk shall provide through itself or Subcontractors the necessary supervision, labor, inspection, testing, start-up, material, equipment, machinery, temporary utilities and other temporary facilities to permit CM@Risk to complete the Work consistent with the Contract Documents.

(B) CM@Risk shall perform all construction activities efficiently and with the requisite expertise, skill and competence to satisfy the requirements of the Contract Documents. CM@Risk shall at all times exercise complete and exclusive control over the means, methods, sequences and techniques of construction.

(C) CM@Risk, the CM@Risk's superintendent or other authorized representative shall be present at the Site at all times that construction activities are taking place.

(D) All elements of the Work shall be under the direct supervision of a foreman or his designated representative on the Site who shall have the authority to take actions required to properly carry out that particular element of the Work.

(E) In the event of noncompliance with this Section, the City may require the CM@Risk to stop or suspend the Work in whole or in part.

(F) Where the Contract Documents require that a particular product be installed and/or applied by an applicator approved by the manufacturer, it is the CM@Risk's responsibility to ensure the Subcontractor employed for such Work is approved by the manufacturer.

(G) Before ordering materials or doing work, the CM@Risk and each Subcontractor shall verify measurements at the Site and shall be responsible for the correctness of such measurements. No increase to the approved GMP will be allowed because of differences between actual dimensions and the dimensions indicated in the Contract Documents; differences, which may be found, shall be submitted to the City for resolution before proceeding with the Work.

(H) The CM@Risk shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the CM@Risk with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the City at once.

(I) The CM@Risk shall establish and maintain all primary building and construction grades, lines, levels, and bench marks, and shall be responsible for accuracy and protection of same. This Work shall be performed or supervised by a licensed civil engineer or surveyor in the State of Arizona.

(J) Any person employed by the CM@Risk or any Subcontractor who, in the opinion of the City, does not perform his work in a proper, skillful and safe manner or is intemperate or disorderly shall, at the written request of the City, be removed from the Work by CM@Risk or Subcontractor employing such person, and shall not be employed again in any portion of Work without the written approval of the City. The CM@Risk or Subcontractor shall keep the City harmless from damages or claims which may occur in the enforcement of this Section.

(K) CM@Risk assumes responsibility to City for the proper performance of the work of Subcontractors and any acts and omissions in connection with such performance. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between City and any Subcontractor or Sub-Subcontractor, including but not limited to any third-party beneficiary rights.

(L) CM@Risk shall coordinate the activities of all Subcontractors. If City performs other work on the Project or at the Site with separate contractors under City's control, CM@Risk agrees to reasonably cooperate and coordinate its activities with those of such separate contractors so that the Project can be completed in an orderly and coordinated manner without unreasonable disruption.

4. Control of the Work Site

(A) Throughout all phases of construction, including suspension of Work, CM@Risk shall keep the Site reasonably free from debris, trash and construction wastes to permit CM@Risk to perform its construction services efficiently, safely and without interfering with the use of adjacent land areas. Upon Substantial Completion of the Work, or a portion of the Work, CM@Risk shall remove all debris, trash, construction wastes, materials, equipment, machinery and tools arising from the Work or applicable portions thereof to permit City to occupy the Project or a portion of the Project for its intended use.

(B) CM@Risk shall take all reasonable steps, procedures or means to prevent any dust nuisance due to construction operations. The dust control measures shall be maintained at all times to the satisfaction of the City and in accordance with the requirements of the Maricopa County Bureau of Air Pollution Control Rules and Regulations.

(C) CM@Risk shall maintain ADA and ANSI accessibility requirements during construction activities in an occupied building or facility. ADA and ANSI accessibility requirements shall include, but not be limited to, parking, building access, entrances, exits, restrooms, areas of refuge, and emergency exit paths of travel. CM@Risk shall be responsible for the coordination of

all work to minimize disruption to building occupants and facilities.

(D) Only materials and equipment which are to be used directly in the Work shall be brought to and stored on the Site by the CM@Risk. When equipment is no longer required for the Work, it shall be removed promptly from the Site. Protection of construction materials and equipment stored at the Site from weather, theft, damage and all other adversity is solely the responsibility of the CM@Risk.

5. Shop Drawings, Product Data and Samples

(A) Shop Drawings, Product Data, Samples and similar submittals are not Contract Documents. The purpose of their submittal is to demonstrate for those portions of the Work for which submittals are required the way the CM@Risk proposes to conform to the information given and the design concept expressed in the Contract Documents.

(B) The CM@Risk shall review, approve, verify, and submit to the City five copies of each Shop Drawing, Product Data, Sample, and similar submittal required by the Contract Documents in accordance with the approved GMP schedule as to cause no delay in the Work or in the activities of the City or of separate contractors. Submittals made by the CM@Risk, which are not required by the Contract Documents, may be returned without action.

(C) The CM@Risk shall perform no portion of the Work requiring submittal and review of Shop Drawings, Product Data, Samples, or similar submittals until the respective submittal has been approved by the City. Such Work shall be in accordance with approved submittals.

(D) By approving, verifying and submitting Shop Drawings, Product Data, Samples and similar submittals, the CM@Risk represents that the CM@Risk has determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and has checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

(E) The CM@Risk shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the City's approval of Shop Drawings, Product Data, Samples or similar submittals unless the CM@Risk has specifically informed the City in writing of such deviation at the time of submittal and the City has given written approval to the specific deviation. The CM@Risk shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals by the City’s approval thereof.

(F) The CM@Risk shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the City on previous submittals.

(G) Informational submittals upon which the City is not expected to take responsive action may be so identified in the Contract Documents.

(H) When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the City shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

6. Quality Control, Testing and Inspection.

(A) All materials used in the Work shall be new and unused, unless otherwise noted, and shall meet all quality requirements of the Contract Documents.

(B) All construction materials to be used on the Work or incorporated into the Work, equipment, plant, tools, appliances or methods to be used in the Work may be subject to the inspection and approval or rejection by the City. Any material rejected by the City shall be removed immediately and replaced in an acceptable manner.

(C) The procedures and methods used to sample and test material will be determined by the City.

(D) The City will select a pre-qualified City or Independent Testing Laboratory and will pay for initial City Acceptance Testing.

(E) When the first and subsequent tests indicate noncompliance with the Contract Documents, the cost associated with that noncompliance will be paid for by the CM@Risk. CM@Risk's Contingency cannot be utilized for the cost of re-testing.

(F) When the first and subsequent tests indicate noncompliance with the Contract Documents, all retesting shall be performed by the same testing agency.

(G) The CM@Risk will cooperate with the selected testing laboratory and all others responsible for testing and inspecting the work and shall provide them access to the Work at all times.

(H) At the option of the City, materials may be approved at the source of supply before delivery is started.

(I) Code compliance testing and inspections required by codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and shall be paid by the CM@Risk as a Cost of the Work, unless otherwise provided in the Contract Documents.

(J) CM@Risk's convenience and quality control testing and inspections shall be the sole responsibility of the CM@Risk and paid by the CM@Risk.

7. Trade Names and Substitutions.

(A) Contract Document references to equipment, materials or patented processes by manufacturer, trade name, make or catalog number, unless indicated that no substitutions are permitted, substitute or alternate items may be permitted, subject to the following:

(B) The substitution shall be submitted by CM@Risk in writing to the City.

(C) The CM@Risk shall certify that the substitution will perform the functions and achieve the results called for by the general design, be similar and of equal substance, and be suited to the same use as that specified.

(D) The submittal shall state any required changes in the Contract Documents to adapt the design to the proposed substitution.

(E) The submittal shall contain an itemized estimate of all costs and credits that will result directly and indirectly from the acceptance of such substitution, including cost of design, license fees, royalties, and testing. Also, the submittal shall include any adjustment in the Contract Time created by the substitution.

(F) The CM@Risk if requested by the City shall submit Samples or any additional information that may be necessary to evaluate the acceptability of the substitution.

(G) The City will make the final decision and will notify the CM@Risk in writing as to whether the substitution has been accepted or rejected.

(H) If the City does not respond in a timely manner, the CM@Risk shall continue to perform the Work in accordance with the Contract Documents and the substitution will be considered rejected.

8. Project Record Documents.

(A) During the construction period, the CM@Risk shall maintain at the jobsite a set of blueline or blackline prints of the Construction Document drawings and shop drawings for Project Record Document purposes.

(B) The CM@Risk shall mark these drawings to indicate the actual installation where the installation varies appreciably from the original Construction Documents. Give particular attention to information on concealed elements, which would be difficult to identify or measure and record later. Items required to be marked include but are not limited to:

- Dimensional changes to the drawings.
- Revisions to details shown on drawings
- Depths of foundations below first floor
- Locations and depths of underground utilities
- Revisions to routing of piping and conduits.

- Revisions to electrical circuitry.
- Actual equipment locations.
- Duct size and routing.
- Locations of concealed internal utilities.
- Changes made by Change Order.
- Details not on original Contract Drawings.

(C) Mark completely and accurately Project Record Drawing prints of Construction Documents or Shop Drawings, whichever is the most capable of indicating the actual physical condition. Where Shop Drawings are marked, show cross-reference on the Construction Documents location.

(D) Mark Project Record Drawings sets with red erasable colored pencil. Note RFI Numbers, ASI Numbers and Change Order numbers, etc., as required to identify the source of the change to the Construction Documents. The CM@Risk shall as a condition of Substantial Completion, submit Project Record Drawing and Shop Drawings prints to the City or its representative for review and comment.

(E) Upon receipt of the reviewed Project Record Drawings from the City, the CM@Risk shall correct any deficiencies and/or omissions to the drawings and prepare the following for submission to the City within 14 Days: A complete set of electronic Project Record Drawings prepared in AutoCAD format compatible with City of Buckeye Engineering and Architectural Services Department CADD technology. The Design Professional will provide files of the original Construction Documents to the CM@Risk for the use of preparing these final Project Record Drawings or the CM@Risk may contract with the Design Professional to revise and update the electronic drawing files. Each drawing shall be clearly marked with "As-Built Document.

(F) The original copy of the Project Record Drawings (redline mark-ups).

9. Project Safety

(A) CM@Risk recognizes the importance of performing the Work in a safe manner so as to prevent damage, injury or loss to (i) all individuals at the Site, whether working or visiting, (ii) the Work, including materials and equipment incorporated into the Work or stored on-Site or off-Site, and (iii) all other property at the Site or adjacent thereto.

(B) CM@Risk assumes responsibility for implementing and monitoring all safety precautions and programs related to the performance of the Work.

(C) CM@Risk shall, prior to commencing construction, designate a Safety Representative with the necessary qualifications and experience to supervise the implementation and monitoring of all safety precautions and programs related to the Work. Unless otherwise required by the Contract Documents, CM@Risk's Safety Representative shall be an individual stationed at the Site who may have other responsibilities on the Project in addition to safety.

(D) The Safety Representative shall make routine daily inspections of the Site and shall hold weekly safety meetings with CM@Risk's personnel, Subcontractors and others as applicable.

(E) CM@Risk and Subcontractors shall comply with all Legal Requirements relating to safety, as well as any City-specific safety requirements set forth in the Contract Documents, provided that such City-specific requirements do not violate any applicable Legal Requirement.

(F) CM@Risk will immediately report in writing any safety-related injury, loss, damage or accident arising from the Work to City's Representative and, to the extent mandated by Legal Requirements, to all government or quasi-government authorities having jurisdiction over safety-related matters involving the Project or the Work.

(G) CM@Risk's responsibility for safety under this Section is not intended in any way to relieve Subcontractors and Sub-Subcontractors of their own contractual and legal obligations and responsibility for (i) complying with all Legal Requirements, including those related to health and safety matters, and (ii) taking all necessary measures to implement and monitor all safety precautions and programs to guard against injury, losses, damages or accidents resulting from their performance of the Work.

10. Warranty

(A) CM@Risk warrants to City that the construction, including all materials and equipment furnished as part of the construction, shall be new unless otherwise specified in the Contract Documents, of good quality, in conformance with the Contract Documents and free of defects in materials and workmanship.

(B) CM@Risk's warranty obligation excludes defects caused by abuse, alterations, or failure to maintain the Work by persons other than CM@Risk or anyone for whose acts CM@Risk may be liable.

(C) CM@Risk's warranty obligation shall be for one year.

(D) Nothing in this warranty is intended to limit any manufacturer's warranty which provides City with greater warranty rights than set forth in this Section or the Contract Documents. CM@Risk will provide City with all manufacturers' warranties upon Substantial Completion.

11. Correction of Defective Work

(A) CM@Risk agrees to correct any Work that is found to not be in conformance with the Contract Documents, including that part of the Work subject to Warranty section above, within a period of one year from the date of Substantial Completion of the Work or any portion of the Work, or within such longer period to the extent required by the Contract Documents. A progress

payment, or partial or entire use or occupancy of the Project by the City, shall not constitute acceptance of Work not in accordance with the Contract Documents.

(B) During the Work, CM@Risk shall take meaningful steps to commence correction of such nonconforming Work as notified by the City. This includes the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If CM@Risk fails to commence the necessary steps during the Work, City, in addition to any other remedies provided under the Contract Documents, may provide CM@Risk with written notice that City will commence correction of such nonconforming Work with its own forces.

(C) CM@Risk shall, take meaningful steps to commence correction of nonconforming Work within seven Days of receipt of written notice from City. This includes the correction, removal or replacement of the nonconforming Work and any damage caused to other parts of the Work affected by the nonconforming Work. If CM@Risk fails to commence the necessary steps within such seven Day period, City, in addition to any other remedies provided under the Contract Documents, may provide CM@Risk with written notice that City will commence correction of such nonconforming Work with its own forces.

(D) If City does perform such corrective Work, CM@Risk shall be responsible for all reasonable costs incurred by City in performing such correction.

(E) If the nonconforming Work creates an emergency requiring an immediate response, the CM@Risk will respond and initiate corrections within twenty-four hours.

(F) The one year period referenced in Warranty section above applies only to CM@Risk's obligation to correct nonconforming Work and is not intended to constitute a period of limitations for any other rights or remedies City may have regarding CM@Risk's other obligations under the Contract Documents.

ARTICLE 3
CITY'S SERVICES AND RESPONSIBILITIES

(A) Duty to Cooperate. City shall, throughout the performance of the Work, cooperate with CM@Risk and perform its responsibilities, obligations and services in a timely manner to facilitate CM@Risk's timely and efficient performance of the Work and so as not to delay or interfere with CM@Risk's performance of its obligations under the Contract Documents.

(B) City shall furnish at the CM@Risk's request, at no cost to the CM@Risk, a CADD file of the Construction Documents in AutoCAD format compatible with the City of Buckeye CADD technology.

(D) City's Representative shall be responsible for providing City-supplied information and approvals in a timely manner to permit CM@Risk to fulfill its obligations under the Contract

Documents. City's Representative shall also provide CM@Risk with prompt notice if it observes any failure on the part of CM@Risk to fulfill its contractual obligations, including any default or defect in the Project or non-conformance with the Contract Documents.

(E) The City may utilize field inspectors to assist the City's Representative during construction in observing performance of the CM@Risk. The inspector is for the purpose of assisting the City's Representative and should not be confused with an inspector with a City regulatory agency or with an inspector from a laboratory identified by City.

(F) Through onsite observation of the Work in progress and field checks of materials and equipment, the inspector shall endeavor to provide protection against defects and deficiencies in the Work.

(G) The inspector will be authorized to inspect all Work and materials furnished. Such inspection may extend to all or part of the Work and to the preparation, fabrication or manufacture of the materials to be used.

(H) The inspector will not be authorized to issue instructions contrary to the Construction Documents or to act as a foreman for the CM@Risk.

(I) The inspector shall have the authority to reject work or materials until any questions at issue can be decided by the City's Representative.

(J) The furnishing of such services for the City shall not make the City responsible for or give the City control over construction means, methods, techniques, sequenced or procedures or for safety precautions or programs or responsibility for the CM@Risk's failure to perform the work in accordance with Contract Documents.

(K) Design Professional Services. The City may contract separately with one or more Design Professionals to provide construction administration of the project. The Design Professional's contract as well as other firms hired by the City shall be furnished to the CM@Risk. The CM@Risk shall not have any right however, to limit or restrict any contract modifications that are mutually acceptable to the City and Design Professional.

(L) The City may contract with the Design Professional to provide some or all of the following services during the performance of the Work.

1. Provide oversight of the Work. The City and CM@Risk shall endeavor to communicate through the Design Professional. Communications by and with the Design Professional's consultants shall be through the Design Professional.

2. Site visits at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and work in progress and to determine in general if the Work is being performed in accordance with the Contract Documents.

The Design Professional will keep the City informed of progress of the Work, and will endeavor to guard the City against defects and deficiencies in the Work. The Design Professional may have authority to reject construction which does not conform to the Construction Documents and to require additional inspection or testing of the construction in accordance with Article 2.

3. Review and recommend approval of Payment Requests.

4. Review and approve or take other appropriate action upon the CM@Risk's submittals such as Shop Drawings, Product Data and Samples in accordance with Article 2.

5. Interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the City or CM@Risk. The design Professional's response to such requests will be made with reasonable promptness and within any time limits agreed upon.

6. Prepare Change Orders, and may authorize minor changes in the Work as provided in Article 6.

7. Conduct inspections to determine Substantial Completion and Final Acceptance.

8. Receive and forward to the City for the City's review and records written warranties and related documents required by the Contract Documents and assembled by the CM@Risk.

(M) **City's Separate Contractors. City is responsible for all work performed on the Project or at the Site by separate contractors under City's control. City shall contractually require its separate contractors to cooperate with, and coordinate their activities so as not to interfere with, CM@Risk in order to enable CM@Risk to timely complete the Work consistent with the Contract Documents.**

(N) Permit Review and Inspections. If requested by the CM@Risk, the City's Representative will provide assistance and guidance in obtaining necessary reviews, permits and inspections.

ARTICLE 4
CONTRACT TIME

(A) Contract Time. Contract Time shall start with the commencement date established in the Notice to Proceed or the dates of permit(s), whichever is later, for GMP No. 1 and end with Substantial Completion.

(B) Each GMP will establish a separate commencement date and a date of Substation Completion and a Performance Period. The Performance Periods may not be sequential and may run concurrently. The Period to achieve Substantial Completion for pre-construction services shall be **Two Hundred and Sixty-Six (266) Calendar Days** starting with the commencement date.

(C) CM@Risk agrees that it will commence performance of the Work and achieve the Performance Periods and Contract Time.

(D) All of the times set forth in this Article 4 shall be subject to adjustment in accordance with Article 6 of this contract.

(E) Substantial Completion

1. Substantial Completion shall be for the entire Project unless a partial Substantial Completion is identified in the approved GMP schedule and stated in the Notice to Proceed letter. Substantial Completion shall be in accordance with its definition in Article 1. and with the criteria set forth in the Notice to Proceed.

2. Prior to notifying the City, the CM@Risk shall inspect the Work and prepare and submit to the City a comprehensive list of items to be completed or corrected. The CM@Risk shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of the CM@Risk to complete all Work in accordance with the Contract Documents.

3. CM@Risk shall notify City when it believes the Work, or to the extent permitted in the Contract Documents, a portion of the Work, is substantially complete.

4. Within five (5) days of City's receipt of CM@Risk's notice, City and CM@Risk will jointly inspect such Work to verify that it is substantially complete in accordance with the requirements of the Contract Documents.

5. If such Work is substantially complete, City shall prepare and issue a Certificate of Substantial Completion that will set forth (i) the date of Substantial Completion of the Work or portion thereof, (ii) the remaining items of Work that have to be completed within thirty (30) calendar days before Final Acceptance, (iii) provisions provided in the Contract Documents establishing City's responsibility for the Project's security, maintenance, utilities and insurance pending Final Acceptance and (iv) an acknowledgment that warranties commence to run on the date of Substantial Completion, except as may otherwise be noted in the Certificate of Substantial Completion.

6. City, at its option, may use a portion of the Work which has been determined to be substantially complete, provided, however, that (i) a Certificate of Substantial Completion has been issued for the portion of Work addressing the items set forth above, (ii) CM@Risk and City have obtained the consent of their sureties and insurers, and to the extent applicable, the appropriate government authorities having jurisdiction over the Project, and (iii) City and CM@Risk agree that City's use or occupancy will not interfere with CM@Risk's completion of the remaining Work.

(F) Final Acceptance. Upon receipt of written notice that the Work or identified portions of the Work is ready for final inspection and acceptance, City and CM@Risk will jointly inspect to verify that the remaining items of Work have been completed as set forth above. The City will issue a Final Acceptance Letter and payment pursuant to Article 7.

(G) Liquidated Damages. CM@Risk understands that if Substantial Completion is not attained within the Contract Time as adjusted, City will suffer damages which are difficult to determine and accurately specify. CM@Risk agrees that if Substantial Completion is not attained within the Contract Time as adjusted, CM@Risk shall pay the City **Two Hundred Eighty Dollars ($280.00)** as liquidated damages for each Day that Substantial Completion extends beyond the date determined by the Contract Time as adjusted.

(H) Project Schedule. The Project Schedule approved as part of a GMP shall be updated and maintained throughout the Work.

1. The Project Schedule shall be revised as required by conditions and progress of the Work, but such revisions shall not relieve CM@Risk of its obligations to complete the Work within the Contract Time, as such dates may be adjusted in accordance with the Contract Documents.

2. Updated Project Schedules shall be submitted monthly to the City as part of the Payment Request.

3. CM@Risk shall provide City with a monthly status report with each Project Schedule detailing the progress of the Work, including: (i) if the Work is proceeding according to Project Schedule, (ii) any discrepancies, conflicts, or ambiguities found to exist in the Contract Documents that require resolution, and (iii) other items that require resolution so as not to jeopardize ability to complete the Work as presented in the GMP proposal and within the Contract Time.

4. With each Project Schedule submittal the CM@Risk shall include a transmittal letter including the following:

a. Description of problem tasks (referenced to field instructions, requests for information (RFI's), as appropriate.

b. Current and anticipated delays including; Cause of the delay,
Corrective action and schedule adjustments to correct the delay, Known or potential impact of the delay on other activities, milestones, and the date of Substantial Completion.

c. Changes in construction sequence

d. Pending items and status thereof including but not limited to; Time Extension requests, other items

e. Substantial Completion date status; If ahead of schedule, the number of calendar Days ahead, If behind schedule, the number of calendar Days behind, other project or scheduling concerns

(I) City's review of and response to the Project Schedule is only for general conformance with the scheduling requirements of the Contract Documents. The review shall not relieve the CM@Risk from compliance with the requirements of the Contract Documents or be construed as relieving the CM@Risk of its complete and exclusive control over the means, methods, sequences and techniques for executing the Work.

(J) The Project Schedule shall include a Critical Path Method (CPM) diagram schedule that shall show the sequence of activities, the interdependence of each activity and indicate the Critical Path.

(K) The CPM diagram schedule shall be in Days and indicate duration, earliest and latest start and finish dates for all activities, and total Float times for all activities except critical activities. The CMP diagram shall be presented in a time scaled graphical format for the Project as a whole.

(L) The CPM diagram schedule shall indicate all relationships between activities.

1. The activities making up the schedule shall be sufficient detail to assure that adequate planning has been done for proper execution of the Work and such that it provides an appropriate basis for monitoring and evaluating the progress of the Work.

2. The CPM diagram schedule shall be based upon activities, which would coincide with the schedule of values.

3. The CPM diagram schedule shall show all critical submittals associated with each work activity and the review time for each submittal.

4. The Project Schedule shall show milestones, including milestones for Owner-furnished information, and shall include activities for Owner-furnished equipment and furniture when those activities are interrelated with the CM@Risk activities.

5. The Project Schedule shall include a critical path activity that reflects anticipated rain delay during the performance of the Contract. The duration shall reflect the average climatic range and usual industrial conditions prevailing in the locality of the site. Weather data shall be based on information provided by the National Weather Services or other approved source.

(M) The Project Schedule shall consider the City's and the tenants' occupancy requirements showing portions of the Project having occupancy priority, and Contract Time.

(N) Float time shall be as prescribed below;

1. The total Float within the overall Project Schedule, is not for the exclusive use of either the City or the CM@Risk, but is jointly owned by both and is a resource available to and shared by both parties as needed to meet contract milestones and the Project contract time.

2. The CM@Risk shall not sequester shared Float through such strategies as extending activity duration estimates to consume available Float, using preferential logic, or using extensive crew/resource sequencing, etc. Since Float time within the Project Schedule is jointly owned, no time extensions will be granted nor delay damages paid until a delay occurs which extends the Work beyond the Substantial Completion date.

3. Since Float time within the Project Schedule is jointly owned, it is acknowledged that City-caused delays on the Project may be offset by City-caused time savings (i.e., critical path submittals returned in less time than allowed by the Contract, approval of substitution requests and credit changes which result in savings of time to the CM@Risk, etc.). In such an event, the CM@Risk shall not be entitled to receive a time extension or delay damages until all City-caused time savings are exceeded, and the Substantial Completion date is also exceeded.

ARTICLE 5
CONTRACT PRICE

(A) The CM@Risk agrees at his own proper cost and expense, to do all Work as aforesaid for the construction of said improvements and to completely construct the same and install the material therein, as called for by this Agreement free and clear of all claims, liens, and charges whatsoever, in the manner and under the conditions specified within the time, or times, stated in the approved GMP proposal.

(B) Contract Price. The Contract Price of **Seventy Four Thousand One Hundred Seventy One Dollars and Zero Cents** (**$74,171.00)** has been approved as the pre-construction price proposal attached as Exhibit B.

1. Guaranteed Maximum Price is composed of the following not-to-exceed cost reimbursable or lump sum amounts defined below. The CM@Risk is at risk to cover any additional Project costs. Any amounts in excess of the actual Cost of the Work and/or CM@Risk's Contingency shall revert to the City.

2. The Cost of the Work is actual costs and is a not-to-exceed reimbursable amount.

3. The General Conditions Costs and the Construction Fee are firm fixed lump sums, but subject to adjustments as permitted in the contract Documents.

4. When the CM@Risk utilize CM@Risk's Contingency funds, the CM@Risk shall make the appropriate changes to the schedule of values with the next regular progress payment request. The CM@Risk shall deduct the amount of CM@Risk's Contingency funds used from the CM@Risk's Contingency line item and adding the same amount to the line item on the schedule of values where the funds were used. If the CM@Risk's Contingency funds are used for a new line item that was not given with the original schedule of values, that will be so indicated.

5. Taxes are deemed to include all sales, use, consumer and other taxes which are legally enacted when negotiations of the GMP were concluded, whether or not yet effective or merely scheduled to go into effect. Taxes are actual costs and is a not-to-exceed reimbursable amount; (i) Owner's Contingency are funds to be used at the discretion of the Owner to cover any increases in Project costs that result from Owner directed changes or unforeseen site conditions. Owner's Contingency will be added to the GMP amount provided by the CM@Risk, the sum of which will be the total contract price for construction. Markups for Construction Fee and taxes will be applied by the CM@Risk at the time that Owner's Contingency is used. (ii) The GMP is subject to adjustments made in accordance with Article 6 and by GMP amendments to this Agreement.

6. If the GMP requires an adjustment due to changes in the Work or other causes as allowed in the contract Documents, the cost of such changes is determined subject to Article 6. The markups that shall be allowed on such changes shall be no greater than the markups delineated in the approved GMP proposal.

ARTICLE 6
CHANGES TO THE CONTRACT PRICE AND TIME

A. Delays to the Work: If CM@Risk is delayed in the performance of the Work that will cause a change in the date of Substantial Completion due to acts, omissions, conditions, events, or circumstances beyond its control and due to no fault of its own or those for whom CM@Risk is responsible, the Contract Times and/or Contract Price for performance shall be reasonably revised by Change Order.

B. The CM@Risk shall request an increase in the Contract Time by written notice including an estimate of probable effect of delay on progress of the Work. In the case of a continuing delay only one request is necessary. Such notice shall not be later than fourteen (14) Days after such condition or event has been encountered.

C. By way of example, events that will entitle CM@Risk to an extension of the Contract Time include acts or omissions of City or anyone under City's control (including separate contractors), changes in the Work, Differing Site Conditions, Hazardous Conditions, delays by regulating agencies, wars, floods, labor disputes, unusual delay in transportation, epidemics abroad, earthquakes, pandemics, adverse weather conditions not reasonably anticipated, and other acts of God.

D. If adverse weather conditions are the basis for a request for additional Contract Time, such requests shall be documented by data substantiating that weather conditions were abnormal for the period of time and that weather conditions had an adverse effect on the scheduled Substantial Completion. (i) It is understood, however, that permitting the CM@Risk to proceed to complete any Work, or any part of the Work, after the date to which the time of completion may have been extended, shall in no way act as a waiver on the part of the City of any of its legal rights herein. (ii) In addition to CM@Risk's right to a time extension for those

events set forth in this Section, CM@Risk shall also be entitled to an appropriate adjustment of the Contract Price provided, however, that the Contract Price shall not be adjusted for those events set forth in this Section that are beyond the control of both CM@Risk and City, including the events of war, floods, labor disputes, earthquakes, epidemics, adverse weather conditions not reasonably anticipated, and other acts of God.

E. Differing Site Conditions: If CM@Risk encounters a Differing Site Condition, CM@Risk will be entitled to an adjustment in the Contract Price and/or Contract Times to the extent CM@Risk's cost and/or time of performance are adversely impacted by the Differing Site Condition. Upon encountering a Differing Site Condition, CM@Risk shall provide prompt written notice to City of such condition, which notice shall not be later than seven (7) days after such condition has been encountered. CM@Risk shall, to the extent reasonably possible, provide such notice before the Differing Site Condition has been substantially disturbed or altered.

F. Errors, Discrepancies and Omissions. If the CM@Risk observes errors, discrepancies or omissions in the Contract Documents, he shall promptly notify the Design Professional and request clarification. If the CM@Risk proceeds with the Work affected by such known errors, discrepancies or omissions, without receiving such clarifications, he does so at his own risk. Adjustments involving such circumstances made by the CM@Risk prior to clarification by the Design Professional shall be at the CM@Risk's risk.

G. City Requested Change in Work. The City reserves the right to make, at any time during the progress of the Work, such alterations as may be found necessary or in the City's best interest. Such alterations and changes shall not invalidate this Agreement nor release the surety and the CM@Risk agrees to perform the Work as altered, the same as if it has been a part of the original Contract Documents. The City will request a proposal for a change in Work from CM@Risk, and an equitable adjustment in the Contract Price and/or Contract Times shall be made based on a mutual agreed upon cost and time.

H. Legal Requirements. The Contract Price and/or Contract Times shall be adjusted to compensate CM@Risk for the effects of any changes in the Legal Requirements enacted after the date of the Agreement or the date of the GMP proposal, affecting the performance of the Work.

I. Change Directives and Change Orders. City and CM@Risk shall negotiate in good faith and as expeditiously as possible the appropriate adjustments for a Change Directive. Upon reaching an agreement, the parties shall prepare and execute an appropriate Change Order reflecting the terms of the adjustment. All changes in Work authorized by Change Orders shall be performed under the conditions of the Contract Documents

J. Minor Changes in the Work. The City has authority to order minor changes in Work that do not materially and adversely affect the Work, including the design, quality, performance and workmanship required by the Contract Documents. Such changes shall be affected by written order and shall be binding on the City and CM@Risk. The CM@Risk shall carry out such written orders promptly. CM@Risk may make minor changes in Work, provided, however that CM@Risk

shall promptly inform City, in writing, of any such changes and record such changes, if appropriate, on the Project Record Documents maintained by CM@Risk. Minor changes in Work will not involve an adjustment in the Contract Price and/or Contract Times.

K. Contract Price Adjustments The increase or decrease in Contract Price resulting from a change in the Work shall be determined by one or more of the following methods: Unit prices set forth in the Agreement or as subsequently agreed to between the parties; A mutually accepted, lump sum, properly itemized and supported by sufficient substantiating data to permit evaluation by City; or Estimated cost of the Work, General conditions costs, if applicable, Construction fee and tax. The markups that shall be allowed on such changes shall be no greater than the markups delineated in the approved GMP proposal as shown on Exhibit B. If an increase or decrease cannot be agreed to, City issues a Change Directive, the cost of the change of the Work shall be determined by the reasonable expense and savings in the performance of the Work resulting from the change, including a reasonable overhead and profit, as may be set forth in the Agreement. CM@Risk shall maintain a documented, itemized accounting evidencing the expenses and savings associated with such changes. If unit prices are set forth in the Contract Documents or are subsequently agreed to by the parties, but application of such unit prices will cause substantial inequity to City or CM@Risk because of differences in the character or quantity of such unit items as originally contemplated, such unit prices shall be equitably adjusted. If City and CM@Risk disagree upon whether CM@Risk is entitled to be paid for any services required by City, or if there are any other disagreements over the scope of Work or proposed changes to the Work, City and CM@Risk shall resolve the disagreement pursuant to Article 8 hereof. As part of the negotiation process, CM@Risk shall furnish City with a good faith estimate of the costs to perform the disputed services in accordance with City's interpretations. If the parties are unable to agree and City expects the CM@Risk to perform the services in accordance with City's interpretations, CM@Risk shall proceed to perform the disputed services, conditioned upon City issuing a written order to CM@Risk (i) directing CM@Risk to proceed and (ii) specifying City's interpretation of the services that are to be performed.

L. Emergencies. In any emergency affecting the safety of persons and/or property, CM@Risk shall act, at its discretion, to prevent threatened damage, injury or loss. Any change in the Contract Price and/or Contract Time resulting from emergency work under this Division shall be determined as provided in this Article.

ARTICLE 7
PROCEDURE FOR PAYMENT

A. For and in consideration of the faithful performance of the Work herein embraced as set forth in the Contract Documents, which are a part hereof and in accordance with the directions of the City and to its satisfaction, the City agrees to pay the said CM@RISK the actual Cost of the Work and any applicable General Conditions Costs including, insurance and bonding, taxes and the CM@Risk's Construction Fee, but no more than the GMP as adjusted by any Change Orders. Payment for the specific work under this Agreement will be made in accordance with payment provisions detailed below.

B. GMP Payment Request at the pre-construction conference prescribed in Article 2, CM@Risk shall submit for City's review and approval a schedule of values. The schedule of values will serve as the basis for monthly progress payments made to CM@Risk throughout the Work. At least five (5) working days prior to the date established for a Payment Request, the CM@Risk shall submit an updated Project Schedule and meet with the City's Representative to review the progress of the Work as it will be reflected on the Payment Request. The Payment Request shall constitute CM@Risk's representation that the Work has been performed consistent with the Contract Documents, has progressed to the point indicated in the Payment Request, and that all Work will pass to City free and clear of all claims, liens, encumbrances, and security interests upon the incorporation of the Work into the Project and payment therefore. The Payment Request may request payment for stored equipment and materials if construction progress is in reasonable conformance with the approved Project Schedule.

1. For equipment and materials suitably stored at the Site, the equipment and materials shall be protected by suitable insurance and City shall receive the equipment and materials free and clear of all liens and encumbrances upon payment therefore.

2. For materials and equipment stored off the Site and included in Payment Request, the City must approve the storage. The material and equipment must be stored within Maricopa County and be accessible for City's inspection. The CM@Risk must protect the City's interest and shall include applicable insurance, bonding, storage and transportation to the Site.

3. All bonds and insurance required for stored materials shall name the City as the loss payee to the extent of its interest in the stored materials.

CM@Risk shall submit payment requests to the City on the monthly anniversary of the construction Notice to Proceed beginning with the first month after the construction Notice To Proceed, Payment Request.

C. Payment of GMP. City shall make payment in accordance with A.R.S. 34-607. Payment will be made no later than fourteen (14) Days after the Payment Request is certified and approved, but in each case less the total of payments previously made, and less amounts properly retained under Section D below. City shall pay CM@Risk all amounts properly due. If City determines that CM@Risk is not entitled to all or part of a Payment Request, it will notify CM@Risk in writing within (7) Days after the date Payment Request is received by the City. The notice shall indicate the specific amounts City intends to withhold, the reasons and contractual basis for the withholding, and the specific measures CM@Risk must take to rectify City's concerns. CM@Risk and City will attempt to resolve City's concerns. If the parties cannot resolve such concerns, CM@Risk may pursue its rights under the Contract Documents, including those under Article 8 hereof.

D. Retention on GMP. City will retain ten percent (10%) of each Payment Request amount provided, however, that when fifty percent (50%) of the Work has been completed by CM@Risk, upon request of the CM@Risk, City may reduce the amount retained to five percent (5%) from

CM@Risk's subsequent Payment Requests if the CM@Risk's performance of Work has been satisfactory.

E. Substantial Completion**.** Upon Substantial Completion of the entire Work or, if applicable, any portion of the Work, City shall release to CM@Risk all retained amounts relating, as applicable, to the entire Work or substantially completed portion of the Work, less an amount up to two and one half times (2.5) the reasonable value of all remaining or incomplete items of Work as noted in the Certificate of Substantial Completion.

F. Final Payment. After receipt of a final Payment Request, City shall make final payment 60 days after the receipt by the City, provided that CM@Risk has completed all of the Work in conformance with the Contract Documents and a Final Acceptance Letter has been issued by the City. At the time of submission of its final Payment Request, CM@Risk shall provide the following information:

1. An affidavit that there are no claims, obligations or liens outstanding or unsatisfied for labor, services, material, equipment, taxes or other items performed, furnished or incurred for or in connection with the Work which will in any way affect City's interests;

2. A general release executed by CM@Risk waiving, upon receipt of final payment by CM@Risk, all claims, except those claims previously made in writing to City and remaining unsettled at the time of final payment; and

3. Consent of CM@Risk's surety, if any, to final payment.

G. Payments to Subcontractors or Suppliers. CM@Risk shall pay its Subcontractors or Suppliers within seven (7) Days of receipt of each progress payment from the City. The CM@Risk shall pay for the amount of Work performed or materials supplied by each Subcontractor or supplier as accepted and approved by the City with each progress payment. In addition, any reduction of retention by the City to the CM@Risk shall result in a corresponding reduction to Subcontractors or suppliers who have performed satisfactory work. CM@Risk shall pay Subcontractors or suppliers the reduced retention within fourteen (14) Days of the payment of the reduction of the retention to the CM@Risk. No contract between CM@Risk and its Subcontractors and suppliers may materially alter the rights of any Subcontractor or supplier to receive prompt payment and retention reduction as provided herein.

If the CM@Risk fails to make payments in accordance with these provisions, the City may take any one or more of the following actions and CM@Risk agrees that the City may take such actions:

1. To hold the CM@Risk in default under this Agreement;

2. Withhold future payments including retention until proper payment has been made to Subcontractors or suppliers in accordance with these provisions;

3. Reject all future offers to perform work for the City from the CM@Risk for a period not to exceed one year from Substantial Completion date of this Project; or

4. Terminate this Agreement.

If CM@Risk's payment to a Subcontractor or supplier is in dispute, CM@Risk and Subcontractor or supplier agree to submit the dispute to any of one of the following dispute resolution processes within fourteen (14) Days from the date either party gives notice to the other: (a) binding arbitration; (b) a form of alternative dispute resolution (ADR) agreeable to all parties or (c) a City of Buckeye facilitated mediation. When disputed claim is resolved through ADR or otherwise, the CM@Risk and Subcontractor or supplier agree to implement the resolution within seven (7) Days from the resolution date.

Should the City fail or delay in exercising or enforcing any right, power, privilege, or remedy under this Section, such failure or delay shall not be deemed a waiver, release, or modification of the requirements of this Section or of any of the terms or provisions thereof.

CM@Risk shall include these prompt payment provisions in every subcontract, including procurement of materials and leases of equipment for this Agreement.

H. Record Keeping and Finance Controls.

1. Records of the CM@Risk's direct personnel payroll, reimbursable expenses pertaining to this Project and records of accounts between the City and CM@Risk shall be kept on a generally recognized accounting basis and shall be available for three years after Final Acceptance of the Project.

2. The City, its authorized representative, and/or the appropriate federal agency, reserve the right to audit the CM@Risk's records to verify the accuracy and appropriateness of all pricing data, including data used to negotiate Contract Documents and any Change Orders.

3. The City reserves the right to decrease Contract Price and/or payments made on this Agreement if, upon audit of the CM@Risk's records, the audit discloses the CM@Risk has provided false, misleading, or inaccurate cost and pricing data.

4. The CM@Risk shall include a similar provision in all of its agreements with Subconsultants and Subcontractors providing services under the Contract Documents to ensure the City, its authorized representative, and/or the appropriate federal agency, has access to the Subconsultants' and Subcontractors' records to verify the accuracy of cost and pricing data.

5. The City reserves the right to decrease Contract Price and/or payments made on this Agreement if the above provision is not included in Subconsultant's and Subcontractor's contracts, and one or more Subconsultants and/or Subcontractors do not allow the City to audit their records to verify the accuracy and appropriateness of pricing data.

ARTICLE 8
CLAIMS AND DISPUTES

1. Requests for Contract Adjustments and Relief

A. If either CM@Risk or City believes that it is entitled to relief against the other for any event arising out of or related to the Contract, such party shall provide written notice to the other party of the basis for its claim for relief.

B. Such notice shall, if possible, be made prior to incurring any cost or expense and in accordance with any specific notice requirements contained in applicable sections of the Agreement.

C. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed twenty-one (21) Days, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later.

D. Such notice shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request.

2. Dispute Avoidance and Resolution

A. The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, CM@Risk and City each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Work.

B. CM@Risk and City will first attempt to resolve disputes or disagreements at the field level through discussions between CM@Risk's Representative and City's Representative.

C. If a dispute or disagreement cannot be resolved through CM@Risk's Representative and City's Representative, CM@Risk's Senior Representative and City's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such dispute or disagreement. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute or disagreement.

D. Duty to Continue Performance Unless provided to the contrary in the Contract Documents, CM@Risk shall continue to perform the Work and City shall continue to satisfy its

payment obligations to CM@Risk, pending the final resolution of any dispute or disagreement between CM@Risk and City.

3. Representatives of the Parties

A. City's Representatives
City designates the individual listed below or his designee as its Senior Representative ("City's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes:

Mr. Chris Williams, Manager
Construction & Contracting Division
530 E. Monroe Avenue
Buckeye, AZ 85326
Phone: 623.349.6225

City designates the individual listed below as its City's Representative, which individual has the authority and responsibility set forth in Article 1:

Project Manager: Steve Riley
Construction Project Manager
530 E. Monroe Avenue
Buckeye, AZ 85326
Phone: 623.687.6269

B. CM@Risk's Representatives
CM@Risk designates the individual listed below as its Senior Representative ("CM@Risk's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes:

James Murphy, CEO
2048 N. 44th Street, Suite 200
Phoenix, AZ 85008
Phone: 480-968-4755

CM@Risk designates the individual listed below as its CM@Risk's Representative, which individual has the authority and responsibility set forth in Article 1:

James Murphy, CEO
2048 N. 44th Street, Suite 200
Phoenix, AZ 85008
Phone: 480-968-4755

ARTICLE 9
SUSPENSION AND TERMINATION

1. City's Right to Stop Work

A. City may, at its discretion and without cause, order CM@Risk in writing to stop and suspend the Work. Such suspension shall not exceed one hundred and eighty (180) consecutive days.

B. CM@Risk may seek an adjustment of the Contract Price and/or Contract Time if its cost or time to perform the Work has been adversely impacted by any suspension or stoppage of Work by City.

2. Termination for Convenience

A. Upon receipt of written notice to CM@Risk, City may, at its discretion and without cause, elect to terminate this Agreement. In such event, City shall pay CM@Risk only the direct value of its completed Work and materials supplied as of the date of termination and the reasonable costs and expenses attributable to such termination. CM@Risk shall be entitled to profit and overhead on completed Work only, but shall not be entitled to anticipated profit or anticipated overhead.

B. If the City suspends the Work for 181 consecutive Days or more, such suspension shall be deemed a termination for convenience.

C. Upon such termination, the CM@Risk shall proceed with the following obligations:

1. Stop Work as specified in the notice;

2. Place no further subcontracts or orders;

3. Terminate all subcontracts to the extent they relate to the Work terminated;

4. Assign to the City all right, title and interest of the CM@Risk under the subcontracts terminated, in which case the City shall have the right to settle or to pay any termination settlement proposal arising out of those terminations; and

5. Take any action that may be necessary for the protection and preservation of the property related to the Contract that is in the possession of the CM@Risk and which the City has or may acquire an interest.

D. The CM@Risk shall submit complete termination inventory schedules no later than 120 Days from the date of the notice of termination.

E. The City shall pay CM@Risk the following:

1. The direct value of its completed Work and materials supplied as of the date of termination; and

2. The reasonable costs and expenses attributable to such termination.

F. CM@Risk shall be entitled to profit and overhead on completed Work only, but shall not be entitled to anticipated profit or anticipated overhead. If it appears the

G. CM@Risk would have sustained a loss on the entire Work had it been completed, the CM@Risk shall not be allowed profit and the City shall reduce the settlement to reflect the indicated rate of loss.

H. The CM@Risk shall maintain all records and documents for three years after final settlement. These records shall be maintained and subject to auditing as prescribed in Article 7.

3. City's Right to Perform and Terminate for Cause

A. If the City provides the CM@Risk with a written order to provide adequate maintenance of traffic, adequate cleanup, adequate dust control or to correct deficiencies or damage resulting from abnormal weather conditions, and the CM@Risk fails to comply in a time frame specified, the City may have work accomplished by other sources.

B. If CM@Risk persistently fails to (i) provide a sufficient number of skilled workers, (ii) supply the materials required by the Contract Documents, (iii) comply with applicable Legal Requirements, (iv) timely pay, without cause, Subconsultants and/or Subcontractors, (v) prosecute the Work with promptness and diligence to ensure that the Work is completed within the Contract Times, as such times may be adjusted, or (vi) perform material obligations under the Contract Documents, then City, in addition to any other rights and remedies provided in the Contract Documents or by law, shall have the rights set forth below.

C. Upon the occurrence of an event set forth above, City may provide written notice to CM@Risk that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) Days of CM@Risk's receipt of such notice.

D. If CM@Risk fails to cure, or reasonably commence to cure, such problem, then City may give a second written notice to CM@Risk of its intent to terminate within an additional seven (7) Day period.

E. If CM@Risk, within such second seven (7) Day period, fails to cure, or reasonably commence to cure, such problem, then City may declare the Agreement terminated for default by providing written notice to CM@Risk of such declaration.

F. Upon declaring the Agreement terminated pursuant to the above, City may enter upon the premises and take possession, for the purpose of completing the Work, of all paid for materials, scaffolds, appliances and other items thereon, which have been purchased or provided for the performance of the Work, all of which CM@Risk hereby transfers, assigns and sets over to City for such purpose, and to employ any person or persons to complete the Work and provide all of the required labor, services, materials, equipment and other items.

G. In the event of such termination, CM@Risk shall not be entitled to receive any further payments under the Contract Documents until the Work shall be finally completed in accordance with the Contract Documents. At such time, the CM@Risk will only be entitled to be paid for Work performed and accepted by the City prior to its default.

H. If City's cost and expense of completing the Work exceeds the unpaid balance of the Contract Price, then CM@Risk shall be obligated to pay the difference to City. Such costs and expense shall include not only the cost of completing the Work, but also losses, damages, costs and expense, including reasonable attorneys' fees and expenses, incurred by City in connection with the reprocurement and defense of claims arising from CM@Risk's default.

I. If City improperly terminates the Agreement for cause, the termination for cause shall be converted to a termination for convenience in accordance with the provisions outline above.

4. Termination for Convenience of the City.

A. The City, by written notice to the Contractor, may terminate this Contract in whole or in part when sufficient appropriated or other funds are not available or in the sole discretion of the City, if or when it is in the City's best interest. In such case, the CMAR shall be paid for all Work execute and reasonable termination expenses, and a reasonable allowance for profit and overhead on Work done, provided that such payment exclusive of termination expenses shall not exceed the total Contract Price as reduced by other contract payments previously made to the Contractor and as further reduced by the value of the Work as yet not completed. The Contractor shall not be entitled to profit and overhead on Work, which was not performed.

ARTICLE 10
INSURANCE AND BONDS

1. Insurance Requirements

A. CM@Risk and Subcontractors shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Agreement are satisfied, insurance against claims for injury to persons or damage to property which may arise from or in connection with the performance of the Work hereunder by the CM@Risk, his agents, representatives, employees or Subcontractors.

B. The insurance requirements herein are minimum requirements for this Agreement and in no way limit the indemnity covenants contained in this Agreement.

C. The City in no way warrants that the minimum limits contained herein are sufficient to protect the CM@Risk from liabilities that might arise out of the performance of the Work under this Agreement by the CM@Risk, his agents, representatives, employees, or subcontractors. CM@Risk is free to purchase such additional insurance as may be determined necessary.

D. Minimum Scope And Limits Of Insurance. CM@Risk shall provide coverage with limits of liability not less than those stated below:

1. Commercial General Liability – Occurrence Form

Policy shall include bodily injury, property damage, broad form contractual liability and XCU coverage.

General Aggregate/for this Project	$2,000,000/$1,000,000
Products – Completed Operations Aggregate	$1,000,000
Personal and Advertising Injury	$1,000,000
Each Occurrence	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the CM@Risk".

2. Automobile Liability - Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Agreement.

Combined Single Limit (CSL)	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the CM@Risk, including automobiles owned, leased, hired or borrowed by the CM@Risk".

3. Worker's Compensation and Employers' Liability

Workers' Compensation	Statutory
Employers' Liability	
Each Accident	$100,000
Disease - Each Employee	$100,000
Disease – Policy Limit	$500,000

The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents and employees, each of the other, and (2) the Architect, Architect's consultants, separate contractors, if any, and any of their subcontractors, sub-subcontractors, agents and employees, for damages caused by fire or other causes of loss to

the extent covered by property insurance obtained pursuant to this Article 10 or other property insurance applicable to the Work, except such rights as they have to proceeds of such insurance held by the Owner as fiduciary. The Owner or Contractor, as appropriate, shall require of the Architect, Architect's consultants, separate contractors described in Article 6, if any, and the subcontractors, sub-subcontractors, agents and employees of any of them, by appropriate agreements, written where legally required for validity, similar waivers each in favor of other parties enumerated herein. The policies shall provide such waivers of subrogation by endorsement or otherwise. A waiver of subrogation shall be effective as to a person or entity even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, did not pay the insurance premium directly or indirectly, and whether or not the person or entity had an insurable interest in the property damaged.

E. The City of Buckeye, the CM@Risk, and Subcontractors, shall be Named Insureds on the policy.

F. Coverage shall be written on an all risk, replacement cost basis and shall include coverage for flood and earth movement.

G. Policy shall be maintained until whichever of the following shall first occur: (i) final payment has been made; or, (ii) until no person or entity, other than the City of Buckeye, has an insurable interest in the property required to be covered.

H. Policy shall be endorsed such that the insurance shall not be canceled or lapse because of any partial use or occupancy by the City.

Policy must provide coverage from the time any covered property becomes the responsibility of the CM@Risk, and continue without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, or awaiting installation, whether on or off site.

Policy shall contain a waiver of subrogation against the City of Buckeye.

CM@Risk is responsible for the payment of all policy deductibles.

I. Additional Insurance Requirements. The policies shall include, or be endorsed to include, the following provisions:

1. On insurance policies where the City of Buckeye is named as an additional insured, the City of Buckeye shall be an additional insured to the full limits of liability purchased by the CM@Risk even if those limits of liability are in excess of those required by this Agreement.

2. The CM@Risk's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

3. Coverage provided by the CM@Risk shall not be limited to the liability assumed under the indemnification provisions of this Agreement.

J. Notice of Cancellation. Each insurance policy required by the insurance provisions of this Agreement shall provide the required coverage and shall not be suspended, voided, canceled, reduced in coverage or endorsed to lower limits except after thirty (30) Days prior written notice has been given to the City. Such notice shall be sent directly to the City Senior Representative and shall be sent by certified mail, return receipt requested.

K. Acceptability of Insurers. Insurance is to be placed with insurers duly licensed or approved unlicensed companies in the state of Arizona and with an "A.M. Best" rating of not less than B+ VI. The City in no way warrants that the above-required minimum insurer rating is sufficient to protect the CM@Risk from potential insurer insolvency.

L. Verification of Coverage.

1. CM@Risk shall furnish the City with certificates of insurance (ACORD form or equivalent approved by the City) as required by this Agreement. The certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf.

2. All certificates and endorsements are to be received and approved by the City before Work commences. Each insurance policy required by this Agreement must be in effect at or prior to commencement of Work under this Agreement and remain in effect for the duration of the Project. Failure to maintain the insurance policies as required by this Agreement or to provide evidence of renewal is a material breach of the contract.

3. All certificates required by this Agreement shall be sent directly to City's Senior Representative. The City project/contract number and project description shall be noted on the certificate of insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Agreement at any time. DO NOT SEND CERTIFICATES OF INSURANCE TO THE CITY'S RISK MANAGEMENT DIVISION.

4. If the Certificate of Insurance reflecting policy coverage and cancellation notice does not conform to the City's requirements, the CM@Risk must submit a current insurance certificate (dated within 15 Days of the Payment Request submittal) with each Payment Request form. The Payment Request will be rejected if the insurance certificate is not submitted with the Payment Request.

M. Subcontractors. CM@Risks' certificate(s) shall include all Subcontractors as additional insureds under its policies or CM@Risk shall furnish to the City separate certificates and endorsements for each Subcontractor. All coverages for Subcontractors shall be subject to the minimum requirements identified above.

N. Approval. Any modification or variation from the insurance requirements in this Contract shall

be made by the City's Attorney, whose decision shall be final. Such action will not require a formal Contract amendment, but may be made by administrative action.

2. Bonds and Other Performance Security.

A. Prior to execution of this Agreement, the CM@Risk must provide a performance bond and a labor and materials bond, each in an amount equal to the total contract price of the GMP set forth in this Agreement.

Each such bond shall be executed by a surety company or companies holding a Certificate of Authority to transact surety business in the state of Arizona, issued by the Director of the Arizona Department of Insurance. A copy of the Certificate of Authority shall accompany the bonds. The Certificate shall have been issued, updated, or certified within two years prior to the execution of this Agreement.

The bonds shall be made payable and acceptable to the City of Buckeye.

B. The bonds shall be written or countersigned by an authorized representative of the surety who is either a resident of the state of Arizona or whose principal office is maintained in this state, as by law required, and the bonds shall have attached thereto a certified copy of Power of Attorney of the signing official.

If one Power of Attorney is submitted, it shall be for twice the total contract price of the GMP .

If two Powers of Attorney are submitted, each shall be for the total contract price of the GMP. Personal or individual bonds are not acceptable.

C. Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract Documents, the CM@Risk shall promptly furnish a copy of the bonds or shall permit a copy to be made.

All bonds submitted for this project shall be provided by a company which has been rated AM Best rating of "A- or better for the prior four quarters" by the A.M. Best Company.

ARTICLE 11
INDEMNIFICATION

CM@Risk's General Indemnification. CM@Risk agrees to indemnify and save harmless the City of Buckeye, its officers, agents and employees, and any jurisdiction or agency issuing permits for any work included in the Project, their officers, agents and employees, hereinafter referred to as indemnitee, from all suits and claims, including attorney's fees and cost of litigation, actions, loss, damage, expense, cost or claims of any character or any nature arising out of the work done in fulfillment of the terms of the Contract Documents or on account of any act, claim or amount arising or recovered under worker's compensation law or arising out of the failure of the

CM@Risk to conform to any statutes, ordinances, regulation, law or court decree. It is agreed that the CM@Risk will be responsible for primary loss investigation, defense and judgment costs where this contract of indemnity applies. In consideration of the award of this contract, the Contractor agrees to waive all rights of subrogation against the City, its officers, officials, agents and employees for losses arising from the work performed by the Contractor for the City.

ARTICLE 12
GENERAL PROVISIONS

1. Contract Documents.

A. Contract Documents are as defined in Article 1. This Agreement, Plans, Standard Specifications and Details, Special Provisions, Exhibits are used as the basis for the Guaranteed Maximum Price Proposal; GMP, Performance Bond, Payment Bond, Certificates of Insurance, Construction Documents and Change Orders (if any) are by this reference made a part of this Agreement to the same extent as if set forth herein in full.

B. The Contract Documents are intended to permit the parties to complete the Work and all obligations required by the Contract Documents within the Contract Times for the Contract Price. The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted in a manner consistent with construction and design industry standards.

C. In the event of any inconsistency, conflict, or ambiguity between or among the Contract Documents, the Contract Documents shall take precedence in the order in which they are listed in the definition of Contract Documents in Article 1.

D. On the drawings, given dimensions shall take precedence over scaled measurements, and large scale drawings over small-scale drawings.

E. Specifications take precedence over Plans.

F. In the event of any inconsistency, conflict, or ambiguity between the Contract Documents and the Design Phase Contract, the Contract Documents take precedence over the Design Phase Contract

G. The headings used in this Agreement, or any other Contract Documents, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

H. The Contract Documents form the entire agreement between City and CM@Risk and by incorporation herein are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

2. Amendments.

The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

3. Time is of the Essence.

City and CM@Risk mutually agree that time is of the essence with respect to the dates and times set forth in the Contract Documents.

4. Mutual Obligations.

City and CM@Risk commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents.

5. Cooperation and Further Documentation.

The CM@Risk agrees to provide the City such other duly executed documents as shall be reasonably requested by the City to implement the intent of the Contract Documents.

6. Assignment.

Neither CM@Risk nor City shall, without the written consent of the other assign, transfer or sublet any portion of this Agreement or part of the Work or the obligations required by the Contract Documents.

7. Successorship.

CM@Risk and City intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

8. Third Party Beneficiary.

Nothing under the Contract Documents shall be construed to give any rights or benefits in the Contract Documents to anyone other than the City and the CM@Risk, and all duties and responsibilities undertaken pursuant to the Contract Documents will be for the sole and exclusive benefit of City and the CM@Risk and not for the benefit of any other party.

9. Governing Law.

The Agreement and all Contract Documents shall be deemed to be made under, and shall be construed in accordance with and governed by the laws of the State of Arizona without regard

to the conflicts or choice of law provisions thereof. Any action to enforce any provision of this Contract or to obtain any remedy with respect hereto shall be brought in the Superior Court, Maricopa County, Arizona, and for this purpose, each party hereby expressly and irrevocably consents to the jurisdiction and venue of such Court.

10. Severability.

If any provision of the Contract Documents or the application thereof to any person or circumstance shall be invalid, illegal or unenforceable to any extent, the remainder of the Contract Documents and the application thereof shall not be affected and shall be enforceable to the fullest extent permitted by law.

11. Compliance with Federal Laws.

CM@Risk understands and acknowledges the applicability of the American with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989 to it. The CM@Risk agrees to comply with these laws in performing the Contract Documents and to permit the City to verify such compliance.

12. Legal Requirements.

CM@Risk shall perform all Work in accordance with all Legal Requirements and shall provide all notices applicable to the Work as required by the Legal Requirements. It is not the CM@Risk's responsibility to ascertain that the Construction Documents are in accordance with applicable laws, statutes, ordinances, building codes, rules and regulations. However, if the CM@Risk recognizes that portions of the Construction Documents are at variance therewith, the CM@Risk shall promptly notify the Design Professional and City in writing, describing the apparent variance or deficiency.

13. **Fair Treatment of Workers.**

The CM@Risk shall keep fully informed of all Federal and State laws, County and City ordinances, regulations, codes and all orders and decrees of bodies or tribunals having any jurisdiction or authority, which in any way affect the conduct of the work. He shall at all times observe and comply with all such laws, ordinances, regulations, codes, orders and decrees; this includes, but is not limited to laws and regulations ensuring fair and equal treatment for all employees and against unfair employment practices, including OSHA and the Fair Labor Standards Act (FLSA). The CM@Risk shall protect and indemnify the City and its representatives against any claim or liability arising from or based on the violation of such, whether by himself or his employees.

14. Independent Contractor.

The CM@Risk is and shall be an independent contractor. Any provisions in the Contract Documents that may appear to give the City the right to direct the CM@Risk as to the details of

accomplishing the Work or to exercise a measure of control over the Work means that the CM@Risk shall follow the wishes of the City as to the results of the Work only. These results shall comply with all applicable laws and ordinances.

15. City's Right Of Cancellation.

All parties hereto acknowledge that this Agreement is subject to cancellation by the City of Buckeye pursuant to the provisions of Section 38-511, Arizona Revised Statutes.

16. Survival.

All warranties, representations and indemnifications by the CM@Risk shall survive the completion or termination of this Agreement.

17. Covenant Against Contingent Fees.

The CM@Risk warrants that no person has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, and that no member of the City Council, or any employee of the City of Buckeye has any interest, financially, or otherwise, in the firm. For breach or violation of this warrant, the City of Buckeye shall have the right to annul this Agreement without liability, or at its discretion to deduct from the Contract Price or consideration, the full amount of such commission, percentage, brokerage, or contingent fee.

18. No Waiver.

The failure of either party to enforce any of the provisions of the Contract Documents or to require performance of the other party of any of the provisions hereof shall not be construed to be a waiver of such provisions, nor shall it affect the validity of the Contract Documents or any part thereof, or the right of either party to thereafter enforce each and every provision.

19. Notice.

A. Unless otherwise provided, any notice, request, instruction or other document to be given under this Agreement by any party to any other party shall be in writing and shall be delivered in person or by courier or facsimile transmission or mailed by certified mail, postage prepaid, return receipt requested and shall be deemed given upon (a) confirmation of receipt of a facsimile transmission, (b) confirmed delivery by hand or standard overnight mail or (c) upon the expiration of three (3) business days after the day mailed by certified mail, as follows:

to CM@Risk:
James Murphy, President
Willmeng Construction, Inc.
2048 N. 44th Street, Suite 200

Phoenix, AZ 85009
Phone: 480-968-4755

to City of Buckeye:
Chris Williams, Manager
Construction & Contracting Division
530 E. Monroe Avenue
Buckeye, Arizona 85326
Phone: 623.349. 6225

to Design Professional:
Dean Chambers,
J2 Engineering and Environmental
4649 E. Cotton Gin Loop, Suite B2
Phoenix, AZ 85040
Phone: 602-438-2221

or to such other place and with such other copies as either Party may designate as to itself by written notice to the other Party. Rejection, any refusal to accept or the inability to deliver because of changed address of which no notice was given shall be deemed to be receipt of the notice as of the date of such rejection, refusal or inability to deliver.

B. Notices Related to Payment, Securities-in-lieu, and Bonds. Any notice, request, instruction or other document to be given under this Agreement by any party to any other party related to payment, securities-in-lieu, bonds or other instrument securing the performance of this Agreement, including but not limited to, bid bonds, performance bonds, payment bonds or letters of credit, shall be in writing and shall be delivered in person or by courier or facsimile transmission or mailed by certified mail, postage prepaid, return receipt requested and shall be deemed given upon (a) confirmation of receipt of a facsimile transmission, (b) confirmed delivery by hand or standard overnight mail or (c) upon the expiration of three (3) business days after the day mailed by certified mail, as follows:

to CM@Risk :
James Murphy, President
Willmeng Construction, Inc.
2048 N. 44th Street, Suite 200
Phoenix, AZ 85009
Phone: 480-968-4755

to City of Buckeye:
Chris Williams, Manager
Construction & Contracting Division
530 E. Monroe Avenue
Buckeye, Arizona 85326

Phone: 623.349.6225

or to such other place and with such other copies as either Party may designate as to itself by written notice to the other Party. Rejection, any refusal to accept or the inability to deliver because of changed address of which no notice was given shall be deemed to be receipt of the notice as of the date of such rejection, refusal or inability to deliver.

20. Hazardous Materials.

A. Unless included in the Work, if the CM@Risk encounters onsite material which he reasonably believes to contain asbestos, polychlorinated biphenyl (PCB), or other hazardous substances or materials regulated by Public Health Laws, he shall immediately stop work and report the condition to the City.

B. If the material is found to contain asbestos, PCB or other hazardous substances or materials regulated by Public Health Laws, the CM@Risk shall not resume work in the affected area until the material has been abated or rendered harmless. The CM@Risk and the City may agree, in writing, to continue work in non-affected areas onsite.

C. An extension of Contract Time may be granted in accordance with Article 6.

D. The CM@Risk will comply with all applicable laws/ordinances and regulations and take all appropriate health and safety precautions upon discovery.

21. Traffic Control.

CM@Risk will comply with all provisions of the current version of the MUTCD, Part VI and any other traffic control provisions as may be provided in the technical specifications.

22. E-Verify Requirements.

A. To the extent applicable under Arizona Revised Statute § 41-4401, the Contractor and its subcontractors warrant compliance with all federal immigration laws and regulations that relate to their employees and their compliance with the E-verify requirements under Arizona Revised Statute § 23-214(A). The Contractor or subcontractor's breach of the above-mentioned warranty shall be deemed a material breach of the Contract and may result in the termination of the Contract by the City of Buckeye. The City of Buckeye retains the legal right to randomly inspect the papers and records of the Contractor or subcontractor employee who work on the Contract to ensure that the Contractor and its subcontractors are complying with the above-mentioned warranty.

B. The Contractor and its subcontractors warrant to keep the papers and records open for random inspection during normal business hours by the City. The Contractor and its subcontractors shall cooperate with City's random inspections including granting the City's entry

rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

22. Israel.

Pursuant to Arizona Revised Statute § 35-393.01, CM@Risk certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engaged in, a boycott of Israel, or any entity that does business in Israel or any territories controlled by Israel.

THEREFORE, the City of Buckeye by its City Manager has hereunto subscribed his names this 8/3/20.

CITY

THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

Roger Klingler, City Manager

CONTRACTOR:

WILLMENG CONSTRUCTION, INC.

James Murphy

James Murphy, CEO

EXHIBITS

EXHIBIT A – CONTRACTORS PROPOSAL
EXHIBIT B – GMP FEE SCHEDULE
EXHIBIT C - SCHEDULE

EXHIBIT A
TO
CM@RISK SUNDANCE PARK PHASE II
CONSTRUCTION SERVICES CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
WILLMENG CONSTRUCTION, INC.

CONTRACTOR'S PROPOSAL
[SEE FOLLOWING PAGES]

Willmeng | DTR Landscape Development, LLC



REQUEST FOR QUALIFICATIONS FOR

Sundance Park Phase II
Construction Manager at Risk

RFQ NUMBER: 2020006

June 8, 2020

June 8, 2020

City of Buckeye
Attention: Debby Fasano, Contracting Officer
623-349-6174
dfasano@buckeyeaz.gov

RE: SOQ | Construction Manager at Risk for Sundance Park Phase II - RFQ #2020006

Dear Ms. Fasano,

On behalf of Willmeng Construction, I am pleased to submit this Statement of Qualifications for the Sundance Park Phase II project. In order to provide the City with the most comprehensive service on this project, Willmeng will team with DTR Landscape Development, LLC. We feel that the Willmeng/DTR team will bring the City of Buckeye the benefit of Willmeng's ability to manage complex, phased projects with DTR's expertise in completing complex park projects. DTR has successfully completed 4 CMAR projects with J2 and Willmeng and DTR have worked together in the CMAR environment. We will bring this synergy to the Sundance Park Phase II team.

CMAR Experts to Drive Value During Preconstruction: Willmeng/DTR, as a firm, and every proposed team member will contribute their builder expertise in preconstruction to provide the benefits of early collaboration with the City of Buckeye, and all sub-consultants. Through this early collaboration, you will get the benefit of CMAR experience from every team member, experience from all aspects specifically for this project and invested desire to work with you on this park. Our team members have been to the site and already provided a site specific approach to the challenges.

A Highly Qualified Team of Experts: In addition to the management and park expertise provided by Willmeng and DTR, respectively, the Willmeng/DTR team will also include key subconsultants for the project's two most iconic features, the urban fishing lake and the splashpad. We will utilize Ancon, Inc. as a key subconsultant for the urban fishing lake. Ancon has constructed 4 urban fishing lakes, 3 of which were with J2 Design. This track record of success combined with the synergy between J2 and Ancon will ensure that the City's lake will be the most cost-effective, maintainable, and recreational lake possible.

Additionally, our team has enlisted Play It Safe Playgrounds as our splashpad subconsultant. Play It Safe is renowned for their design and construction of iconic splashpads. Their input will help our team ensure that the City of Buckeye has a one of a kind play feature for their community. By combining the expertise of Willmeng, DTR, Ancon, and Play It Safe during the preconstruction phase, the City can be assured every aspect of this project will be fully vetted by experts and that the project will remain on budget throughout the construction process.

Given the wealth of experience and expertise behind our team, the City of Buckeye will have confidence that it will have a dependable, proactive partner in Willmeng/DTR. Our genuine passion for achieving client satisfaction, as demonstrated by a high volume of repeat clients and our outstanding reputation for successful client-driven service, is our pledge to you that Willmeng/DTR will put the best interests of the City at the forefront of every decision. We ask that you consider Willmeng/DTR for your Sundance Park Phase II project, and we look forward to meeting with you to discuss how Willmeng/DTR will be of service.

Sincerely,

James Murphy, CEO

1a) General description of the firm. Explain the legal organization of the proposed firm or team.

Founded in 1977, Willmeng Construction, Inc. is a 100% Arizona owned and operated S- Corporation construction company providing general contracting, Construction Manager-at- Risk, Design-Build, and Job Order Contracting services to Arizona clients for 43 years. Willmeng currently employs 150 individuals who share the Willmeng philosophy of building relationships through client satisfaction and building with integrity. We have an unyielding commitment to creating a superior project experience so that our clients become our partners, selecting us for future projects and recommending Willmeng to their industry colleagues.

2a) Full Company Name: Willmeng Construction Inc.
Address: 2048 N. 44th Street, Suite 200, Phoenix, AZ 85008
Phone Number: 480-968-4755
DUNS#: 06-301-0268
Email Address for Contact Person: jmurphy@willmeng.com

2b) List of the Arizona Contractor Licenses held by the firm.

AZ General Contractors License:
AZ ROC B-01 082904 Exp. 04/30/2020
AZ General Engineering License:
AZ ROC A 323741 Exp. 03/31/2021

2c) Identify any contract or subcontract which have been terminated within the last five years. Identify any claims arising from a contract which resulted in litigation or arbitration within the last three years.

There has been no contract or subcontract held by either Willmeng Construction Inc. or DTR Landscape Development nor their officers of the firm, which has been terminated within the last five years. In addition, neither Willmeng nor DTR have had any claims that have resulted in litigation or arbitration within the last three years.

**2d. Upon request, the Willmeng/DTR will provide a statement from our surety describing our bonding capacity.*

**Willmeng/DTR receieved and ackowledges Amendments 1-4. Signed amendments can be found in the appendix.*

TAB A

PROJECT EXPERIENCE AND QUALIFICATIONS OF THE FIRM

SECTION **A**

PROJECT EXPERIENCE AND QUALIFICATIONS OF THE FIRM

Q. Identify at least three (3) but no more than five (5) relevant projects in which the firm served as either CMAR, agency Construction Manager during pre-service and construction phases or General Contractor.

PROJECT #1



Fiesta Park

MESA, AZ

a. Project Description: Fiesta Park includes four new ballfields for youth baseball and softball and a multi-use field with bleachers. The youth ballfields are in a quad layout with Cubs-branded signage and scoreboard, centralized concession and restroom area. The ball field lights are lit by LED sports lights, which use less energy and light spill from traditional lighting. The 17-acre park also includes a new playground with shade covering and enlarged parking lot.

Irrigation system was a 6 in. mainline with a Munro booster pump and custom-built coaches' switches. DTR self-performed 100% of this project.





ALCA AWARD

2017 Arizona Landscape Contractor Association's an Award of Excellence for Commercial Installation with a contract amount of $600,000.00 to $750,000.00 recognizing professional excellence in landscape design, construction, and maintenance.

b. Role of Firm	CMAR Subcontractor
c. Original Construction Cost/Final Construction Cost	$12M ($576K/$775K DTR Contract)
d. Construction Dates	April 2016-May 2017
e. Project Owner	City of Mesa

KEY SIMILARITIES:

- Multi-Use Fields
- Irrigation
- Landscaping
- CMAR Delivery Method
- J2 Designed Park

VALUE ADDED:

+Award Winning Landscaping

+CMAR Expertise



USAA Campus Development

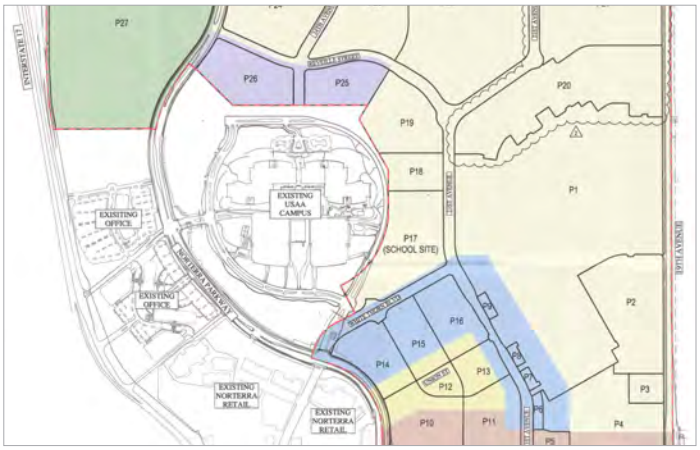
PHOENIX, AZ

a. Project Description: This 15.3-acre site development and campus park-like environment was completed with Willmeng and DTR and includes the construction of the new White Thorn North roadway from Norterra Parkway to Norterra Drive (interior campus loop road), including relocating the main entrance to the campus from White Thorn to White Thorn North. After opening the new entrance, which included a guardhouse, canopy, and new motor operated gates, we realigned White Thorn and turned it over to the City of Phoenix as a new public road.

This also required relocation of ALL major utilities into the campus including:

- Fire Line
- Domestic Water
- Sewer
- Storm Drain System
- SW Gas piping

Extensive landscaping was done throughout all areas of the project to keep a natural look and to match the existing landscape. *Approximately 57,000 cubic yards of soil was moved.*





ALCA AWARD

DTR Landscape and Willmeng received Arizona Landscape Contractor's Association 2019 Award of Excellence for Commercial Installation with a contract amount of $500,000 to $600,00 for their work on USAA.

b. Role of Firm	CMAR
c. Original Construction Cost/Final Construction Cost	$5.8M/$6.2M (*Owner Requested Additional Scope)
d. Construction Dates	February 2018 - March 2019
e. Project Owner	USAA

KEY SIMILARITIES:

- Extensive Development of a 15.3 Acre Site
- Mass Grading
- Site Development
- Irrigation Installation
- CMAR Delivery Method
- Willmeng/DTR Project
- Same Willmeng/DTR Team Members

PROJECT #3



West Point High School

GILBERT, AZ

a. Project Description: West Point High School is the largest high school built in Arizona. It consisted of construction of two competitive baseball fields and two competitive softball fields with warm up areas, a competitive soccer field, an artificial turf football field with the complete STK 1600 water cannon system, football practice field, two Rainbird booster pumps, five Baseline irrigation controllers with cell card technology, artificial turf courtyard, parking lots and associated landscape around the school. Phase I of this project was the entire contract without the football field and was completed in an astonishing 10-month time period. Phase II (the football field and practice field) kicked off after school started in December 2019 and was completed in May 2020.





b. Role of Firm	CMAR Subcontractor
c. Original Construction Cost/Final Construction Cost	$108M ($2.1M/$2.3M DTR Contract) *Owner Requested Additional Scope
d. Construction Dates	January 2019-May 2020
e. Project Owner	Tolleson Unified High School

KEY SIMILARITIES:

- Multi-Use Fields
- Irrigation
- Landscaping
- CMAR Delivery Method

VALUE ADDED:

+CMAR Expertise

+Utilized Similar Irrigation Options as Sundance

PROJECT #4



Northrop Grumman Campus

CHANDLER, AZ

a. Project Description:

This project entailed the construction of a corporate office campus with extensive outdoor amenities, site improvements and park-like settings on a 45-acre site. 90,000 cubic yards of dirt was moved for the over-excavation of the building pads and 175,000 cubic yards of cut-fill over the entire site and ultimately exported 130,000 cubic yards of dirt. The site construction included grading/paving for 1,900 parking spaces, 4,000 lineal feet of masonry screen walls, and 3,000 lineal feet of sidewalks.

The $15.3M site construction scope included $180K Erosion Control, $1.7M Earthwork, and $1.5M Landscaping. The Landscaping package included more than 9,000 shrubs and 800 trees as well as a landscaping lighting package that included over 1,000 landscape lights.

A 2.5-acre courtyard was constructed which included an amphitheater, walking paths, canopy covered seating areas, cast-in-place concrete benches, steel and tile clad covered fire-pit, covered BBQ/Kitchen prep area, basketball court, bocce ball court and bag toss field.





b. Role of Firm	CMAR
c. Original Construction Cost/ Final Construction Cost	$125M/$121M ($15.3M Site Scope)
d. Construction Dates	April 2018 - September 2019
e. Project Owner	Douglas Allred Company

Project Highlight: Park Place 180-Acre Campus

Northrop Grumman, was one of the many site development plans Willmeng completed on Park Place's 180-acre campus. Willmeng fully improved the site amenities, on/off site parking, and full irrigation system.

KEY SIMILARITIES:

- 175K cy Cut-Fill and 130K cy Export (Sundance Order of Magnitude Export Est. 100K cy)
- 45 Acre Site Grading
- Sod and Turf Installation
- Irrigation System Installation
- CMAR Delivery Method
- Outdoor Amenities Include:
  - » Basketball Courts
  - » Recreation Area with Park-Like Seating
  - » Grills
  - » Outdoor Gathering Areas

PROJECT #5





San Tan Montessori High School

GILBERT, AZ

a. Project Description: This high school campus is a 45,000 SF campus that involved extensive site development to support the sports fields, outdoor amenities, parking, an the two-building classrooms. Site improvements include the construction of a lighted baseball field, a football field, and track facilities.

The design/build project included digging up the existing football field to put in large underground water retention pipes and other utilities, creating a new football field and installing new athletic courts. We scraped mud caused by monsoon rains and brought in sod to turn the construction scene into a playable field. We used all all our available resources to ensure the football field was completed in time for the students and their upcoming season.

The project also includes site work such as the installation of wet and dry utilities, parking, landscaping, and other associated site work. More complex site work included:

- Construction of an underground private irrigation ditch to replace the open private irrigation ditch running along Power Road from the head-gate at the northeast corner of the Trail Parcel to a headwall south of the south boundary of the School Parcel
- The design, permitting, and construction of a six-foot wide sidewalk through the Trail Parcel
- Construction of the half street improvements
- Construction of a ten-inch diameter public sewer line.





b. Role of Firm	CMAR
c. Original Construction Cost/Final Construction Cost	$11.1M/$11.1M
d. Construction Dates	October 2016 - December 2016
e. Project Owner	Stokes Limited LLC

KEY SIMILARITIES:

- Extensive Site Development
- CMAR Delivery Method
- Multi-Use Fields
- Walking Paths
- Ramadas
- Landscaping

TAB B

PAST PERFORMANCE QUESTIONNAIRES

PAST PERFORMANCE QUESTIONNAIRES

Q. For each project submitted in Section A, complete a Past Performance Questionnaire.(ATTACHMENT 1).

Project #1 - Fiesta Park

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:
Firm Name: DTR Landscape Development
Email : Dixie@1170aol.com
Address: 1025 W. Deer Valley Rd Studios #419, Phx, AZ
Contact Name: Nickie Velkin
Phone Number: 623-516-0042
Contact Phone: 602-421-5199

2. Work Performed as: ☐ Prime Contractor ☒ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:
Contract Number: 13-01-117
Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Fiesta Sports Park
Contract Location: Mesa, AZ.
Award Date (mm/dd/yy): 01/15/14
Contract Completion Date: May 2017
Actual Completion Date : May 2017
Explain Differences:

Original Contract Price (Award Amount): $576,000
Final Contract Price *(to include all modifications, if applicable)* : $775,000
Explain Differences:
Installation of hydrostolons in lieu of hydroseed, upsize trees, dynamic change.

4. Project Description:
Complexity of Work: ☐ High ☒ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Similar to installation of a booster pump, similar landscape & irrigation, similar construction schedule and expectations.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:
Name: John Norbut, Chasse Building Team
Phone Number: 602-526-1372
Title: Project Manager
Email Address: jnorbut@chasse.us

6. Describe the client's role in the project:

Client Signature: **Date:**

CNAR Sundance Park Phase II 70

Project #1 - Fiesta Park

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

Project #1 - Fiesta Park

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	(E) VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: John Nibert **Date:** 06/03/2020

CNAR Sundance Park Phase II
Amendment No. 1
4-28-20

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Project #2 - USAA Campus Development

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Willmeng Construction
Email : jmurphy@willmeng.com
Address: 2048 N. 44th St., Suite 200, Phoenix, AZ 85008
Contact Name: James Murphy, CEO
Phone Number: 480-968-4755
Contact Phone: 480-968-4755 x11

2. Work Performed as: [x] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: USAA Noterra Guard House
Contract Type: [x] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: USAA Noterra Guard House
Contract Location: 1 Norterra Drive, Phoenix AZ, 85085

Award Date (mm/dd/yy): 2/12/2018
Contract Completion Date: 3/2019
Actual Completion Date : 3/2019
Explain Differences:

Original Contract Price (Award Amount): $5,824,933.37
Final Contract Price *(to include all modifications, if applicable)* : $6,170,737
Explain Differences: Owner requested changes and/or scope additions

4. Project Description:

Complexity of Work: [x] High [ ] Med [ ] Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* The 145K+ acre occupied facility, campus project included relocation of roadway, new entrance and exit, relocation of the main building and guard house as well as public and private utilities insulation.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Jeremy Johnson
Phone Number: (602) 573-3757
Title: Authorized Representative
Email Address: jjohnson@sunbelthholdings.com

6. Describe the client's role in the project:

Client Signature: Jeremy Johnson **Date:** 5/19/2020

Project #2 - USAA Campus Development

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

Project #2 - USAA Campus Development

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	Yes No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes No
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	E VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	E VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	Yes No
d) In summary, provide an overall raiting for the work performed by this contractor.	E VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: Jeremy Johnson **Date:** 5/19/2020

Project #3 - West Point High School

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:
Firm Name: DTR Landscape Development
Address: 1025 W. Deer Valley Rd. Ste 103 Phoenix
Phone Number: 623-516-0072
Email: Nickie0117@aol.com
Contact Name: Nickie Velten
Contact Phone: 602-421-5199

2. Work Performed as: ☐ Prime Contractor ☒ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:
Contract Number: 180046
Contract Type: ☒ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Tolleson Union HS #7
Contract Location: Avondale, AZ
Award Date (mm/dd/yy): Jan 2019
Contract Completion Date: June 2020
Actual Completion Date: June 2020
Explain Differences:
Original Contract Price (Award Amount): $2,008,300.
Final Contract Price (to include all modifications, if applicable): $2,342,000
Explain Differences: Installation of water cannons on football field, new irrigation on practice field, artificial turf, erosion repair

4. Project Description:
Complexity of Work: ☒ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* Multiple ballfields, similar irrigation systems including booster pumps, landscape

CLIENT INFORMATION (To be completed by Client)

5. Client Information:
Name: Tim Goyette, Chasse Building Team
Phone Number: 480-694-5205
Title: Project Manager
Email Address: tgoyette@chasse.us

6. Describe the client's role in the project:
I am the project director for Chasse Building Team I worked with the Owner, Project Managers, and Superintendents

Client Signature:
Date: 6/2/2020

CNAR Sundance Park Phase II
Amendment No. 1
4-28-20

Project #3 - West Point High School

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	(E)	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E)	VG	S	M	U	N
c) Government Property Control	(E)	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	(E)	VG	S	M	U	N
e) Utilization of Small Business	(E)	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

CNAR Sundance Park Phase II
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Project #3 - West Point High School

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U N
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	(Yes) No
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: **Date:** 6/2/2020

CNAR Sundance Park Phase II
Amendment No. 1
4-28-20

Project #4 - Northop Grumman Campus

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Willmeng Construction
Email : jmurphy@willmeng.com
Address: 2048 N. 44th St., Suite 200, Phoenix, AZ 85008
Contact Name: James Murphy
Phone Number: 480-968-4755
Contact Phone: 480-968-4755 x11

2. Work Performed as: [x] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: n/a
Contract Type: [x] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: Northrop Grumman
Contract Location: 1575 S. Price Road, Chandler, AZ 85286

Award Date (mm/dd/yy): 4/2018
Contract Completion Date: 11/2019
Actual Completion Date : 11/2019
Explain Differences:

Original Contract Price (Award Amount): $125,025,531.00
Final Contract Price *(to include all modifications, if applicable)* : $121,251,805.00
Explain Differences: -3.02% returned to owner

4. Project Description:

Complexity of Work: [x] High [ ] Med [ ] Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)* The project included 48-acre earth works, diverse outside gathering spaces from an amphitheater to walking paths basketball court to numerous multi-use outside seating areas for collaboration, eating, resting, etc.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Cathy Exeter
Phone Number: (858) 205-2599
Title: Vice President, Project Manager
Email Address: cexeter@dac-usa.com

6. Describe the client's role in the project:

Oversee the design + construction of project.

Client Signature: Cathy Exeter **Date:** 5.18.2020

Project #4 - Northop Grumman Campus

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Government Property Control	E	VG	S	M	U	N
d) Knowledge/expertise demonstrated by contractor personnel	E	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	N
f) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

Project #4 - Northop Grumman Campus

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U (N)
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: Cathy Exeter **Date:** 5.18.2020

Project #5 - San Tan Montessori High School

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor)

1. Contractor Information:

Firm Name: Willmeng Construction
Email : jmurphy@willmeng.com
Address: 2048 N. 44th St., Suite 200, Phoenix, AZ 85008
Contact Name: James Murphy, CEO
Phone Number: 480-968-4755
Contact Phone: 480-968-4755 x11

2. Work Performed as: [x] Prime Contractor [ ] Sub Contractor [ ] Joint Venture [ ] Other (Explain):

3. Contract Information:

Contract Number: N/A
Contract Type: [x] Firm Fixed Price [ ] Cost Reimbursement [ ] Other (Please specify):
Contract Title: San Tan Montessori High School
Contract Location: 3232 Power Road, Gilbert, AZ 85234

Award Date (mm/dd/yy): 10/2017
Contract Completion Date: 12/2018
Actual Completion Date : 12/2018
Explain Differences:

Original Contract Price (Award Amount): $11,072,685
Final Contract Price *(to include all modifications, if applicable)* : $11,072,685
Explain Differences: N/A

4. Project Description:

Complexity of Work: [x] High [ ] Med [ ] Routine
How is this project relevant to project of submission? *(Please provide details such as similar equipment, requirements, conditions, etc.)*
Along with the new campus the project included a new gymnasium building with basketball courts, locker rooms, a weight/training room, storage areas, a lobby, a multi-use dining facility, a warming kitchen, and coaches offices. Exterior includes a lighted baseball field, a football field and track and field facilities with concessions. The site included construction of an underground private irrigation ditch, a 6-foot wide walking trail through the existing adjacent trail parcel, half-street improvements and a 10-inch diamter public sewer line.

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Dr. Kristofer Sippel
Phone Number: 480-222-0811
Title: CEO / Superintendent of Schools
Email Address: Ksippel@santancs.com

6. Describe the client's role in the project:

End User / Owner

Client Signature: [signature] **Date:** 5/17/2019

Project #5 - San Tan Montessori High School

PAST PERFORMANCE EVALUATION
(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	**N**
b) Ability to meet quality standards specified for technical performance	E	**VG**	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	**VG**	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	**E**	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	**E**	VG	S	M	U	N
b) Rate the contractor's use of available resources to accomplish tasks identified in the contract	**E**	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	**E**	VG	S	M	U	N
b) Contractor was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	**E**	VG	S	M	U	N
c) To what extent was the contractor cooperative, businesslike, and concerned with the interests of the customer?	**E**	VG	S	M	U	N
d) Overall customer satisfaction	**E**	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of subcontractors, suppliers, materials, and/or labor force?	**E**	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	**VG**	S	M	U	N
c) Government Property Control	E	VG	S	M	U	**N**
d) Knowledge/expertise demonstrated by contractor personnel	**E**	VG	S	M	U	N
e) Utilization of Small Business	E	VG	S	M	U	**N**
f) Ability to simultaneously manage multiple projects with multiple disciplines	**E**	VG	S	M	U	N
g) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	**VG**	S	M	U	N
h) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	**E**	VG	S	M	U	N

Project #5 - San Tan Montessori High School

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Contractor proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) If this is/was a Government cost type contract, please rate the Contractor's timeliness and accuracy in submitting monthly invoices with appropriate back-up documentation, monthly status reports/budget variance reports, compliance with established budgets and avoidance of significant and/or unexplained variances (under runs or overruns)	E VG S M U (N)
d) Is the Contractor's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
e) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
f) Have there been any indications that the contractor has had any financial problems? *If yes, please explain below.*	Yes (No)
6. SAFETY/SECURITY	
a) To what extent was the contractor able to maintain an environment of safety, adhere to its approved safety plan, and respond to safety issues? (Includes: following the users rules, regulations, and requirements regarding housekeeping, safety, correction of noted deficiencies, etc.)	(E) VG S M U N
b) Contractor complied with all security requirements for the project and personnel security requirements.	(E) VG S M U N
7. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U (N)
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this contractor.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: _____ **Date:** 5/18/2020

TAB C

KEY PERSONNEL EXPERIENCE

Q. Provide resume data for the key personnel.



JAMES MURPHY
President & CEO

James Murphy joined Willmeng in 1999 as a project manager and spent time in every position in the firm, including Vice President, as he brought leadership to the most technically and time challenged projects the firm had built to date. In January of 2006, he purchased the company and became President and CEO.

In his current role as CEO, James is heavily focused on the needs of the business in a growth market, initiatives for diversity in service offerings, and developing teams for the future. James selectively adds to the team based on cultural, workplace assessments and critical internal growth opportunities.

By growing a team based on client needs and a highly driven mindset, James has been directly involved in building a team of over 150 employees who can convey the solid culture while possessing a complementing set of skill sets. Together, they make up a formidable team that has sustained client relationships and growth even in the toughest of economic times.

EXPERIENCE

- Willmeng: 21 years
- Industry: 24 years

EDUCATION

- Arizona State University Master of Science, School of Engineering and Applied Sciences
- Arizona State University Bachelor of Science, Del E. Webb School of Construction
- *Recognized as the "Outstanding" graduate of his class.

HONORS & AWARDS

- Sun Devil 100, ASU Alumni Association, 2019
- Phoenix Business Journal Most Admired Leader, 2016
- Phoenix Business Journal 40 Under 40, Phoenix Business Journal, 2015
- Willmeng named 2020 RED Award General Contractor of the Year

NOTABLE PROJECT EXPERIENCE

- **Northrop Grumman Campus** | *Chandler, AZ*
  (Project #3, Page 5)
- **USAA Campus Development** | *Phoenix, AZ*
  (Project #4, Page 6)
- **San Tan Montessori High School** | *Gilbert, AZ*
  (Project #5, Page 7)
- **BASIS Flagstaff Campus Expansion** | *Flagstaff, AZ*
  $8.2M | The 34,867 SF new structures contain a gym, classrooms, a new playground, an additional parking lot, and an updated underground storm drainage system
- **Gilbert Christian Greenfield Campus** | *Gilbert, AZ*
  $11.4M | Construction of new K-8 campus on 10-acre site.
- **NAU Administrative Renovation (Phoenix Campus)** | *Phoenix, AZ*
  $1.5M | The 66,662 SF renovation
- **BASIS San Antonio** | *San Antonio, TX*
  $15.5M | A new two-story secondary school consisting of classrooms, laboratories, gymnasium, auditorium, and site related construction. Early GMP design assist.
- **Phoenix Country Day School - Science & Art Center** | *Phoenix, AZ*
  $3M | This 25,000 SF renovation of the Science and Art Center was performed in phases to modernize the facility and bring it to post-secondary standards.
- **Surprise FS #304** | *Surprise, AZ*
  Public CMAR project 2,000 gallon above ground diesel fuel storage tank, Fuel fill station on a concrete pad
- **Gilbert Fire Station #9** | *Gilbert AZ*
  Public CMAR project 13,700 SF, 4-bay fire and rescue station developed on 3.1 acres of land in southeast Gilbert.
- **Maricopa Fire Admin** | *Maricopa, AZ*
  $6.5M | New state-of-the-art facility complete with the required infrastructure to meet the current and future demands of the City.

Indicates CMAR Project

Project shown in Project Experience Section

Sundance Park Phase II
Contract 2020006
Willmeng Construction, Inc.



VALUE ADDED:

+ CMAR Expert
+ Park Expertise

EXPERIENCE

- DTR Landscape Development: 20 years
- Industry: 41 years

EDUCATION

- Arizona State University
- Phoenix College
- Scottsdale Community College

CERTIFICATION/ REGISTRATION

- OSHA 30 Certified

HONORS & AWARDS

- Award of Excellence recipient presented by the Arizona Landscape Contractors Association
- Contractor of the Year award recipient from the Arizona Landscape Contractors Association
- Award of Distinction award recipient from the Arizona Landscape Contractors Association

DICK ROBERTS

Owner of DTR Landscape Development

Dick has 40 years experience in commercial irrigation and landscape installations. In part of his experience, he has personally helped in installing irrigation systems that range from a 10in. mainline down to a 1in. mainline. He has worked with all manufactures of booster pumps and is now certified by Hunter with their STK1600 program. Dick is in the field every day to meet with site superintendents and project managers to help coordinate and assist in scheduling. He assists in recognizing any discrepancies on the plans or in the specifications before they become an issue on the site. Dick also currently serves on the Board of Directors for the American Subcontractors Association of Arizona (ASA).

PROJECT EXPERIENCE

- **Fiesta Park** |*Phoenix, AZ*
  (Project #1, Page 3)
- **West Point High School** |*Gilbert, AZ*
  (Project #2, Page 4)
- **USAA Campus Development** | *Phoenix, AZ*
  (Project #4, Page 6)
- **Pinnacle Park** | *Phoenix, AZ*
  Pinnacle Soccer Park is an extension of Reach 11 Soccer Park. This project consists of four competitive soccer fields with smaller warm up areas, parking lot and associated landscape.
- **Silverbell Park** | *Marana, AZ*
  Ground up construction of a public park with a booster pump. The project scope included a splashpad, Splashpad, 3 Lighted Ball Fields, 2 Lighted Soccer/Multi-Use Fields, Ramadas with Grills, Tennis Courts, Basketball Courts, Volleyball Courts, Dog Park, Covered Playground Areas and Horseshoe Pit
- **Higley High School** | *Gilbert, AZ*
  Project completed with Willmeng Project Superintendent, Keith Dumais (Proposed Superintendent on Sundance Park Phase II)
- **Maricopa Aquatic Center** | *Maricopa, AZ*
  Project completed with J2 Designs
- **Kleinman Park** | *Mesa, AZ*
  Park project completed with J2 Designs
- **Escalante Park** | *Tempe, AZ*
  Project completed with J2 Designs
- **Eagles Park** | *Mesa, AZ*
  Project completed with J2 Designs

Indicates CMAR Project

Project shown in Project Experience Section



KEITH DUMAIS
Project Superintendent

Keith's extensive background in park projects and long standing relationship working with DTR makes him a huge asset to the Sundance Park Phase II project. Keith will be on site and in charge of coordinating and supervising all field construction efforts, subcontractors, and vendors. He will create and implement a project-specific quality control plan and lead job-site safety requirements. He will also prepare and manage all look-ahead schedules for the team and subcontractors. Keith will coordinate with other key trades and work directly with DTR, Ancon and Play It Safe Playgrounds to execute all scopes of the park project.

VALUE ADDED:

+ CMAR Expert
+ Park Expertise

EXPERIENCE

- Willmeng: 2 years
- Industry: 43 years

EDUCATION

- Rio Salado Community College (Project Management courses)
- Gateway Community College
- (Instructor ABA courses) University of Maine

CERTIFICATION/ REGISTRATION

- USACE Quality Control Program For Contractors
- OSHA 30-Hour Training
- Rule 310 Comprehensive Certified - Maricopa County

Keith has worked with proposed Project Manager and Sundance point of Contact Chris Coffer for 14+ years

PROJECT EXPERIENCE

- **Reach 11 Sports Complex*** | *Phoenix, AZ*
  $16M | Reach 11 Recreation Area is a 1,500-acre district park. It is approximately seven miles long and less than one half mile wide. There are 18 miles of multi-use trails available in this area. As the Project Superintendent, Keith Dumais worked on this project for more than 18 months. The project scope included 18 Lighted Soccer Fields, (17 Grass and 1 Artificial Turf) with Water Jet Cannons, 2 Traditional Grass Baseball Fields, 2 Accessible Rubberized Baseball, Concessions, Restrooms, and an Equestrian Bridge with Riding Paths. The campus site work included bridges, underground utilities, both covered and uncovered parking, a soccer field, and support buildings. *1M Cubic Yards of Dirt were moved* during this project.
- **Pinnacle Park*** | *Phoenix, AZ*
  Pinnacle Soccer Park is an extension of Reach 11 Soccer Park. This project consists of four competitive soccer fields with smaller warm up areas, parking lot and associated landscape.
- **Ascend Learning @ The Reserve at San Tan PHIIIB** | *Gilbert, AZ*
  $10.5M | The 108,309 SF project build-out is part of the new Reserve at San Tan three-story office complex. The project includes common areas and more than 1,000 surface parking spaces which surround the building.
- **Higley High School*** | *Gilbert, AZ*
  100,000 SF Project Completed with DTR Landscaping New High School Campus included, athletic fields and sports courts, complete landscaping and underground utilities, roads and parking lots.
- **Basha High School*** | *Chandler, AZ*
  $32M | Project scope included Tennis Courts, Baseball Field, Soccer Field, Football Field, Stadium Seating, Musco Lighting, and a Track Field.
- **Superstition Skyline High School*** | *Mesa, AZ*
  $39M | Project scope included a Baseball Field, Softball Field, Soccer Field, Football Field, Stadium Seating, and a Track Field.
- **City of Goodyear Public Safety Facility*** | *Goodyear, AZ*
  $12M | This public safety facility project, completed with DTR Landscaping, included three phases: the Goodyear 911 Facility, Police Facility, and Fuel and Maintenance Facility. All phases consisted of all new sites, roads, parking, underground utilities, and gas and fuel tank storage.

Indicates CMAR Project

**Indicates project completed with previous employer*

Project shown in Project Experience Section

Sundance Park Phase II
Contract 2020006
Willmeng Construction, Inc.



KEYVAN GHAHREMAN, LEED AP
Preconstruction Director

As Preconstruction Director, Keyvan works closely with the team on all budgeting, scheduling, and project coordination. His responsibilities are focused on the preconstruction phase including estimating, options analysis, and constructability review, assuring that the project will be estimated the way it will actually be built. Throughout the design process, Keyvan is responsible for maintaining the budget with accurate and reliable estimates, while maintaining the programs requirements and design intent.

VALUE ADDED:
- + CMAR Expert
- + Experience with Proposed Team

EXPERIENCE
- Willmeng: 3 years
- Industry: 23 years

EDUCATION
- M.S. Construction Management - Arizona State University

CERTIFICATION/ REGISTRATION
- LEED Accredited Professional

PROJECT EXPERIENCE
- **Northrop Grumman Campus** | *Chandler, AZ*
  (Project #3, Page 5)
- **USAA Campus Development** | *Phoenix, AZ*
  (Project #4, Page 6)
- **San Tan Montessori High School** | *Gilbert, AZ*
  (Project #5, Page 7)
- **BASIS Flagstaff Campus Expansion** | *Flagstaff, AZ*
  $8.2M | The 34,867 SF new structures contain a gym, classrooms, a kindergarten wing, a new playground, an additional parking lot, and an updated underground storm drainage system
- **Gilbert Christian Greenfield Campus** | *Gilbert, AZ*
  $11.4M | Construction of new K-8 campus on 10-acre site.
- **NAU Administrative Renovation (Phoenix Campus)**| *Phoenix, AZ*
  $1.5M | The 66,662 SF renovation
- **BASIS San Antonio**| *San Antonio, TX*
  $15.5M | A new two-story secondary school and related site development
- **Phoenix Country Day School - Science & Art Center** | *Phoenix, AZ*
  $3M | This 25,000 SF renovation of the Science and Art Center was performed in phases to modernize the facility and bring it to post-secondary standards.

Indicates CMAR Project

**Indicates project completed with previous employer*

Project shown in Project Experience Section

Sundance Park Phase II
Contract 2020006
Willmeng Construction, Inc.



ISAM GHANDOUR

Lead Estimator

As Lead Estimator, Isam works closely with the team on all budgeting, scheduling, and project coordination. His responsibilities are focused on the preconstruction phase including estimating, options analysis, and constructibility review, assuring that the project will be estimated the way it will actually be built. Throughout the design process, Isam is responsible for maintaining the budget with accurate and reliable estimates, while maintaining the program requirements and design intent.

VALUE ADDED:

+ CMAR Expert
+ Site Experience with Proposed Team

EXPERIENCE

- Willmeng: 18 years
- Industry: 28 years

EDUCATION

- M.S. Civil Engineering - Bradley University
- B.S. Architecture Engineering, Second Class w/Honors - University of Khartoum Ferris State

CERTIFICATION/ REGISTRATION

- Certified Professional Estimator (CPE)
- Certified Construction Documents Technologist (CDT)
- Certified Professional Constructor (CPC)

PROJECT EXPERIENCE

- **Northrop Grumman Campus** | *Chandler, AZ*
  (Project #3, Page 5)
- **USAA Campus Development** | *Phoenix, AZ*
  (Project #4, Page 6)
- **San Tan Montessori High School** | *Gilbert, AZ*
  (Project #5, Page 7)
- **BASIS Flagstaff Campus Expansion** | *Flagstaff, AZ*
  $8.2M | The 34,867 SF new structures contain a gym, classrooms, a kindergarten wing, a new playground, an additional parking lot, and an updated underground storm drainage system
- **Gilbert Christian Greenfield Campus** | *Gilbert, AZ*
  $11.4M | Construction of new K-8 campus on 10-acre site.
- **NAU Administrative Renovation (Phoenix Campus)**| *Phoenix, AZ*
  $1.5M | The 66,662 SF renovation included building renovations and site improvements.
- **BASIS San Antonio**| *San Antonio, TX*
  $15.5M | A new two-story secondary school consisting of classrooms, laboratories, gymnasium, auditorium, administration offices, lobby, kitchen, and support spaces. Early GMP design assist.
- **Phoenix Country Day School - Science & Art Center** | *Phoenix, AZ*
  $3M | This 25,000 SF renovation of the Science and Art Center was performed in phases to modernize the facility and bring it to post-secondary standards.

Indicates CMAR Project

**Indicates project completed with previous employer*

Project shown in Project Experience Section



CHRIS COFFER, LEED AP BD+C

Senior Project Manager

Chris Coffer will be the single point-of-contact and will be responsible for managing the project from preconstruction services through construction. Chris serves as an active partner during design and construction through creative collaboration with all project team members. He will oversee the daily project activity, along with Keith D., to ensure the budget and schedule are on track. He will review and manage subcontractor procurement, prepare project status reports, and manage all project documentation and cost control.

VALUE ADDED:

+ CMAR Expert
+ Site Development Expert

EXPERIENCE

- Willmeng: 2.5 years
- Industry: 26 years

EDUCATION

- Phoenix College

CERTIFICATIONS

- LEED AP BD+C
- OSHA 30-Hour
- Management Certificate
- Training, Arizona State
- University
- U.S. Army Corps of Engineers
- Construction Quality Management for Contractors Certification
- Alliance for Construction Excellence

Chris has worked with proposed Project Superintendent Keith Dumais for 14+ years

PROJECT EXPERIENCE

- **USAA Campus Development** | *Phoenix, AZ*
  $6.2M | 15.3 Acres (Project #4, Page 6)
- **Verrado Elementary School*** | *Buckeye, AZ*
  Scope included outdoor basketball court, playground, and multi-use fields
- **McCormick-Stillman Railroad Park Exhibit Building*** | *Scottsdale, AZ*
  $2.1M | New construction of 10,000 SF exhibit building. Building materials include exposed rock and steel structural elements. Also, a recycled decking material similar to wood has been added to create a platform for the building.
- **Prologis 61st Avenue** | *Phoenix, AZ*
  $12.5M, 330,842 SF | A ground-up of a tilt building including warehouse facility, associated parking, landscape, drives, and on-site retention facility.
- **Elliot Business Park—Phase 3** | *Tempe, AZ*
  $10.5M, 318,000 SF | This project consisted of two single-story industrial tilt buildings, $1.5M in tenant improvements, and site work. Site work included parking, retention basins, and underground utilities.
- **Riverside Center Buildings 1 & 2** | *Phoenix, AZ*
  $15M, 343,928 SF | Two ground-up office and warehouse shell buildings, including associated parking, landscape, and sitework.

Indicates CMAR Project

**Indicates project completed with previous employer*

Project shown in Project Experience Section

Sundance Park Phase II
Contract 2020006
Willmeng Construction, Inc.



CODY PHELAN

Principal in Charge & COO

Cody oversees and directs all operational activities, including estimating, scheduling, project management, and field management. Cody's knowledge and experience managing all aspects of a project from preconstruction through completion will ensure that your project stays on schedule and within budget. He has successfully delivered projects under the CMAR format.

VALUE ADDED:

+ CMAR Expert
+ Built one of AZ's Largest Splashpads

EXPERIENCE

- Willmeng: 8 years
- Industry: 17 years

EDUCATION

- B.S., Finance & Financial Management Services - Kansas State University

CERTIFICATION/ REGISTRATION

- OSHA 10-Hour
- CPR Certification

PROJECT EXPERIENCE

- **USAA Campus Development** | *Phoenix, AZ*
  (Project #4, Page 6)
- **Northrop Grumman Campus** | *Chandler, AZ*
  (Project #3, Page 5)
- **Lincoln Properties Glendale 303** | *Glendale, AZ*
  $115M, 42 Acres | The **42 acre** site provides full concrete truck courts, ample truck parking, private drives and fully amenitized outdoor spaces with covered canopies, seating and barbeques.
- **The Landing** | *Mesa, AZ*
  45 Acres | Multi-phase project of **45 acres** of Class-A Industrial Space, includes tilt-panel construction of two industrial warehouse buildings
- **Project Hustle**| *Goodyear, AZ*
  91 Acres | Currently in preconstruction. Project includes extensive site development on a **91 acre site**. Site development involves **32 acres** of concrete paving, asphalt auto parking areas for 1,456 vehicles, a secured perimeter with multiple guardhouses and entry points.
- **Scottsdale Quarter*** | *Scottsdale, AZ*
  $136M, 28 Acres | Scottsdale Quarter is home to the park-like gathering space, The Quad, featuring the largest pop-jet fountain in the region. The CMAR project involved **28-acres** of site development, including relocating existing utilities and installing a corrugated metal pipe and a StormTrap system for the underground stormwater retention. The sitework also included installing the sewer, domestic water, fire water, communications, power and gas lines. The hardscape is natural gray concrete with stone pavers in the plaza, as well as concrete masonry units, concrete retaining walls and screen walls. The landscape is comprised of salvaged trees.

Indicates CMAR Project

**Indicates project completed with previous employer*

Project shown in Project Experience Section

Sundance Park Phase II
Contract 2020006
Willmeng Construction, Inc.



VALUE ADDED:

+ CMAR Expert
+ 20 Years of Splashpad Experience

EXPERIENCE

- Play It Safe: 8 years
- Industry: 32 years

CERTIFICATION/ REGISTRATION

- Arizona Registrar of Contractors, A – General Engineering, #294843

JORDAN LYNDE

President, Play It Safe Playgrounds

Jordan Lynde is the President and sole owner of Play It Safe Playgrounds and Park Equipment, Inc. He has been with the firm since its incorporation in 2012, however Jordan has been working in the playground industry since 1998. Jordan is also a Certified Playground Safety Inspector with 20 years of playground experience in design, bidding, building, installation, inspection, warranty, and education. Having led many projects over the years from design concept to final installation, managed multiple organizations working together as a team on coordinated ventures, and having unlimited contacts with subcontractors through his 20 years of playground experience in Arizona, Jordan is uniquely qualified to fulfill the role of Project Manager for the Play It Safe team.

PROJECT EXPERIENCE

- **Gilbert Regional Park** | *Gilbert, AZ*
  This project includes a splash park, multiple play areas and many other amenities over several phases. The total budget for the Play It Safe splash park portion of the project was $921,620.
- **Cecil Davis Park** | *Kingman, AZ*
  This project included site preparation and excavation by Premier Construction and installation of a new Water Odyssey splash park with water recirculation system. The original contract price was $290,344.18 with the final price of $296,320.86 due to requested equipment changes from the City of Kingman.
- **Sunset Park** | *Wickenburg, AZ*
  This project consisted of creating a splash park from Water Odyssey in a previously undeveloped space and included all piping, conduit and wiring. Also included was a recycled water system installation. The original and final cost of the project was $88,850.86 with the Town of Wickenburg contracting directly with Water Odyssey for the equipment portion of the project to take advantage of NJPA pricing.



VALUE ADDED:

+ CMAR Expert
+ 20 Years Splashpad Experience

EXPERIENCE

- Play It Safe: 6 years
- Industry: 27 years

CERTIFICATION/ REGISTRATION

- Arizona Registrar of Contractors, A – General Engineering, #294843

JOSEPH MCGINNITY

Regional Sales Manager, Play It Safe Playgrounds

Joseph brings 27 years of management and sales success to Play It Safe Playgrounds & Park Equipment and has been with the firm since 2014. As a winner of numerous operational, managerial, and sales awards, his core value is to enhance the lives of the people around him.

Joseph has a history of community involvement accepting leadership roles in Mesa Public Schools SIAC councils, YMCA Youth & Government, youth sports, scouting, performing arts, and religious organizations. Joseph co-founded the Falcon Flying Club, a non-profit organization that provides flight instruction to teens, and served as a board member and vice-president for several years

PROJECT EXPERIENCE

- **Gilbert Regional Park** | *Gilbert, AZ*
  This project includes a splash park, multiple play areas and many other amenities over several phases. The total budget for the Play It Safe splash park portion of the project was $921,620.
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  This project included site preparation and excavation by Premier Construction and installation of a new Water Odyssey splash park with water recirculation system. The original contract price was $290,344.18 with the final price of $296,320.86 due to requested equipment changes from the City of Kingman.
- **Sunset Park** | *Wickenburg, AZ*
  This project consisted of creating a splash park from Water Odyssey in a previously undeveloped space and included all piping, conduit and wiring. Also included was a recycled water system installation. The original and final cost of the project was $88,850.86 with the Town of Wickenburg contracting directly with Water Odyssey for the equipment portion of the project to take advantage of NJPA pricing.

BRUCE CALL

President, Ancon, Inc.

Bruce Call, President of Ancon Inc., is a licensed general contractor with more than 40 years of water feature experience. Ancon has been doing water features since 1972. Ancon holds a unique place in today's industry as one of the pioneers in water feature design and building, particularly for park development. Ancon has the capability necessary to design as well as build almost any kind of water feature, naturescape and waterscape. Ancon is the only water feature company in the state of Arizona, and probably the United States with a registered architect to add valuable input and perspective during the preconstruction phase.

VALUE ADDED:

+ CMAR Expert
+ Lake Construction Expert

EXPERIENCE

- Ancon: 48 years
- Industry: 48 years

PROJECT EXPERIENCE

- **Mansel Carter Oasis Park Urban Fishing Lake** | *Queen Creek, AZ*
  5 Acre Urban Fishing Lake, Project completed with J2
- **Gilbert Regional Park Urban Fishing Lake** | *Gilbert, AZ*
  7 Acre Lake currenly under construction
- **Copper Sky Recreation Complex Urban Fishing Lake** | *Maricopa, AZ*
  5 Acre Urban Fishing Lake, Project completed with J2
- **Festival Fields Park Urban Fishing Lake** | *Avondale, AZ*
  3 Acre Urban Fishing Lake, Project completed with J2, Very similar scope to Sundance Park Phase II project

These representative projects were completed for both public and private clients and included a lake or water feature.

- **Diamondbacks**
- **Desert Botanical Gardens**
- **Glendale Spring Training**
- **Gainey Ranch**
- **Gilbert & Baseline**
- **Goodyear Ballpark**
- **River Walk**
- **Roadhaven**
- **Sagewood**
- **Sandollar**
- **Sierra Springs**
- **Sun Flower Resort**
- **Cerprobe**
- **Val Vista Lakes**
- **Sunland Springs**

Project shown in Project Experience Section

SECTION **C**

KEY PERSONNEL EXPERIENCE

B. Organization Chart

The organizational design of the Willmeng/DTR team is a powerful blend of parks and recreation, site development, and CMAR experience.

13
projects completed with J2

300+
CMAR projects completed in the past five years

10
Park Projects completed

194
years of combined team member experience

BUCKEYE, AZ

Willmeng

J2 Design
Architect

Park Experience
CMAR Experience



James Murphy
President, CEO



Chris Coffer
Senior Project Manager
Single Point of Contact



Cody Phelan
Principal, COO

Pre-Construction



Keyvan Ghahreman
Preconstruction Director



Isam Ghandour
Lead Estimator

Sub-Consultants



Dick Roberts
DTR Landscaping
Landscaping Architect



Joseph McGinnity
Play It Safe
Splashpad Subcontractor



Bruce Call
Ancon
Lake Subcontractor

Construction



Keith Dumais
Project Superintendent



Dick Roberts
Landscaping Architect

Willmeng/DTR Highlight:
Multiple team members have worked together for 15+ years, including the proposed Senior Project Manager (your point of contact) and proposed Project Superintendent.

ADDED VALUE at NO ADDED COST



Chris Albus
Operations
Support Manager



John Bingham
Safety Director



Peggy Schoonover
Warranty Administrator

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Sundance Park Phase II
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TAB D

UNDERSTANDING OF PROJECT AND APROACH TO PEROFRMING REQUIRED SERVICES

1.) Describe your approach to performing preconstruction services.

With a long history of executing under alternative project delivery arrangements, our proposed team truly embraces the CMAR approach. On every CMAR project, Willmeng/DTR and every team member have contributed their builder expertise in preconstruction to provide the benefits of early collaboration with stakeholders, owners, design firms, and sub-consultants and achieve balance among program needs, design intent, and budget. The result of such efforts are quality improvements that remain true to program requirements and design intent.

Our management plan includes taking a very active role during the preconstruction phase of the Sundance Park Phase II project. Our proposed team will attend and take an active part in all preconstruction activities and will work closely with the City of Buckeye, lending our assistance on a timely and accurate basis.

During preconstruction, Senior Project Manager, Chris Coffer, will closely monitor the process, assuring the City's needs and project schedule are maintained. Chris C. will be supported by Keyvan Ghahreman, Preconstruction Director. Throughout the entire process, Keyvan will utilize a proven system to manage the project budget along with providing constructability reviews and options analysis that reflect the developing design process. This will ensure the City is receiving the best value through cost-effective system and material selections. During the preconstruction phase, Keyvan will not only draw upon our team's extensive historical cost database, but will also solicit subcontractor recommendations helping to ensure the project is in line with the budget. The City of Buckeye will remain informed on all project aspects as part of our open-book and transparent approach.

We will provide the following preconstruction services for the Sundance Park Phase II Project:

Lead project planning and scheduling for both the design and construction phases: Willmeng/DTR takes ownership for planning and scheduling throughout the design and construction process. As soon as we engage in the Sundance Park Phase II Project, we will develop an overall project schedule that will consider not only construction but also design, trade procurement, permitting, and material procurement.

Provide for construction phasing and scheduling: Willmeng/DTR always takes a proactive approach to planning and scheduling to fulfill the needs of a project.

Provide alternative systems evaluation and constructability studies: Our team is familiar with the emerging trends in design and construction, and it has analyzed numerous alternates to enhance value to our clients.

Advise the City of ways to gain efficiencies in project delivery and reduce overall delivery time: One method of gaining efficiencies in project delivery is facilitating quick decision-making. As the team evaluates material or systems options, part of our role as the CMAR is to provide the most complete information we can to facilitate intelligent and timely decisions.

Provide long-lead procurement studies and initiate procurement of long-lead items: We develop our purchasing schedule based on the overall project schedule, thereby tying material required by field dates to purchasing dates. The purchasing schedule takes into account submittal lead times, review and approval durations, fabrication time frames, and shipment. A few of the items specific to the Sundance Park Phase II project we will be closely monitoring include the pumps for the lake.

Participate in partnering sessions with the project team: Trust is earned by both following through on commitments and by getting to know individuals on a personal level. Partnering sessions create a setting where people become a little more vulnerable than they typically are during the course of their busy workdays, enabling individuals to coalesce into a team.

Participate in regular scheduled project coordination meetings: A critical aspect of the CMAR approach is spending the necessary time with the City of Buckeye to thoroughly understand program requirements and design intent. Attending project coordination meetings is critical to our



"You put together an amazing team that knew how to get the job done. James and team were dedicated, creative, flexible, and diligent. They understood our vision and made sure we got there. Despite the weather challenges we faced, they understood our timeline and made sure it was met without sacrificing quality. They were always positive, gracious, and accommodating."

– Barb DeLisa, Head of Operations, BASIS.ed

preconstruction efforts and is a first step in helping us "fill in the gaps" when design elements are not yet incorporated into project documentation.

Participate in constructability reviews at various levels of design: Throughout the design phase, our team of builders will work with the City of Buckeye to determine if means and methods, or construction materials and systems, that provide better efficiency at a better value can be incorporated into the project. As project documents progress, our team will continue this effort to ensure the budget, schedule, and quality expectations are fulfilled. In our experience, critical scopes on the Sundance Park Phase II project that can have a significant impact on the construction we will monitor are the lake construction and the irrigation system selection, as these will be critically tied to one another in schedule and function.

Provide value analysis: The success of Sundance Park Phase II will rely heavily on the landscaping scope of work. With landscaping activities fixed on the critical path, it's essential that this work is tightly controlled. A key element of Preconstruction is to provide options to the City that provide creative solutions to project challenges. The Willmeng/DTR team is uniquely positioned to provide quality value analysis to the team because of our team composition. Willmeng's expertise in managing large scale site development projects, DTR's expertise in landscape and park projects, Play It Safe Playgrounds' expertise in splash pad development and Ancon's expertise in urban fishing lake construction will ensure the City that the value recommendations provided by our team will provide the most value to the City in the major scopes of this project. With this team's thorough understanding of CMAR performance, the City of Buckeye can trust that all self-performed work will be delivered with open-book transparency.

Provide detailed cost estimating and knowledge of marketplace conditions: Willmeng/DTR provides real-time estimating during preconstruction for areas that may impact the budget as decisions are made, in addition to 30/60/90% design intervals. From initial programming with block diagrams and test fits to construction documents issued for permit, we constantly draw upon our cost database to provide accurate and reliable estimates for our clients.

Develop and maintain the project cost model: Under the CMAR approach, one of our first tasks will be developing a project cost model. This cost model becomes the baseline budget for the project and also the basis for all future estimate benchmarking.

Concur with plans and specifications prior to construction: Willmeng/DTR's goal as your CMAR partner is to assist the team in developing plans and specifications that not only fulfill the Sundance Park Phase II project requirements and vision but also deliver the best value for the City of Buckeye. We will have the site team leads for the park directly involved in this process. Additionally, we would recommend that a thorough scope review with key subcontractors happen multiple times during preconstruction. Specifically for Sundance Park Phase II, we would suggest that the playground area, including the splashpad, and the lake subcontractors be involved to ensure effective construction transition and clarify design intent and scope.

Cost Efficiencies and Cost Benefits of the Willmeng/DTR Approach: Municipal projects demand transparent financial stewardship with a commitment to maximize the value of every dollar spent. The Willmeng/DTR team is uniquely qualified to deliver cost-effective solutions to the City of Buckeye. Willmeng/DTR brings true CMAR expertise, with particular acumen in managing complex, multi-faceted projects with aggressive schedules, both in the private and public sectors. DTR Landscape Development brings an impressive resume of parks, athletic fields, and large-scale site developments. Our shared experience on the award-winning USAA Campus Development project, highlighted in Section A of this proposal, is a telling example of how our firms' complementary experience and similar culture yield superior results.

Willmeng/DTR Experience Highlight:

Award Winning USAA Landscaping

Willmeng/DTR installed a new irrigation system to re-vegetated trees that ranged from 48" box to 96" Box. The team had to utilize a 2 ½ yard loader and a large 20-ton forklift to relocate these trees. New retention basins were created with river rock in the basins to contain the run off of these new roadways and control the flow of water and erosion. 2 – 5-ton boulders were brought on site and were set around site per the architect's drawings. The team was instructed not to bury any part of the boulders to make them look more natural. Desert pavement was used as the ground cover on site and along Norterra Parkway. The plant and tree pallet was native material until the new roadway leading to Union Park at which time it went to a more contemporary type of landscape. By choosing the native plant and tree pallet, this saves USAA on their water usage in these new areas.



2.) Describe your subcontractor qualification process.

Willmeng has strategically chosen DTR to be its teaming partner based on DTR's outstanding qualifications and reputation for providing landscaping services throughout Arizona. In this partnership, DTR will essentially assume the role of a key subcontractor who has a major influence on the success of the overall project. Because much of the Sundance Park Phase II project's success is tied closely to the extent of the site work and its complex logistics, Willmeng is partnering with DTR based on their firm's and proposed team's experience, expertise, and cultural alignment.

Willmeng/DTR's selection of subcontractors is through the combination of qualifications and price, never based on price alone. On every project we create a trade contracting plan that is geared towards the specific needs of the project. Whether selected early utilizing a qualifications process, or selected by competitive bidding, we ensure a base of at least three to five subcontractors in every major trade.

We consider several factors before we narrow down our trade contractor list:

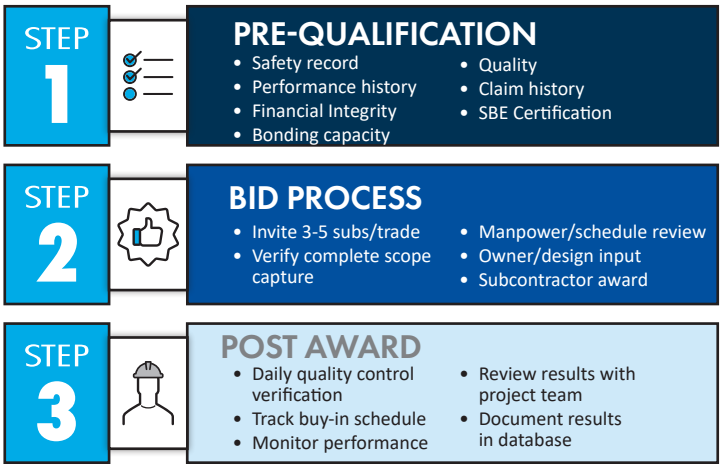
- Experience with work on park projects
- Current work load and manpower available for this project
- Experience of lead personnel with completing similar work
- Financial integrity and bondability
- Safety record and current experience modifier

This process ensures only fully qualified subcontractors are invited to propose on the project. Once pre-qualified, trade contractors participate in our procurement process. Keys to success in procurement include:

- Understanding the trade coordination among critical building systems and materials.
- Purchasing complete costs for each trade that capture means and methods.
- Detailed scoping to anticipate and resolve issues prior to award.
- Conveying expectations for quality, safety, coordination, and schedule.
- Consideration of lessons learned applied to scope process.
- Communicating to our trade contractors our detailed site logistics and sequencing plans.



Willmeng construction believes in a "Fair 360" approach in everything we do. Our trade partners place a high value on the respect and fair treatment they receive from our teams. These relationships provide our clients with an advantage in a market that is currently stretched for labor resources.



Our subcontractor selection plan includes three fundamental steps.

1. Willmeng/DTR will prepare for the City's approval, a template form outlining the qualifications information requested from all subcontractors.

2. The Willmeng/DTR team will work with the City to develop a list of subcontractors to be solicited, including local subcontractors familiar with City projects. We will recommend trades and firms based on the scope of CMAR.

3. Willmeng/DTR will administer the subcontractor solicitation, recommendation and award process. Once all subcontractor proposals have been received, Keyvan, Chris C., Dick, Isam, and Keith will lead the review process; checking for completeness, tabulating each bidder's pricing, and reviewing their qualifications submittals. After selections have been made and award notices issued, subcontract agreements will be executed.

In addition to Willmeng's partnership with DTR Landscape Development, our team is leveraging the services of Ancon and Play It Safe to assist with preliminary budgeting, constructability review, and options analysis of the lake and splashpad respectively. These firms have considerable experience on these unique park elements, and will serve in consultation capacities during preconstruction.

Their services will add value to the project as the team determines the right strategies for issues such as lake lining and drainage, public safety, and water conservation. These two trades, along with all others, will be competitively bid to the market. Willmeng/ DTR will employ a pre-qualification process as part of our subcontractor procurement plan, which is highlighted here. This plan ultimately assures that the most qualified and competitive trade contractors are selected for the construction of Sundance Park Phase II.

PLAY IT SAFE PLAYGROUNDS

Play It Safe Playgrounds and Park Equipment is a local supplier of some of the finest commercial play systems, certified playground surfacing, sports equipment, site amenities, outdoor fitness equipment, fabric shade structures and steel shelters in Arizona. Services include turnkey playground design and layout, budgeting construction, installation, playground inspections, safety training and risk management awareness. The firm has completed multiple park projects across the state, including **Sunset Park, Indian School Park, and Friendship Park.**

Play it Safe Playgrounds and Park Equipment, Inc. is an Arizona S-corporation with offices in Mesa, Arizona. Started in September 2012, Play It Safe has had tremendous success as a distributor of playground and park related items throughout Arizona. The owner, Jordan Lynde, has been a leader in selling commercial play equipment in Arizona since January 1998. The former vice president of Dave Bang Associates, Jordan has extensive history in the Arizona park and playground community.





ANCON INC.

Ancon holds a unique place in today's industry as one of the pioneers in water feature design and building. Ancon has the capability necessary to design as well as build almost any kind of water feature, naturescape and waterscape. Ancon is the only water feature company in the state of Arizona, and probably the United States with a registered architect. Ancon has extensive related lake experience in the Valley the team can apply to ensure the success of Sundance Park Phase II, including:

- Mansel Carter Oasis Park Urban Fishing Lake – a 5-acre urban fishing lake for the Town of Queen Creek completed with J2
- Copper Sky Recreation Complex Urban Fishing Lake – A 5-acre urban fishing lake, completed with J2
- Gilbert Regional Park Urban Fishing Lake – a 7-acre lake currently under construction
- Festival Fields Park Urban Fishing Lake – A 3-acre urban fishing lake, completed with J2 and most similar to what Buckeye is proposing for Sundance Park Phase II.





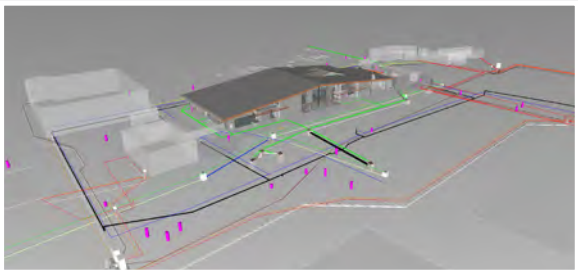
3.) Describe your approach to incorporating Virtual Construction and Building Information Modeling (BIM).

VIRTUAL CONSTRUCTION:

For projects requiring significant site work packages, Willmeng/DTR employs a combination of aerial surveying and building information modeling. Using ***drone-generated aerial footage with VR-enabling software***, we gain a better understanding of existing site conditions and better documentation of as-built conditions. Not only do these techniques enhance our knowledge of the site, they enable our teams to do so very quickly; much faster than traditional surveying techniques. Using this technology, we are able to generate information shown in the adjacent images. We have found that using this technology increases our efficiency, thereby saving the project both time and money.

BUILDING INFORMATION MODELING (BIM):

Willmeng/DTR is ready and able to execute BIM projects from beginning to end with in house software including Revit and Navisworks as well as 3D take software, Assemble. The Willmeng/DTR team can take a lead role on any BIM project starting from as-builting existing conditions with laser scanning and ReCap Pro. We can collaborate with design team professionals through the design process and provide dynamic estimating using Assemble for 3D take off straight from the design models. We also have a team of experienced BIM construction professionals who will work with subcontractor partners to develop construction level models, execute trade coordination and clash detection as well as creating as-built models.

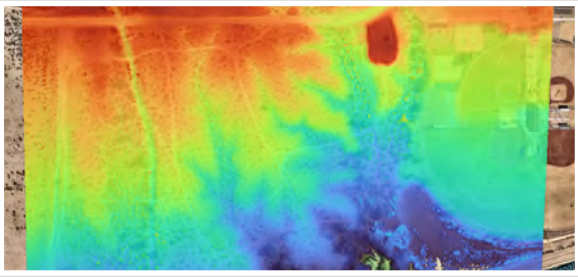


3D Site Modeling



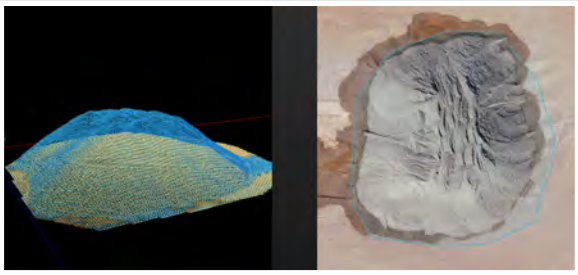
Contour Plotting *– Results in a highly topographical survey.*

Scan to see Contour Lines of W303 GIF



Heat Mapping *– Aids in understanding a site's soil characteristics at macro-level*

Scan to see Heat Map of Elevation at Logic GIF



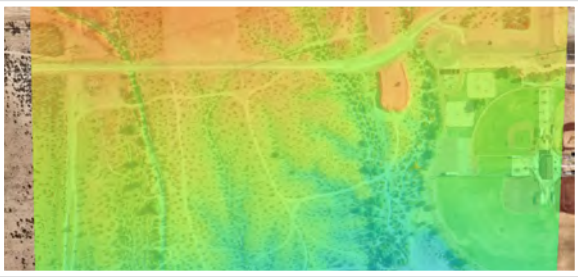
3-Dimensional Mound Rendering *– Promotes quick earthwork quantification and site balancing analysis.*

Scan to see Cubic Yard Pile Calcs at Landing 202 GIF



Spatial Measurement *– Fosters accurate as-built drawings for buried utilities*

Scan to see 3D Measurement of underground at Landing 202 GIF



Aerial Overlays *– Aids in coordinating planned work with exisiting site conditions*

Scan to see Overlays and measurement of fire lines at Logic

4.) Describe your approach to performing construction administration and management.

CONSTRUCTION ADMINISTRATION

Using a variety of estimating tools, *our clients seek our services as trusted advisors to provide accurate and reliable cost estimating, no matter the stage of design.* Such tools include Modelogix, On-Screen Takeoff, a robust data base of historical cost information, and Assemble software. Taken together, these tools help us provide accurate information that help our clients drive intelligent decision-making.

Procore® is a software package utilized to manage all aspects of construction. It provides visual documentation and control, and provide a collaborative platform where all project information is maintained and tracked in real-time.

Our proprietary estimating software is populated with thousands of up-to-date unit costs derived from the hundreds of estimates we perform every year. Our system enables us to provide detailed and accurate estimates based on preliminary design information. We utilize On-Screen® Take-Off software for all material quantifications and to communicate our understanding of project scope in the early design phases.

Additionally, our team of estimators uses Modelogix® to develop early and accurate estimates based on historical cost and parametric building data. This software package is populated with over 2,500 estimates and project cost data, and takes into account Turner and Means cost indices to reconcile previously captured cost with current market conditions. It also enables our team to more accurately forecast escalation based on historical cost trends.

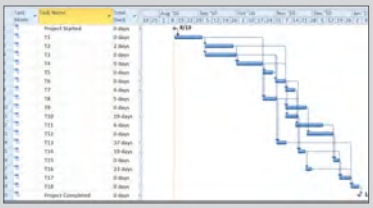
CONSTRUCTION MANAGEMENT

Willmeng/DTR's project management approach is to promote a collaborative team effort between the City of Buckeye to achieve the desired results for the Sundance Park Phase II project. Our team will provide the experience and knowledge of the CMAR process, developing creative solutions to maximize your project value and complete the facility within the schedule established during the preconstruction process. The Willmeng/DTR team approach is to provide timely and accurate information to support intelligent decision-making when those decisions have the greatest cost and schedule impacts to the project.

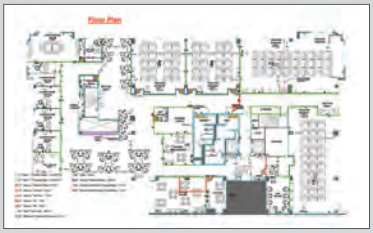
As Preconstruction Manager, Keyvan Ghahreman will remain engaged and active during construction. As Project Manager, Chris Coffer will coordinate the project's efforts and interact with City of Buckeye keeping them informed of construction issues and progress. Project Superintendent, Keith Dumais, will be on site 100% of his time during construction, supervising all aspects of schedule, safety and quality on a day-to-day basis. He will establish, implement and manage a project specific quality control plan and will oversee subcontractor coordination meetings and look-ahead schedules for the project team and subcontractors.

SYSTEMS

Planning/Scheduling:
Microsoft Project®
Critical Path Method Scheduling is used to create and manage all schedules.



Estimating:
In addition to using proprietary estimating software populated with thousands of unit costs, our team uses On-Screen® Take-Off software for all material quantifications and to communicate our understanding of project components in the early design phases.



Managing Construction:
Procore® is a software package utilized to manage all aspects of construction. It provides visual project documentation and control, and provides a collaborative platform where all project documentation is maintained and tracked in real-time.



5.)Describe your approach for controlling the project construction budget and schedule.

COST/SCOPE CONTROL

Willmeng/DTR provides 100% transparent open book access to the project budget during all phases of design and construction. Our cost control system generates detailed summary reports of outstanding cost items, current and updated costs to date and anticipated costs. Willmeng/DTR will never issue a change order unless the City of Buckeye adds scope to the project.

SCHEDULE ADHERENCE

Willmeng/DTR utilizes *MS Project* scheduling software for all project tracking and schedule production. These schedules are prepared and reviewed with the entire team and refined as necessary. This baseline or target schedule is then used from inception through close-out. This schedule includes design duration, procurement, submittal process, permitting, construction activities, and owner activities such as furniture move-in. This schedule is reviewed with our subcontractors and their vendors to ensure that material and equipment arrivals support the construction schedule.

Establishing and managing a predictable and reliable schedule is the most critical component in a successful project. From our initial involvement in the project, Willmeng/DTR utilizes MS Project scheduling software for all project tracking and schedule production. These schedules are prepared by the project team, reviewed with the team, and refined as necessary as trade contractor procurement approaches. This baseline or target schedule is then used as a tool during weekly meetings to measure progress and identify the timing of critical decisions.

A preliminary schedule for the Sundance Park Phase II project is included on page 52.

6.)Describe your approach to performing quality assurance/quality control during construction.

QA/QC DURING PRECONSTRUCTION

During the design phase in preconstruction, Willmeng/DTR will manage the quality of the products and services to accurately identify and define the factors that affect the quality of the design. We will implement formal milestone design review checkpoints from schematic design through design documents. Our team will also conduct informal reviews to allow the City to provide more input ensuring the final design will meet the contract requirements without delaying the development of design.

QUALITY CONTROL PROCESS	
1 Thoroughly scope trades during procurement	**2** Hire trade contractors qualified to perform the work
3 Understand and proactively communicate quality expectations	**4** Leverage best practices and lessons learned from team of 48 superintendents
5 Monitor and oversee trade-specific quality control plans daily	

QA/QC DURING CONSTRUCTION

During the construction phase, we have implemented an electronic quality control procedure utilizing iPads in the field and Bluebeam Revue. Bluebeam allows us to provide visual quality control checklists and coordinate them with our subcontractor teams. This has cut down on rework and has accelerated our turnover of punch lists to an average of fewer than five days on our projects. Willmeng/DTR's approach to quality is a culmination of best practices and lessons learned throughout our 43-year history. Our seasoned team of professionals will develop a quality control program specific to the Sundance Park Phase II project.

Willmeng/DTR Added Value:

DTR and Willmeng Superintendent, Keith Dumais, have been actively working together for the past 20 years. A few projects they have completed together in the past include:

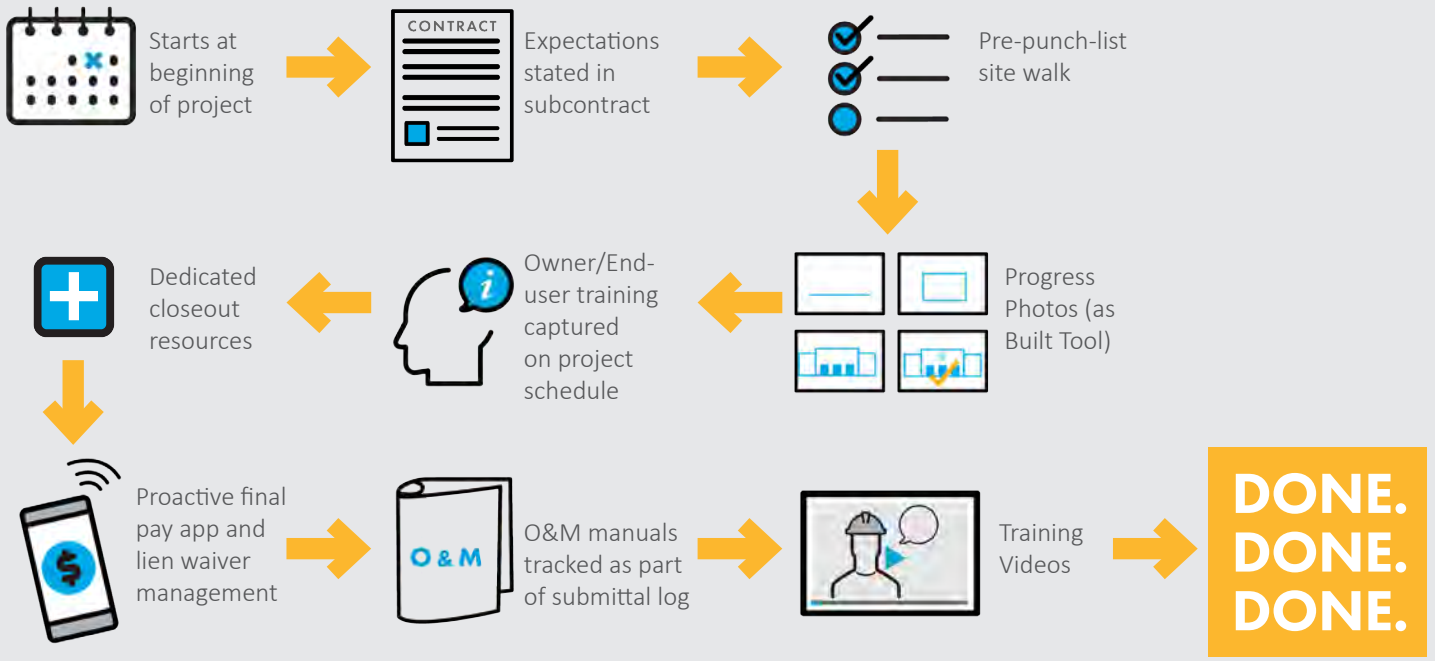
+ Higley High School
+ Enterprise Rental Car
+ Goodyear Fire and Police Station
+ Pinnacle Park

*Please note these projects were not completed by Willmeng



Higley High School

APPROACH TO PROJECT CLOSE-OUT



7.) Describe your approach to achieving project close-out (commissioning, punch-list completion, and warranty work).

An ideal project closeout process is fast and straightforward because the team has all the information on hand and the team is prepared to turn over the project. As the saying goes, projects are remembered not by how they start but how they finish. Simply failing to plan for this crucial project component can cause issues and push the completion date and client satisfaction--the Willmeng/DTR team will work proactively to ensure this does not occur. Since everyone on the site is completely focused on sprinting to the finish line, project closeout must be executed as a process we have developed as follows:

Our close-out process will start on day one and will be connected to our final pay application, giving us and our subcontractors a clear incentive to close out the project swiftly. As we develop our submittal register, we include all close-out materials that need to be tracked to achieve final completion.

The contractor owns the construction warranty for two years. During the warranty period, Willmeng/DTR will support the City of Buckeye with any and all project information support. Both Willmeng and DTR support all projects well beyond the warranty period as a part of the firm's commitment to clients.

8.) Describe the approach and tools used for estimating, quantity take-offs, value analysis and earthwork reconciliation necessary for mass excavation operations during preconstruction and construction.

ESTIMATING FOR MASS EXCAVATION FOR PRECON/ CONSTRUCTION

Willmeng/DTR provides more than 500 estimates during various stages of design per year for our clients and design partners. From initial programming with block diagrams and test fits to construction documents issued for permit, we constantly draw upon our cost database (Modelogix) to provide accurate and reliable estimates for our clients.

Willmeng/DTR utilizes several platforms to estimate complex, high volume earth moving projects. In addition to the **Modelogix unit rate software** that we have a full-time, dedicated estimator in place to update, maintain, and keep current, we also have full **Onscreen Takeoff licensing** including multiple full-time users both locally and abroad. We have also incorporated **Site Scan (ArcGis) drone technology** to round out our estimating options for real-time, site specific quantities throughout the preconstruction and construction phases of the project. The days or relying on surveyors or trade partners to confirm cut/fill volumes are over. Willmeng/DTR will estimate

and verify all quantities throughout the process to compare with those of our trade partners to see to it that all scopes are captured accurately and precisely translating into the ability to buyout the project with precision while delivering maximum value to the end user.

QUANTITY TAKE-OFFS FOR MASS EXCAVATION FOR PRECON/CONSTRUCTION

On projects involving preconstruction, our very first visit for any heavy haul, mass excavation project includes a drone survey that includes horizontal and vertical survey control. We leverage the Site Scan (ArcGis) software and area mapping to its fullest.

This allows us to add value via facilitating conversations with the entire team that are based on precise, accurate, real-time information on the site that we are working on. Best value in pre-construction and construction is a byproduct of real quantities. Given our use of state of the art technology, we begin our very first preconstruction meeting with baseline quantities and existing volume of cut / fill parameters that used to only exist well into the construction drawing progression.

We consistently approach each line item with a "two eyes are better than one" methodology. This means that at a minimum, we will have two takeoffs for each and every line item to ensure that we have narrowed in on exact quantities.

Willmeng/DTR will come up with it's own quantities for cut, fill, and haul. At least one trade partner, and for the larger scope items, multiple trade partners, will come up with their own, independent quantities. We often say, *"there is only one right answer."* Vetting through any variations in the data affords us the ability to look out for the client from a fiduciary point of view. The "tighter the takeoffs" are against actual numbers in the field, the fewer field adjustments will exist which also delivers value to the client. Given that Willmeng/DTR does not self-perform work, but has full takeoff abilities including real time, on-site leading edge drone survey capabilities, we are able to use our quantities to be certain that all unit rates are applied to exact, self-generated takeoffs. This skill set is particularly valuable in projects involving large exports of soils like this one. The export of the soil is typically structured in a cost per cubic yard or export format. The ability to confirm the exact volume of a mound of dirt prior to it being loaded and hauled ensures that client is not over charged via "approximate" quantities.

FEATURED PROJECT:

Northrop Grumman

The Northrop Grumman Launch Vehicles Division Headquarters project required an enormous amount of earthwork. Set on 45 acres, this project presented a challenging schedule of 18 months in which to build over 633,000 SF of manufacturing and office space, along with a detached parking garage. The earthwork involved the demolition of an existing dairy farm, the mass grading of 45 acres, and the excavation of over 200,000 CY of soil. Knowing that the subcontractor who would perform the earthwork would also set the initial pace for the project, Willmeng scrutinized the various bids with its usual care, ultimately selecting the earthwork contractor with both the lowest bid and the shortest schedule. Whereas other subcontractors projected five to six weeks of work, the selected firm projected three weeks of work, using a novel method of site preparation.

We brought in two Caterpillar D9 bulldozers to rip into the soil. Right behind the Cats were water trucks soaking the soil. Right behind the water trucks were scrapers leveling the soil. The entire operation took 15 days. The operators didn't use their brakes very often." Willmeng CEO, James Murphy, who was on-site, recalls a mass of equipment "looking like bees buzzing around." This sprinkler-free approach reduced the average schedule from six weeks to three weeks, which is how long it took to turn over a fully rough-graded site with construction-ready pads. Straight out of the gate, the Northrop Grumman Project effectively gained three weeks on the clock and set off on an auspicious start.



Scan for video of Northrop Grumman Earthwork project

VALUE ANALYSIS FOR MASS EXCAVATION FOR PRECON/ CONSTRUCTION

Value analysis for large scale mass excavation projects is a skill-set that the Willmeng/DTR team enjoys and thrives at. As the civil engineering team progresses through the design process, various concepts will need to be vetted to fully understand their impact on the overall budget. The options that are assessed often include:

- The ability to reuse / screen native materials in accordance with the design criteria.
- Contouring and modifying grades assessment to minimize the amount of export that may be required.
- Maximizing surface retention and minimizing export to minimize the number of dry wells or underground retention
- Support drainage studies to minimize overall storage volumes required which will also minimize retention basin volumes. This also minimizes export amounts.
- Cut/fill options analysis including various amenity layouts to minimize the overall displacement of materials.
- Options analysis for the overall mass grading strategy including a brain storming session with the engineer that generated the soils report and the civil engineer of record.

EARTHWORK RECONCILIATION FOR MASS EXCAVATION FOR PRECON/CONSTRUCTION

State of the art drone surveys supported by Site Scan Software (ArcGIS®) is our primary tool for reconciling earthwork quantities anticipated in preconstruction and verifying actual volumes in construction.

In preparation for this proposal, we performed our initial drone survey of the site to get an approximation of what the cut/fill result would be based on assumed design elevations.



After surveying the jobsite, our high level, initial assessment of cut – fill appears to net an export of 100,000 cubic yards of material based on assumed design elevations of the overall park.

During construction, we can use the same drone survey to verify actual volumes of retention basins, export piles, and rough grade elevations prior to constructing amenities. Drone survey has transformed the industry in terms of reconciling quantities in preconstruction and construction.

Current contours of the proposed park location via drone survey:





After surveying the job site, our high level, initial assessment of cut – fill appears to net an export of 100,000 cubic yards.



Current Aerial - Sundance Park

9.) Describe your Safety Program.

Provide a summary description of your safety program including sample documentation/forms.

To effectively implement a strong safety program, a company must be organizationally focused on instilling a safety culture. Willmeng/DTR's focus on safety is grounded in a firm-wide commitment to get our people home to their families safely at the end of each day. Willmeng/DTR's safety program is led by our Safety Director, John Bingham. John oversees the implementation of three pillars of our safety program:

- Willmeng Loss Control and Safety Manual
- Site Specific Safety and Health Plans
- Subcontractor Safety Management Plans

Together these plans form a comprehensive safety program that not only addresses our company's approach to safety, but also the safety concerns on a project-by-project basis. John is charged with assuring that safety remains our highest priority as a company and on the job.

We know how important it is to keep parks safe for community members. The following are ways in which Willmeng/DTR will stay committed to the ongoing safety of the Sundance Park Phase II project.

We recognize the need for extreme precaution relative to our workforce on the Sundance Park Phase II project. All employees will be badged and background checked. All employees of Willmeng/DTR and our subcontractors will be asked to check in before entering the site at a central location. They will be inside of our construction zone at all times.

Prior to every project, Willmeng/DTR's construction team creates a site logistics plan (similar to those shown on previous pages of this section), which is communicated to project stakeholders and trade contractors. Our approach to job site safety and efficiency is rooted in our site logistics planning.

With this plan we take into account:

- Existing site conditions
- Pedestrian and vehicular traffic patterns
- Job site access and egress
- Material lay-down and staging
- Hoisting / crane access
- Construction parking

A well-devised logistics plan not only minimizes disruptions to adjacent businesses and residents, it also creates an efficient and safe job site. The key to every aspect of construction is communication. *Sample documents and forms can be found in the appendix of this proposal.*

SAFETY PROGRAM IMPLEMENTATION PLAN

The purpose of Willmeng/DTR's Health Safety Program is to provide a formal and systematic approach to the establishment of **"Health and Safety First"** attitudes and practice at all Willmeng/DTR facilities and site locations.

Additionally, Willmeng/DTR has full-time professional safety personnel to provide training, regular inspections and support to each of our projects. This project will receive a specific plan which outlines site specific hazards, responsibilities, implementation and monitoring throughout construction.

The outline of the Health and Safety Program includes policies for safety inspections, inspection reporting, toolbox talks, and site safety orientations. The Site Specific Safety Plans (SSP) include the scope of the project, site conditions, hazard communications, PPE requirements, fall protection plan, lock out/ tag out plan, hot work permitting, job specific permitting and job hazard analysis (JHA).

Our review of this project has brought to light the following safety challenges:

1. Excavations: This site will incorporate a multitude of excavations that include sewer, storm drainage, underground electrical, other utilities and civil. Excavations, particular those more than 4' in depth pose hazards to workers, equipment and passing vehicles.

Approach: Prior to any contractor performing excavation work, a preconstruction meeting shall be conducted that includes the Willmeng Superintendent, Safety Director and contractor competent person/foreman. A detailed Hazard Analysis will be discussed, hazards identified and engineered out to the extent possible or appropriate protections as outlined in the Site Specific Safety Plan. Subcontractors are responsible for developing and implementing safety plans that are specific to their scope of work.

2. Existing Overhead Powerlines and Other Utilities: Overhead power lines are identified to on the north portion of the project site. Power lines, associated electrical equipment and known or unknown underground utilities can pose hazards to both personnel and equipment.

Approach: A preconstruction meeting should be held with the service provider (APS and associated lessees) and trades exposed to or working on existing utilities. Discussions should include safe approach distances for cranes and other high profile equipment, emergency contacts and procedures, and lock-out/tag-out procedures. Trades working near or on existing utilities shall complete a detailed Hazard Analysis, hazards identified and engineered out to the extent possible or appropriate protections as outlined in the Site Specific Safety Plan. Subcontractors are responsible for developing and

implementing safety plans that are specific to their scope of work.

KEY PERSONNEL TIME ALLOCATED TO PROJECT

The list below summarizes major assignments of proposed key team members. Based on the anticipated construction completion date listed in the RFQ, the Willmeng/DTR team proposed within is available to begin work on Sundance Park Phase II as soon as required. Additionally, all proposed team members will remain dedicated through project completion.

Key Team Member	Pre-Con	Construction
Keyvan Ghahreman *Preconstruction Director*	50%	5%
Isam Ghandour *Lead Estimator*	50%	10%
Chris Coffer *Senior Project Manager*	20%	40%
Keith Dumais *Project Superintendent*	10%	100%
Dick Roberts *Landscaping Subcontractor*	10%	100%

EXPERIENCE MODIFICATION RATE (EMR) FOR THE LAST FIVE (5) YEARS.

Willmeng EMOD rates:	
2015	.80
2016	.76
2017	.73
2018	.89
2019	.98

DTR EMR rates:	
2015	.70
2016	.71
2017	.72
2018	.69
2019	.70

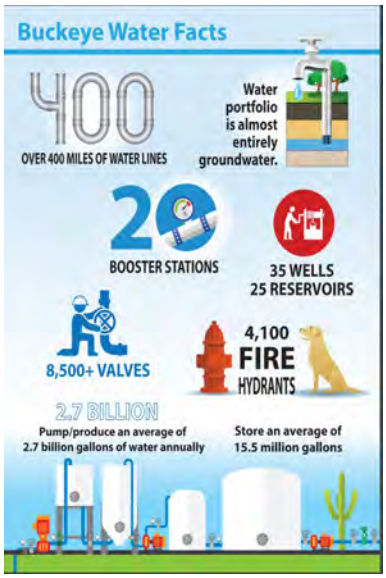
10. Discuss the major issues your team has identified on this project and how you intend to address those issues.

Our goal as your construction partner is to leverage our collective builder expertise during the design and preconstruction phases to help set up your Sundance Park Phase II Project for success. This entails turning over high-performing improvements that will endure the harsh conditions of the Desert Southwest. Based on our team's expertise in building and renovating parks throughout Arizona, as well as a close study of the available data and site visits, the following issues will be at the forefront of our overall approach to the project.

ISSUE: WATER RESOURCES

The lake will require a consistent, reliable water source. There are a handful of options that will need to be fully vetted to ensure the best outcome for City of Buckeye. The options analysis will include various options including, but not limited to:

- Potable domestic water
- City of Buckeye Effluent
- The Roosevelt Irrigation District Canal to the south
- Tract A Well Water



Each of these water sources will require a different distribution system to get water to the park, and the quality of the water will impact design criteria for multiple elements of the park from the filtering and maintenance of the lake to the actual components used in the lake and throughout the park (landscape components etc). Each system will need to be conceptually designed and priced to allow the city to fully understand the short and long term investments associated with each source.

ISSUE: STORM WATER STRATEGY – DURING CONSTRUCTION AND FOR THE LIFE OF THE PARK

The new park location contains several natural washes that will contain running water in major storm events. As a result, the design and construction team will need to account for storm water both during construction and have a comprehensive strategy for the long term including a functional park during major monsoon events.

Willmeng/DTR's storm water pollution prevention plan (SWPPP) will be comprehensive during preconstruction and maintained daily during construction.

Our understanding is that the Watson Drainage System south of the RID Canal has been postponed indefinitely which means

this new regional park will not have an established means of outfall for the next several years. Supporting the design team in their on-site storm water planning efforts will be critical to allow for a functional park in major storm events. This will involve meeting the engineers design intent of on-site storm water retention and desired outflow at a certain elevation, without impacting adjacent amenities. Freeboard assessments and understanding which amenities, if any, will be impacted by major storm events will be critical.

ISSUE: MAXIMIZE VALUE IN THE PARK VIA MINIMIZING SOIL EXPORT REQUIREMENTS

A comprehensive grade strategy will need to be fully vetted to minimize the amount of export that occurs to maximize the investment in park amenities including the lake and other features (sports field, splashpads, etc). The hub of a regional park is a healthy, properly aerated lake with great water quality that is leveraged throughout the park resulting in healthy fish and the ability to create a rich outdoor environment that supports the entire region. Maximizing the lake and amenities will be a byproduct of minimizing the spend on the export of soils. The volume of new construction throughout the west valley (Buckeye and adjacent cities) has resulted in an excess of dirt (spoils that need to be exported off-site). As a result, it is difficult to find a location to accept the spoils, much less get any value for the dirt itself. This translates into burning the budget via loading and transport costs which reduces the available funds to invest in long term amenities for the park. Ultimately, maximizing the park experience will be a function of a comprehensive strategy with the design team to minimize soil export requirements. No stone should be unturned in this effort from adjusting elevations, moving amenities, raising elevations, etc.

ISSUE: BUILDING A MAN MADE LAKE

Providing a lake on your project can provide functionality and be an aesthetic amenity. However, there are many considerations when designing and building a lake. One of the Valley's premiere constructors of park-area lakes and water features, Ancon, is a key subconsultant on our team and has visited the site with us to develop the approach below. Here is a brief overview of some of the considerations that Willmeng/DTR has identified.

1. LINER SELECTION IS VITAL

One of the most critical considerations of the lake design and construction is the liner. This is VERY important to achieve cost considerations, longevity and proper planning to avoid costly rework.

Ancon suggests using RPP (Reinforced Polypropylene) liner, which is best for preventing leaking and most durable. If not done right, it becomes the most expensive thing to fix. Even finding the leak, via leak detection is very difficult The best solution is to install the right liner and prepare the soil in a way that a leak is simply not going to happen. Soil preparation for the liner is a finite science that requires great care, execution, and inspection PRIOR TO the liner being installed for its lifecycle. Proper "cover" of the liner is also key to achieve a maximum lifecycle per the manufacturer's recommendations.

Ancon and J2 Design have completed 3 Urban Fishing Lakes together. They include:

+ Mancel Carter Oasis Lake (pictured below)
+ Festival Fields Lake
+ Copper Sky Recreational Complex Lake



Other Liner types we have to consider include:

- Sand Soil Vs. Clay Soil – Sandy soil constantly leaks, Clay soil eventually binds and creates a barrier
- Cover liner with a foot of dirt from already excavated soil to use as a protective barrier over lining – not covered with concrete
- RPP – Reinforced Polypropylene liner. Best for preventing leaking and most durable.
- The liner can be placed directly on compacted lake surface bottom. However, with minimum additional expense, a geo membrane can be placed under the liner to guard against rips in the liner during application and in the future. Geomembrane is a spongey, brillow pad texture that can be used as a protective layer.

During the design phase of the project, we need to ensure that the liner material is adequately covered with about 12" of fill material.

Additional details where our team will be key to the conversation is in planning for the design and construction of the shoreline. It should consist of a relatively flat area of shotcrete that begins to slope vertically approximately 6ft from the waters edge. A 4:1 slope is typical until you reach the desired depth (often 18').

2. URBAN LAKES REQUIRE NATURAL WATER QUALITY ENHANCEMENTS.

1. Aeration of the lake is critically important. A Fine Bubble Aeration System is one the most important elements to include when making a lake. Considering such aspects as circulation, turnover, aeration, bio-filtration, wetland planters and pre-treatment wetlands are critical in achieving the right balance of oxygenated water and avoiding stagnate water.

2. Circulation of the water needs to be considered and planned into the overall design and installation of the system.

a. As we plan the system, one consideration will be the piping system and discussing pipes around the lake- Vertical Vs. Horizontal. In our team's experience, horizontal piping prevents mosquitoes from breeding in stagnate water, while vertical helps with aeration system.

3. Water turnover is a critical balance. The more you pull water and turn it over, the better for plant growth and lake health. Pulling Water helps pull minerals from the lake that goes into the turf and helps plants grow, otherwise evaporation will pull all the good minerals and algae will grow. Ideally, turnover water every 30 days.

4. Bio-filtration is a critical function of the system to help eat the bad chemicals. Some recommendations include running through a 3ft gravel bed, pulling horizontally, which will help strip out phosphorus and nitrogen and prevent algae growth. Inclusion of a piping manifold under will also help address the bad chemicals.

a. Regarding the adequate turnover of reclaimed water, we would aim for 3-7 day turnover of the water due to Arizona heat.

3. FUNCTION: AESTHETICS, SIZE

The lake is the central focus of the park and will need significant planning to achieve the goals and provide an amenity that is designed with function and long-term maintenance in mind.



Mancel Carter Oasis Lake - Project Completed by Ancon & J2

This urban fishing lake will draw visitors across the community, but will need upfront planning in preconstruction to plan for its success. Such considerations include the need for fine bubble vertical aeration to promote healthy fish and water quality.

After visiting the site and reviewing the master plan developed for this phase, our team would recommend the lake be no larger than 3.5-acre lake, with an average depth of 15-18 ft.



Mancel Carter Oasis Lake

The site is well-suited for this park amenity, and with proper planning we can achieve the optimal size that maximizes the visitor's experience and accomplishes the considerations that are critical for the park department staff to maintain, secure and maximize the use of the lake.

A ceremonial sinking of the habitat is a great way to generate interest in the project and create community excitement for this new amenity.

4. WATER SOURCE

There are many considerations, and pros and cons, when considering the water source for the lake. Whether the water source is canal water, reclaimed water, well water, storm water or potable water, each required consideration to incorporate into the overall schedule and project design. In Ancon's experience, reclaimed water is the likely source for filling and maintaining water in the lake, while also keeping down costs. This allows for ease of maintenance. This is an example of the benefit of the CMAR process, giving us the advantage to bring the team together to decide on the best route and proactively plan.

5. SAFETY CODES: LAKE SHOULD ADHERE TO CODES AND DESIGNER/CONTRACTOR EXPERTISE TO ENSURE MAXIMUM SAFETY.

As the design and construction conversations take place in the CMAR environment, expertise in the area of lake design

will bring important considerations to be incorporated into the planning. One such area is ensuring an 18" shelf from the edge to prevent a bank that is too steep to easily navigate getting out. In addition, a 6' horizontal ledge prior to the angled slope to maximum depth is also recommended.

For lake safety, there are several aspects and familiarity with the code that allows for a better outcome of the product and reduced risk for the city. This includes pump locations, electrical hazards, and security. Our team prefers and recommends a secure, lockable pump house as opposed to underground vault to avoid the stringent requirements and hazard management of underground, contained spaces.

6. SHORELINE CONSIDERATIONS

During the preconstruction phase, the team of experts should come together to consider shoreline types and discuss the attributes and drawbacks of each. The following aspects should be considered when making this determination:

- Aesthetics
- Cost
- Safety
- Durability
- Functionality

Our team recommends a concrete shoreline construction with an 18" shelf from the edge so that if someone falls in, they can get out quickly and safely.

Concrete should be used to protect the shoreline, designing for a 2-ft shelf for waves to prevent eroding and prevents appearance from deteriorating.

During construction, we will make sure the proper process is followed to achieve the best outcome, such as the concrete poured together (vertical and horizontal – monolithic); liner covered with soil not concrete; and slopes should not exceed 4:1.

7. WATER QUALITY IS EXTREMELY IMPORTANT IN NATURAL WATER BODIES

Ensuring the lake stays healthy is a top priority, and as such the water type is critical. Each of the water source options (RID, Buckeye Effluent, Domestic – Potable, or Well) will result in different pros and cons for the design and construction of the lake. We will present a comprehensive cost and maintenance matrix to allow the City of Buckeye to make an informed decision as to the option they select.

In addition to vertical aeration, the lake will need horizontal circulation as well. Horizontal pipes in the lake at specified intervals would typically be utilized for this purpose.

The goal is to turnover water in the lake every 30 days (maximum) to prevent stagnant water build up.

During the design, our team will discuss every detail and leverage our experience in lake construction and maintenance. As an example, it is recommended that they periodically remove and replace plants to maintain quality. Plants need room to grow and maintenance of their environment and available space is key. In order to do this efficiently, we will discuss plant and vegetation placement.

8. LAKE HABITAT

When considering a lake habitat for fish, there are additional considerations to maximize the effectiveness of the habitat. Some include:

- Fish Protection and Safety- Placing pipes, tires, or construction debris is a cost-effective way to create a safe habitat.
- Fish Breeding Areas - Loosely planted plants in shallow areas ensures a safe breeding ground.
- Fish Selection - Do NOT want Carp or bottom feeders; these fish stir up the bottom and feed the algae, contributing to an unhealthy lake. Blue Gill, Bass, and other Mosquito eating fish are suggested for maintaining a healthy lake habitat.
- Fine Bubble Aeration System very important for water/fish health
- Plant Selection and Maintenance - Plants compete with algae and need to be pulled periodically to avoid overgrowth and make room for new plants to grow.



9. OVERFLOW: WHERE WILL OVERFLOW GO IF THE LAKE ACCEPTS STORMWATER RUNOFF?

Our recommendation is to utilize retention basins and drywells in lieu of a design that would have the lake accept volumes of storm water. Storm water contains debris, garbage, animal waste and other elements that are difficult on the lake's ecosystem.

If the lake is to accept any material quantity of storm water by design, treating and filtering the water prior to entering the lake will need to be contemplated. Gravel inlets of proper length are a minimum requirement.

10. LAKE MAINTENANCE

Lake maintenance can be VERY expensive, and as such it is

important to establish reasonable maintenance cycles, ensure that as many elements as possible can be easily accomplished by park staff, and be designed to minimize (not eliminate) outside vendors to reduce the reoccurring expenses.

- The design should include the ability to remove floating debris and empty skimmers by park staff.
- Placing skimmers in strategic areas - will need to be emptied daily at first.
- Service pump stations weekly as the normal routine. Some weather cycles and seasons will require service more often.
- Use Chemical Fertilizer near lake so pellets don't get into lake when cutting grass.
- Clearing of plants monthly.

11. ELECTRICAL REQUIREMENTS: LARGE LAKES OFTEN REQUIRE 480V, 3 PHASE POWER TO OPERATE LARGE PUMPS.

There are a few considerations when it comes to the selection of the pump system. These are discussions that the team will bring to add value to the preconstruction conversations.

Pumps should incorporate redundancy. If the lake needs 100 HP, we would recommend utilizing two 50 HP in case maintenance is needed there is still pump capacity.

For this size and type of lake construction, we would recommend an above-ground system with decorative building for the pump house for ease of maintenance and durability.

We would also recommend using chemical fertilizer around lake- not pellets as pellets can cause damage to the pumps.

12. LAKE COST: THE ABOVE ITEMS ALL HAVE COSTS ATTACHED TO THEM. PROPER DESIGN AND CONSTRUCTION CAN KEEP INITIAL AND ONGOING COSTS TO A MINIMUM.

All of the ideas mentioned above have been carefully considered and discussed by our team, while also considering the site. Each of these effects the cost and should be considered upfront to make the best decisions for short-term and long-term cost efficiencies.

Some other items our team has noted that will have an impact on cost:

- The size of lake does not drastically change cost. 3.5-acre vs 5-acre roughly same cost.
- The shoreline detail and quantity really drives the overall budget. A natural shoreline is very cost effective, an elaborate shoreline detail is very expensive and adds up in a hurry (per linear foot).The cost of the shoreline can add to the cost and overall maintenance. A great aesthetic can be achieved for a decorative shoreline using natural structures when possible.
- Liner Is very important and not worth cutting corners going with a cheaper option to save money. It will be more expensive fixing down the road.
- Submerged lights can be very costly for installation and maintenance due to the electrical in the water. Adjacent up-lights are an option to consider.

ISSUE: PLANNING A SPLASHPAD

Play It Safe has *extensive experience with J2* in developing a splashpad design ranging in size from approximately 3000sf to 3480sf.

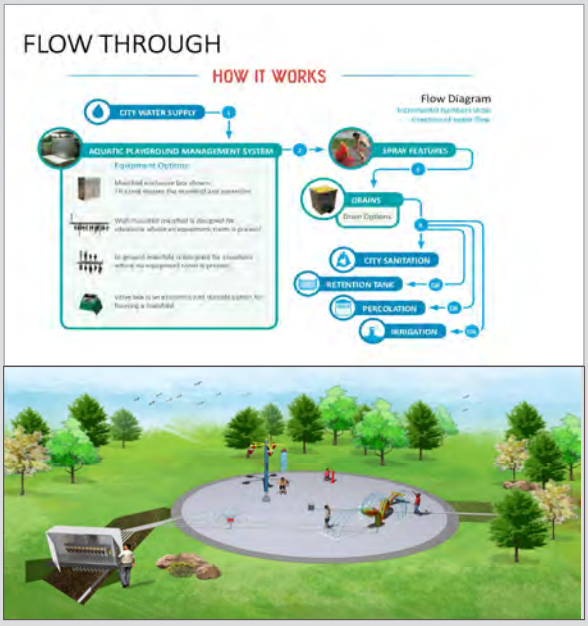
The concept is designing around desert arroyos, or streams. Our aim is to represent water in the Sonoran Desert, from a monsoon rainfall to the arroyo water flow. Beyond the conceptual, here is a bulleted list of practical items to consider when planning a splashpad.

- Size - 20-25 SF per user
- Water Usage measured in gallons per minute
- Actual Output can be controlled by users tapping activators on the pad, controlled by a programmable digital system
- Water System Type: Flow-Through or Recirculation are

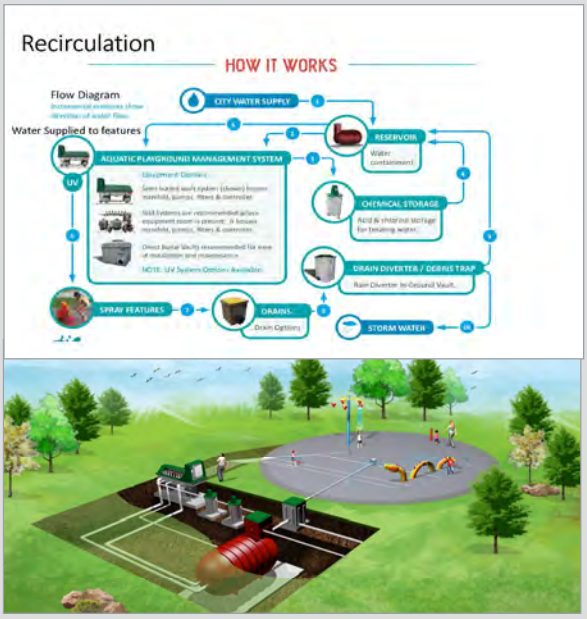


Glendale Spring Training - Lake Project Completed by Ancon

FLOW THROUGH VS. RECIRCULATION



- **Flow Through:** City Water In, Gray Water Out to Sewer, Reservoir, Percolation Pit
- **Advantages:** Low-Volume Pads, Multi-Use Water Sites, No Chemical Treatment, Low Maintenance Costs, Limited Permits
- **Disadvantages:** Potential High Water Cost Based on Use



- **Recirculation:** Recirculates Water from an Underground Storage Tank; Similar to a Swimming Pool System
- **Advantages:** High Volume Pads, Low Water Use After Tank is Filled
- **Disadvantages:** Higher Equipment and Installation Costs, High Maintenance Costs (labor, chemicals), Water Quality Monitoring, Permit Fees

the major decisions to be made.

- Control Systems: must be secured in an equipment room, in-ground locked vault, or surface mounted locked cabinet
- Water Odyssey Events: ground sprays, above ground sprays, sprayers (shooters), Fun Forms, Hover Pads, multi-level climbing structures
- Water Odyssey Enhancements: Glow Domes (in ground programmable lighting), Colorcast panels, themed Fun Forms, custom Fun Forms, programmable water and light sequencing
- Water Odyssey Equipment: stainless steel manifold and brass valves (not pvc) and nozzles

ISSUE: CONSTRUCTING A SPLASHPAD

A few of the items the Willmeng/DTR team has discussed with Play It Safe regarding this particular splashpad construction include:

- Distance from pad to control system (manifold, controls, pumps) must be less than 100'
  - » If field conditions require greater distance, the system must be engineered for that distance
- Slope and grading must be considered for appropriate slope of supply and drain lines
- Location of underground equipment (storage tanks, vaults)
- Equipment placement must be coordinated with landscape plan in mind
- Pad slope must meet ADA requirements and drainage requirements
- Supply and drain lines must be coordinated to ensure correct supply pressure (psi) and volume (gpm), size and number of supply lines, field water pressure – will need a reducer if too high for system, drainage for pad, drain diameter correct for maximum specified water output (gpm), define type of air gap or backflow preventer
- Permitting requirements should be determined early
  - » City, county, and state governments vary in their requirements
  - » Flow-through and Recirculation Systems have different permitting requirements
- Construction sequence must be coordinated
  - » Respect all trades and minimize conflicts, re-do's, and timeline delays
    - » Shade, Structure, Footings, Grading, Utilities, Hardscape
    - » Site access
    - » Site management (spoils, safety, health, fire, pests, security)
- System testing and training must be completed prior to splashpad opening
  - » Water Odyssey technician conducts system testing

- For a Recirculation System, initial water storage tank is drained and refilled after successful testing
- Local personnel (customer) are trained in system and sequencing operation

ISSUE: LANDSCAPING CHALLENGES

After walking the site at Sundance Park Phase II, Willmeng/DTR found that there are multiple landscaping systems to explore and integrate into the park development and construction. The key idea, based off of more than 40 years of experience in landscape construction and maintenance, is in ease of use and maintenance.

During preconstruction, the longest lead item is the booster pump (6-10 weeks). During the COVID months, Hunter irrigation had some delays for heads and valves. While these sources are back to a regular production schedule, we will advise the team on any delays for this scope of work.

The following site challenges were found on the site walk of the future park.

1. WATER SOURCE OPTIONS

One of the primary solutions to confirm when designing and constructing a quality irrigation and landscape plan for a park and fields is to determine the water source for the park. This has a significant effect on the type of system to be installed and the maintenance plan for the system. Since your project will include a lake, we have assumed the lake will be used as the irrigation source for the project. The water for the lake will come from one of several options. Some of the options for this include:

Canal Water from the canal to the south of the project

Canal water, if available, can be a reliable source of water for the lake. However, maintenance can be an issue because debris can get into the intake pipe and provide blockage.

City Potable Water

Potable water generally provides a clean source for a park project. However, it is generally the most expensive water option and the costs to the City may be prohibitive. Alkalinity can be an issue during summer months when heavy watering is required.

Well Water from "Well A"

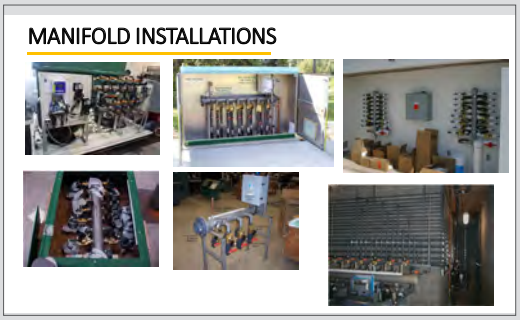
This nearby well may be a good source for the park. Our team would need to work with the City early in pre-construction to determine the quality of the water from the well and its suitability for the lake and irrigation of the Park.

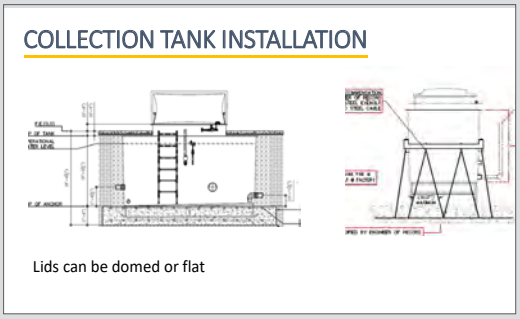
Reclaimed Water

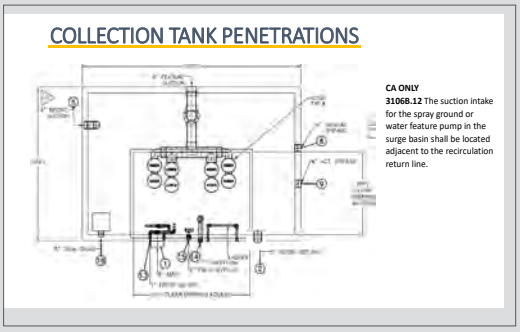
From our initial investigations at the site, it appears the current fields on the site are served by a reclaimed water. Reclaimed water can be a very cost-effective source of water for these types of facilities if the quality is suitable. A few items we will discuss early in pre-construction will

EXAMPLES OF REPRESENTATIVE SPLASHPAD SPECIFICATIONS

Collaborating with Play It Safe, Willmeng/DTR will work together to utilize the experience to find the best solution for the Sundance Park Phase II project.









Gilbert Regional Splashpad project completed by Play It Safe

be the pressure we can achieve with the reclaimed source and ensure the water doesn't provide "burning" from any residual treatment chemicals in the water. If the existing fields are using reclaimed water, it is reasonable to assume the quality is good since the existing fields appear to be in excellent shape and well maintained.

2. WIRING OF VALVE CONTROL SYSTEM

Another key decision in the landscape development is the selection of the valve control system to be used on the facility. Generally, there are two types of systems to consider: the conventional system or the 2-wire system.

The conventional wiring system is currently in place at the existing fields on the site.

Its advantages are:

- It is typically easier to install than a 2-wire system
- It is considered to have less maintenance issues than a 2-wire system
- It generally requires significantly less training to manage the system
- Installation cost is lower, lower long-term costs, and ease of maintenance is the benefit. Trouble shooting is generally manageable.

Its challenges are:

- It is not as readily expandable as a 2-wire system
- It can be more difficult to trouble shoot than the 2-wire system
- Expansion of the system is harder than the 2-wire.

The 2-Wire System

Its advantages are:

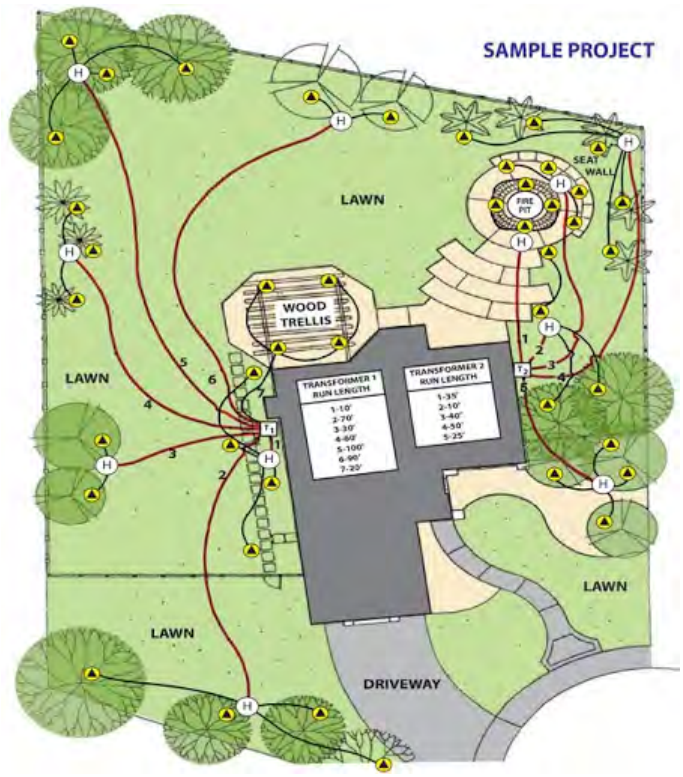
- It is a system that is easily expandable
- It can be utilized as part of a central control system with other facilities
- It is easier to identify issues since the system will shut down at the source of the problem and will not continue to work after that problem area.

Its challenges are:

- It can have more reliability problems than the conventional system
- Installation is more difficult than the conventional system which can result in higher installation costs
- The cost of grounding and installation labor for the 2-wire system, long term maintenance can be an issue due to complexity of the system.
- It is more complex from an operational standpoint which can result in maintenance issues
- It requires more training for facilities staff to operate

FEATURED PROJECT:
Pinnacle Park

Pinnacle Soccer Park was completed by DTR and Reach 11 was completed by superintendent Keith Dumais, giving relevant experience directly to the Sundance Park Phase II. This project consists of four competitive soccer fields with smaller warm up areas, parking lot and associated landscape. There is a 10' wide natural trail that runs through the entire property along with a 10' wide stabilized path that surrounds the four fields. The irrigation system was a 2.5" mainline utilizing 1.5" brass valves and Toro gear driven heads. DTR installed a Calsense 3000 irrigation controller with wifi capability to connect to the existing controllers at Reach 11.



3. FIELD TURF SELECTION AND CONSTRUCTION

Since this phase of Sundance Park will consist of multi-use fields, the selection of the turf type and design of the fields are critical to the long-term maintainability and playability of the fields.

Playability of the fields is important. The drains and a thick sand base are a substantial investment. Ideally, 1"- 1.5" of top dressing sand is ideal. A soils test will dictate prep of native soils (ripping, etc). Growing is ideal with a proper sand base on native. Underground drains are an option for consideration although not found in all installations.

Turf Selection – The primary type of grass used for quality multi-use and other sports fields is Tifway 419 Bermuda. This has been utilized in most of the public sports field projects in Arizona and is extremely resilient for field play. There are two primary applications for multi-use fields: *Stolons and Sod.*

Stolons have the following advantages and issues:

- They are considerably less expensive than sod. Approximately 20-25 percent of the cost of sod.
- When properly applied and allowed to grow in, they require less maintenance to provide a level, quality turf.
- The issues with Stolon application are that they must be applied no earlier than May 15 and no later than September 1. However, the window is ideal between May 15 and June 30. This window must be planned for in the project schedule. Additionally, they require a tremendous amount of water to when they are taking root so a water source must be available and plentiful during establishment.

Sod has the following advantages and issues:

- They can be planted at almost any time of the year and their application does not require the same amount of grow in time as Stolons.
- The issues are that they are expensive compared to Stolons. Additionally, because of the seams in the sod application, they can require more upfront installation effort to get an even, level playing surface.



William Field High School - Project completed by DTR

4. ADDITIONAL LANDSCAPE CONSIDERATIONS

- Turf separation from the splash pad is required to minimize the impact of the turf chemicals on the adjacent concrete associated with the splash pad.
- Landscape Lighting - due to the new lighting technology, colored lights near the water features are a great option. In-ground lighting for low voltage is the preferred.
- Preferred plant selections for both initial cost, long term aesthetics, and low maintenance in a park environment in the desert Southwest: Emu, red yucca, bottle brush little John (dwarf, very colorful), sage called silver bell (bloom year round with low maintenance), deer grass (different varieties), Nashville grass, Chuparosa. Native trees are always a great foundation. It is recommended that we avoid lantanas, green cloud Texas Ranger sages due to excess long-term maintenance.

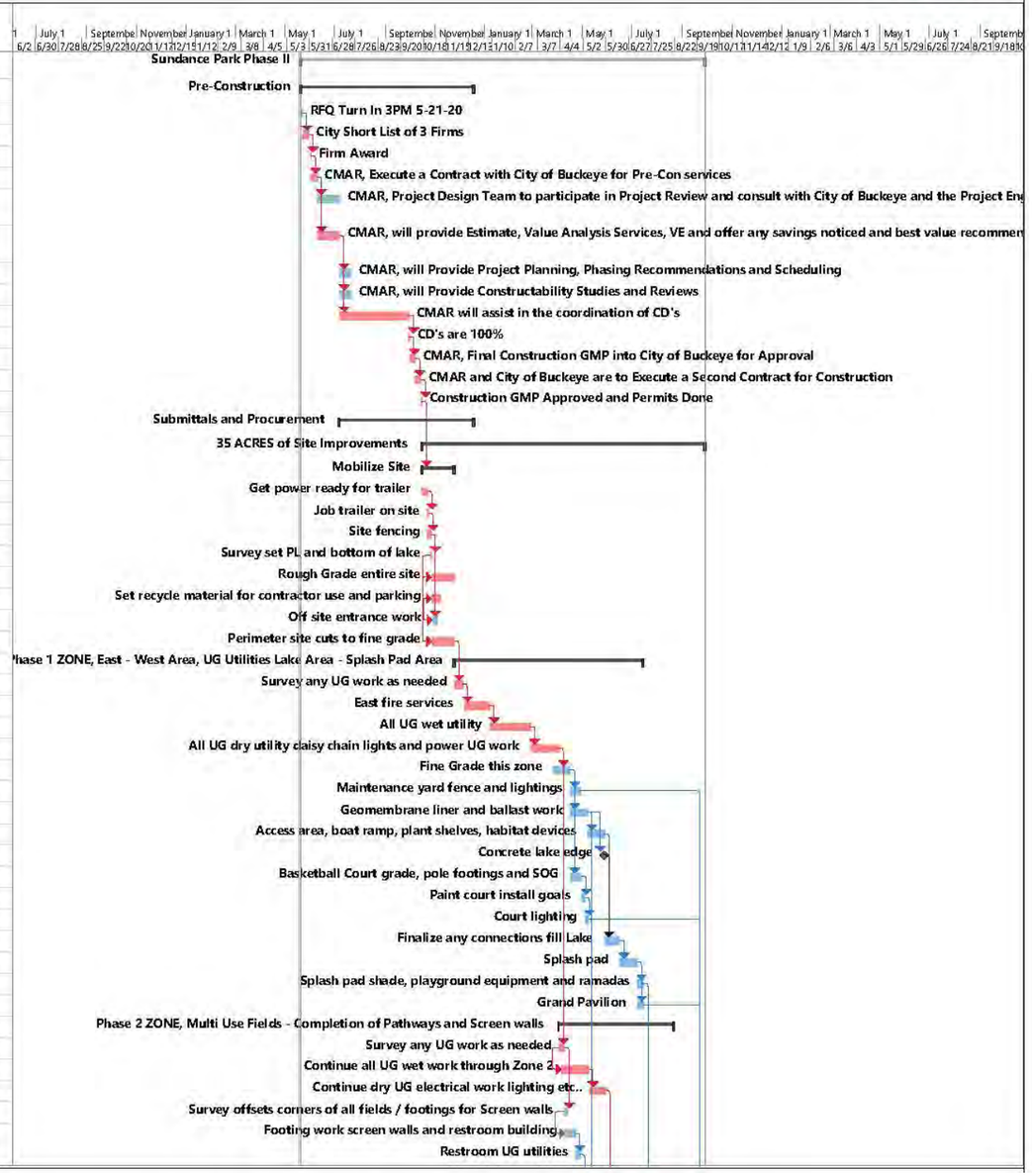
CPM Schedule

Willmeng
AZ ROC B-01 062904

Sundance Park Phase II

BUCKEYE, AZ

ID	Task Name	Duration	Start	Finish
0	**Sundance Park Phase II**	**344 days**	**Thu 5/21/20**	**Tue 9/28/21**
1	**Pre-Construction**	**148 days**	**Thu 5/21/20**	**Fri 12/18/20**
2	RFQ Turn In 3PM 5-21-20	1 day	Thu 5/21/20	Thu 5/21/20
3	City Short List of 3 Firms	5 days	Fri 5/22/20	Fri 5/29/20
4	Firm Award	1 day	Mon 6/1/20	Mon 6/1/20
5	CMAR, Execute a Contract with City of Buckeye for Pre-Con services	5 days	Tue 6/2/20	Mon 6/8/20
6	CMAR, Project Design Team to participate in Project Review and consult with City of Buckeye and the Project Eng. During project development	1 mon	Tue 6/9/20	Mon 7/6/20
7	CMAR, will provide Estimate, Value Analysis Services, VE and offer any savings noticed and best value recommendations	1 mon	Tue 6/9/20	Mon 7/6/20
8	CMAR, will Provide Project Planning, Phasing Recommendations and Scheduling	2 wks	Tue 7/7/20	Mon 7/20/20
9	CMAR, will Provide Constructability Studies and Reviews	2 wks	Tue 7/7/20	Mon 7/20/20
10	CMAR will assist in the coordination of CD's	3 mons	Tue 7/7/20	Tue 9/29/20
11	CD's are 100%	1 day	Wed 9/30/20	Wed 9/30/20
12	CMAR, Final Construction GMP into City of Buckeye for Approval	1 wk	Thu 10/1/20	Wed 10/7/20
13	CMAR and City of Buckeye are to Execute a Second Contract for Construction	1 wk	Thu 10/8/20	Wed 10/14/20
14	Construction GMP Approved and Permits Done	1 day	Thu 10/15/20	Thu 10/15/20
15	**Submittals and Procurement**	**116 days**	**Tue 7/7/20**	**Fri 12/18/20**
229	**35 ACRES of Site Improvements**	**240 days**	**Fri 10/16/20**	**Tue 9/28/21**
230	**Mobilize Site**	**28 days**	**Fri 10/16/20**	**Tue 11/24/20**
231	Get power ready for trailer	5 days	Fri 10/16/20	Thu 10/22/20
232	Job trailer on site	2 days	Thu 10/22/20	Fri 10/23/20
233	Site fencing	2 days	Fri 10/23/20	Mon 10/26/20
234	Survey set PL and bottom of lake	1 day	Tue 10/27/20	Tue 10/27/20
235	Rough Grade entire site	1 mon	Wed 10/28/20	Tue 11/24/20
236	Set recycle material for contractor use and parking	8 days	Wed 10/28/20	Fri 11/6/20
237	Off site entrance work	4 days	Thu 10/29/20	Tue 11/3/20
238	Perimeter site cuts to fine grade	20 days	Wed 10/28/20	Tue 11/24/20
239	**Phase 1 ZONE, East - West Area, UG Utilities Lake Area - Splash Pad Area**	**159 days**	**Wed 11/25/20**	**Wed 7/14/21**
240	Survey any UG work as needed	6 days	Wed 11/25/20	Fri 12/4/20
241	East fire services	20 days	Mon 12/7/20	Wed 1/6/21
242	All UG wet utility	35 days	Thu 1/7/21	Thu 2/25/21
243	All UG dry utility daisy chain lights and power UG work	25 days	Fri 2/26/21	Thu 4/1/21
244	Fine Grade this zone	15 days	Fri 3/26/21	Thu 4/15/21
245	Maintenance yard fence and lightings	8 days	Fri 4/16/21	Tue 4/27/21
246	Geomembrane liner and ballast work	15 days	Fri 4/16/21	Thu 5/6/21
247	Access area, boat ramp, plant shelves, habitat devices	15 days	Fri 5/7/21	Thu 5/27/21
248	Concrete lake edge	15 days	Fri 5/7/21	Thu 5/27/21
249	Basketball Court grade, pole footings and SOG	10 days	Fri 4/16/21	Thu 4/29/21
250	Paint court install goals	2 days	Fri 4/30/21	Mon 5/3/21
251	Court lighting	4 days	Tue 5/4/21	Fri 5/7/21
252	Finalize any connections fill Lake	12 days	Fri 5/28/21	Tue 6/15/21
253	Splash pad	15 days	Wed 6/16/21	Tue 7/6/21
254	Splash pad shade, playground equipment and ramadas	6 days	Wed 7/7/21	Wed 7/14/21
255	Grand Pavilion	6 days	Wed 7/7/21	Wed 7/14/21
256	**Phase 2 ZONE, Multi Use Fields - Completion of Pathways and Screen walls**	**100 days**	**Fri 4/2/21**	**Fri 8/20/21**
257	Survey any UG work as needed	5 days	Fri 4/2/21	Thu 4/8/21
258	Continue all UG wet work through Zone 2	25 days	Mon 4/5/21	Fri 5/7/21
259	Continue dry UG electrical work lighting etc..	15 days	Mon 5/10/21	Fri 5/28/21
260	Survey offsets corners of all fields / footings for Screen walls	2 days	Fri 4/9/21	Mon 4/12/21
261	Footing work screen walls and restroom building	9 days	Fri 4/9/21	Wed 4/21/21
262	Restroom UG utilities	4 days	Thu 4/22/21	Tue 4/27/21



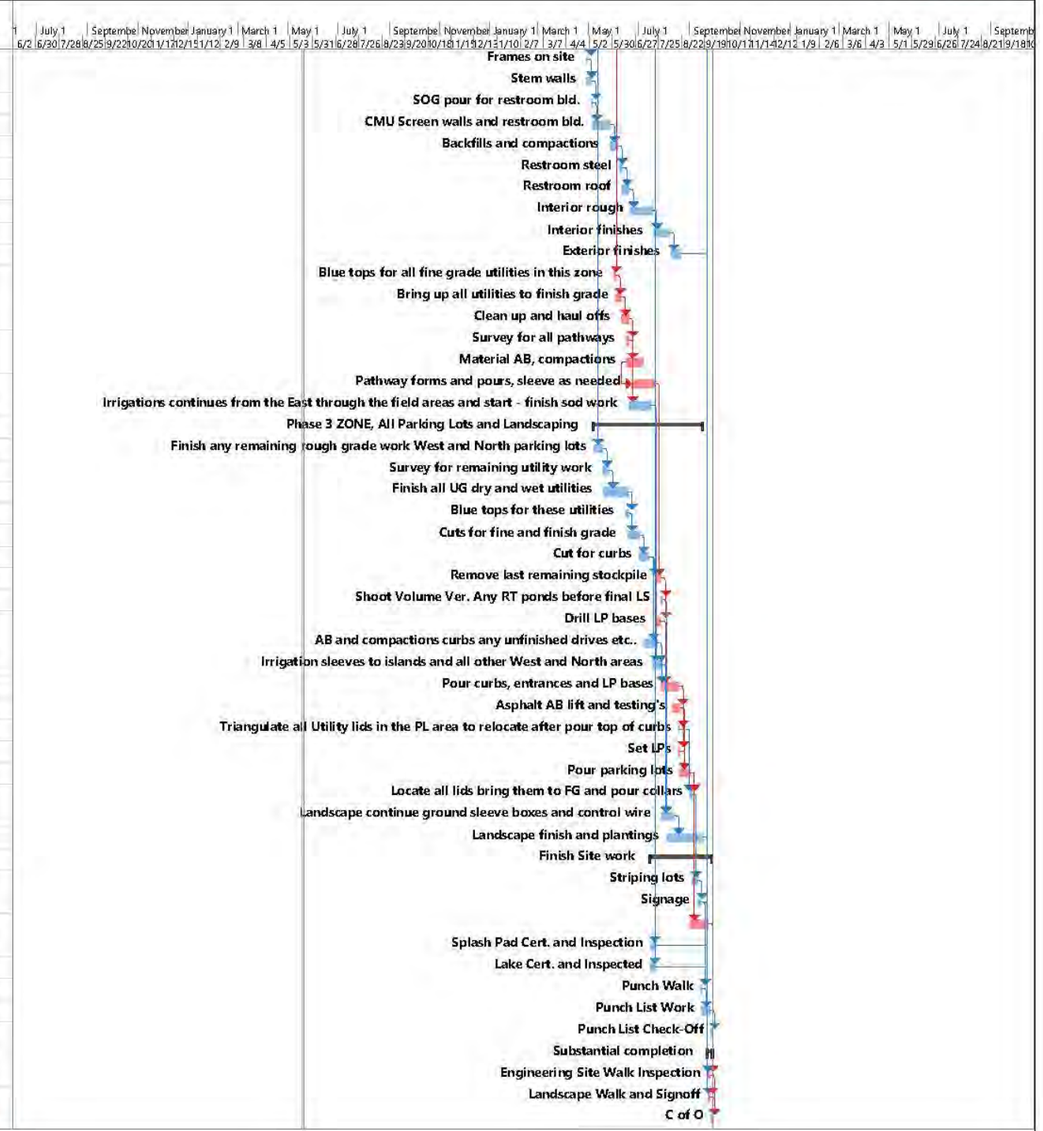
CPM Schedule

Willmeng
AZ ROC B-0J 062904

Sundance Park Phase II

BUCKEYE, AZ

ID	Task Name	Duration	Start	Finish
263	Frames on site	1 day	Wed 4/28/21	Wed 4/28/21
264	Stem walls	3 days	Thu 4/29/21	Mon 5/3/21
265	SOG pour for restroom bld.	1 day	Tue 5/4/21	Tue 5/4/21
266	CMU Screen walls and restroom bld.	16 days	Wed 5/5/21	Wed 5/26/21
267	Backfills and compactions	6 days	Thu 5/27/21	Fri 6/4/21
268	Restroom steel	4 days	Mon 6/7/21	Thu 6/10/21
269	Restroom roof	6 days	Fri 6/11/21	Fri 6/18/21
270	Interior rough	20 days	Mon 6/21/21	Fri 7/16/21
271	Interior finishes	15 days	Mon 7/19/21	Fri 8/6/21
272	Exterior finishes	10 days	Mon 8/9/21	Fri 8/20/21
273	Blue tops for all fine grade utilities in this zone	2 days	Tue 6/1/21	Wed 6/2/21
274	Bring up all utilities to finish grade	4 days	Thu 6/3/21	Tue 6/8/21
275	Clean up and haul offs	7 days	Wed 6/9/21	Thu 6/17/21
276	Survey for all pathways	3 days	Tue 6/15/21	Thu 6/17/21
277	Material AB, compactions	14 days	Wed 6/16/21	Mon 7/5/21
278	Pathway forms and pours, sleeve as needed	20 days	Tue 6/22/21	Mon 7/19/21
279	Irrigations continues from the East through the field areas and start - finish sod work	20 days	Fri 6/18/21	Thu 7/15/21
280	**Phase 3 ZONE, All Parking Lots and Landscaping**	**93 days**	**Fri 5/7/21**	**Thu 9/16/21**
281	Finish any remaining rough grade work West and North parking lots	7 days	Fri 5/7/21	Mon 5/17/21
282	Survey for remaining utility work	5 days	Tue 5/18/21	Mon 5/24/21
283	Finish all UG dry and wet utilities	20 days	Wed 5/19/21	Wed 6/16/21
284	Blue tops for these utilities	3 days	Mon 6/14/21	Wed 6/16/21
285	Cuts for fine and finish grade	10 days	Thu 6/17/21	Wed 6/30/21
286	Cut for curbs	8 days	Thu 7/1/21	Mon 7/12/21
287	Remove last remaining stockpile	6 days	Tue 7/20/21	Tue 7/27/21
288	Shoot Volume Ver. Any RT ponds before final LS	1 day	Wed 7/28/21	Wed 7/28/21
289	Drill LP bases	4 days	Thu 7/22/21	Tue 7/27/21
290	AB and compactions curbs any unfinished drives etc..	12 days	Wed 7/7/21	Thu 7/22/21
291	Irrigation sleeves to islands and all other West and North areas	7 days	Mon 7/19/21	Tue 7/27/21
292	Pour curbs, entrances and LP bases	15 days	Wed 7/28/21	Tue 8/17/21
293	Asphalt AB lift and testing's	7 days	Wed 8/11/21	Thu 8/19/21
294	Triangulate all Utility lids in the PL area to relocate after pour top of curbs	1 day	Wed 8/18/21	Wed 8/18/21
295	Set LPs	2 days	Wed 8/18/21	Thu 8/19/21
296	Pour parking lots	8 days	Fri 8/20/21	Tue 8/31/21
297	Locate all lids bring them to FG and pour collars	2 days	Wed 9/1/21	Thu 9/2/21
298	Landscape continue ground sleeve boxes and control wire	11 days	Thu 7/29/21	Thu 8/12/21
299	Landscape finish and plantings	32 days	Tue 8/3/21	Thu 9/16/21
300	**Finish Site work**	**52 days**	**Thu 7/15/21**	**Mon 9/27/21**
301	Striping lots	4 days	Fri 9/3/21	Thu 9/9/21
302	Signage	2 days	Fri 9/10/21	Mon 9/13/21
303	Remaining finish equipment/furniture: shades and ramadas, etc..	15 days	Wed 9/1/21	Wed 9/22/21
304	Splash Pad Cert. and Inspection	3 days	Thu 7/15/21	Mon 7/19/21
305	Lake Cert. and Inspected	3 days	Thu 7/15/21	Mon 7/19/21
306	Punch Walk	1 day	Tue 9/14/21	Tue 9/14/21
307	Punch List Work	8 days	Wed 9/15/21	Fri 9/24/21
308	Punch List Check-Off	1 day	Mon 9/27/21	Mon 9/27/21
309	**Substantial completion**	**4 days**	**Thu 9/23/21**	**Tue 9/28/21**
310	Engineering Site Walk Inspection	2 days	Thu 9/23/21	Fri 9/24/21
311	Landscape Walk and Signoff	2 days	Thu 9/23/21	Fri 9/24/21
312	***C of O***	2 days	Mon 9/27/21	***Tue 9/28/21***



APPENDIX

Amendment #1 Acknowledgement

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ# 2020006 – Construction Manager at Risk Sundance Park Phase II
AMENDMENT NUMBER 1
AMENDMENT ISSUE DATE: May 21, 2020, no later than 3:00 PM.

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Request for Qualifications, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company:	Willmeng Construction, Inc.
Authorized Signature:	
Print Name and Title:	James Murphy, CEO
Date:	4/27/20
Address:	2048 N. 44th Street, Suite 200
City, State, Zip Code:	Phoenix, AZ 85008
Telephone Number:	480-968-4755
Email Address:	jmurphy@willmeng.com

Amendment #2 Acknowledgement

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ# 2020006 – Construction Manager at Risk Sundance Park Phase II
AMENDMENT NUMBER 2
AMENDMENT ISSUE DATE: May 21, 2020, no later than 3:00 PM.

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Request for Qualifications, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company:	Willmeng Construction, Inc.
Authorized Signature:	
Print Name and Title:	James Murphy, CEO
Date:	5/11/20
Address:	2048 N. 44th Street, Suite 200
City, State, Zip Code:	Phoenix, AZ 85008
Telephone Number:	480-968-4755
Email Address:	jmurphy@willmeng.com

Amendment #3 Acknowledgement

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ# 2020006 – Construction Manager at Risk Sundance Park Phase II
AMENDMENT NUMBER 3
AMENDMENT ISSUE DATE: June 8, 2020, no later than 9:00 AM.

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Request for Qualifications, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company:	Willmeng Construction, Inc.
Authorized Signature:	
Print Name and Title:	James Murphy, CEO
Date:	5/18/20
Address:	2048 N. 44th Street, Suite 200
City, State, Zip Code:	Phoenix, AZ 85008
Telephone Number:	480-968-4755
Email Address:	James Murphy, CEO

Amendment #4 Acknowledgement

SOLICITATION AMENDMENT ACKNOWLEDGEMENT

RFQ# 2020006 – Construction Manager at Risk Sundance Park Phase II
AMENDMENT NUMBER 4
AMENDMENT ISSUE DATE: June 8, 2020, no later than 9:00 AM.

Offeror certifies that Offeror has read, understands, and will fully and faithfully comply with this Request for Qualifications, its attachments and any referenced documents. Offeror also certifies that this offer was independently developed without consultation with any of the other Offerors or potential Offerors.

Name of Company:	Willmeng Construction, Inc.
Authorized Signature:	
Print Name and Title:	James Murphy, CEO
Date:	5/26/20
Address:	2048 N. 44th Street, Suite 200
City, State, Zip Code:	Phoenix, AZ 85008
Telephone Number:	480-968-4755
Email Address:	jmurphy@willmeng.com

Teaming Agreement

TEAMING AGREEMENT

This TEAMING AGREEMENT (hereinafter, the "Agreement") is entered into by and between Willmeng Construction, (the "Prime Contractor") and DTR Landscape Development, LLC (the "Team Subcontractor"). The Contractor and Subcontractor are collectively referred to as the "Teaming Parties". This Teaming Agreement is entered into solely for the project described as follows (the "Project"):

Client: **City of Buckeye** /the "Client")
RFQ/Solicitation Number: **2020006** (the "Solicitation")
Project Description: **preconstruction and construction services for Sundance Park Phase II.**

RECITALS

WHEREAS, the Teaming Parties, have determined it is in their collective best interest to team together commencing with the submission of the proposal and continuing through award of the project, if successful, in order to perform the project generally described above;

WHEREAS, the Teaming Parties have determined that each party has unique expertise required to perform the preconstruction and construction services described in the Solicitation, and that this Teaming Agreement will enable each party to complement each other, thereby offering Client the optimum combination of capabilities to perform the construction in the most efficient and effective manner; and

WHEREAS, it is the purpose of this Agreement to set forth the agreements and understandings under which the Teaming Parties will work together to prepare and submit a proposal in response to the pending Solicitation and perform the subsequent construction if the proposal is successful.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and promises contained herein, which are hereby mutually acknowledged by each party hereto, the Teaming Parties agree as follows:

ARTICLE 1 - Prime/Subcontractor Roles. It is agreed that PRIME CONTRACTOR will be the Prime Contractor and that TEAM SUBCONTRACTOR will be a subcontractor proposed in the response to the Solicitation. PRIME CONTRACTOR will be responsible for and bear the cost of preparing and submitting a proposal responsive to the Solicitation. TEAM SUBCONTRACTOR will provide the documents and information described in Article 3 below. If awarded the Project, PRIME CONTRACTOR and TEAM SUBCONTRACTOR hereby agree to enter into a subcontract agreement for the work generally described in Article 3 below.

ARTICLE 2 - Allocation of Responsibility/Submission of Proposal. PRIME CONTRACTOR shall take principal charge of preparing and submitting the proposal when complete. TEAM SUBCONTRACTOR will assist PRIME CONTRACTOR in this effort by preparing and submitting for use in the proposal such pricing information, past performance and other qualification information, as it relates to the construction described in Article 3 below.

ARTICLE 3 – Scope of Effort/Construction. If PRIME CONTRACTOR is awarded the Project, TEAM SUBCONTRACTOR will be responsible for the scope of work generally described below.

Installation of landscape and irrigation

PRIME CONTRACTOR will be relying upon TEAM SUBCONTRACTOR's expertise to perform the construction (including but not limited to the provision of labor, material, and equipment) in a professional and workmanlike manner so as to achieve the intended Project outcomes. TEAM SUBCONTRACTOR will furnish cost and pricing

1

Teaming Agreement

information to PRIME CONTRACTOR throughout the preconstruction phase for the express purpose of assisting PRIME CONTRACTOR develop and submit a Guaranteed Maximum Price Proposal to the Client. The selection of subcontractors (including those subtier contractors working under TEAM SUBCONTRACTOR) will be in accordance with the subcontractor selection procedures set forth in Title 34, Chapter 6 of the Arizona Revised Statutes.

ARTICLE 4 – Exclusivity. For good and valuable consideration, the sufficiency of which is hereby acknowledged by the Teaming Parties, TEAM SUBCONTRACTOR hereby agrees not to enter into a Teaming Agreement or lend its past experience or qualifications to another prime contractor to use in another proposal submitted for award of the Project. Notwithstanding anything herein to the contrary, it is understood and acknowledged that nothing contained herein shall be construed to restrict the TEAM SUBCONTRACTOR from quoting (e.g., pricing the work through submission of a bid) the work described above to other prime contractors in connection with the Project, even though such work may be included in the proposal submitted to and used by PRIME CONTRACTOR.

ARTICLE 5 - Form of Agreement. This Agreement does not constitute a partnership, joint venture, or any other form of business association. The relationship between Teaming Parties shall be that of a prime contractor/subcontractor arrangement. The TEAM SUBCONTRACTOR agrees to comply with all prime contract flow down requirements and to be bound to PRIME CONTRACTOR to the extent that PRIME CONTRACTOR is bound to the Client. The PRIME CONTRACTOR is not an agent of TEAM SUBCONTRACTOR. The TEAM SUBCONTRACTOR will be a limited agent of the PRIME CONTRACTOR if expressly provided in writing or by this Agreement, only as it relates to the construction contemplated in this Teaming Agreement. It is not the intent of this agreement that proposal costs incurred by PRIME CONTRACTOR or TEAM SUBCONTRACTOR either during the procurement or after a Contract is awarded will be shared by PRIME CONTRACTOR or TEAM SUBCONTRACTOR.

ARTICLE 6 - Proprietary Information. Unless otherwise agreed, the Teaming Parties shall maintain information acquired from the other, from the Client, or prepared under this Agreement in confidence; provided however, that said obligation of confidentiality should not apply to information that is:

1) already in the public domain,
2) learned from a third party not in breach of any confidentiality obligation,
3) already known without restriction by the party receiving it at the time of disclosure, or
4) required by applicable law or ordered by court to be disclosed.

Other than a limited right of use consistent with accomplishing the intent and purposes of this Agreement, no right or license to the other under any trademark, trade secret, patent, or copyright is either granted or implied by the transmittal of any proprietary matter to either Teaming Party.

This Agreement shall not preclude any party from making disclosures of proprietary matters to Client as part of the proposal; provided, however, that any such matters disclosed or delivered to Client shall be appropriately marked with restrictive materials in accordance with applicable Client requirements. It is further understood that either Teaming Party, upon notifying the others, may disclose to any of its subsidiaries, in connection with the effort contemplated by this Agreement, any matter made available by the disclosing other party under this Agreement, provided that each subsidiary, prior to such disclosure shall have to agree to be bound by the provisions of this Article.

ARTICLE 7 - Confidentiality. It is the intent of the Teaming Parties to hold this Agreement and the collaboration contemplated hereby in strict confidence, except for disclosure to the Client as part of the submittal of the Proposal.

ARTICLE 8 - Term and Termination. All rights and obligations of the Teaming Parties under this Agreement shall terminate upon the occurrence of any of the following:

1) Failure of the Client to award the project to PRIME CONTRACTOR;

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Teaming Agreement

2) Refusal of Client to approve TEAM SUBCONTRACTOR for the portion of the construction described in Article 3 above, notwithstanding PRIME CONTRACTOR's efforts to secure such approval;
3) If awarded the Project, upon the execution of the subcontract agreement by PRIME CONTRACTOR and TEAM SUBCONTRACTOR;
4) Insolvency or Bankruptcy of either Party; or
5) Material breach by either party of this Agreement.

ARTICLE 9 - Assignment. Neither party hereto shall assign its interests, duties or obligations hereunder in full or in part without the prior written consent of the other party.

ARTICLE 10 - Governing Law. This Agreement shall be governed in accordance with the laws of the State of Arizona.

ARTICLE 11 - Disputes. In the event a dispute arises concerning a question of fact applicable to this Teaming Agreement, the disputed item shall be reduced to writing and submitted to the other party hereto. The representatives shall work together to resolve disputes. As to any dispute or controversy between the parties arising out of this Agreement which cannot be resolved by good faith negotiation involving senior management of the parties, it shall be submitted to non-binding mediation in accordance with the Construction Industry Rules of the American Arbitration Association.

ARTICLE 12 - Integrated Writing. This Agreement constitutes the entire agreement of the parties, and no representations, warranties, or inducements have been made by either party except as set forth herein.

ARTICLE 13 – Severability. If any of the provisions of this Agreement shall be found to be invalid, unenforceable or contrary to the law the provision(s) should be stricken from this Agreement and the remaining provisions of this Agreement shall not be affected or impaired thereby.

ARTICLE 14 – Counterpart. This Agreement may be executed in one or more counterparts, but all such counterparts taken together will constitute one and the same Agreement.

PRIME CONTRACTOR AND TEAM SUBCONTRACTOR ACKNOWLEDGE that there has been an opportunity to negotiate the terms and conditions of this Agreement and agree to be bound accordingly.

PRIME CONTRACTOR	**TEAM SUBCONTRACTOR**
Willmeng Construction, Inc. an Arizona Corporation	**DTR Landscape Development, LLC**
By: _____	By: William P. Lahrt
Its: President, CEO	Its: President
Date: 6/8/20	Date: 6-05-2020

3

Safety Document Samples

Willmeng
AZ ROC B-01 082904

Inspection

Willmeng Construction, Inc.
2048 N. 44th Street, Ste. 200
Phoenix, Arizona 85008
Phone: (480) 968-4755
Fax: (480) 404-6780

Project: 3064 - Landing 202
7958 & 8048 East Ray Road
Mesa, Arizona 85212

JB/JD Site Safety Inspection Report #9

90/90	48	1	41	0
Items Inspected	Safe	At Risk	N/A	Neutral

TYPE:	Safety	**STATUS:**	Open
TRADE:	Const. Manager	**LOCATION:**	Landing 202
SPEC SECTION:		**LINKED DRAWINGS:**	
DESCRIPTION:			
ATTACHMENTS:			

INSPECTION DETAILS

INSPECTION DATE:	5/7/2020	**DUE DATE:**	
ASSIGNEE:	Jonathan Desch	**RESPONSIBLE CONTRACTOR:**	Willmeng Construction, Inc.
POINT OF CONTACT:	Jonathan Desch		

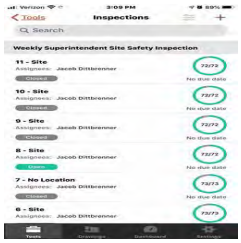
Administrative		
1.1	Does the project have a Site Specific Safety Plan? Details:	**Not Inspected**
Activity: 3 Response Changes, 0 Attachments, 0 Photos, 0 Comments, 0 Observations		
	Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:14 PM MST*	
	Jonathan Desch responded with Not Applicable on *May 7th, 2020 at 03:14 PM MST*	
	Jonathan Desch responded with Yes on *May 7th, 2020 at 03:14 PM MST*	
1.2	Is the project conducting Pre-Construction Meetings? Details:	**Not Inspected**
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation		
	Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:14 PM MST*	
1.3	Are weekly superintendent safety inspections conducted? Details:	**Yes**
Activity: 1 Response Change, 0 Attachments, 1 Photos, 0 Comments, 0 Observation		

Safety Document Samples

Willmeng
AZ ROC B-01 082904

Inspection

Jonathan Desch added 1 photo via mobile on *May 8th, 2020* at *07:42 AM MST*



1588948957892.929199_tempImage.jpeg

Jonathan Desch responded with Yes on *May 7th, 2020 at 03:14 PM MST*

1.4	Are subcontractor Site Safety Plans, Fall Protection Plans, SDS and COVID-19 Prevention Plans uploaded to Procore? Details:	**Not Inspected**

Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation

Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:15 PM MST*

1.5	Are subcontractors submitting weekly toolbox talks? Details: Upload all tool box talks to Procore	**Yes**

Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation

Jonathan Desch responded with Yes on *May 7th, 2020 at 03:15 PM MST*

1.6	Current OSHA posters onsite? Details:	**Not Inspected**

Activity: 2 Response Changes, 0 Attachments, 0 Photos, 0 Comments, 0 Observations

Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:15 PM MST*

Jonathan Desch responded with Not Applicable on *May 7th, 2020 at 03:15 PM MST*

1.7	Does the site have a First Aid Kit, Fire Extinguishers, A-Frame and safety signage available? Details:	**Yes**

Activity: 1 Response Change, 0 Attachments, 0 Photos, 1 Comment, 0 Observation

Jonathan Desch left a comment on *May 8th, 2020 at 07:43 AM MST*
First aid kit is located inside the trailer and fire extinguishers are in various locations around the jobsite

Jonathan Desch responded with Yes on *May 7th, 2020 at 03:15 PM MST*

1.8	Are emergency contacts and route to nearest medical facility posted? Details:	**Not Inspected**

Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation

Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:16 PM MST*

Safety Document Samples

Willmeng
AZ ROC B-01 082904

Inspection

1.9	Has the generator powering the job-site trailer been placed at a safe distance from the intake for the air handler system? Details:	**Not Inspected**
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation		
	Jonathan Desch responded with Not Inspected on *May 7th, 2020 at 03:16 PM MST*	
1.10	Have all Willmeng temporary laborers been safety oriented and provided correct PPE? Details:	**Yes**
Activity: 1 Response Change, 0 Attachments, 0 Photos, 1 Comment, 0 Observation		
	Jonathan Desch left a comment on *May 8th, 2020 at 07:44 AM MST* Jake confirmed that temporary labor hands onsite have received a site orientation prior to the start of work	
	Jonathan Desch responded with Yes on *May 7th, 2020 at 03:16 PM MST*	
1.11	Egress map as needed Details: If you are in a high rise, what is the egress, where do meet to get a head count	☑ Safe ☐ At Risk ☐ N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation		
	Jonathan Desch responded with Safe on *May 7th, 2020 at 03:16 PM MST*	
1.12	Pre Construction Safety Meeting Details:	☑ Safe ☐ At Risk ☐ N/A
Activity: 1 Response Change, 0 Attachments, 0 Photos, 0 Comments, 0 Observation		
	Jonathan Desch responded with Safe on *May 7th, 2020 at 03:16 PM MST*	

Summary:	6 Safe	0 At Risk	6 N/A	0 Neutral

General Site Conditions

2.1	Site materials stacked/stored accordingly? Details:	**Yes**
Activity: 1 Response Change, 0 Attachments, 1 Photos, 0 Comments, 0 Observation		
	Jonathan Desch added 1 photo via mobile on *May 8th, 2020* at *07:45 AM MST*	



1588949146339.520996_tempImage.jpeg

EXHIBIT B
TO
CM@RISK SUNDANCE PARK PHASE II
CONSTRUCTION SERVICES CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
WILLMENG CONSTRUCTION, INC.

GMP FEE SCHEDULE
[SEE FOLLOWING PAGES]

For the City of Buckeye Sundance Park – Phase II project, Willmeng|DTR's proposed cost for preconstruction services is $74,171. This cost contemplates a preconstruction duration of approximately 39 weeks, intending to span the duration of design development, construction documents, and the establishment of two guaranteed maximum price agreements. This duration is based on the attached schedule received from Marc Taylor Inc., dated July 9, 2020.

The anticipated construction scope for this initial phase includes:

- Rough grading a majority of the site, including the creation of appropriate water retention
- Fine grading portions of the site
- Construction of a new lake, approximately 3.5 acres
- Installation of critical infrastructure for a new splash pad (splash pad itself to be part of a subsequent phase of work)

Our preconstruction effort to support these activities will entail the services described below.

Phase 1: Initial Pricing Validation

As Willmeng|DTR engages in the project, the goal of this phase will be to develop an accurate and reliable cost model. Activities performed in this phase include:

- Review design documents completed to date for the program.
- Conduct site visits to gain understanding of existing site conditions and constraints.
- Meet with representatives from the City of Buckeye to gain understanding of expectations for site safety and quality.
- Conduct meetings with design and engineering teams to gain complete understanding of program requirements and design intent.
- Engage Ancon and Play it Safe in a consultant capacity for design-assist efforts regarding splash pad infrastructure and lake design.
- Begin trade contractor pre-qualification.
- Engage critical trade contractors for cost, value, and constructability feedback.
- Develop baseline estimate.
- Develop baseline schedule, assuring the anticipated design schedule aligns with the construction schedule.

We anticipate this phase to last approximately 4 weeks.

Phase 2: Design Development / Options Analysis / 60% submittal effort

During the Design Development phase, our team will not only update pricing, but will also provide a range of support services such as options analysis and construction planning. The goal of this phase is to maintain the balance among program requirements, design intent, budget, and schedule. Services in this phase include:

- In consultation with design team, develop system-level options to be evaluated by the team.
- Validation that design schedule aligns with construction schedule.
- Identify and develop plan for long-lead procurement requirements.
- Conduct constructability review(s) as appropriate with design schedule.
- Begin developing trade-specific scopes of work in anticipation of procurement.
- Meet with critical trade contractors to take "deep dive" into pricing.
- Guide team in decision-making based on options analysis and constructability reviews.
- Refine construction schedule and sequencing/phasing plan.
- Complete trade contractor pre-qualification.

We anticipate this phase to last approximately 6 weeks.

Phase 3: GMP #1 – Earthwork / Utilities / Lake

Upon completion of the 60% design submittal, the team will develop a guaranteed maximum price for earthwork, utility infrastructure, and the lake. Services in this phase include:

- Finalize earthwork, utility, and lake pricing.
- Procure necessary trades to execute the work as part of GMP #1.
- Finalize construction schedule for earthwork, utility, and lake work.
- Prepare necessary subcontracts.
- Validate site logistics planning.
- Establish construction milestones to determine when contingencies and allowances may be released back to the project.
- Establish web-based project management system to make all relevant project information available to team in real time.

We anticipate this phase to last approximately 5 weeks.

Phase 4: Complete Construction Docs / Constructability Review

This stage of preconstruction is focused on developing the balance of construction documents, with the end result being a full permitted set. Our team will finalize plans for construction and solicit final trade contractor pricing. Activities in this phase will entail:

- Monitor documentation to assure the anticipated scope is consistent with decisions made during team meetings and discussions.
- Evaluate options that add value to the project.
- Conduct constructability review(s) as appropriate with design schedule.
- Refine construction schedule for the balance of the work.
- Establish project close-out plan.

We anticipate this phase to last approximately 17 weeks.

Phase 5: GMP #2 – Balance of the work

This final stage of preconstruction is focused on delivering a guaranteed maximum price on a full set of construction documents. The scope of GMP #2 will include the balance of the work including the installation of the splash pad, landscaping, irrigation, and other park features not included in GMP #1. Activities in this phase will entail:

- Review documentation to assure that decisions made during design development are fully incorporated into construction documents.
- Trade contractor pricing and procurement.
- Develop the Guaranteed Maximum Price (GMP), and recommend options as required to meet the budget.
- Finalize construction schedule.

We anticipate this phase to last approximately 6 weeks.

Meeting Attendance: In preparing our preconstruction services proposal, we have contemplated the following meeting schedule, which totals 18 hours of team meetings during the preconstruction phase. Our preconstruction services cost takes into account additional meetings as reasonably required.

Design & Preconstruction Kickoff Meeting

- Frequency: One meeting at beginning of preconstruction effort
- Duration: 2 hours
- Purpose:
  - Introduce project stakeholders
  - Establish team roles and responsibilities
  - Establish project goals and criteria for success
  - Discuss major anticipated risks
  - Establish work breakdown structure and estimate format
  - Align expectations for design & preconstruction services
  - Establish overall program requirements

Owner / Architect / Contractor (OAC) Meetings

- Frequency: Every other week, transitioning to weekly if required (anticipate 16 meetings)
- Duration: 90 minutes
- Purpose:
  - Stakeholder coordination and alignment
  - Design and pricing progress
  - Review and update schedule
  - Discuss design and engineering options
  - Track and resolve pending action items
  - Project planning
  - Develop quality expectations
  - Risk mitigation strategies

Design Presentation Meetings (60% and 90% submittals)

- The intent is to combine these two meetings with the OAC meetings. Account for an additional two hours.
- Purpose:
  - Present design packages
  - Assure design expectations are achieved
  - Develop scope understanding
  - Develop options
  - Identify coordination issues

Cost Review and Reconciliation Meetings (GMP #1 and GMP #2)

- The intent is to combine these two meetings with the OAC meetings. Account for an additional two hours.
- Purpose:
  - Present pricing based on major design packages
  - Present cost of various options to facilitate decision-making
  - Assure program requirements, design intent, cost, and schedule remain aligned
  - Provide comments on technical and constructability reviews

Clarifications and Assumptions

1. The following scope items are assumed to be carried by the City of Buckeye and are therefore not considered as part of this proposal for preconstruction services:

    a. Design and engineering contracts
    b. Geotechnical exploration
    c. Hazardous material surveys
    d. All permitting
    e. Materials testing
    f. Third party inspections
    g. Utility surveying (i.e., Blue Stake)
    h. LEED consulting
    i. Third party commissioning consulting

2. Throughout the preconstruction process, Willmeng|DTR will provide estimates as design progresses. These estimates will contain contingencies and allowances for scope that is unclear, undefined, or unknown. As design information progresses, it is anticipated that contingencies and allowances will decrease. However, we also anticipate that it will be appropriate to carry some contingencies and allowances within the GMP's, given the nature of the scope of work. As is often the case with large earthwork packages, unforeseen conditions frequently exist due to the presence of subsurface obstructions that could not be reasonable foreseen based on geotechnical information.

    When the GMP's are established, we will agree upon specific construction milestones at which unused contingency or allowances may be released back to the project to be used at the City of Buckeye's discretion.

Preconstruction Estimate: City of Buckeye Sundance Park Phase II
July 14, 2020

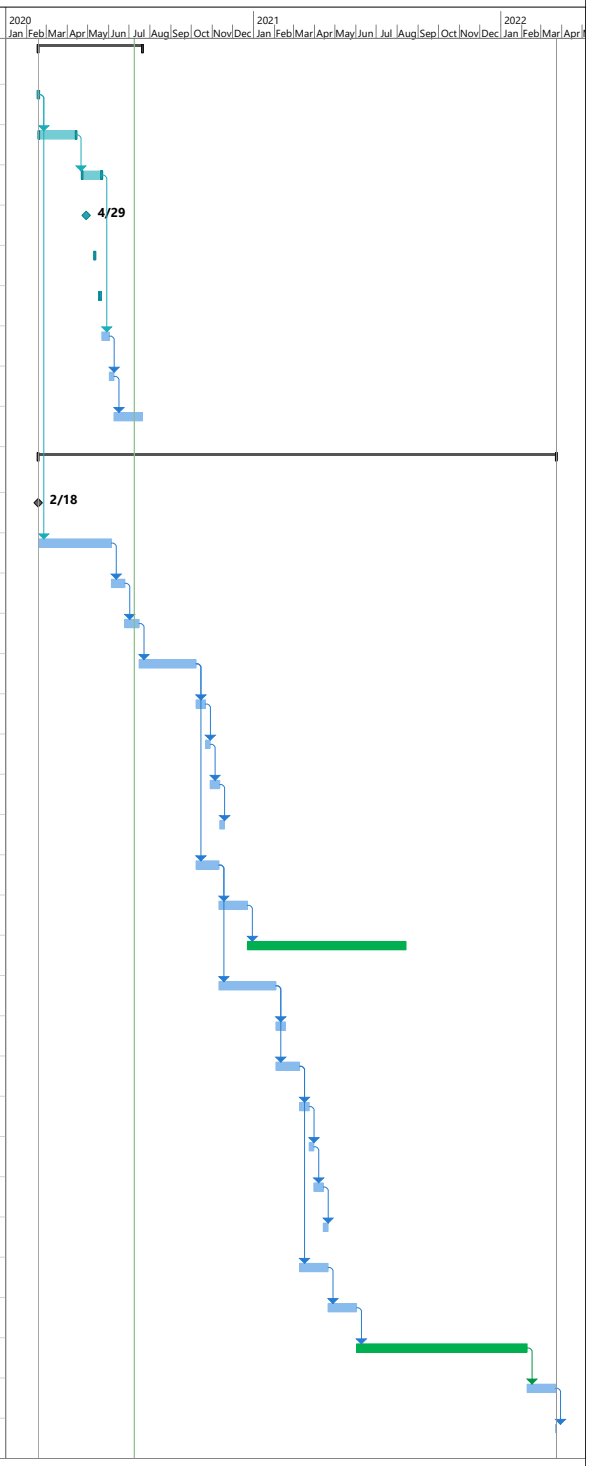
		Initial cost validation / 60% Construction Docs										GMP #1					90% Construction Docs														100% Construction Docs					GMP #2													60% CD	GMP #1	CD's	GMP #2
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39								
Month	Hours from Time Tracking	8/1/2020	8/8/2020	8/15/2020	8/22/2020	8/29/2020	9/5/2020	9/12/2020	9/19/2020	9/26/2020	10/3/2020	10/10/2020	10/17/2020	10/24/2020	10/31/2020	11/7/2020	11/14/2020	11/21/2020	11/28/2020	12/5/2020	12/12/2020	12/19/2020	12/26/2020	1/2/2021	1/9/2021	1/16/2021	1/23/2021	1/30/2021	2/6/2021	2/13/2021	2/20/2021	2/27/2021	3/6/2021	3/13/2021	3/20/2021	3/27/2021	4/3/2021	4/10/2021	4/17/2021	4/24/2021	Total Hours	Hourly Rate	Total Value	Phase Value	Phase Value	Phase Value	Phase Value
Operations																																																
CEO		5%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%	0%	0%	0%	5%	5%							
James Murphy		2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	16.0	136.13	**$2,178**	$545	$272	$817	$545
COO		5%	0%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%	5%	10%	10%	5%	0%	5%	0%	5%	0%	5%	0%	5%	0%	5%	0%	5%	0%	5%	0%	5%	0%	0%	5%	5%	10%	10%	10%								
Cody Phelan		2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	4.0	4.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	4.0	4.0	4.0	50.0	131.26	**$6,563**	$788	$1,313	$2,363	$2,100
Project Manager		0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	5%	5%	5%	10%	20%	5%	0%	0%	0%	0%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	10%	10%	10%	20%	20%								
Chris Coffer		0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	2.0	2.0	2.0	4.0	8.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0	4.0	4.0	8.0	8.0	64.0	117.56	**$7,524**	$470	$2,116	$705	$4,232
Superintendent		0%	0%	0%	0%	0%	5%	0%	5%	0%	0%	0%	0%	0%	0%	10%	0%	0%	0%	0%	0%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	10%	10%								
Keith Dumais		0.0	0.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0	4.0	28.0	107.75	**$3,017**	$431	$431	$431	$1,724
Administrative Assistant		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%								
Melissa Boyd		0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	10.0	100.0	68.57	**$6,857**	$1,371	$686	$3,428	$1,371
Preconstruction																																															
Preconstruction Director		5%	0%	5%	0%	0%	0%	5%	0%	5%	0%	5%	0%	0%	10%	15%	5%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%	5%	5%	0%	5%	0%	10%	5%	5%	0%	0%	10%	10%	10%								
Keyvan Ghahreman		2.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	4.0	6.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	2.0	0.0	2.0	0.0	4.0	2.0	2.0	0.0	0.0	4.0	4.0	4.0	52.0	127.35	**$6,622**	$1,019	$1,528	$2,038	$2,038
Chief Estimator		5%	0%	0%	0%	5%	0%	0%	0%	5%	0%	5%	10%	20%	30%	30%	15%	10%	5%	0%	0%	5%	0%	0%	0%	5%	0%	0%	0%	5%	0%	0%	5%	10%	10%	10%	10%	20%	30%	30%								
Isam Ghandour		2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	2.0	4.0	8.0	12.0	12.0	6.0	4.0	2.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	2.0	0.0	0.0	2.0	4.0	4.0	4.0	4.0	8.0	12.0	12.0	112.0	131.26	**$14,701**	$788	$4,988	$2,625	$6,301
Estimator		0%	0%	0%	0%	0%	0%	0%	0%	0%	5%	10%	10%	20%	20%	20%	0%	0%	0%	0%	0%	5%	5%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	10%	10%	10%	20%	20%	30%	30%								
TBD		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	4.0	4.0	8.0	8.0	8.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	4.0	4.0	8.0	8.0	12.0	12.0	92.0	78.36	**$7,209**	$157	$2,507	$470	$4,075
BIM Services		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%								
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		**$0**	$0	$0	$0	$0
PRECONSTRUCTION SALARIES																																										**$54,671**	$5,568	$13,841	$12,877	$22,385
REIMBURSABLES																																									Months	$					
DTR Landscape																																										**$10,000**	$3,000	$1,000	$4,000	$2,000
Ancon (Lake)																																										**$4,000**	$3,000	$1,000		
Play It Safe (Splash Pad)																																										**$2,500**	$2,000	$500		
Preconstruction Travel		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	In rates		**$0**	$0	$0	$0	$0
Preconstruction Meals and Entertainment		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			**$0**	$0	$0	$0	$0
Preconstruction Phone		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	In rates		**$0**	$0	$0	$0	$0
Preconstruction Copies		0	0	0	0	0	0	0	0	0	250	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	250	0	0	0	0	250	0	0	0	0	0	0	150			**$1,000**	$250	$100	$500	$150
Preconstruction Drawings		0	0	0	0	0	0	0	0	0	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	750	0	0	0	0	750	0	0	0	0	0	0	0			**$2,000**	$500	$0	$1,500	$0
TOTAL REIMBURSABLES																																										**$19,500**	$8,750	$2,600	$6,000	$2,150
TOTAL PRECON																																										**$74,171**	$14,318	$16,441	$18,877	$24,535

EXHIBIT C
TO
CM@RISK SUNDANCE PARK PHASE II
CONSTRUCTION SERVICES CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
WILLMENG CONSTRUCTION, INC.

SCHEDULE
[SEE FOLLOWING PAGES]

Sundance Park Phase 2 - With Early Release Package

ID	Task Name	Duration	Start	Finish
1	**Preliminary Procurement Schedule**	**110 days**	**Tue 2/18/20**	**Mon 7/20/20**
2	Design NTP	1 day	Tue 2/18/20	Tue 2/18/20
3	Prepare Issue CMAR RFQ	39 days	Wed 2/19/20	Mon 4/13/20
4	Advertise for CMAR RFQ	21 days	Thu 4/23/20	Thu 5/21/20
5	RFQ Meeting Online	0 days	Wed 4/29/20	Wed 4/29/20
6	Questions by CMAR on RFQ 1:00	1 day	Mon 5/11/20	Mon 5/11/20
7	City Responses to Questions Asked by CMAR	1 day	Tue 5/19/20	Tue 5/19/20
8	Short List CMAR Respondents	7 days	Fri 5/22/20	Mon 6/1/20
9	Interview and Select	5 days	Tue 6/2/20	Mon 6/8/20
10	Execute Preconstruction Contract with CMAR	30 days	Tue 6/9/20	Mon 7/20/20
11	**Preliminary Milestone Schedule**	**547 days**	**Tue 2/18/20**	**Wed 3/23/22**
12	Drainage Report Study (Schedule Pending City Approval of J2 Fee)	0 days	Tue 2/18/20	Tue 2/18/20
13	J2 30% Schematic Design Task 100	77 days	Wed 2/19/20	Thu 6/4/20
14	30% Cost Estimating and Reconcilliation	14 days	Fri 6/5/20	Wed 6/24/20
15	COB Approval of SD Package & GMP 1 Approach	15 days	Thu 6/25/20	Wed 7/15/20
16	J2 60% Design Development Task 200 with 100% GMP 1 (Lake Option)	60 days	Thu 7/16/20	Wed 10/7/20
17	Submit COB for GMP 1 Permit First Review	10 days	Thu 10/8/20	Wed 10/21/20
18	J2 Respond to GMP 1 Comments	5 days	Thu 10/22/20	Wed 10/28/20
19	Submit COB for GMP 1 Permit Second Review	10 days	Thu 10/29/20	Wed 11/11/20
20	J2 Respond to GMP 1 Comments	5 days	Thu 11/12/20	Wed 11/18/20
21	CMAR 60% Cost Estimate with 100% GMP 1 (Lake Option)	24 days	Thu 10/8/20	Tue 11/10/20
22	COB Approval of DD Estimate - GMP 1 (Lake Option) Council Approval	30 days	Wed 11/11/20	Tue 12/22/20
23	Construction NTP GMP 1 (Lake Option)	168 days	Wed 12/23/20	Fri 8/13/21
24	J2 90% GMP 2 CD Design Task 300	60 days	Wed 11/11/20	Tue 2/2/21
25	COB Approval of GMP 2 90% CD	10 days	Wed 2/3/21	Tue 2/16/21
26	J2 100% GMP 2 CD Design Task 400	25 days	Wed 2/3/21	Tue 3/9/21
27	Submit COB for GMP 2 Permit First Review	10 days	Wed 3/10/21	Tue 3/23/21
28	J2 Respond to Comments	5 days	Wed 3/24/21	Tue 3/30/21
29	Submit COB for GMP 2 Permit Second Review	10 days	Wed 3/31/21	Tue 4/13/21
30	J2 Respond to Comments	5 days	Wed 4/14/21	Tue 4/20/21
31	CMAR 100 % Balance GMP 2	30 days	Wed 3/10/21	Tue 4/20/21
32	COB Approval of GMP 2 (Balance) Council Approval	30 days	Wed 4/21/21	Tue 6/1/21
33	Construction NTP GMP 2 Balance	180 days	Wed 6/2/21	Tue 2/8/22
34	Punch List / TCO	30 days	Wed 2/9/22	Tue 3/22/22
35	Grand Opening	1 day	Wed 3/23/22	Wed 3/23/22



Schedule With Early Release 7.09.20 (Lake Option)
Thu 7/9/20

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.E. City of Buckeye Airport Specific Area Plan
DATE PREPARED: 02/24/22	**DISTRICT NO.:** ALL
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Development Services	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on the Professional Service Agreement (Contract No. 2022017) between the City of Buckeye, an Arizona municipal corporation, and Matrix Design Group, Inc., a Colorado corporation, to provide a Buckeye Airport Comprehensive Specific Area Plan; and authorizing the Mayor to execute and deliver said Agreement on behalf of the City.

RELEVANT GOALS:
GOAL 3: A Well-Planned Urban Community

SUMMARY

PROJECT DESCRIPTION:
The City of Buckeye is seeking professional planning services to provide a Buckeye Airport Comprehensive Specific Area Plan. The Request for Qualifications (RFQ) was issued on Monday, October 4, 2021. A pre-submittal conference was held on October 18, 2021. After a review of the statement of qualifications, an evaluation team of five determined that Matrix Design Group, Inc. was responsive and responsible and it is recommended they be awarded this Agreement. Not to exceed $200,000.00.

BENEFITS:
Allow the City to maintain a well-planned urban community.

FUTURE ACTION:
The Construction and Contracting staff will issue a purchase order to encumber funds.

FINANCIAL IMPACT STATEMENT:
10005180-520037 - Professional Services General

CURRENT FISCAL YEAR TOTAL COST:
$200,000.00

BUDGETED:
Yes

FISCAL YEAR:
2021/2022

FUND/DEPARTMENT:
10005180-520037

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:

RFQ 2022017 COB Airport Specific Plan.pdf
Matrix Design Group, Inc..pdf

CITY OF BUCKEYE

REQUEST FOR QUALIFICATIONS
RFQ: 2022017

CITY OF BUCKEYE- AIRPORT SPECIFIC AREA PLAN

CONTACT PERSON
Tyra R. Bell
Purchasing Supervisor
623.349.6171
TBell@buckeyeaz.gov

Date Issued:	**October 4, 2021**
Pre-Submittal Conference:	**October 18, 2021 at 2:30 PM**
Last Day for Inquires:	**November 1, 2021 at 5:00 PM**
RFQ Due Date:	**November 22, 2021 at 2:00 PM**

PLEASE NOTE: IF DOCUMENTS WERE DOWNLOADED FROM THE CITY OF BUCKEYE WEBSITE, BIDDER IS RESPONSIBLE FOR OBTAINING ANY AMENDMENTS EITHER THROUGH UPDATES ON THE WEBSITE, OR BY CONTACTING THE CITY CONTACT PERSON LISTED ABOVE.

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ATTACHMENTS

1- Past Performance Questionnaire 12

2- Sample Professional Services Agreement 14

SECTION 1 - INTRODUCTION

The City of Buckeye (City) is seeking professional planning services to provide a Buckeye Airport comprehensive Specific Area Plan. The Specific Area Plan will be a regulatory long-range planning document that will outline a cohesive, long-term plan for the nearly five square mile Activity Center surrounding the Buckeye Municipal Airport. The City anticipates that adoption of the Specific Area Plan will result in further intensification and clarification of land uses beyond what currently exists today. Actual development intensities/densities and permitted uses will be defined through the planning review process.

SECTION 2 – PROJECT SUMMARY/SCOPE OF WORK

The consultant will complete the following tasks for the Buckeye Airport Employment Activity Center Specific Area Plan.

A. Data Collection, Inventory, Existing Conditions, Literature Review

A. 1 Review applicable plans and studies: : Buckeye General Plan (2018), Transportation Master Plan (2019), Buckeye Municipal Airport Master Plan (2007), and other agency related plans from Arizona Department of Transportation, Maricopa County Department of Transportation, Maricopa County Flood Control District, and Luke Air Force Base.

A. 2 Data Collection – existing conditions, GIS data collection from City and stakeholders including roads, rail, canals, utilities, and socioeconomic and demographic data.

B. Identify existing entitlements, uses, building sizes and dimensions, and development envelopes

C. Land Use and Design:

C.1 Detailed land use plan based upon existing and planned character and uses

C.2 Development standards to promote the employment character and compatible infill, design, siting, and uses

C.3 Airport development protections in regards to building heights, noise, future expansions, etc.

C.4 Transitional development standards to blend the plan to adjacent development areas

D. Prepare policies and goals for the Specific Area Plan

E. Identify future potential development uses and "projects" for each parcel within the Specific Area Plan area using market analysis and economic development study

F. Economic Development:

F.1 Cost benefit analysis estimating implementation and long-term maintenance costs for proposed public improvements/programs vs increased land value and sales taxes.
F.2 Financing mechanisms: cost-share loans/grants for private property improvement, special taxing districts, improvement districts, redevelopment/revitalization districts.
F.3 Feasibility of public private partnerships (PPP)
F.4 Vacant property policies: acquisition, enforcement, resale
F.5 Marketing and identity strategies
F.6 Permitting, land use, licensing, or other city process enhancements
F.7 Provide an implementation plan and financing strategy

G. Consider road alignments and public improvements in the Specific Area Plan Area

H. Provide an environmental review

I. Concurrent to the development of this Specific Area Plan, the City of Buckeye will be seeking services to prepare a City of Buckeye Airport Master Plan. The authors of each plan will coordinate as needed to ensure relevant data and recommendations are shared and synchronized.

J. Outreach and Involvement

J.1 A kick-off meeting will be held with Airport staff, Planning staff, and the consultant team. The meeting will focus on the existing uses in the Specific Area Plan area as well as different uses that might be proposed. The status of policies and actions will be updated and possible changes discussed. Other possible changes in the Specific Plan area including allowed uses, road alignments, sidewalks and other public amenities and traffic improvements will also be discussed.
J.2 Community Open Houses (2 meetings)
J.3 Stakeholder Group (quarterly meetings – no more than 4)
J.4 Development Partnering Group (1 meeting)
J.5 Planning and Zoning Commission workshop (2 meetings)
J.6 Buckeye City Council workshop (2 meetings)
J.7 Coordination and/or meet with other stakeholders which may include
- Airport Advisory Board
- Buckeye Valley Chamber of Commerce
- Union Pacific Rail Road
- McDOT, ADOT, Valley Metro
- Buckeye Water Conservation District
- APS, SW Gas
- Flood Control District of Maricopa County
- Maricopa Association of Governments

J.8 All public meetings (2 public hearings) associated with the adoption of the Airport Employment Activity Center Specific Area Plan as a major amendment to the Buckeye General Plan.

K. Administrative Tasks

K.1 Standing meeting/phone calls with city project managers (weekly or as needed)
K.2 Monthly progress reports (up to 1 page)
K.3 Track, save, and distribute all meetings minutes/summaries to city staff
K.4 Provide all materials for meetings, such as PowerPoints, comment forms, presentation boards, and sign in sheets for each meeting
K.5 Maintain and manage the project schedule
K.6 Answer questions from various stakeholders and city staff throughout the duration of the project via email and phone calls

L. Deliverables

Under the contract to be awarded through this RFQ, the City of Buckeye seeks to receive the following deliverables from the Vendor.

L.1 Ten (10) bound color paper copies of the Buckeye Airport Employment Activity Center Specific Area Plan, one editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF). All non-text components, such as maps, images, renderings, and other graphic materials will be provided in their original editable format.

L.2 Ten (10) paper copies of an executive summary, one editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF).
The documents will be expected to be published on the City of Buckeye website. The City will own the information and data provided at the conclusion of the contract for service so that the City can continue to use, update, and maintain the information beyond the subject contract.

M. Current Airport Documents Availability

M.1 A digital copy of the existing Master Plan, Strategic Plan, and other documents as noted in the Document Review section are available on the Airport's website at: https://www.buckeyeaz.gov/residents/buckeye-municipal-airport

M.2 The City of Buckeye General Plan can be found at: https://www.buckeyeaz.gov/business/development-services/planning-zoning/general-plan

SECTION 3 - PRE-SUBMITTAL CONFERENCE

The pre-submittal conference has been scheduled for **October 18, 2021, at 2:30 PM** and will be held utilizing Microsoft Teams. The meeting link can be accessed by clicking the link provided on the City's website under Open Solicitations and the webpage for this solicitation as follows:

https://www.buckeyeaz.gov/business/construction-contracting/open-solicitations

Please attempt to access the meeting prior to the scheduled meeting time to identify any access issues. Attendance at this meeting is encouraged but not required. This meeting will be recorded using Microsoft Teams and posted to the City's website following the meeting. All attendees will be muted during the presentation. It is encouraged to post questions within the Q&A chat function of Microsoft Teams as they come up so they can be addressed at the close of the presentation.

SECTION 4 – SUBMITTAL REQUIREMENTS

Firms interested in this project should submit a Statement of Qualifications (SOQ) via electronic email no later than 2:00 PM., Monday, November 22, 2021. All documents required as part of the SOQ shall be completed, scanned as a .pdf, and added as an attachment to the email submittal. The .pdf shall have the name of the company submitting and subject of the email should be RFQ No. 2022017 City of Buckeye Airport Specific Area Plan. SOQ should be emailed to tbell@buckeyeaz.gov.

Please be advised that failure to comply with the following criteria will result in disqualification:

- Receipt of submittal by the date and time specified.
- Adherence to maximum page requirements.
- Acknowledgement of all addenda.
- Acknowledgement in the cover letter that the City's Professional Services Agreement has been reviewed by the submitting firm and the firm is willing to execute the agreement as written.

All questions regarding this Statement of Qualifications are to be addressed in writing or by email to:

Tyra Bell
Construction and Contracting Division
Second Floor, City Hall
530 East Monroe Avenue
Buckeye, Arizona 85326
Email: tbell@buckeyeaz.gov

All proposals received, via email will be documented and posted on the City of Buckeye's website at www.buckeyeaz.gov/open-solicitations under the webpage for this solicitation. The Contractor assumes the responsibility for having the SOQ submitted on time via email to the email address shown above. Any SOQ received after the due date and time shall not be considered and will be returned. The Contractor assumes the risk of any delay in the electronic processing of the Contractor's email through both parties (Contractor and City) network. Bidders must allow adequate time to ensure that the emails are timely received by the City at the designated email address. All time referenced are Buckeye, Arizona local times. Consultant agree to accept the time and date that is recorded on the received email as the official time. Any emails

submission that are 2:01 pm. or later on the scheduled due date will be considered late and therefore, returned to sender.

Firms interested in this project should adhere to the maximum page criterion is critical: each page side (maximum 8-1/2" x 11") with criteria information will be counted. Do not use 11" x 14" or 11" x 17" size sheets (e.g., fold-outs) unless specifically authorized. Pages that have project photos, charts and/or graphs will be counted towards the required number of pages. Front and back covers, Table of Contents, and divider (tab) pages will not be counted unless they include qualification information that could be considered by the selection panel. Resumes should provide information for key staff (no company profiles) and should not include project pictures or general firm information. Any additional company information or non-key staff information included in the resume section will be counted against the maximum page requirement. Do not submit additional information not listed herein. Font size may not be less than 10 point.

Consultant Team Arrangements are considered an arrangement in which either 1) two or more companies form a partnership or joint venture to act as a potential prime consultant; or 2) a potential prime consultant agrees with one or more other consultants to have them act as its sub consultants for this specific solicitation. The City will recognize the integrity and validity of the consultant's team arrangements; provided, the arrangements are identified and company relationships are fully disclosed in the proposal by providing a form of organizational structure such as a Joint Venture Agreement or a Financial Agreement to sub consultant with the prime. The Consultant shall identify the major or critical aspects of the requirement to be performed by those identified in the Consultant Team Arrangement. The submission must contain a narrative that clearly explains the relevance to a particular factor of information concerning a company that is part of a Consultant Team Arrangement. Any narrative provided should be incorporated into the Consultant's proposal after the cover letter.

SOQ Contents and Format: (City of Buckeye-Airport Specific Area Plan)

Submittal Cover Letter (one (1) page cover letter)

TAB A: Project Experience (two (2) page per project, maximum of five (5) projects)
TAB B: Past Performance Questionnaire (one form per projects identified in TAB A)
TAB C: Key Personnel Resumes (one page per resume, plus organizational chart)
TAB D: Project Understanding and Approach (25 pages)

COVER LETTER
Provide the following information:

1. Provide a general description of the company.
2. Explain the legal organization of the company.
3. Identify any contract or subcontract held by the company or officers of the company, which has been terminated within the last five years.
4. Identify any claims arising from a contract which resulted in litigation or arbitration within the last three years. Briefly describe the circumstances and the outcomes.

5. Arizona business and/or professional licenses/registrations held by the firm.
6. Name, title, contact information, email, and signature of person authorized to sign the Proposal. Proposals signed by an agent shall be accompanied by evidence of that agent's authority.

TAB A - Project Experience (City of Buckeye Airport Specific Area Plan)
Identify at least three (3) but no more than five (5) projects where you were the primary consultant specific to an Airport Specific Area Plan. Demonstrate the experience of your firm and/or proposed team, including all sub-consultants, on projects same/similar to that described in this solicitation for same/similar services. The projects submitted should also demonstrate that the consultant and/or the team have performed a same/similar type of services to be considered relevant in the last five years.

TAB B - Past Performance Questionnaire
For each project submitted in TAB A, complete a Past Performance Questionnaire. (Attachment 1.) The firm is directed to provide this form to the project owner or Point of Contract. Instruct the owner to complete the form and return the form with your submission.

TAB C - Experience of Key Personnel
For each key person identified, list their length of time with the firm and at least two comparable projects in which they have played a primary role. There are no limitations on the number of key positions the firms may provide. However, at a minimum, the firm must provide the primary consultant, and at least one (1) person from each sub-consultant identified. Each resume is limited to one (1) page.

(a) Name and title.
(b) Project assignment.
(c) Name of firm with which associated.
(d) Years' experience with this firm and with other firms.
(e) Active professional registration, year first registered, if applicable.
(f) Other experience and qualifications relevant to same/similar described in TAB A or other relevant projects/work required under this contract.
(g) Education: degree(s), year, specialization, if applicable.

Include an organizational chart (maximum 2 pages) at the end of this tab, chart may be submitted in 11"X17". Provide an organizational chart that depicts the project team organization and lines of authority. Clearly indicate superior/subordinate reporting relationships; Provide names of each position and identification of firm or sub-consultant.

TAB D – Project Understanding and Approach
Describe the firm's approach to performing the required Services in the Scope of Work described above. Describe the opportunities, goals, recommendations, priorities and constraints that would be necessary in developing the City of Buckeye Airport Specific Area Plan.

Provide a tentative Project Work Plan/schedule showing key project milestones and deliverables. **(Identified in Section 2)** The schedule shall demonstrate firm's ability to meet the designated milestones.

SECTION 5 - SELECTION PROCESS

This Request for Qualifications (RFQ) is being conducted pursuant to A.R.S. § 34-603. The process is to review and evaluate the qualifications using a forced ranking system. No individual points will be assigned to the criteria above. The qualifications submitted in response to this RFQ will be ranked in descending order. A Selection Panel will evaluate each SOQ according to the criteria set forth in Section 4 above. The City will select a firm(s) based on the SOQ's received; formal interviews may or may not be conducted. The City may conduct a due diligence review on the firm(s) receiving the highest ranking in the evaluation.

A "Selection Committee" will be comprised of City employees and outside companies and/or Consultants. The selection committee will review, evaluate, and rank the RFQ responses in accordance with the evaluation criteria established above.

The City may then decide if necessary to conduct interviews of firms to make final selections.

The City will award a Professional Services Consulting Contract to the highest-ranked firm, after a successfully negotiated fee schedule has been made.

SECTION 6 - GENERAL INFORMATION

Sample Contract. An example of the City's Professional Services Agreement is attached as Attachment 2.

City Rights. The City of Buckeye reserves the right to reject any or all Statements of Qualifications, to waive any informality or irregularity in any Statement of Qualifications received, and to be the sole judge of the merits of the respective Statements of Qualifications received.

Acceptance of Evaluation Methodology. By submitting, it's Qualifications in response to this SOQ, respondent acknowledges and accepts the evaluation process, the established criteria and associated point values, and that determination of the "most qualified" firm(s) will require subjective judgments by the City.

Release of Project Information. The City shall provide the release of all public information concerning this project, including selection announcements and contract award. Those desiring to release information to the public must receive prior written approval from the City.

Contact with City Employees. All firms interested in this project (including the firm's employees, representatives, agents, lobbyists, attorneys, and subcontractors) will refrain, under penalty of disqualification, from direct or indirect contact for the purpose of influencing the selection or creating bias in the selection process with any person who may play a part in the selection

process, including the evaluation panel, the City Manager, Department Heads and other City staff. This policy is intended to create a level playing field for all potential firms, assure that contract decisions are made in public and to protect the integrity of the selection process. All contact on this selection process should be addressed to the authorized representative identified in Section 4 above.

Data Confidentiality. Except as specifically provided in the Contract, the Contractor or its subcontractors shall not divulge data to any third party without prior written consent of the City.

Legal Worker Requirements. The City of Buckeye is prohibited by A.R.S. § 41-4401 from awarding a contract to any contractor who fails, or whose subcontractors fail, to comply with A.R.S. § 23-214(A). The contractor and each subcontractor shall comply with all federal immigration laws and regulations related to their employees and compliance with the stated law. The City of Buckeye retains the legal right to inspect the papers of any contractor or subcontractor employee who is awarded a contract to ensure that the firm or subcontractor is complying with the law.

Lawful Presence Requirement. Pursuant to A.R.S. §§ 1-501 and 1-502, the City of Buckeye is prohibited from awarding a contract to any natural person who cannot establish that such person is lawfully present in the United States. To establish lawful presence, a person must produce qualifying identification and sign a City-provided affidavit affirming that the identification provided is genuine. This requirement will be imposed at the time of contract award. This requirement does not apply to business organizations such as corporations, partnerships or limited liability companies.

Protest Procedures. Firms wishing to respond to disqualification or a procurement outcome may refer to The Procurement Code of the City of Buckeye, Section 24-3-16 that governs protest procedures utilized throughout the selection process.

Suspension/Debarment. By submitting a proposal in response to this solicitation, the respondent is certifying that it is neither debarred nor suspended nor under consideration for suspension or debarment by any federal, state or local government or agency. If a respondent is not able to certify, the respondent must submit a letter that identifies the agency involved and a contact and explains why respondent is suspended or debarred or being considered for suspension or debarment.

Questions. All questions pertaining to this selection process, contract issues, or Scope of Work must be directed to Tyra R. Bell, Purchasing Supervisor, Construction and Contracting Division at TBell@buckeyeaz.gov. All questions must be received, in writing (including email), no later than seven (7) days in advance of the SOQ due date. Responses to questions that materially change the scope or intent of this RFQ will be issued via Amendment on the City of Buckeye website. The City will not notify Respondents of posting of Amendments. Therefore, it is the Respondents' sole responsibility to check the website periodically for all issued Amendments. Failure to include acknowledgement of all Amendments may be cause for rejection of the proposal.

ATTACHMENT 1

TO

RFQ NO. 2022017

CITY OF BUCKEYE AIRPORT SPECIFIC AREA PLAN

(PAST PERFORMANCE QUESTIONNAIRE)

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: _____ Email : _____

Address: _____ Contact Name: _____

Phone Number: _____ Contact Phone: _____

2. Work Performed as: ☐ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number:_____

Contract Type: ☐ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):

Contract Title: _____ Contract Location: _____

Award Date (mm/dd/yy): _____

Contract Completion Date: _____ Actual Completion Date : _____

Explain Differences:

Original Contract Price (Award Amount): _____

Final Contract Price *(to include all modifications, if applicable)* : _____

Explain Differences:

4. Project Description:

Complexity of Work: ☐ High ☐ Med ☐ Routine

How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)*

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: _____ Phone Number: _____

Title: _____ Email Address: _____

6. Describe the client's role in the project:

Client Signature: **Date:**

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of consultants, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Knowledge/expertise demonstrated by consultant personnel	E	VG	S	M	U	N
d) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E VG S M U N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG S M U N
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	Yes No
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes No
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*	Yes No
6. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	Yes No
d) In summary, provide an overall raiting for the work performed by this consultant.	E VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: **Date:**

ATTACHMENT 1

TO

RFQ No. 2022017

City of Buckeye Airport Specific Area plan

(Professional Services Agreement)

PROFESSIONAL SERVICES AGREEMENT
BETWEEN
THE CITY OF BUCKEYE
AND
VENDOR NAME.
CONTRACT No xxxxxxxx

THIS PROFESSIONAL SERVICES AGREEMENT (this "Agreement") is entered into by and between the City of Buckeye, an Arizona municipal corporation (the "City") and Vendor Name. (the "Consultant").

RECITALS

The City of Buckeye, Arizona, is authorized and empowered by the City Code to execute contracts for professional services.

The Consultant submitted a proposal (the "Proposal"), attached hereto as Exhibit A and incorporated herein by reference, and the City desires to enter into an Agreement with the Consultant (the "Services").

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated herein by reference, the following mutual covenants and conditions, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and the Consultant hereby agree as follows:

1. Term of Agreement. This Agreement shall be effective as of the date fully executed by the City and shall remain in full force and effect for one (1) year or until such time as the Scope of Services is completed and approved by the City, or unless terminated as otherwise provided pursuant to the terms and conditions of this Agreement.

2. Scope of Work. The Consultant shall provide the Services as set forth in the Proposal, attached hereto as Exhibit A and incorporated herein by reference.

3. Compensation. The City shall pay Consultant a total amount not to exceed **($XXX,XXX.XX)** at the rates as set forth in the Proposal, attached hereto as Exhibit A and incorporated herein by reference.

4. Payments. The City shall pay the Consultant monthly, based upon work performed and completed to date, and upon submission and approval of invoices. All invoices shall document and itemize all work completed to date. The invoice statement shall include a record of time expended and work performed in sufficient detail to justify payment.

5. Documents. All documents prepared and submitted to the City pursuant to this Agreement shall be the property of the City.

6. Consultant Personnel. The Consultant shall provide adequate, experienced personnel, capable of and devoted to the successful completion of the Services to be performed under this Agreement. The Consultant agrees to assign specific individuals to key positions. The Consultant agrees that, upon commencement of the Services to be performed under this Agreement, key personnel shall not be removed or replaced without prior written notice to the City. If key personnel are not available to perform

the Services for a continuous period exceeding 30 calendar days, or are expected to devote substantially less effort to the Services than initially anticipated, The Consultant shall immediately notify the City of same and shall, subject to the concurrence of the City, replace such personnel with personnel of substantially equal ability and qualifications.

7. Inspection; Acceptance. All work shall be subject to inspection and acceptance by the City at reasonable times during the Consultant's performance. The Consultant shall provide and maintain a self-inspection system that is acceptable to the City.

8. Licenses; Materials. The Consultant shall maintain in current status all federal, state and local licenses and permits required for the operation of the business conducted by the Consultant. The City has no obligation to provide the Consultant, its employees or sub-consultants any business registrations or licenses required to perform the specific services set forth in this Agreement. The City has no obligation to provide tools, equipment or material to the Consultant.

9. Performance Warranty. The Consultant warrants that the Services rendered will conform to the requirements of this Agreement and to the highest professional standards in the field.

10. Indemnification. To the fullest extent permitted by law, the Consultant shall indemnify, defend and hold harmless the City and each council member, officer, employee or agent thereof (the City and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims"), insofar as such Claims (or actions in respect thereof) relate to, arise out of, or are caused by or based upon the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Consultant, its officers, employees, agents, or any tier of sub-consultant in the performance of this Agreement. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this Section.

11. Insurance.

11.1 General.

A. Insurer Qualifications. Without limiting any obligations or liabilities of the Consultant, the Consultant shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona with an AM Best, Inc. rating of A- or above with policies and forms satisfactory to the City. Failure to maintain insurance as specified herein may result in termination of this Agreement at the City's option.

B. No Representation of Coverage Adequacy. By requiring insurance herein, the City does not represent that coverage and limits will be adequate to protect the Consultant. The City reserves the right to review any and all of the insurance policies and/or endorsements cited in this Agreement but has no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements set forth in this Agreement or failure to identify any insurance deficiency shall not relieve the Consultant

from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.

C. Additional Insured. All insurance coverage and self-insured retention or deductible portions, except Workers' Compensation insurance and Professional Liability insurance, if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, directors, officials and employees as Additional Insured as specified under the respective coverage Parts of this Agreement.

D. Coverage Term. All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of this Agreement are satisfactorily performed, completed and formally accepted by the City, unless specified otherwise in this Agreement.

E. Primary Insurance. The Consultant's insurance shall be primary insurance with respect to performance of this Agreement and in the protection of the City as an Additional Insured.

F. Waiver. All policies, except for Professional Liability, including Workers' Compensation insurance, shall contain a waiver of rights of recovery (subrogation) against the City, its agents, representatives, officials, officers and employees for any claims arising out of the work or services of the Consultant. The Consultant shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

G. Policy Deductibles and/or Self-Insured Retentions. The policies set forth in these requirements may provide coverage that contains deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to the City. The Consultant shall be solely responsible for any such deductible or self-insured retention amount.

H. Use of Sub-consultants. If any work under this Agreement is subcontracted in any way, the Consultant shall execute written agreements with its sub-consultants containing the indemnification provisions set forth in this Section and insurance requirements set forth herein protecting the City and the Consultant. The Consultant shall be responsible for executing any agreements with its sub-consultants and obtaining certificates of insurance verifying the insurance requirements.

I. Evidence of Insurance. Prior to commencing any work or services under this Agreement, the Consultant will provide the City with suitable evidence of insurance in the form of certificates of insurance and a copy of the declaration page(s) of the insurance policies as required by this Agreement, issued by the Consultant's insurance insurer(s) as evidence that policies are placed with acceptable insurers as specified herein and provide the required coverages, conditions and limits of coverage specified in this Agreement and that such coverage and provisions are in full force and effect. Confidential information such as the policy premium may be redacted from the declaration page(s) of each insurance policy, provided that such redactions do not alter any of the information required by this Agreement. The City shall reasonably rely upon the certificates of insurance and declaration page(s) of the insurance policies as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this Agreement. In the event any insurance policy required by this Agreement is written on a "claims made" basis, coverage shall extend for two years past completion of the Services and the City's acceptance of the Consultant's work or services and as evidenced by annual

certificates of insurance. If any of the policies required by this Agreement expire during the life of this Agreement, it shall be the Consultant's responsibility to forward renewal certificates and declaration page(s) to the City 30 days prior to the expiration date. All certificates of insurance and declarations required by this Agreement shall be identified by referencing the RFP number and title of this Agreement. A $25.00 administrative fee shall be assessed for all certificates or declarations received without the appropriate RFP number and title or a reference to this Agreement, as applicable. Additionally, certificates of insurance and declaration page(s) of the insurance policies submitted without referencing the appropriate RFP number and title or reference to this Agreement, as applicable, will be subject to rejection and may be returned or discarded. Certificates of insurance and declaration page(s) shall specifically include the following provisions:

(1) The City, its agents, representatives, officers, directors, officials and employees are Additional Insureds as follows:

(a) Commercial General Liability - Under Insurance Services Office, Inc., ("ISO") Form CG 20 10 03 97 or equivalent.

(b) Auto Liability - Under ISO Form CA 20 48 or equivalent.

(c) Excess Liability - Follow Form to underlying insurance.

(2) The Consultant's insurance shall be primary insurance as respects performance of the Agreement.

(3) All policies, except for Professional Liability, including Workers' Compensation, waive rights of recovery (subrogation) against the City, its agents, representatives, officers, officials and employees for any claims arising out of work or services performed by the Consultant under this Agreement.

(4) A 30-day advance notice cancellation provision. If ACORD certificate of insurance form is used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

11.2 Required Insurance Coverage.

A. Commercial General Liability. The Consultant shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate and a $2,000,000 General Aggregate Limit. The policy shall cover liability arising from premises, operations, independent consultants, products-completed operations, personal injury and advertising injury. Coverage under the policy will be at least as broad as ISO policy form CG 00 010 93 or equivalent thereof, including but not limited to, separation of insured's clause. To the fullest extent allowed by law, for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, officials and employees shall be cited as an Additional Insured under ISO, Commercial General Liability Additional Insured Endorsement

form CG 20 10 03 97, or equivalent, which shall read "Who is an Insured (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you." If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying insurance.

B. Vehicle Liability. The Consultant shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each occurrence on the Consultant's owned, hired and non-owned vehicles assigned to or used in the performance of the Consultant's work or services under this Agreement. Coverage will be at least as broad as ISO coverage code "1" "any auto" policy form CA 00 01 12 93 or equivalent thereof. To the fullest extent allowed by law, for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under ISO Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying insurance.

C. Professional Liability. If this Agreement is the subject of any professional services or work, or if the Consultant engages in any professional services or work adjunct or residual to performing the work under this Agreement, the Consultant shall maintain Professional Liability insurance covering negligent errors and omissions arising out of the Services performed by the Consultant, or anyone employed by the Consultant, or anyone for whose negligent acts, mistakes, errors and omissions the Consultant is legally liable, with an unimpaired liability insurance limit of $1,000,000 each claim and $2,000,000 annual aggregate. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage shall extend for two years past completion and acceptance of the Services, and the Consultant shall be required to submit certificates of insurance and a copy of the declaration page(s) of the insurance policies evidencing proper coverage is in effect as required above.

D. Workers' Compensation Insurance. The Consultant shall maintain Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over the Consultant's employees engaged in the performance of work or services under this Agreement and shall also maintain Employers Liability Insurance of not less than $500,000 for each accident, $500,000 disease for each employee and $1,000,000 disease policy limit.

11.3 Cancellation and Expiration Notice. Insurance required herein shall not expire, be canceled, or materially change without 30 days' prior written notice to the City.

12. Applicable Law; Venue. In the performance of this Agreement, the Consultant shall abide by and conform to any and all laws of the United States, State of Arizona and the City of Buckeye, including but not limited to, federal and state executive orders providing for equal employment and procurement opportunities, the Federal Occupational Safety and Health Act and any other federal or state laws applicable to this Agreement. This Agreement shall be governed by the laws of the State of Arizona and suit pertaining to this Agreement may be brought only in courts in the State of Arizona.

13. Termination; Cancellation.

13.1 For City's Convenience. This Agreement is for the convenience of the City and, as such, may be terminated without cause after receipt by the Consultant of written notice by the City. Upon termination for convenience, the Consultant shall be paid for all undisputed services performed to the termination date.

13.2 For Cause. This Agreement may be terminated by either party upon 30 days' written notice should the other party fail to substantially perform in accordance with this Agreement's terms, through no fault of the party initiating the termination.

13.3 Due to Work Stoppage. This Agreement may be terminated by the City upon 30 days' written notice to the Consultant in the event that the Services are permanently abandoned. In the event of such termination due to work stoppage, payment shall be made by the City to the Consultant for the undisputed portion of its fee due as of the termination date.

13.4 Conflict of Interest. This Agreement is subject to the provisions of ARIZ. REV. STAT. § 38-511. The City may cancel this Agreement without penalty or further obligations by the City or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating this Agreement on behalf of the City or any of its departments or agencies is, at any time while the Agreement or any extension of the Agreement is in effect, an employee of any other party to the Agreement in any capacity or a consultant to any other party of the Agreement with respect to the subject matter of the Agreement.

13.5 Gratuities. The City may, by written notice to the Consultant, cancel this Agreement if it is found by the City that gratuities, in the form of economic opportunity, future employment, entertainment, gifts or otherwise, were offered or given by the Consultant or any agent or representative of the Consultant to any officer, agent or employee of the City for the purpose of securing this Agreement. In the event this Agreement is cancelled by the City pursuant to this provision, the City shall be entitled, in addition to any other rights and remedies, to recover or withhold from the Consultant an amount equal to 150% of the gratuity.

13.6 Agreement Subject to Appropriation. The provisions of this Agreement for payment of funds by the City shall be effective when funds are appropriated for purposes of this Agreement and are actually available for payment. The City shall be the sole judge and authority in determining the availability of funds under this Agreement and the City shall keep the Consultant fully informed as to the availability of funds for the Agreement. The obligation of the City to make any payment pursuant to this Agreement is a current expense of the City, payable exclusively from such annual appropriations, and is not a general obligation or indebtedness of the City. If the City Council fails to appropriate money sufficient to pay the amounts as set forth in this Agreement during any immediately succeeding fiscal year, this Agreement shall terminate at the end of then-current fiscal year and the City and the Consultant shall relieved of any subsequent obligation under this Agreement.

14. Miscellaneous.

14.1 Independent Contractor. The Consultant acknowledges and agrees that the Services provided under this Agreement are being provided as an independent contractor, not as an employee or agent of

the City. The Consultant, its employees and sub-consultants are not entitled to workers' compensation benefits from the City. The City does not have the authority to supervise or control the actual work of the Consultant, its employees or sub-consultants. The Consultant, and not the City, shall determine the time of its performance of the services provided under this Agreement so long as the Consultant meets the requirements of its agreed Scope of Work as set forth in Section 2 above. The Consultant is neither prohibited from entering into other contracts nor prohibited from practicing its profession elsewhere. The City and the Consultant do not intend to nor will they combine business operations under this Agreement.

14.2 Laws and Regulations. The Consultant shall keep fully informed and shall at all times during the performance of its duties under this Agreement ensure that it and any person for whom the Consultant is responsible remains in compliance with all rules, regulations, ordinances, statutes or laws affecting the Services, including the following: (A) existing and future City and County ordinances and regulations, (B) existing and future state and federal laws and (C) existing and future Occupational Safety and Health Administration ("OSHA") standards.

14.3 Amendments. This Agreement may be modified only by a written amendment signed by persons duly authorized to enter into contracts on behalf of the City and the Consultant.

14.4 Provisions Required by Law. Each and every provision of law and any clause required by law to be in the Agreement will be read and enforced as though it were included herein and, if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Agreement will promptly be physically amended to make such insertion or correction.

14.5 Severability. The provisions of this Agreement are severable to the extent that any provision or application held to be invalid by a Court of competent jurisdiction shall not affect any other provision or application of the Agreement which may remain in effect without the invalid provision or application.

14.6 Relationship of the Parties. It is clearly understood that each party will act in its individual capacity and not as an agent, employee, partner, joint venturer, or associate of the other. An employee or agent of one party shall not be deemed or construed to be the employee or agent of the other for any purpose whatsoever. The Consultant is advised that taxes or Social Security payments will not be withheld from any City payments issued hereunder and the Consultant agrees to be fully and solely responsible for the payment of such taxes or any other tax applicable to this Agreement.

14.7 Entire Agreement; Interpretation; Parol Evidence. This Agreement represents the entire agreement of the parties with respect to its subject matter, and all previous agreements, whether oral or written, entered into prior to this Agreement are hereby revoked and superseded by this Agreement. No representations, warranties, inducements or oral agreements have been made by any of the parties except as expressly set forth herein, or in any other contemporaneous written agreement executed for the purposes of carrying out the provisions of this Agreement. This Agreement shall be construed and interpreted according to its plain meaning, and no presumption shall be deemed to apply in favor of, or against the party drafting the Agreement. The parties acknowledge and agree that each has had the opportunity to seek and utilize legal counsel in the drafting of, review of, and entry into this Agreement.

14.8 Assignment. No right or interest in this Agreement shall be assigned by the Consultant without prior, written permission of the City signed by the City Manager and no delegation of any duty of the Consultant shall be made without prior, written permission of the City signed by the City Manager. Any attempted assignment or delegation by the Consultant in violation of this provision shall be a breach of this Agreement by the Consultant.

14.9 Subcontracts. No subcontract shall be entered into by the Consultant with any other party to furnish any of the material or services specified herein without the prior written approval of the City. The Consultant is responsible for performance under this Agreement whether or not sub-consultants are used.

14.10 Rights and Remedies. No provision in this Agreement shall be construed, expressly or by implication, as waiver by the City of any existing or future right and/or remedy available by law in the event of any claim of default or breach of this Agreement. The failure of the City to insist upon the strict performance of any term or condition of this Agreement or to exercise or delay the exercise of any right or remedy provided in this Agreement, or by law, or the City's acceptance of and payment for services, shall not release the Consultant from any responsibilities or obligations imposed by this Agreement or by law, and shall not be deemed a waiver of any right of the City to insist upon the strict performance of this Agreement.

14.11 Attorneys' Fees. In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Agreement or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforced whether or not such action is prosecuted through judgment.

14.12 Liens. All materials or services shall be free of all liens and, if the City requests, a formal release of all liens shall be delivered to the City.

14.13 Offset.

A. Offset for Damages. In addition to all other remedies at law or equity, the City may offset from any money due to the Consultant any amounts the Consultant owes to the City for damages resulting from breach or deficiencies in performance or breach of any obligation under this Agreement.

B. Offset for Delinquent Fees or Taxes. The City may offset from any money due to the Consultant any amounts the Consultant owes to the City for delinquent fees, transaction privilege taxes and property taxes, including any interest or penalties.

14.14 Notices and Requests. Any notice or other communication required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (A) delivered to the party at the address set forth below, (B) deposited in the U.S. Mail, registered or certified, return receipt requested, to the address set forth below, (C) given to a recognized and reputable overnight delivery service, to the address set forth below or (D) delivered by facsimile transmission to the number set forth below:

If to the City:	City of Buckeye ATTN: Chris Williams, Manager Construction & Contracting Division 530 East Monroe Avenue Buckeye, Arizona 85326 Facsimile: (623) 349-6221
With copy to:	Gust Rosenfeld, p.l.c. ATTN: Shiela B Schmidt One East Washington Street, Suite 1600 Phoenix, Arizona 85004-2553 Facsimile: (602) 254-4878
If to Consultant:	Vendor Contact Information

or at such other address, and to the attention of such other person or officer, as any party may designate in writing by notice duly given pursuant to this subsection. Notices shall be deemed received (A) when delivered to the party, (B) three business days after being placed in the U.S. Mail, properly addressed, with sufficient postage, (C) the following business day after being given to a recognized overnight delivery service, with the person giving the notice paying all required charges and instructing the delivery service to deliver on the following business day, or (D) when received by facsimile transmission during the normal business hours of the recipient. If a copy of a notice is also given to a party's counsel or other recipient, the provisions above governing the date on which a notice is deemed to have been received by a party shall mean and refer to the date on which the party, and not its counsel or other recipient to which a copy of the notice may be sent, is deemed to have received the notice.

14.15 Confidentiality of Records. The Consultant shall establish and maintain procedures and controls that are acceptable to the City for the purpose of ensuring that information contained in its records or obtained from the City or from others in carrying out its obligations under this Agreement shall not be used or disclosed by it, its agents, officers, or employees, except as required to perform the Consultant's duties under this Agreement. Persons requesting such information should be referred to the City. The Consultant also agrees that any information pertaining to individual persons shall not be divulged other than to employees or officers of the Consultant as needed for the performance of duties under this Agreement.

14.16 Information Technology.

A. Limited Access. If necessary for the fulfillment of the Agreement, the City may provide the Consultant with non-exclusive, limited access to the City's information technology infrastructure. The Consultant understands and agrees to abide by all the City policies, standards, regulations and restrictions regarding access and usage of the City's information technology infrastructure. The Consultant shall enforce all such policies, standards, regulations and restrictions with all the Consultant's employees, agents or any tier of sub-consultant granted access in the performance of this Agreement, and shall be granted and authorize only such access as may be necessary for the purpose of fulfilling the requirements of the Agreement.

B. Data Confidentiality. All data, regardless of form, including originals, images and reproductions, prepared by, obtained by or transmitted to the Consultant in connection with this Agreement is confidential, proprietary information owned by the City. Except as specifically provided in this Agreement, the Consultant shall not disclose data generated in the performance of the service to any third person without the prior, written consent of the City Manager or authorized designee.

C. Data Security. Personal identifying information, financial account information, or restricted City information, whether electronic format or hard copy, must be secured and protected at all times to avoid unauthorized access. At a minimum, the Consultant must encrypt and/or password-protect electronic files. This includes data saved to laptop computers, computerized devices or removable storage devices. When personal identifying information, financial account information, or restricted City information, regardless of its format, is no longer necessary, the information must be redacted or destroyed through appropriate and secure methods that ensure the information cannot be viewed, accessed or reconstructed.

E. Compromised Security. In the event that data collected or obtained by the Consultant in connection with this Agreement is believed to have been compromised, the Consultant shall notify the City Manager, or authorized designee, immediately. The Consultant agrees to reimburse the City for any costs incurred by the City to investigate potential breaches of this data and, where applicable, the cost of notifying individuals who may be impacted by the breach.

F. Permitted Access. The Consultant's employees, agents and sub-consultants must receive prior, written approval from the City before being granted access to the City's information technology infrastructure and data and the City, in its sole determination, shall determine accessibility and limitations thereto. The Consultant agrees that the requirements of this Section shall be incorporated into all sub-consultant/subconsultant agreements entered into by the Consultant. It is further agreed that a violation of this Section shall be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Agreement without notice.

G. Survival. The obligations of the Consultant under this Section shall survive the termination of this Agreement.

14.17 Records and Audit Rights. The Consultant's and its sub-consultant's books, records, correspondence, accounting procedures and practices, and any other supporting evidence relating to this Agreement, including the papers of any consultant and its sub-consultants' employees who perform any work or Services pursuant to this Agreement to ensure that the Consultant and its sub-consultants are complying with the warranty under subsection 14.18 below (all the foregoing hereinafter referred to as "Records"), shall be open to inspection and subject to audit and/or reproduction during normal working hours by the City, to the extent necessary to adequately permit (A) evaluation and verification of any invoices, payments or claims based on the Consultant's and its sub-consultants' actual costs (including direct and indirect costs and overhead allocations) incurred, or units expended directly in the performance of work under this Agreement and (B) evaluation of the Consultant's and its sub-consultants' compliance with the Arizona employer sanctions laws referenced in subsection 14.18 below. To the extent necessary for the City to audit Records as set forth in this subsection, the Consultant and its sub-consultants hereby waive any rights to keep such Records confidential. For the purpose of evaluating or verifying such actual or claimed costs or units expended, the City shall have access to said Records, even if located at its sub-consultants' facilities, from the effective date of this Agreement for the duration of the work and until

three years after the date of final payment by the City to the Consultant pursuant to this Agreement. The Consultant and its sub-consultants shall provide the City with adequate and appropriate workspace so that the City can conduct audits in compliance with the provisions of this subsection. The City shall give the Consultant or its sub-consultants reasonable advance notice of intended audits. The Consultant shall require its sub-consultants to comply with the provisions of this subsection by insertion of the requirements hereof in any subcontract pursuant to this Agreement.

14.18 E-verify Requirements. To the extent applicable under Ariz. Rev. Stat. §41-4401, the Consultant and its sub-consultants warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under Ariz. Rev. Stat. §23-214(A). The Consultant's or its sub-consultants' failure to comply with such warranty shall be deemed a material breach of this Agreement and may result in the termination of this Agreement by the City.

14.19 Conflicting Terms. In the event of any inconsistency, conflict or ambiguity among the terms of the Agreement, the Scope of Work, the Fee Proposal, the RFP and the Consultant's Proposal, the documents shall govern in the order listed herein.

14.20 Non-Exclusive Contract. This Agreement is entered into with the understanding and agreement that it is for the sole convenience of the City. The City reserves the right to obtain like goods and services from another source when necessary.

14.21 Compliance with Federal Immigration Laws and Regulations. Consultant warrants that it complies with all Federal Immigration laws and regulations that relate to its employees and complies with A.R.S. § 23-214.A. Consultant acknowledges that pursuant to A.R.S. § 41-4401 and effective September 30, 2008, a breach of this warranty is a material breach of this contract subject to penalties up to and including termination of this contract, and that the City retains the legal right to inspect the papers of any employee who works on the contract to ensure compliance with this warranty.

14.22 Israel. Pursuant to Arizona Revised Statute § 35-393.01, Consultant certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

14. 23 Cooperative Purchasing. Specific eligible political subdivisions and nonprofit educational or public health institutions ("Eligible Procurement Unit(s) ") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All Cooperative procurements under this Agreement shall be transacted solely between the requesting of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

SIGNATURE PAGE TO FOLLOW:

THEREFORE, the City of Buckeye by its City Mayor has hereunto subscribed his name on this date: _____.

CITY

THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

By: _____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

_____
Christopher A. Williams, Manager
Construction & Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

Vendor:
Vendor Name

By:_____
Name

_____
Title

EXHIBIT A

TO

PROFESSIONAL SERVICES AGREEMENT

BETWEEN

THE CITY OF BUCKEYE

AND

Vendor Name

[Consultant's Proposal]

See following pages.

PROFESSIONAL SERVICES AGREEMENT
BETWEEN
THE CITY OF BUCKEYE
AND
MATRIX DESIGN GROUP, INC.
CONTRACT No 2022017

THIS PROFESSIONAL SERVICES AGREEMENT (this "Agreement") is entered into by and between the City of Buckeye, an Arizona municipal corporation (the "City") and Matrix Design Group, Inc., a Colorado Corporation (the "Consultant").

RECITALS

The City issued a Request for Qualifications entitled "City of Buckeye – Airport Specific Area Plan" (the "RFQ") incorporated herein by reference, seeking professional planning services to provide a Buckeye Airport Comprehensive Specific Area Plan.

The Consultant submitted a proposal (the "Proposal"), attached hereto as Exhibit A and incorporated herein by reference, and the City desires to enter into an Agreement with the Consultant to provide a Buckeye Airport Comprehensive Specific Area Plan (the "Services").

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing recitals, which are incorporated herein by reference, the following mutual covenants and conditions, and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the City and the Consultant hereby agree as follows:

1. Term of Agreement. This Agreement shall be effective as of the date fully executed by the City and shall remain in full force and effect for one (1) year or until such time as the Scope of Services is completed and approved by the City, or unless terminated as otherwise provided pursuant to the terms and conditions of this Agreement.

2. Scope of Work. The Consultant shall provide the Services as set forth in the Proposal, attached hereto as Exhibit A and incorporated herein by reference.

3. Compensation. The City shall pay Consultant an amount not to exceed **Two Hundred Thousand dollars and Zero Cents ($200,000.00)**.

4. Payments. The City shall pay the Consultant monthly, based upon work performed and completed to date, and upon submission and approval of invoices. All invoices shall document and itemize all work completed to date. The invoice statement shall include a record of time expended and work performed in sufficient detail to justify payment.

5. Documents. All documents prepared and submitted to the City pursuant to this Agreement shall be the property of the City.

6. Consultant Personnel. The Consultant shall provide adequate, experienced personnel, capable of and devoted to the successful completion of the Services to be performed under this Agreement. The Consultant agrees to assign specific individuals to key positions. The Consultant agrees that, upon commencement of the Services to be performed under this Agreement, key personnel shall not be

removed or replaced without prior written notice to the City. If key personnel are not available to perform the Services for a continuous period exceeding 30 calendar days, or are expected to devote substantially less effort to the Services than initially anticipated, The Consultant shall immediately notify the City of same and shall, subject to the concurrence of the City, replace such personnel with personnel of substantially equal ability and qualifications.

7. Inspection; Acceptance. All work shall be subject to inspection and acceptance by the City at reasonable times during the Consultant's performance. The Consultant shall provide and maintain a self-inspection system that is acceptable to the City.

8. Licenses; Materials. The Consultant shall maintain in current status all federal, state and local licenses and permits required for the operation of the business conducted by the Consultant. The City has no obligation to provide the Consultant, its employees or sub-consultants any business registrations or licenses required to perform the specific services set forth in this Agreement. The City has no obligation to provide tools, equipment or material to the Consultant.

9. Performance Warranty. The Consultant warrants that the Services rendered will conform to the requirements of this Agreement and to the highest professional standards in the field.

10. Indemnification. To the fullest extent permitted by law, the Consultant shall indemnify, defend and hold harmless the City and each council member, officer, employee or agent thereof (the City and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims"), insofar as such Claims (or actions in respect thereof) relate to, arise out of, or are caused by or based upon the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Consultant, its officers, employees, agents, or any tier of sub-consultant in the performance of this Agreement. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this Section.

11. Insurance.

11.1 General.

A. Insurer Qualifications. Without limiting any obligations or liabilities of the Consultant, the Consultant shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona with an AM Best, Inc. rating of A- or above with policies and forms satisfactory to the City. Failure to maintain insurance as specified herein may result in termination of this Agreement at the City's option.

B. No Representation of Coverage Adequacy. By requiring insurance herein, the City does not represent that coverage and limits will be adequate to protect the Consultant. The City reserves the right to review any and all of the insurance policies and/or endorsements cited in this Agreement but has no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements

set forth in this Agreement or failure to identify any insurance deficiency shall not relieve the Consultant from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.

C. Additional Insured. All insurance coverage and self-insured retention or deductible portions, except Workers' Compensation insurance and Professional Liability insurance, if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, directors, officials and employees as Additional Insured as specified under the respective coverage Parts of this Agreement.

D. Coverage Term. All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of this Agreement are satisfactorily performed, completed and formally accepted by the City, unless specified otherwise in this Agreement.

E. Primary Insurance. The Consultant's insurance shall be primary insurance with respect to performance of this Agreement and in the protection of the City as an Additional Insured.

F. Waiver. All policies, except for Professional Liability, including Workers' Compensation insurance, shall contain a waiver of rights of recovery (subrogation) against the City, its agents, representatives, officials, officers and employees for any claims arising out of the work or services of the Consultant. The Consultant shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

G. Policy Deductibles and/or Self-Insured Retentions. The policies set forth in these requirements may provide coverage that contains deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to the City. The Consultant shall be solely responsible for any such deductible or self-insured retention amount.

H. Use of Sub-consultants. If any work under this Agreement is subcontracted in any way, the Consultant shall execute written agreements with its sub-consultants containing the indemnification provisions set forth in this Section and insurance requirements set forth herein protecting the City and the Consultant. The Consultant shall be responsible for executing any agreements with its sub-consultants and obtaining certificates of insurance verifying the insurance requirements.

I. Evidence of Insurance. Prior to commencing any work or services under this Agreement, the Consultant will provide the City with suitable evidence of insurance in the form of certificates of insurance and a copy of the declaration page(s) of the insurance policies as required by this Agreement, issued by the Consultant's insurance insurer(s) as evidence that policies are placed with acceptable insurers as specified herein and provide the required coverages, conditions and limits of coverage specified in this Agreement and that such coverage and provisions are in full force and effect. Confidential information such as the policy premium may be redacted from the declaration page(s) of each insurance policy, provided that such redactions do not alter any of the information required by this Agreement. The City shall reasonably rely upon the certificates of insurance and declaration page(s) of the insurance policies as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this Agreement. In the event any insurance policy required by this Agreement is written on a "claims made" basis, coverage shall extend for two years past completion of

the Services and the City's acceptance of the Consultant's work or services and as evidenced by annual certificates of insurance. If any of the policies required by this Agreement expire during the life of this Agreement, it shall be the Consultant's responsibility to forward renewal certificates and declaration page(s) to the City 30 days prior to the expiration date. All certificates of insurance and declarations required by this Agreement shall be identified by referencing the RFP number and title of this Agreement. A $25.00 administrative fee shall be assessed for all certificates or declarations received without the appropriate RFP number and title or a reference to this Agreement, as applicable. Additionally, certificates of insurance and declaration page(s) of the insurance policies submitted without referencing the appropriate RFP number and title or reference to this Agreement, as applicable, will be subject to rejection and may be returned or discarded. Certificates of insurance and declaration page(s) shall specifically include the following provisions:

(1) The City, its agents, representatives, officers, directors, officials and employees are Additional Insureds as follows:

(a) Commercial General Liability - Under Insurance Services Office, Inc., ("ISO") Form CG 20 10 03 97 or equivalent.

(b) Auto Liability - Under ISO Form CA 20 48 or equivalent.

(c) Excess Liability - Follow Form to underlying insurance.

(2) The Consultant's insurance shall be primary insurance as respects performance of the Agreement.

(3) All policies, except for Professional Liability, including Workers' Compensation, waive rights of recovery (subrogation) against the City, its agents, representatives, officers, officials and employees for any claims arising out of work or services performed by the Consultant under this Agreement.

(4) A 30-day advance notice cancellation provision. If ACORD certificate of insurance form is used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

11.2 Required Insurance Coverage.

A. Commercial General Liability. The Consultant shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate and a $2,000,000 General Aggregate Limit. The policy shall cover liability arising from premises, operations, independent consultants, products-completed operations, personal injury and advertising injury. Coverage under the policy will be at least as broad as ISO policy form CG 00 010 93 or equivalent thereof, including but not limited to, separation of insured's clause. To the fullest extent allowed by law, for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, officials and employees shall

be cited as an Additional Insured under ISO, Commercial General Liability Additional Insured Endorsement form CG 20 10 03 97, or equivalent, which shall read "Who is an Insured (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you." If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying insurance.

B. Vehicle Liability. The Consultant shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each occurrence on the Consultant's owned, hired and non-owned vehicles assigned to or used in the performance of the Consultant's work or services under this Agreement. Coverage will be at least as broad as ISO coverage code "1" "any auto" policy form CA 00 01 12 93 or equivalent thereof. To the fullest extent allowed by law, for claims arising out of the performance of this Agreement, the City, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under ISO Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this subsection, such Excess insurance shall be "follow form" equal or broader in coverage scope than underlying insurance.

C. Professional Liability. If this Agreement is the subject of any professional services or work, or if the Consultant engages in any professional services or work adjunct or residual to performing the work under this Agreement, the Consultant shall maintain Professional Liability insurance covering negligent errors and omissions arising out of the Services performed by the Consultant, or anyone employed by the Consultant, or anyone for whose negligent acts, mistakes, errors and omissions the Consultant is legally liable, with an unimpaired liability insurance limit of $1,000,000 each claim and $2,000,000 annual aggregate. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage shall extend for two years past completion and acceptance of the Services, and the Consultant shall be required to submit certificates of insurance and a copy of the declaration page(s) of the insurance policies evidencing proper coverage is in effect as required above.

D. Workers' Compensation Insurance. The Consultant shall maintain Workers' Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction over the Consultant's employees engaged in the performance of work or services under this Agreement and shall also maintain Employers Liability Insurance of not less than $500,000 for each accident, $500,000 disease for each employee and $1,000,000 disease policy limit.

11.3 Cancellation and Expiration Notice. Insurance required herein shall not expire, be canceled, or materially change without 30 days' prior written notice to the City.

12. Applicable Law; Venue. In the performance of this Agreement, the Consultant shall abide by and conform to any and all laws of the United States, State of Arizona and the City of Buckeye, including but not limited to, federal and state executive orders providing for equal employment and procurement opportunities, the Federal Occupational Safety and Health Act and any other federal or state laws applicable to this Agreement. This Agreement shall be governed by the laws of the State of Arizona and suit pertaining to this Agreement may be brought only in courts in the State of Arizona.

13. Termination; Cancellation.

13.1 For City's Convenience. This Agreement is for the convenience of the City and, as such, may be terminated without cause after receipt by the Consultant of written notice by the City. Upon termination for convenience, the Consultant shall be paid for all undisputed services performed to the termination date.

13.2 For Cause. This Agreement may be terminated by either party upon 30 days' written notice should the other party fail to substantially perform in accordance with this Agreement's terms, through no fault of the party initiating the termination.

13.3 Due to Work Stoppage. This Agreement may be terminated by the City upon 30 days' written notice to the Consultant in the event that the Services are permanently abandoned. In the event of such termination due to work stoppage, payment shall be made by the City to the Consultant for the undisputed portion of its fee due as of the termination date.

13.4 Conflict of Interest. This Agreement is subject to the provisions of ARIZ. REV. STAT. § 38-511. The City may cancel this Agreement without penalty or further obligations by the City or any of its departments or agencies if any person significantly involved in initiating, negotiating, securing, drafting or creating this Agreement on behalf of the City or any of its departments or agencies is, at any time while the Agreement or any extension of the Agreement is in effect, an employee of any other party to the Agreement in any capacity or a consultant to any other party of the Agreement with respect to the subject matter of the Agreement.

13.5 Gratuities. The City may, by written notice to the Consultant, cancel this Agreement if it is found by the City that gratuities, in the form of economic opportunity, future employment, entertainment, gifts or otherwise, were offered or given by the Consultant or any agent or representative of the Consultant to any officer, agent or employee of the City for the purpose of securing this Agreement. In the event this Agreement is cancelled by the City pursuant to this provision, the City shall be entitled, in addition to any other rights and remedies, to recover or withhold from the Consultant an amount equal to 150% of the gratuity.

13.6 Agreement Subject to Appropriation. The provisions of this Agreement for payment of funds by the City shall be effective when funds are appropriated for purposes of this Agreement and are actually available for payment. The City shall be the sole judge and authority in determining the availability of funds under this Agreement and the City shall keep the Consultant fully informed as to the availability of funds for the Agreement. The obligation of the City to make any payment pursuant to this Agreement is a current expense of the City, payable exclusively from such annual appropriations, and is not a general obligation or indebtedness of the City. If the City Council fails to appropriate money sufficient to pay the amounts as set forth in this Agreement during any immediately succeeding fiscal year, this Agreement shall terminate at the end of then-current fiscal year and the City and the Consultant shall relieved of any subsequent obligation under this Agreement.

14. Miscellaneous.

14.1 Independent Contractor. The Consultant acknowledges and agrees that the Services provided under this Agreement are being provided as an independent contractor, not as an employee or agent of the City. The Consultant, its employees and sub-consultants are not entitled to workers' compensation benefits from the City. The City does not have the authority to supervise or control the actual work of the Consultant, its employees or sub-consultants. The Consultant, and not the City, shall determine the time of its performance of the services provided under this Agreement so long as the Consultant meets the requirements of its agreed Scope of Work as set forth in Section 2 above. The Consultant is neither prohibited from entering into other contracts nor prohibited from practicing its profession elsewhere. The City and the Consultant do not intend to nor will they combine business operations under this Agreement.

14.2 Laws and Regulations. The Consultant shall keep fully informed and shall at all times during the performance of its duties under this Agreement ensure that it and any person for whom the Consultant is responsible remains in compliance with all rules, regulations, ordinances, statutes or laws affecting the Services, including the following: (A) existing and future City and County ordinances and regulations, (B) existing and future state and federal laws and (C) existing and future Occupational Safety and Health Administration ("OSHA") standards.

14.3 Amendments. This Agreement may be modified only by a written amendment signed by persons duly authorized to enter into contracts on behalf of the City and the Consultant.

14.4 Provisions Required by Law. Each and every provision of law and any clause required by law to be in the Agreement will be read and enforced as though it were included herein and, if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party, the Agreement will promptly be physically amended to make such insertion or correction.

14.5 Severability. The provisions of this Agreement are severable to the extent that any provision or application held to be invalid by a Court of competent jurisdiction shall not affect any other provision or application of the Agreement which may remain in effect without the invalid provision or application.

14.6 Relationship of the Parties. It is clearly understood that each party will act in its individual capacity and not as an agent, employee, partner, joint venture, or associate of the other. An employee or agent of one party shall not be deemed or construed to be the employee or agent of the other for any purpose whatsoever. The Consultant is advised that taxes or Social Security payments will not be withheld from any City payments issued hereunder and the Consultant agrees to be fully and solely responsible for the payment of such taxes or any other tax applicable to this Agreement.

14.7 Entire Agreement; Interpretation; Parol Evidence. This Agreement represents the entire agreement of the parties with respect to its subject matter, and all previous agreements, whether oral or written, entered into prior to this Agreement are hereby revoked and superseded by this Agreement. No representations, warranties, inducements or oral agreements have been made by any of the parties except as expressly set forth herein, or in any other contemporaneous written agreement executed for the purposes of carrying out the provisions of this Agreement. This Agreement shall be construed and interpreted according to its plain meaning, and no presumption shall be deemed to apply in favor of, or against the party drafting the Agreement. The parties acknowledge and agree that each has had the opportunity to seek and utilize legal counsel in the drafting of, review of, and entry into this Agreement.

14.8 Assignment. No right or interest in this Agreement shall be assigned by the Consultant without prior, written permission of the City signed by the City Manager and no delegation of any duty of the Consultant shall be made without prior, written permission of the City signed by the City Manager. Any attempted assignment or delegation by the Consultant in violation of this provision shall be a breach of this Agreement by the Consultant.

14.9 Subcontracts. No subcontract shall be entered into by the Consultant with any other party to furnish any of the material or services specified herein without the prior written approval of the City. The Consultant is responsible for performance under this Agreement whether or not sub-consultants are used.

14.10 Rights and Remedies. No provision in this Agreement shall be construed, expressly or by implication, as waiver by the City of any existing or future right and/or remedy available by law in the event of any claim of default or breach of this Agreement. The failure of the City to insist upon the strict performance of any term or condition of this Agreement or to exercise or delay the exercise of any right or remedy provided in this Agreement, or by law, or the City's acceptance of and payment for services, shall not release the Consultant from any responsibilities or obligations imposed by this Agreement or by law, and shall not be deemed a waiver of any right of the City to insist upon the strict performance of this Agreement.

14.11 Attorneys' Fees. In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Agreement or on account of any breach or default hereof, the prevailing party shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, determined by the court sitting without a jury, which shall be deemed to have accrued on the commencement of such action and shall be enforced whether or not such action is prosecuted through judgment.

14.12 Liens. All materials or services shall be free of all liens and, if the City requests, a formal release of all liens shall be delivered to the City.

14.13 Offset.

A. Offset for Damages. In addition to all other remedies at law or equity, the City may offset from any money due to the Consultant any amounts the Consultant owes to the City for damages resulting from breach or deficiencies in performance or breach of any obligation under this Agreement.

B. Offset for Delinquent Fees or Taxes. The City may offset from any money due to the Consultant any amounts the Consultant owes to the City for delinquent fees, transaction privilege taxes and property taxes, including any interest or penalties.

14.14 Notices and Requests. Any notice or other communication required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given if (A) delivered to the party at the address set forth below, (B) deposited in the U.S. Mail, registered or certified, return receipt requested, to the address set forth below, (C) given to a recognized and reputable overnight delivery service, to the address set forth below or (D) delivered by facsimile transmission to the number set forth below:

If to the City:	City of Buckeye ATTN: Chris Williams, Manager Construction & Contracting Division 530 East Monroe Avenue Buckeye, Arizona 85326 Facsimile: (623) 349-6221
With copy to:	Gust Rosenfeld, p.l.c. ATTN: Shiela B Schmidt One East Washington Street, Suite 1600 Phoenix, Arizona 85004-2553 Facsimile: (602) 254-4878
If to Consultant:	Matrix Design Group, Inc. ATTN: Celeste Werner, FAICP, Chief of Strategic Development 2020 N. Central Avenue, Suite 1140 Phoenix, AZ 85004 Facsimile: (602) 324-8985

or at such other address, and to the attention of such other person or officer, as any party may designate in writing by notice duly given pursuant to this subsection. Notices shall be deemed received (A) when delivered to the party, (B) three business days after being placed in the U.S. Mail, properly addressed, with sufficient postage, (C) the following business day after being given to a recognized overnight delivery service, with the person giving the notice paying all required charges and instructing the delivery service to deliver on the following business day, or (D) when received by facsimile transmission during the normal business hours of the recipient. If a copy of a notice is also given to a party's counsel or other recipient, the provisions above governing the date on which a notice is deemed to have been received by a party shall mean and refer to the date on which the party, and not its counsel or other recipient to which a copy of the notice may be sent, is deemed to have received the notice.

14.15 Confidentiality of Records. The Consultant shall establish and maintain procedures and controls that are acceptable to the City for the purpose of ensuring that information contained in its records or obtained from the City or from others in carrying out its obligations under this Agreement shall not be used or disclosed by it, its agents, officers, or employees, except as required to perform the Consultant's duties under this Agreement. Persons requesting such information should be referred to the City. The Consultant also agrees that any information pertaining to individual persons shall not be divulged other than to employees or officers of the Consultant as needed for the performance of duties under this Agreement.

14.16 Information Technology.

A. Limited Access. If necessary for the fulfillment of the Agreement, the City may provide the Consultant with non-exclusive, limited access to the City's information technology infrastructure. The Consultant understands and agrees to abide by all the City policies, standards, regulations and restrictions regarding access and usage of the City's information technology infrastructure. The Consultant shall enforce all such policies, standards, regulations and restrictions with all the Consultant's employees,

agents or any tier of sub-consultant granted access in the performance of this Agreement, and shall be granted and authorize only such access as may be necessary for the purpose of fulfilling the requirements of the Agreement.

B. Data Confidentiality. All data, regardless of form, including originals, images and reproductions, prepared by, obtained by or transmitted to the Consultant in connection with this Agreement is confidential, proprietary information owned by the City. Except as specifically provided in this Agreement, the Consultant shall not disclose data generated in the performance of the service to any third person without the prior, written consent of the City Manager or authorized designee.

C. Data Security. Personal identifying information, financial account information, or restricted City information, whether electronic format or hard copy, must be secured and protected at all times to avoid unauthorized access. At a minimum, the Consultant must encrypt and/or password-protect electronic files. This includes data saved to laptop computers, computerized devices or removable storage devices. When personal identifying information, financial account information, or restricted City information, regardless of its format, is no longer necessary, the information must be redacted or destroyed through appropriate and secure methods that ensure the information cannot be viewed, accessed or reconstructed.

E. Compromised Security. In the event that data collected or obtained by the Consultant in connection with this Agreement is believed to have been compromised, the Consultant shall notify the City Manager, or authorized designee, immediately. The Consultant agrees to reimburse the City for any costs incurred by the City to investigate potential breaches of this data and, where applicable, the cost of notifying individuals who may be impacted by the breach.

F. Permitted Access. The Consultant's employees, agents and sub-consultants must receive prior, written approval from the City before being granted access to the City's information technology infrastructure and data and the City, in its sole determination, shall determine accessibility and limitations thereto. The Consultant agrees that the requirements of this Section shall be incorporated into all sub-consultant/subconsultant agreements entered into by the Consultant. It is further agreed that a violation of this Section shall be deemed to cause irreparable harm that justifies injunctive relief in court. A violation of this Section may result in immediate termination of this Agreement without notice.

G. Survival. The obligations of the Consultant under this Section shall survive the termination of this Agreement.

14.17 Records and Audit Rights. The Consultant's and its sub-consultant's books, records, correspondence, accounting procedures and practices, and any other supporting evidence relating to this Agreement, including the papers of any consultant and its sub-consultants' employees who perform any work or Services pursuant to this Agreement to ensure that the Consultant and its sub-consultants are complying with the warranty under subsection 14.18 below (all the foregoing hereinafter referred to as "Records"), shall be open to inspection and subject to audit and/or reproduction during normal working hours by the City, to the extent necessary to adequately permit (A) evaluation and verification of any invoices, payments or claims based on the Consultant's and its sub-consultants' actual costs (including direct and indirect costs and overhead allocations) incurred, or units expended directly in the performance of work under this Agreement and (B) evaluation of the Consultant's and its sub-consultants' compliance with the Arizona employer sanctions laws referenced in subsection 14.18 below. To the extent necessary

for the City to audit Records as set forth in this subsection, the Consultant and its sub-consultants hereby waive any rights to keep such Records confidential. For the purpose of evaluating or verifying such actual or claimed costs or units expended, the City shall have access to said Records, even if located at its sub-consultants' facilities, from the effective date of this Agreement for the duration of the work and until three years after the date of final payment by the City to the Consultant pursuant to this Agreement. The Consultant and its sub-consultants shall provide the City with adequate and appropriate workspace so that the City can conduct audits in compliance with the provisions of this subsection. The City shall give the Consultant or its sub-consultants reasonable advance notice of intended audits. The Consultant shall require its sub-consultants to comply with the provisions of this subsection by insertion of the requirements hereof in any subcontract pursuant to this Agreement.

14.18 E-verify Requirements. To the extent applicable under Ariz. Rev. Stat. §41-4401, the Consultant and its sub-consultants warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under Ariz. Rev. Stat. §23-214(A). The Consultant's or its sub-consultants' failure to comply with such warranty shall be deemed a material breach of this Agreement and may result in the termination of this Agreement by the City.

14.19 Conflicting Terms. In the event of any inconsistency, conflict or ambiguity among the terms of the Agreement, the Scope of Work, the Fee Proposal, the RFP and the Consultant's Proposal, the documents shall govern in the order listed herein.

14.20 Non-Exclusive Contract. This Agreement is entered into with the understanding and agreement that it is for the sole convenience of the City. The City reserves the right to obtain like goods and services from another source when necessary.

14.21 Compliance with Federal Immigration Laws and Regulations. Consultant warrants that it complies with all Federal Immigration laws and regulations that relate to its employees and complies with A.R.S. § 23-214.A. Consultant acknowledges that pursuant to A.R.S. § 41-4401 and effective September 30, 2008, a breach of this warranty is a material breach of this contract subject to penalties up to and including termination of this contract, and that the City retains the legal right to inspect the papers of any employee who works on the contract to ensure compliance with this warranty.

14.22 Israel. Pursuant to Arizona Revised Statute § 35-393.01, Consultant certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

14. 23 Cooperative Purchasing. Specific eligible political subdivisions and nonprofit educational or public health institutions ("Eligible Procurement Unit(s) ") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All Cooperative procurements under this Agreement shall be transacted solely between the requesting of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

THEREFORE, the City of Buckeye by its City Mayor has hereunto subscribed his name on this date: _____.

CITY

THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

By: _____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

_____
Christopher A. Williams, Manager
Construction & Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

Vendor:
Matrix Design Group, Inc.

By: Celeste C. Werner _____
Name

Executive Vice President _____
Title

Adobe Sign Transaction Number: CBJCHBCAABAAiaBsfrLkjAt1xm7kCMob3XQqFY98TAC_

EXHIBIT A

TO

PROFESSIONAL SERVICES AGREEMENT

BETWEEN

THE CITY OF BUCKEYE

AND

MATRIX DESIGN GROUP, INC.

[Consultant's Proposal]

See following pages.



Matrix

A Statement of Qualifications for

City of Buckeye Airport Specific Area Plan

RFQ# 2022017
November 22, 2021

Prepared for

City of Buckeye, Arizona

Matrix Design Group, Inc.
2020 N. Central Avenue, Suite 1140
Phoenix, AZ 85004
O 602.288.8344
F 602.324.8985
matrixdesigngroup.com

November 22, 2021

Tyra R. Bell
City of Buckeye City Hall
530 East Monroe Avenue, Second Floor
Buckeye, AZ 85326

RE: RFP 2022017 – Airport Specific Area Plan

Dear Ms. Bell and Members of the Selection Committee:

Matrix Design Group, Inc. (Matrix) is looking forward to continuing our award-winning partnership with the City of Buckeye with the development of the *Buckeye Airport Specific Area Plan* (Airport Area Plan). Our Team is ideally suited for your project based on our intimate knowledge of the City, our strong relationships with City staff and stakeholders, and our local presence.

General Description: Matrix is a full-service, multidisciplinary consulting firm that offers award-winning public engagement and tailored solutions through collaboration with local jurisdictions, government agencies, regional organizations, landowners, businesses, the public, and numerous special interest groups and stakeholders. ***We are legally organized as a Colorado-based Corporation***, but we also have a local office in Phoenix. Our Team offers the following benefits to the City of Buckeye:

- ***Relationships and Knowledge:*** Our Team has established and trusted relationships with your staff, appointed/elected officials, the public, Luke AFB, and other stakeholders that foster frequent, open, and direct communication and the security to explore new ideas and innovative approaches. Matrix is also extremely familiar with Buckeye as we have previously worked with the City on the award-winning *Imagine Buckeye 2040 General Plan* as well as the *Transportation Master Plan* and other policy documents. Our Team understands Buckeye's proud heritage and its vision for the Airport Area Plan.
- ***Public and Stakeholder Engagement:*** Our planners are all trained facilitators who routinely conduct workshops, charrettes, and public hearings as part of developing general and area plans. We have the knowledge and experience needed to translate technical information into easy-to-understand terms to provide better assessment tools for the public. Our Team leaders have built excellent rapport with important stakeholders in Buckeye including Luke AFB, Buckeye Valley Chamber of Commerce, Arizona State Land Department, and Buckeye's own appointed and elected officials.
- ***Outside-the-box Thinking:*** Matrix is committed to using innovative approaches in each of our projects, including the latest community planning practices that fit our clients' specific needs and technology that provides more comprehensive data, analytical opportunities, and useful outcomes. To do this, we have brought together a team of experienced planners, place makers, archeologists, economists, and engineers as well as graphics, design, and mapping experts.
- ***Airport/Aviation Experience:*** Matrix has extensive national experience working with communities to develop successful plans surrounding municipal and military airports. Matrix has prepared more than 60 plans nationwide that assist aviation communities in maintaining and enhancing their character while optimizing assets and operational areas through collaboration. Matrix also has local experience addressing land use compatibility around airports and military installations and we have military compatibility specialists and aviation experts on our Team.

Matrix has had no contract or subcontracts terminated in the last five (5) years, nor any claims from litigation or arbitration during that time. Matrix is registered with the ***Arizona Board of Technical Registration, number 15057*** and our experts are certified and licensed in their respective specialties.

I will be the project director and the primary contact for this project. As ***Chief Strategic Officer***, I am authorized to sign contracts with the City. I can be reached via email at ***matrix@matrixdesigngroup.com*** or by phone at ***602.288.8344***.

Sincerely,

Celeste Werner, FAICP
Chief of Strategic Development

SOLICITATION ADDENDUM
RFQ #2022017
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM #1

NOTE: Attach to Original RFQ. However, if Statement of Qualifications (SOQ) has already been returned, complete this Addendum and return for attachment to your SOQ no later than **2:00 PM, November 22, 2021 local time.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Tyra Bell
623-349-6171

SOLICITATION: RFQ #2022017: CITY OF BUCKEYE – AIRPORT SPECIFIC AREA PLAN
Bid Due Date and Time: **November 22, 2021 no later than 2:00 PM local time**
Last Day for Questions: **November 1, 2021 no later than 5:00 PM local time**

NOTICE TO CONSULTANTS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Request for Qualification documents prepared by the City of Buckeye.

Acknowledge receipt and acceptance of this Addendum by returning the attached Solicitation Addendum Acknowledgement Page with the RFQ response.

Q1. Due to the technical difficulties of the Pre-Submittal Conference will another conference be held?

A1. Yes, a new Pre-Submittal Conference will be held on October 21, 2021 at 3:00 PM

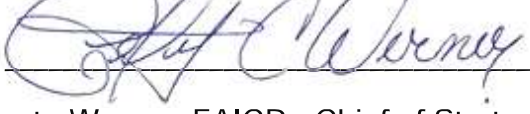
PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS ADDENDUM BY SIGNING THE ATTACHED SOLICITATION ADDENDUM ACKNOWLEDGEMENT.

SOLICITATION ADDENDUM ACKNOWLEDGEMENT

RFQ #2022017 – City of Buckeye – Airport Specific Area Plan
ADDENDUM NUMBER 1
ADDENDUM ISSUE DATE: October 10, 2021

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Matrix Design Group, Inc. - Mike Hrapla

Authorized Signature: 

Print Name Title: Celeste Werner, FAICP - Chief of Strategic Development

Date: November 22, 2021

Address: 2020 N Central Ave, Suite 1140

City, State, Zip Code: Phoenix, AZ 85004

Telephone Number: (602) 288-8344

Email Address: matrix@matrixdesigngroup.com

SOLICITATION ADDENDUM
RFQ #2022017
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION

ADDENDUM #2

NOTE: Attach to Original RFQ. However, if Statement of Qualifications (SOQ) has already been returned, complete this Addendum and return for attachment to your SOQ no later than **2:00 PM, November 22, 2021 local time.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Tyra Bell
623-349-6171

SOLICITATION: RFQ #2022017: CITY OF BUCKEYE – AIRPORT SPECIFIC AREA PLAN
Bid Due Date and Time: **November 22, 2021 no later than 2:00 PM local time**
Last Day for Questions: **November 1, 2021 no later than 5:00 PM local time**

NOTICE TO CONSULTANTS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Request for Qualification documents prepared by the City of Buckeye.

Acknowledge receipt and acceptance of this Addendum by returning the attached Solicitation Addendum Acknowledgement Page with the RFQ response.

Q1. Can you provide a listing of participants in the Pre- Submittal Conference?

A1. Yes. All attendees that provided their information will be listed and posted to the website correctly.

Q2. With regards to qualifications, do we have to be the lead on at least one of the three ASP Area Plans or could you have participated as a subcontractor?

A2. No. You could have participated as a sub.

Q3. Section 2 L.1 states: Ten (10) bound color paper copies of the Buckeye Airport Employment Activity Center Specific Area Plan, one editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF). All non-text components, such as maps, images, renderings, and other graphic materials will be provided in their original editable format. Do you want ten (10) or do you want 1?

A3. Due to COVID-19 this information should now be sent as follows: One (1) editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF) of the Buckeye Airport Employment Activity Center Specific Area Plan. All non-text components, such as maps, images, renderings, and other graphic materials will be provided in their original editable format.

Q4. Section 2 L.2 states: Ten (10) paper copies of an executive summary, one editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF). The documents will be expected to be published on the City of Buckeye website. The City will own the information and data provided at the conclusion of the contract for service so that the City can continue to use, update, and maintain the information beyond the subject contract.

A4. Due to COVID-19, this information should now be sent as follows: One (1) editable electronic copy (Microsoft Word), and one non-editable electronic copy (Adobe PDF) of an executive summary. The documents will be expected to be published on the City of Buckeye website. The City will own the information and data provided at the conclusion of the contract for service so that the City can continue to use, update, and maintain the information beyond the subject contract.

Q5. What is your primary objective for this plan? What is its genesis?

A5. Study the airport to see if we can put together a plan to address future passenger as well as cargo flights. The Specific Area Plan is to design the area around it. It is an Activity Center as defined in our general plan. We are taking the Activity Center and developing a core around the airport. There a few other main objectives to enter appropriate height restrictions and noise mitigation along with land use compatibility around the airport.

Q6. Will there be a steering committee?

A6. Yes. Planning Zone Commission, Council, and Downtown Coalition. Airport Advisory Report.

Q7. Can you provide a budget?

A7. No. We are still trying to obtain additional funds in the next FY year.

Q8. Is the intent to fund the project over two years?

A8. Yes.

Q9. Do we have a timeline?

A9. May of 2023 because we will be adopting this through the General Plan and that is the time the plan is adopted. To help clarify that we do not mean that this is a 24 month process, our FY is July 1 through June 30. So there is funding that runs through June 30, 2022 and as soon as July 1, 2022 begins, we will have that additional funding.

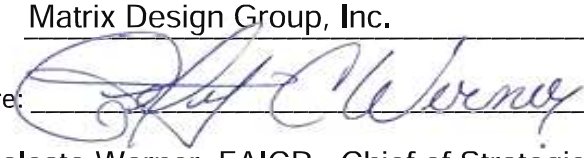
PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS ADDENDUM BY SIGNING THE ATTACHED SOLICITATION ADDENDUM ACKNOWLEDGEMENT.

SOLICITATION ADDENDUM ACKNOWLEDGEMENT

RFQ #2022017 – City of Buckeye – Airport Specific Area Plan
ADDENDUM NUMBER 1
ADDENDUM ISSUE DATE: November 1, 2021

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Matrix Design Group, Inc.

Authorized Signature: 

Print Name Title: Celeste Werner, FAICP - Chief of Strategic Development

Date: November 22, 2021

Address: 2020 N Central Ave, Suite 1140

City, State, Zip Code: Phoenix, AZ 85004

Telephone Number: (602) 288-8344

Email Address: matrix@matrixdesigngroup.com

A

Project Experience

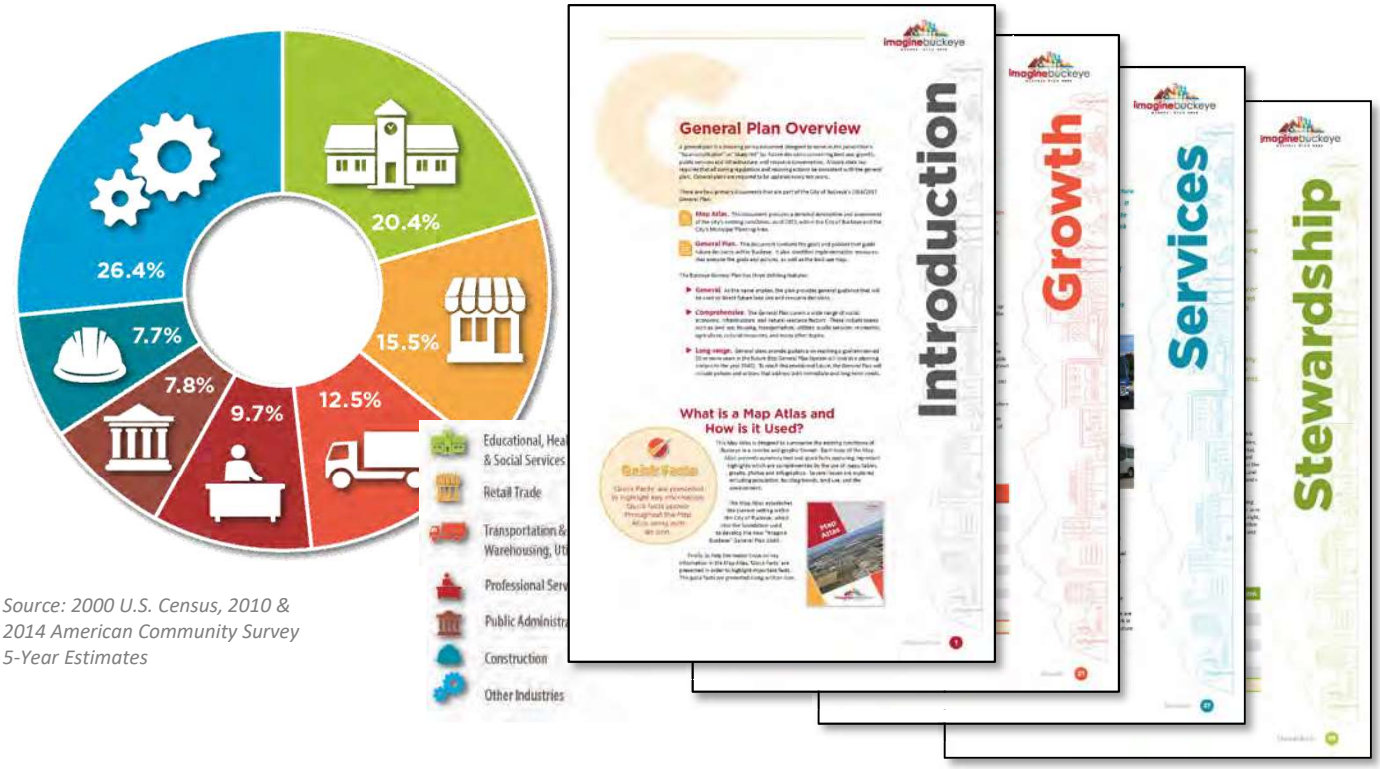
Matrix

Matrix has extensive experience working with the City of Buckeye and has strong relationships in and around the community. We also have extensive national and local experience working with communities to develop successful plans surrounding municipal and military airports. We understand compatibility impacts on these areas and how to assist communities that have limited resources by strategically identifying, clarifying, and intensifying uses that will diversify the economy and enhance employment opportunities while supporting airport business functions. Matrix has prepared more than 60 plans nationwide to assist airport communities with maintaining their character while optimizing assets and operational areas through collaboration. Our knowledge of and sensitivity to the needs of communities will make the *Airport Employment Activity Center Specific Area Plan* a regional employment hub based on the theme-based community supported activity area. Some of our local and project-related experience is shown below.

Buckeye General Plan Update

The Imagine Buckeye General Plan 2040 was a comprehensive update to the City of Buckeye's General Plan, as mandated by ARS §9-461.05. Buckeye included the 17 elements or topic areas required by the State of Arizona for communities with populations of more than 50,000 people. The plan also included five (5) additional optional elements. These elements were economic development, education, urban design, healthy communities, and arts and culture. The addition of these optional elements was based on staff assessment of public input leading up to the plan and during the plan process, which highlighted these areas as critical to the quality of life in Buckeye.

Planning efforts began with a comprehensive branding and theming process that involved key staff and stakeholders. The purpose of this process was to develop a brand for the project that represented Buckeye and was distinct enough to enhance the visibility and knowledge of the project throughout the community. This brand was developed as a collaboration among the consultant and the City's marketing and planning divisions.



Source: 2000 U.S. Census, 2010 & 2014 American Community Survey 5-Year Estimates

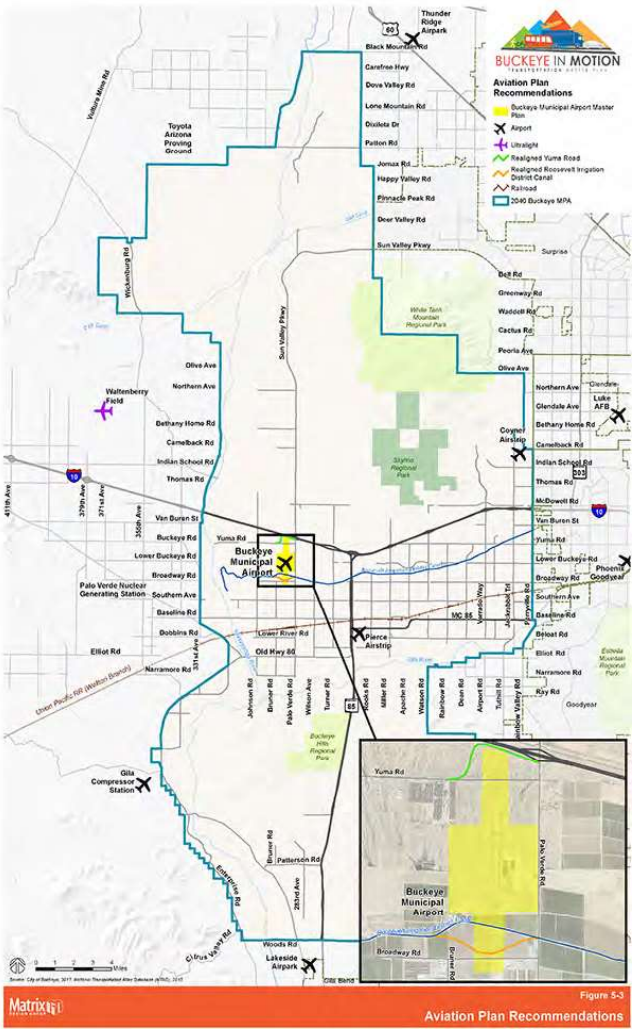
With 22 general plan elements, the final plan could have been difficult to understand and hard for staff to implement. Theming of plan elements was essential for addressing this issue and achieving a usable and implementable plan. Three (3) themes were developed to group like elements: growth, services, and stewardship. Throughout the project all elements were discussed and presented in this context so that the public was able to quickly understand the topics and participate in discussions. This was true for stakeholders who were new to the process and those who were involved throughout. This approach led to a listing of goals, policies, and implementation strategies in a table format efficiently cross-referenced and eliminated duplication.



The project included a comprehensive public participation plan that was adopted by the City Council. The public participation plan included requirements for project branding, oversight by a general plan advisory committee, engagement of focus groups and stakeholders through extensive interviews, four (4) community workshops, two (2) open house events, and public hearings by the Planning and Zoning Commission and Council. To ensure broad and coordinated engagement, the update process started with a week-long kick-off that included five (5) days of stakeholder interviews, focus groups, advisory committee meetings, Commission and Council work sessions, three (3) community workshops, and a Saturday open house. Additional key stakeholders included Luke Air Force Base (AFB), Arizona State Land Department, and development groups. To generate maximum exposure and involvement, community events were held in triplicate, meaning the same topical outreach event was held three (3) separate times in three (3) separate locations around the community. This ensured that the entire community had the opportunity to participate in a community event at a location close to where they live or work. These formal outreach efforts were supplemented by several other endeavors, such as a project website, social media engagement, project brochures, billboards, web surveys, interactive web-based GIS maps, email blasts from the project Team and elected officials, newspaper articles and advertisements, and Team participation in non-project-related community events.

The effectiveness of the final plan is reflected in the level of support it garnered from all participating public and private stakeholders, resulting in a unanimous recommendation of approval by the Planning and Zoning Commission; unanimous approval of adoption by the City Council; and overwhelming support from Luke AFB, Arizona State Land Department, and the development industry. This widespread support culminated in the successful ratification of the plan in August 2018 by nearly 80% of voters.

Buckeye Transportation Master Plan





Matrix provided professional planning, engineering, and public engagement services for the Buckeye Transportation Master Plan (TMP). The final plan provided the framework for an integrated transportation network serving all modes of travel, including vehicular, transit, bicycle, pedestrian, aviation, rail, and freight.

A unique aspect of the TMP was the identification and linking of primary origins and destinations within the community, including major shopping areas, employment centers, residential developments, schools, wildlife corridors, and open space and recreation areas, providing for enhanced and equitable mobility, connectivity, and access. The TMP has a detailed implementation schedule of short-term, mid-term, and long-term transportation infrastructure priorities as well as providing for an integrated network through the City's Capital Improvement Program and budgeting processes, including potential funding sources and project partnerships.

The TMP was developed with significant input from stakeholder interviews, developer forums, and well-attended community workshops. The resulting plan was community-supported and unanimously approved by the Buckeye City Council. The final TMP was incorporated into the City's General Plan (described above)

with the intent of better coordinating land use and transportation decision-making to provide current and future residents a greater variety of transportation options. The TMP also provides updated roadway sections and updates the typical sections for arterial, collector and local roadways that include rural and urban approaches.

Kingsley Field Joint Land Use Study and Implementation

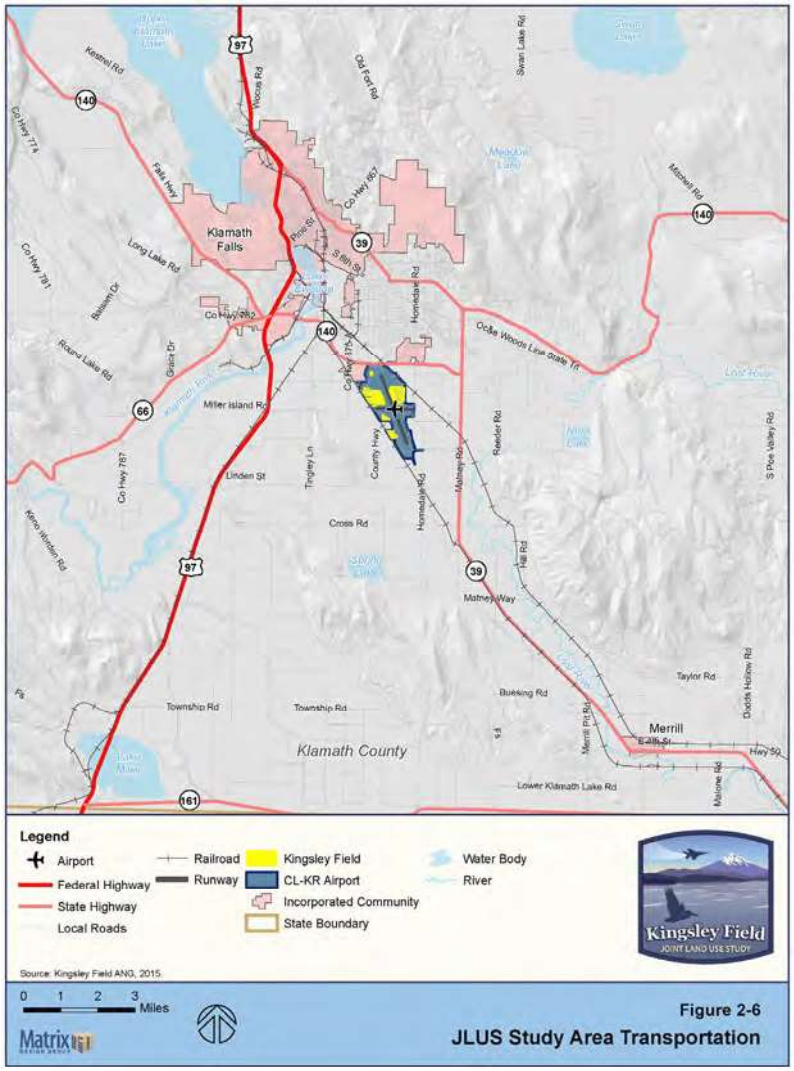


Figure 2-6
JLUS Study Area Transportation

Kingsley Field/Crater Lake–Klamath Regional Airport is a municipal airport serving commercial air and general aviation in southern Oregon. The airport is operated by the City of Klamath Falls and provides leased training facilities for Oregon Air National Guard (ORANG) and active Air Force air-to-air combat pilots, intelligence specialists, and healthcare professionals. As part of the Joint Land Use Study (JLUS), Matrix reviewed current and proposed plans for the surrounding area, airport expansion, and infrastructure both to accommodate increased military aircraft operations and support new commercial airline and general aviation service. The study addressed concerns related to communication and coordination among the airport, the Air Force, and communities; land use and zoning around the airport; aircraft noise; airport land use; vertical obstructions; and airfield safety.

The planning process allowed the identification of areas that could be enhanced by incorporating airport and military compatibility guidelines into local planning documents and processes. Goals were achieved through a robust stakeholder and public engagement plan that included committee meetings and public workshops to present findings and discuss issues and solution sets. The assessment of land use and compatibility issues was done using GIS mapping and analytical tools. Supplemental tasks included an assessment of the airport's FAR Part 150 plan and its master plan, and a future expansion of the crosswind runway to increase general aviation capacity and commercial airline service was also considered. These tasks provided a greater understanding of airport needs and how to properly streamline airport plans in coordination with local community plans. Project deliverables included committee and public meeting materials and presentations, fact sheets, a project website, draft and final JLUS reports and implementation plans, project maps, and a GIS database.

Because of the trusting relationships that Matrix built during the development of the JLUS, we were also hired to implement several recommendations from the study that addressed airport use and planning on airport property and in the surrounding area. These recommendations focused on improving

communications between the airport, Air Force/ORANG, and local communities; reviewing growth plans for the airport and ***working in tandem with concurrent efforts to update the airport master plan***; assessing land and development potential around the airport; and amending local zoning ordinances to include regulations for development in the airport noise zones, safety zones, imaginary surfaces, and flight paths. Matrix worked closely with the Crater Lake–Klamath Regional Airport director, airport master plan consultant, and the Implementation Committee to guide the program. Matrix conducted a parcel-level assessment of existing land use, vacant land, ownership, zoning, and development potential for parcels around the airport within the safety and noise zones.

The implementation strategies we executed included amending the City of Klamath Falls and Klamath County's Airport Safety Hazard Protection Overlay (ASHPO) zoning ordinance and formalizing communication processes between ORANG and communities through memoranda of agreement. The existing ASHPO zoning ordinances for the city and county were amended to address a wider range of compatible land uses and provide more guidance on the types of development that are compatible or not recommended within the noise zones, safety zones, imaginary surfaces, and bird aircraft strike hazard area. The zoning code amendment also incorporated regulations for alternative energy development compatibility and coordination and communication processes. ***A key concern from the community was the existing commercial corridor within Kingsley Field's Accident Potential Zone II***. To address this, the ASHPO amendment did not limit certain types of development in this area, so that it could retain its character and economic prosperity without compromising the military mission at Klamath Falls ARS. Public engagement was central to both the development and the implementation of the JLUS and was achieved through a series of public workshops, a project website, committee meetings, and local media outreach.

Santa Rosa District 4 Master



Matrix collaborated with the Santa Rosa County Development Services Department to create a master plan for the District 4 Navarre area. The plan addressed all aspects of growth and development to position Navarre for a vibrant economic future while preserving the historic assets and coastal culture integral to its identity.

Navarre is an unincorporated community in the northwest Florida Panhandle at the eastern end of a peninsula. It is surrounded by the Santa Rosa Sound, East Bay, East Bay River, and Pensacola Bay. District 4 is adjacent to Eglin Air Force Base, making compatible resource use a central concern. The Master Plan presents three (3) alternative conceptual land use plans that include alternative land use distributions with housing density and types by acreage, estimated building square footage, building heights, and vehicular and pedestrian access and circulation. The Plan further accounted for thematic goals and elements, commercial densities and intensities, architectural standards, parking, signage, public uses, open space, and gateway enhancement.

The Matrix Team drew on both primary and secondary sources, including Santa Rosa County and local and regional organizations, to incorporate the most-up-to-date information on the area. The Team integrated population demographic, housing, economic, and geospatial (GIS) data; reviewed parcel boundary maps, deed restrictions, codes, and existing and proposed County-sponsored projects and private developments;

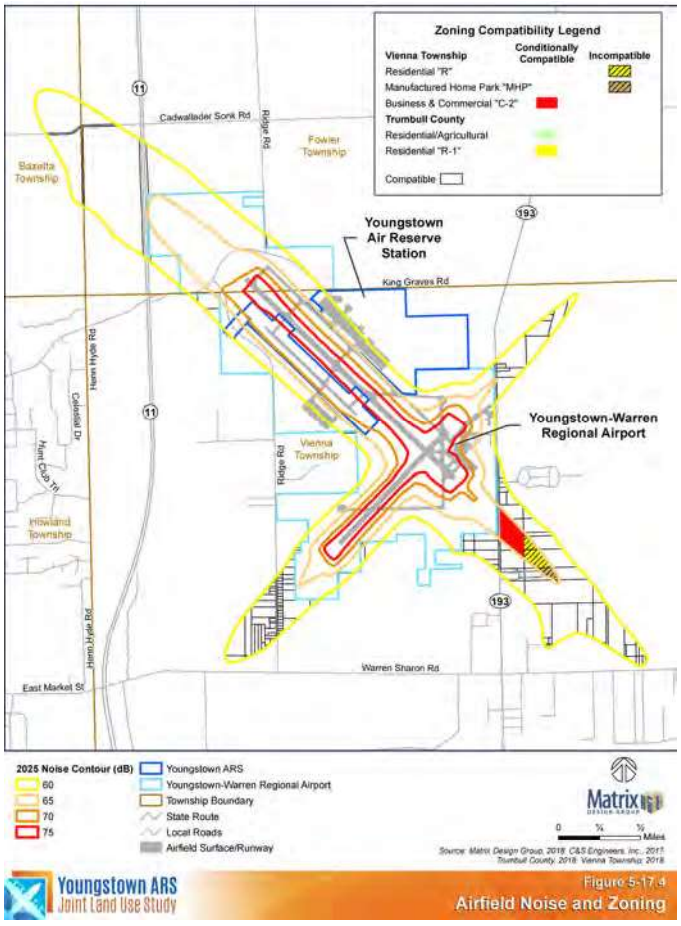
incentive programs; as well as transportation data and plans, including existing roadways and rights-of-way, traffic counts, and Santa Rosa County's long-range transportation plan). Matrix further took into account the area's history, preservation goals, and historical structures and environmental issues and constraints.

Critical to plan success were a visual survey of the area's architecture and aesthetic character and a rigorous public engagement program to capture the community's distinct culture, residents' planning concerns and goals, and the shared vision for District 4. The Team ensured the community was aware of the project and opportunities to participate through multimedia advertising and outreach and held multiple public workshops and stakeholder engagement events. Land use alternatives were ultimately based on input garnered from the workshops and a County staff charrette.



Youngstown Air Reserve Station Joint Land Use Study and Implementation





This project focused on planning for the joint use Youngstown Warren Regional Airport and Youngstown Air Reserve Station (ARS) to ensure capability for both civilian aviation and military use. Matrix managed the project through the Trumbull County project manager to ensure consistency in information and to accomplish project goals and objectives while working with two (2) committees, which included the Youngstown-Warren Regional Airport leadership and engineering staff, leadership and technical staff from the military, and other local, state, and federal stakeholders. Matrix executed the work according to a detailed project work plan and schedule and methodically resolved issues through committee dialog or directly with the airport and military on internal planning issues, as warranted. Opportunities for public input were provided and managed by Matrix at key project milestones.

Matrix reviewed plans and conducted analyses to ensure the viability of long-range planning efforts for the civilian airport while protecting the military mission. We used CADD and GIS to create maps that, along with high-quality graphics, supported the complex assessment of: airfield expansion design for airport and military facility functionality; analysis of surrounding airspace to determine drone impacts and structural heights that cause vertical obstructions; facility planning and siting for hangars and renewable energy facilities; stormwater infrastructure to support development, promote resiliency, and address localized flooding on airport property; environmental impacts, including of fracking facilities on airport property and in the community. Supplemental tasks included studying light and glare impacts on both civilian and military airspace use and conducting a security assessment of the non-aviation use of a midfield hangar and related impacts on the military mission.

Project deliverable included white papers, expert opinion letters, maps, local government resolutions, a project website, an online compatibility mapping tool, as well as the Joint Land Use Study reports with issue assessments, recommendations, and an implementation plan for strategic actions involving multiple project stakeholders.

Despite an extensive Study Area, Matrix was able to coordinate valuable outreach to the benefit of all parties involved, public and private, and crafted communication tools that will help minimize negative impacts from the facility and helped garner widespread support for study.

B

Past Performance Questionnaires

Matrix

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: Matrix Design Group, Inc.
Email : matrix@matrixdesigngroup.com
Address: 2020 N Central Ave, Suite 1140, Phoenix, AZ 85004
Contact Name: Celeste Werner, FAICP
Phone Number: (602) 288-8344
Contact Phone: (602) 288-8344

2. Work Performed as: ☑ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 2015-025
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: General Plan Update (2015-025)
Contract Location: Buckeye, AZ

Award Date (mm/dd/yy): January 19, 2016
Contract Completion Date: August 31, 2018
Actual Completion Date : August 31, 2018
Explain Differences: N/A

Original Contract Price (Award Amount): $324,893.00
Final Contract Price *(to include all modifications, if applicable)* : $591,457.00
Explain Differences: Additional scope of services added

4. Project Description:

Complexity of Work: ☑ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)* Similar deliverables, same client, subject matter

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Adam Copeland
Phone Number: 623-349-6210
Title: Deputy Director of Planning
Email Address: ACOPELAND@BUCKEYEAZ.GOV

6. Describe the client's role in the project:

Drafted new 10-year major General Plan update & coordinated all outreach and visions meeting facilitation

Client Signature: Adam Copeland
Date: 10/25/2021

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY	
a) Quality of technical data/report preparation efforts	E (VG) S M U N
b) Ability to meet quality standards specified for technical performance	(E) VG S M U N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E (VG) S M U N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E) VG S M U N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:	
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E) VG S M U N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	(E) VG S M U N
3. CUSTOMER SATISFACTION	
a) To what extent were the end users satisfied with the project?	(E) VG S M U N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E) VG S M U N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	(E) VG S M U N
d) Overall customer satisfaction	(E) VG S M U N
4. MANAGEMENT/PERSONNEL/LABOR	
a) Effectiveness of on-site management of consultants, and/or labor force?	(E) VG S M U N
b) Ability to hire, apply, and retain a qualified workforce through this effort	(E) VG S M U N
c) Knowledge/expertise demonstrated by consultant personnel	(E) VG S M U N
d) Ability to simultaneously manage multiple projects with multiple disciplines	E (VG) S M U N
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E) VG S M U N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E) VG S M U N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	(E) VG S M U N
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*	Yes (No)
6. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this consultant.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: _____ **Date:** 10/25/2021

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: Matrix Design Group, Inc.
Email : matrix@matrixdesigngroup.com
Address: 2020 N Central Ave, Suite 1140, Phoenix, AZ 85004
Contact Name: Celeste Werner, FAICP
Phone Number: (602) 288-8344
Contact Phone: (602) 288-8344

2. Work Performed as: ☑ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: 2015-025 Change Order #1
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Transportation Master Plan Update
Contract Location: Buckeye, AZ

Award Date (mm/dd/yy): August 29, 2016
Contract Completion Date: August 31, 2018
Actual Completion Date : August 31, 2018
Explain Differences: N/A

Original Contract Price (Award Amount): $262,764.00
Final Contract Price *(to include all modifications, if applicable)* : $262,764.00
Explain Differences: N/A

4. Project Description:

Complexity of Work: ☐ High ☑ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)* Similar deliverables, same client, subject matter

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: John Willett
Phone Number: (623) 349-6282
Title: City Traffic Engineer
Email Address: Jwillett@buckeyeaz.gov

6. Describe the client's role in the project:

Served as City's primary contact for Consultant. Coordinated with the Consultant during the development of the TMP, including addressing comments. Attended Public Meetings with the Consultant, including presentations to City Council.

Client Signature: John Willett **Date:** October 27, 2021

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
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(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

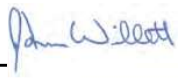
PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	(E)	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	(E)	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	(E)	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	(E)	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	(E)	VG	S	M	U	N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	(E)	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	(E)	VG	S	M	U	N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E)	VG	S	M	U	N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	(E)	VG	S	M	U	N
d) Overall customer satisfaction	(E)	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of consultants, and/or labor force?	E	(VG)	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	(VG)	S	M	U	N
c) Knowledge/expertise demonstrated by consultant personnel	(E)	VG	S	M	U	N
d) Ability to simultaneously manage multiple projects with multiple disciplines	(E)	VG	S	M	U	N
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	(E)	VG	S	M	U	N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	(E)	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E VG S M U (N)
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*	Yes (No)
6. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E VG S M U (N)
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	(E) VG S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this consultant.	(E) VG S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature:  **Date:** October 27, 2021

Explanations for N scoring for some items.

5b - There were not any opportunities for innovative cost reductions for the Plan development.

6a - There were not any emergencies and/or surge situations that needed to be addressed.

Overall - Matrix was great to work with. They brought some innovative ideas to the development of the Plan. If the opportunity presented itself I would work with them on a future project.

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: Matrix Design Group, Inc.
Email : matrix@matrixdesigngroup.com
Address: 2020 N Central Ave, Suite 1140, Phoenix, AZ 85004
Contact Name: Celeste Werner, FAICP
Phone Number: (602) 288-8344
Contact Phone: (602) 288-8344

2. Work Performed as: ☑ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: N/A
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Kingsley Field Joint Land Use Study Implementation
Contract Location: Klamath Falls, OR

Award Date (mm/dd/yy): March 14, 2018
Contract Completion Date: December 31, 2021
Actual Completion Date : Ongoing
Explain Differences: N/A

Original Contract Price (Award Amount): $179,495.00
Final Contract Price *(to include all modifications, if applicable)* : $179,495.00
Explain Differences: N/A

4. Project Description:

Complexity of Work: ☑ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)* Airport area planning services, similar deliverables, public outreach

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: John Barsalou
Phone Number: 541-883-5373
Title: Airport Director
Email Address: jbarsalou@flykfalls.com

6. Describe the client's role in the project: I was the co-project manager for the above referenced contract.

Client Signature: [signature]
Date: 10/21/21

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successufily performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY	
a) Quality of technical data/report preparation efforts	E (VG) S M U N
b) Ability to meet quality standards specified for technical performance	E (VG) S M U N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E (VG) S M U N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E (VG) S M U N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:	
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E (VG) S M U N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	E (VG) S M U N
3. CUSTOMER SATISFACTION	
a) To what extent were the end users satisfied with the project?	E (VG) S M U N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	(E) VG S M U N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	E (VG) S M U N
d) Overall customer satisfaction	E (VG) S M U N
4. MANAGEMENT/PERSONNEL/LABOR	
a) Effectiveness of on-site management of consultants, and/or labor force?	E (VG) S M U N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E (VG) S M U N
c) Knowledge/expertise demonstrated by consultant personnel	E (VG) S M U N
d) Ability to simultaneously manage multiple projects with multiple disciplines	E VG S M U (N)
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E (VG) S M U N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E (VG) S M U N

5. COST/FINANCIAL MANAGEMENT	
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	(E) VG S M U N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E (VG) S M U N
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*	(Yes) No
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*	Yes (No)
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*	Yes (No)
6. GENERAL	
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	(E) VG S M U N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E (VG) S M U N
c) Would you hire or work with this firm again? *(if no, please explain below)*	(Yes) No
d) In summary, provide an overall raiting for the work performed by this consultant.	E (VG) S M U N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. ***(please attach additional pages if necessary)***

Client Signature: _____ **Date:** 10/21/21

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: Matrix Design Group, Inc.
Email : matrix@matrixdesigngroup.com
Address: 2020 N Central Ave, Suite 1140, Phoenix, AZ 85004
Contact Name: Celeste Werner, FAICP
Phone Number: (602) 288-8344
Contact Phone: (602) 288-8344

2. Work Performed as: ☑ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: N/A
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Strategic Plan
Contract Location: Santa Rosa, FL

Award Date (mm/dd/yy): January 21, 2021
Contract Completion Date: 9/30/2021
Actual Completion Date : 9/30/2021
Explain Differences: N/A

Original Contract Price (Award Amount): $150,808
Final Contract Price *(to include all modifications, if applicable)* : $150,808
Explain Differences: N/A

4. Project Description:

Complexity of Work: ☑ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)* Similar deliverables, similar community

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Sabrina White
Phone Number: 850-983-1943
Title: Administrative Chief of Staff
Email Address: sabrinaw@santarosa.fl.gov

6. Describe the client's role in the project:

Project manager of the contract

Client Signature: S White **Date:** 11/22/2021

ADJECTIVE RAITINGS AND DEFINITIONS TO BE USED TO BEST REFLECT YOUR EVALUATION OF THE CONTRACTOR'S PERFORMANCE

RAITING	DEFINITION	NOTE
(E) Exceptional	Performance meets contractual requirements and exceeds many to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor were highly effective	An Exceptional rating is appropriate when the contractor successfully performed multiple significant events that were of benefit to the Government/Owner. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also there should have been NO significant weaknesses identified.
(VG) Very Good	Performance meets contractual requirements and exceeds some to the Government/Owner's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor were effective	A Very Good raiting is appropriate when the Contractor successuflly performed a significant event that was a benefit to the Government/Owner. There should have been no significant weaknesses identified.
(S) Satisfactory	Performance meets minimum contractual requirements. The contractual prerformance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory	A Satisfactory raiting is appropriate when there were only minor problems, or major problems that the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. Per DOD policy, a fundamental principle of assigning raitings is that the contractors will not be assessed a raiting lower than Satisfactory solely for not performing beyond the requirements of the contract.
(M) Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	A Marginal raiting is appropriate when a significant event occurred that the contractor had trouble overcoming which impacted the Government/Owner.
(U) Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains serious problem(s) for which the contractor's corrective actions appear or were ineffective.	An Unsatisfactory raiting is appropriate when multiple significant events occurred that the contractor had trouble overcoming and which impacted the Government/Owner. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory raiting.
(N) Not Applicable	No information or did not apply to your contract	Raiting will be neither positive nor negative.

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of consultants, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Knowledge/expertise demonstrated by consultant personnel	E	VG	S	M	U	N
d) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	VG	S	M	U	N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	VG	S	M	U	N
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*		Yes			No	
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*		Yes			No	
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*		Yes			No	
6. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E	VG	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E	VG	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*		Yes			No	
d) In summary, provide an overall raiting for the work performed by this consultant.	E	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature: S White **Date:** 11/22/2021

PAST PERFORMANCE QUESTIONNAIRE

CONTRACT INFORMATION (To be completed by Contractor/Consultant)

1. Contractor/Consultant Information:

Firm Name: Matrix Design Group, Inc.
Address: 2020 N Central Ave, Suite 1140, Phoenix, AZ 85004
Phone Number: (602) 288-8344
Email : matrix@matrixdesigngroup.com
Contact Name: Celeste Werner, FAICP
Contact Phone: (602) 288-8344

2. Work Performed as: ☑ Prime Consultant ☐ Sub Contractor ☐ Joint Venture ☐ Other (Explain):

3. Contract Information:

Contract Number: N/A
Contract Type: ☑ Firm Fixed Price ☐ Cost Reimbursement ☐ Other (Please specify):
Contract Title: Youngstown Air Reserve Station (YARS) Joint Land Use Study
Contract Location: Warren, OH

Award Date (mm/dd/yy): October 12, 2017
Contract Completion Date: December 31, 2018
Actual Completion Date : October 31, 2019
Explain Differences: Contract modification

Original Contract Price (Award Amount): $197,103.00
Final Contract Price *(to include all modifications, if applicable)* : $197,103.00
Explain Differences: N/A

4. Project Description:

Complexity of Work: ☑ High ☐ Med ☐ Routine
How is this project relevant to project of submission? *(Please provide details such as similar Deliverables, Outreach plans, Presentations)* Airport area planning services, similar deliverables, public outreach

CLIENT INFORMATION (To be completed by Client)

5. Client Information:

Name: Vito Abruzzino
Phone Number: 330.219.3091
Title: Director
Email Address: Vito.Abruzzino@Gmail.com

6. Describe the client's role in the project:

Director of EOMAC - Mil Affairs Liaison for Community.

Client Signature: [signature]
Date: 11/22/21

PAST PERFORMANCE EVALUATION

(TO BE COMPLETED BY CLIENT)

1. QUALITY						
a) Quality of technical data/report preparation efforts	E	VG	S	M	U	N
b) Ability to meet quality standards specified for technical performance	E	VG	S	M	U	N
c) Timeliness/effectiveness of contract problem resolution without extensive customer guidance	E	VG	S	M	U	N
d) Adequacy/effectiveness of quality control program and adherence to contract quality assurance requirements (without adverse effect on performance)	E	VG	S	M	U	N
2. SCHEDULE/TIMELINESS OF PERFORMANCE:						
a) Compliance with contract delivery/completion schedules including any significant intermediate milestones. *(If liquidated damages were assessed or the schedule was not met, please address below)*	E	VG	S	M	U	N
b) Rate the consultant's use of available resources to accomplish tasks identified in the contract	E	VG	S	M	U	N
3. CUSTOMER SATISFACTION						
a) To what extent were the end users satisfied with the project?	E	VG	S	M	U	N
b) Consultant was reasonable and cooperative in dealing with your staff (including the ability to successfully resolve disagreements/disputes; responsiveness to administrative reports, businesslike and communication)	E	VG	S	M	U	N
c) To what extent was the consultant cooperative, businesslike, and concerned with the interests of the customer?	E	VG	S	M	U	N
d) Overall customer satisfaction	E	VG	S	M	U	N
4. MANAGEMENT/PERSONNEL/LABOR						
a) Effectiveness of on-site management of consultants, and/or labor force?	E	VG	S	M	U	N
b) Ability to hire, apply, and retain a qualified workforce through this effort	E	VG	S	M	U	N
c) Knowledge/expertise demonstrated by consultant personnel	E	VG	S	M	U	N
d) Ability to simultaneously manage multiple projects with multiple disciplines	E	VG	S	M	U	N
e) Ability to assimilate and incorporate changes in requirements and/or priority, including planning, execution and response to Government changed	E	VG	S	M	U	N
f) Effectiveness of overall management (including ability to effectively lead, manage and control the program)	E	VG	S	M	U	N

5. COST/FINANCIAL MANAGEMENT						
a) Ability to meet the terms and conditions within the contractually agreed price(s)?	E	VG	S	M	U	N
b) Consultant proposed innovative alternative methods/processes that reduced cost, improved maintainability or other factors that benefited the client	E	VG	S	M	U	N
c) Is the Consultant's accounting system adequate for management and tracking of costs? *If no, please explain in Remarks section.*		Yes			No	
d) If this is/was a Government contract, has/was this contract been partially or completely terminated for default or convenience or are there any pending terminations? *Indicate if show cause or cure notices were issued, or any default action in comment section below.*		Yes			No	
e) Have there been any indications that the consultant has had any financial problems? *If yes, please explain below.*		Yes			No	
6. GENERAL						
a) Ability to successfully respond to emergency and/or surge situations (including notifying COR, PM or Contracting Officer in a timely manner regarding urgent contractual issues)	E	VG	S	M	U	N
b) Compliance with contractual terms/ provisions *(explain if specific issues)*	E	VG	S	M	U	N
c) Would you hire or work with this firm again? *(if no, please explain below)*		Yes			No	
d) In summary, provide an overall raiting for the work performed by this consultant.	E	VG	S	M	U	N

Please provide responses to the questions above (if applicable) and/or additional remarks. Furthermore, please provide a brief narrative addressing specific strengths, weaknesses, deficiencies, or other comments which may assist our office in evaluating performance risk. *(please attach additional pages if necessary)*

Client Signature:  **Date:** 11/22/21

C

Key Personnel Resumes

Matrix



Celeste Werner, FAICP

Chief Strategic Officer

Celeste is an industry leader with more than 36 years of experience delivering cutting-edge solutions that meet client objectives and make community visions real. She has served in both the public and private sectors and cultivated in-depth knowledge and technical expertise in land use and growth management planning, compatibility planning, comprehensive and master planning, redevelopment/renewal and urban design, and zoning. Celeste is a proven project and program manager and has successfully executed projects for municipal, state, federal, and military clients throughout Arizona, the United States, and its territories. Celeste is also a nationally-recognized public facilitator who focuses on conflict resolution, collaboration, and consensus building as key to the successful adoption and implementation of planning strategies and solutions. She has directed multiple projects that have been awarded Outstanding Collaborative Project by the American Planning Association's Federal Planning Division.

Project Assignment

Project Director

Outreach & Involvement Task Lead

Areas of Expertise

Comprehensive Planning

Community Planning

Visioning Facilitation and Public Involvement

Master Planning

Economic Development

Governance/Policy Planning

Experience

16 years with Matrix

36 years overall

Education

B.S. - Urban Planning
Arizona State University

B.S. - Landscape Architecture
Arizona State University

Professional Registrations / Affiliations

American Institute of Certified Planners College of Fellows

American Planning Association (APA)

APA Federal Planning Division – Treasurer

International Association for Public Participation

Association of Defense Communities, Board Member Emeritus

Society of American Military Engineers

Selected Experience

Buckeye General Plan Update | *Buckeye, Arizona*
Celeste was the project manager for this unique and award-winning planning project for the City of Buckeye and previously entitled areas of expansion. Community involvement was crucial for achieving public buy-in regarding changes and updates to the previous plan and entitled areas, and the public involvement process was detailed and extensive.

District 4 Master Plan | *Santa Rosa County, Florida*
Celeste is currently serving as the Project Manager on the Santa Rosa County, Florida, District 4 Master Plan project to manage future growth, attract high quality businesses and jobs, protect natural resources, promote high quality design of public spaces, provide for parks and schools, and maintain public safety and municipal services for this bedroom community covering 27 square miles. The Master Plan is a roadmap for growth and development through land use recommendations and an overlay district with an emphasis on land use, housing, transportation and circulation, open space, and economic incentives.

Kingsley Field JLUS and JLUS Implementation | *Oregon*
Celeste was the Project Manager for the Kingsley Field JLUS and its subsequent implementation. Kingsley Field is operated by the Oregon Air National Guard and is collocated with the Crater Lake – Klamath Regional Airport. It was important for the military and the community to collaborate on topics of land use, zoning, noise, and safety, in order to identify areas that could be enhanced by incorporating military compatibility guidelines into local planning documents and processes. Celeste led the development of a framework for a number of the JLUS recommendations, including an airport safety hazard overlay zone, alternative energy zoning regulations, building code language updates to include sound attenuation, enhancing coordination procedures between Kingsley Field and the communities, and providing educational materials for city and county staff and residents to use to better understand the new guidance and regulations being prepared.



Terri S. Hogan, AICP

Principal Planner

Terri has more than 30 years of professional experience in local / regional government, the military, and internationally. She has expertise in land use planning, water resource planning, and development review as well as in creating and administering local and state regulations and policies. She has managed complex and high-profile development projects, master-planned communities, and long-range projects as well as teams of planners and other professionals in both development and long-range projects. Terri has also managed successful consultant-driven projects and facilitated a variety of meetings with technical experts, developers, the public, appointed and elected officials. Terri is currently an Honorary Commander at Luke AFB, served as co-chair of the Valley Partnership City / Town Committee, the President and Director-at-Large of the American Planning Association's Arizona Chapter, co-chair of the 2020 State Planning Conference, founder of the Women in Planning Group for the Arizona Chapter, and her article Arizona's Cool (Planned) Places was featured in APA's Planning Magazine. Terri is a respected leader in the planning and development industry and widely known as a collaborative, problem-solving professional who builds relationships and provides practical solutions.

Project Assignment

Project Manager

Areas of Expertise

General / Comprehensive Planning

Community / Regional Planning

Master / Site Planning

Land Use Planning

Water Resource Planning

Open Space Planning

Development Planning

Zoning and Subdivision Regulations

Governance/Policy Planning

Community Engagement and Facilitation

Experience

2 months with Matrix

30 years overall

Education

M.S. – Environmental Planning, Community Planning emphasis, Arizona State University

B.S. – Justice Studies, Grand Canyon University

Professional Registrations/ Affiliations

American Institute of Certified Planners, Certificate No. 113587

American Planning Association (APA)

Arizona Chapter of American Planning Association

Relevant Experience

Buckeye General Plan Update | *Buckeye, Arizona*

Terri was the project manager for the City of Buckeye 2018 General Plan update. Community involvement was crucial for achieving public buy-in regarding changes and updates to the previous plan and entitled areas, and the public involvement process was detailed and extensive. The plan also took into consideration future population growth, existing zoning, and other land use-related factors, including future land uses, transportation, the natural environment, and economic development, to create a vision for the future. Terri was recognized as the City of Buckeye Municipal Employee of the Year for her work on the *Imagine Buckeye 2040 General Plan* in 2018.

Buckeye Specific Area Plans | *Buckeye, Arizona*

Terri oversaw the review process and finalization of the El Rio District Area Plan, the Wildlife Corridor Study, and the ASU Downtown Study. She worked closely with the Buckeye Mainstreet Coalition, Valley Chamber of Commerce, Library Board, Airport Board, District School Board other stakeholders and elected officials on the engagement of preliminary discussions on the vision of the Downtown Specific Area Plan, Gateway Specific Area Plan, and the Airport Specific Area Plan.

Buckeye Master Planning, Zoning Review, Development Update | *Buckeye, Arizona*

Terri oversaw administration of 26 master-planned communities in the City of Buckeye including general plan amendments, master plan amendments, zoning changes, site planning and platting as well as the processing of development code amendments, streamlining of process, and facilitation of technical meetings with city staff and development partners.



James "Rusty" Mitchell

Compatibility Planner

As a fighter pilot in the United States Air Force as well as a Captain at United Airlines, Rusty has an extensive aviation background and foundation. For the past 18 years, he has been the Director of the Luke Air Force Base Community Initiatives Team established in 2003 as a one-of-a kind office that was the primary liaison between senior staff on base and all levels of elected officials that could have an impact on the long-term mission sustainability of the base. His staff collaborated with thirteen surrounding political subdivisions ensuring their general plans and the Maricopa County comprehensive plan supported the mission sustainability of the base while supporting the safety and welfare of the citizens, and the economic viability of the individual communities. To accomplish this, he drafted state legislation that protected the military mission of all installations in Arizona. He also drafted a non-legislative policy document that emphasized a reduction in residential density in close proximity to Luke AFB. Through extensive relationship building, this Graduated Density Concept was universally adopted by all eleven political subdivisions in the West Valley of Phoenix. To further ensure Luke AFB's mission sustainability, he was asked to sit on all general plan amendments in the west valley, assisting the cities with developing compatible general plans while balancing them with economically viable options for the communities.

Project Assignment

Luke AFB Coordination Advisor

Areas of Expertise

Legislation and policy

Community relations

Aviation planning

Military compatibility planning

Experience

<1 year with Matrix

39 years overall

Education

M.A. – Business Management
Webster University

B.A. – History / English Pre-Law
University of Southern California

Professional Registrations / Affiliations

Board of Directors – Valley partnership

Board of Directors – WESTMARC

Relevant Experience

Director – Luke AFB Community Initiatives Team | *Glendale, Arizona*

Rusty was the Founder and Managing Director of the premier community liaison office in the U.S. Air Force, where he was acknowledged as the primary contact between the surrounding community and senior leadership. In this role, he educated surrounding elected officials on mission requirements and needed legislative protections to ensure mission sustainability. He maintained personal interaction with state elected officials who were critical to the selection of Luke AFB as the F-35 Center of Excellence. He drafted legislative and policy documents that were codified in state law and thus protected all installations in Arizona, resulting in the group being identified by the Secretary of the Air Force and CSAF as the "Gold Standard" for community relations.

United Airlines

Rusty spent more than twenty years as a line pilot for United Airlines, culminating as a Captain based in San Francisco.

U.S. Air Force

Rusty was a fighter pilot with the Air Force with experience in both Europe and Asia. He was a tactical expert in all phases of weapons employment in both the A-10 and the F-16. He was selected to stand up the first F-16 squadron for the Republic of Taiwan, to which he personally delivered the first of 138 F-16s.



Project Assignment

Land Use & Development Regulation

Areas of Expertise

Comprehensive / General Planning

Master Planning / Site Planning

Community Planning / Area planning

Public and Stakeholder Engagement

Zoning / Design /Form-Based and Land Development Ordinances

Planning & Zoning / Site Plan Review

Experience

<1 year with Matrix

20 years overall

Education

B.S. – Geography, emphasis in GIS and Urban Economic Systems, Northern Illinois University

Professional Registrations / Affiliations

American Institute of Certified Planners, No. 025657

American Planning Association

American Planning Association – Arizona Chapter

Edward Boik, AICP

Senior Planner

Ed is a professional planner with 20 years of city planning experience in urban and suburban communities and the private sector. He has worked on a wide range of planning projects that include general plans, area plans, master planned communities, and land development, zoning, and design regulations. His skills include public outreach, conducting workshops, and presenting to governing bodies. His strong communication skills allow him to establish productive working relations and clearly interact with all audiences from elected officials, to staff, to outside agencies and the public. Ed's background also includes review of zoning, site plan/landscaping plan, variances, design review and other development review requests. His dependability and skills have resulted in him being trusted to manage high-profile, complex, economic development projects and develop complex land use codes such as medical marijuana regulations, sign codes, and form-based codes. Ed effectively communicates, assesses, and develops implementable policies, plans, and codes to meet community planning and development goals.

Selected Experience

City of Buckeye Master Planning, Zoning Review, Development Code & General Plan | *Buckeye, Arizona*

Ed was the Project Manager for numerous amendments to the Development Code and the General Plan and has extensive experience with all varieties of zoning and development plan review. Ed was responsible for development code amendments which streamlined process, revised sign regulations, improved landscaping regulations and created economic development zoning overlays. Ed had extensive experience with development and management of master plans, area plans, and general plans, including the 2018 Buckeye General Plan. Ed was also responsible for the review of zoning, variance, site plan, and use requests.

City of Peoria Master Planning, Zoning Review, Development Code & General Plan | *Peoria, Arizona*

Ed was the Project Manager for numerous amendments to the Development Code and has extensive experience with all varieties of zoning and development plan review. Ed was responsible for development code amendments to regulate medical marijuana dispensaries and improve overall code useability. Ed had experience with community master planning and assisted with the2011 Peoria General Plan update. Ed was also responsible for the review of zoning, variance, site plan, and use requests.

Landscape Code Implementation | *Peoria, IL, Peoria, AZ, Buckeye, AZ*

Ed has two (2) decades of experience with site and landscape plan review and understands that a great landscape code is only great if it can be implemented. Ed's public sector experience allows him to understand the effects of landscape requirements and how to best ensure the code can be effectively implemented and supported by developers and the community.



Matt Schwalb, MA, MSA

Senior Research Analyst

Matt has eleven years of professional experience with market analysis; economic and fiscal impact assessments; real estate pro forma development; focus group facilitation; and survey design, implementation, and analysis. He specializes in conducting market analyses that examine the demand for a variety of commercial products, including food and beverage, retail, office, and multi-family developments. Matt utilizes both quantitative and qualitative approaches to forecasting commercial product demand and absorption by square footage / units and incorporates these estimates into financial models (pro forma) that estimate net-present values, return-on-investment, return-on-equity, break-even points, and return-on-capital for each investor in a given real estate development.

In addition to market and financial analyses, Matt has conducted a wide variety of economic impact assessments, ranging from the fiscal impacts of military installations to the total economic impacts (direct, indirect, and induced) of the sports tourism industry. Matt is proficient with standard econometric input-output models, including REMI PI+, IMPLAN Modeling Software, and RIMMS II multipliers produced by the U.S. Bureau of Economic Analysis. His extensive knowledge and experience provide clients a detailed understanding of federal- and state-level financial, economic, and demographic data; their implications for local planning goals; and modeling tools for identifying development opportunities within specific market contexts.

Project Assignment

Economic Development Task Lead

Areas of Expertise

Market Analysis

Financial Modeling (Pro forma)

Economic and Fiscal Impact Assessment

Economic Development

Survey Research

Data Analytics

Client Management

Experience

7 years with Matrix

11 years overall

Education

M.S.A. – Public Administration (Applied Economics), University of West Florida

M.A. – Political Science, University of West Florida

B.A. – International Relations, University of West Florida

Professional Registrations / Affiliations

International Economic Development Council (IEDC)

National Association of Business Economists (NABE)

Center for Regional Economic Competitiveness (CREC)

Relevant Experience

Government Mall of Arizona | *Phoenix, Arizona*
Matt provided all market analytics for the redevelopment of the Government Mall of Arizona. Analytics included a demographic profile for a series of primary and secondary market areas surrounding the Mall. For each market area, market demand for residential, office, retail and hotel uses were projected over a 10-year period. These projections were critical to producing the subsequent 10-year development program for the State.

Luke AFB Growth Management Plan | *Glendale, Arizona*
Matt completed a comprehensive economic and workforce assessment for Maricopa Association of Governments (MAG), including an evaluation of existing conditions and future growth and demand associated with mission change at Luke Air Force Base and regional development, anticipated gaps in service, and economic and workforce development opportunities available to communities surrounding the base. His work involved developing spending quotients at the zip code level to support intra- and inter-regional comparisons. Matt further provided a series of actionable strategies for fully exploiting current resources and development opportunities to address future needs and development goals, enhance quality of life, and support residents' vision for the region.



Michael Pompliano, PE

Environmental Engineer

Michael has 14 years of experience on federal and commercial remediation sites as program manager, project engineer, deputy project manager, and field manager. He has supported design, development, and implementation of soil and groundwater remediation systems and biotreatability studies to address emerging contaminants. Michael is skilled with numerous soil, groundwater, and vapor sampling methods and he has proficient reporting experience for Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), and Voluntary Cleanup Program (VCUP) processes.

Project Assignment

Environmental Review Task Lead

Areas of Expertise

Federal Remediation

Commercial Remediation

Program and Project Management

Phase I & II

Feasibility Studies

Remediation System Design

Waste Management

Asbestos Inspection

Soil & Groundwater Sampling

Experience

5 years with Matrix

14 years overall

Education

B.S. – Biosystems Engineering, specialization in Environmental Engineering, Michigan State University

Professional Registrations / Affiliations

Arizona Registered Professional Engineer, License No. 69090 / 2019

Asbestos Building Inspector, Colorado Department of Public Health, License No. 23471 / 2017

Colorado Environmental Management Society

Relevant Experience

Paloma Regional Preserve Trails (2020-2021) | *Peoria, Arizona*

Michael performed a Limited Environmental Assessment for a proposed park expansion on behalf of the City of Peoria. He completed a limited biological resources and permitting review, including coordination with Arizona Game & Fish Department and the U.S. Fish and Wildlife Service, as part of the assessment.

Air Force Enlisted Village (2021) | *Eglin Air Force Base, Florida*

Michael completed an Environmental Baseline Survey (EBS) of real property transfer proposed for retired Air Force residence. As part of the EBS, he performed a natural and biological resources assessment, environmental hazards evaluation, and records review.

20th Street & Factor Ave Water Quality Assurance Revolving Fund (WQARF) Site (2018-Present) | *Yuma, Arizona*

Michael is the project manager of this Arizona Department of Environmental Quality remediation site. He manages groundwater sampling, enhanced reductive dechlorination (ERD) injection groundwater treatment, and performs engineered asphalt cap and stormwater filtration system inspections for contamination attributed to a former photo processing facility.

Air Force Plant 44 (2007-2014) | *Tucson, Arizona*

Michael authored long-term monitoring reports, remedial action completion reports, and an in situ chemical oxidation study for large-scale soil and groundwater remediation projects. He also supported operations and monitoring of the advanced oxidation treatment system addressing volatile organic compounds in groundwater.

Great Plains Development Authority (2016-Present) | *Tucson, Arizona*

Michael is the program manager of this this Base Realignment and Closure facility. He performed a biotreatability study to address an emerging contaminant in groundwater, implemented in situ chemical reduction remedies, and authored annual reports.



Mike Hrapla

Senior Vice President

Mike is Senior Vice President and oversees Department of Defense (DoD) programs. His extensive background of the past 45 years includes managing and directing small to very large planning, engineering, design, construction, housing, and environmental operations and personnel worldwide. Mike brings unique understanding and perspective to this role from his 27 years of experience as an Air Force Base civil engineer, HQ Air Force programmer, and former Air Force Special Operations Command (AFSOC) command engineer. His past 20 years as a consultant have focused on compatibility programs and projects supporting installations and defense communities.

Project Assignment

Military Compatibility Task Lead

Areas of Expertise

CUP / JLUS / Compatibility Planning

Strategic Planning

Master Planning

Long Range Planning

Program Development

DOD Facilities

Design and Construction

MILCON

Capital Investment Programs

Client Management

Experience

16 years with Matrix

47 years overall

Education

M.S. Facilities Management, Air Force Institute of Technology

B.S. Civil Engineering, University of Pittsburgh

Professional Registrations / Affiliations

Society of American Military Engineers (Fellow)

Relevant Experience

Kingsley Field JLUS and Implementation | *Klamath Falls, Oregon*

Kingsley Field is collocated with the Crater Lake – Klamath Regional Airport and occupies 254 acres of exclusive use land leased from the City of Klamath Falls, while sharing an additional 526 acres of joint-use land with the City of Klamath Falls. It was important for the military and the community to collaborate on topics of land use, zoning, noise, and safety, in order to identify areas that could be enhanced by incorporating military compatibility guidelines into local planning documents and processes.

Youngstown Air Reserve Station JLUS and Implementation | *Fowler, Ohio*

Mike was the Deputy Project Manager for the Youngstown Air Reserve Station (ARS) JLUS and the Military Liaison for the Implementation. Youngstown ARS is collocated at Youngstown-Warren Regional Airport. The 910th Airlift Wing (AW) is the host command at Youngstown ARS and is supported by multiple organizations under the Wing's direct command authority. Some of the key compatibility issues identified and addressed through the JLUS included limited land space within the installation boundaries to expand, security and force protection concerns at the main gate and around the installation perimeter, incompatible development within the airfield safety zones, and communication between Youngstown ARS and the communities and organizations surrounding it.

Pinal County JLUS | *Arizona*

Mike served as the project director for the Pinal County JLUS, which assessed compatibility issues around four (4) Arizona Army National Guard (AZARNG) facilities and associated flight operational areas. The primary issues were related to impacts from alternative energy projects and energy transmission corridors to helicopter flight routes, development potential on Arizona State Trust Land, limited water availability, and airspace encroachment from commercial aircraft. Mike played a key role in stakeholder engagement and the development of recommendations for addressing the compatibility issues.



Chris Martin, GISP

Director of GIS

Chris has 19 years of professional experience in the GIS field and has been with Matrix 15 years. As a certified GIS Professional, he has provided support in both the public and private sectors on diverse projects including master planning and concept design, asset management, field data collection, floodplain modeling, financial analysis, capital planning, watershed management, GIS data improvement, custom application design, database development, and various water resource applications.

Project Assignment

GIS and Data Collection Task Lead

Areas of Expertise

GIS Modeling

Asset Management

Database Development and Management

Data Analysis

Data-Driven Prioritization

Capital Planning

Project Management

GIS Application Development

Experience

15 years with Matrix

19 years overall

Education

M.S. – Geographic Information Science, University of Denver, 2006

B.A. – Geography, University of Denver, 2003

B.S. – Environmental Science, University of Denver, 2003

Professional Registrations/ Affiliations

Geographic Information Systems Professional, Certification No. 91306

Relevant Experience

South Mountain Transportation Study | *Laveen, Arizona*
GIS project manager for the overall study which focused on existing conditions and scenario mapping to improve traffic congestion and safety in this rapidly growing area.

Luke Air Force Base Targeted Growth Management Plan | *Glendale, Arizona*
This project was a community-led, collaborative regional planning effort between Maricopa Association of Governments, Luke Air Force Base, and surrounding jurisdictions in the West Valley region of the greater Phoenix Metropolitan Area. GIS was responsible for designing and building a web-based StoryMap with interactive maps that presented dense report data and narrative in a format that could be easily accessed and understood by the general public. We also performed proximity analyses, generated density base maps, and maintained cartographic consistency across deliverables.

City of Buckeye El Rio Trail Feasibility Study | *Buckeye, Arizona*
GIS project manager for the assessment of a 17-mile proposed trail system within Buckeye's Municipal Planning Area. Work included detailed existing conditions mapping, conceptual designs, and database management of field collected data.

Envision Glendale 2040 General Plan | *Glendale, Arizona*
The general plan update took place for a variety of reasons: to be consistent with Arizona general plan legislation; to reflect current conditions such as the development of employment and transportation corridors of Loop 101, Loop 303, and Northern Parkway; to recognize the sports and entertainment district and to further Glendale's partnership with Luke AFB. Chris coordinated all mapping efforts for the update including the development of the land use map. He also analyzed existing community character and public services in GIS to inform recommendations and the underlying zoning code.

Transportation Demand Model | *Denver, Colorado*
Managed the development of a transportation demand model for the City of Denver's Department of Public Health & Environment. The model allows users to prioritize various health related indicators that may influence multi-modal transportation demand and guide future infrastructure investment as it relates to health.



Robert Hazlett, PE

Senior Executive Planning Associate

Robert is a former Senior Program Manager for the Maricopa Association of Governments, where he directed capital improvement programs with responsibilities for recommending project priorities, ensuring budget compliance, establishing performance measures, and providing progress reports to elected officials and management. As an engineer, he has designed surface transportation and site development projects that have including plans for drainage, stormwater, access control, traffic control, signals, and illumination. For his projects, he has facilitated, presented, and developed agendas for more than 70 public activities to obtain stakeholder consent, and he has made more than 400 presentations to state legislatures and other public agencies.

Project Assignment

Transportation / Roadways Task Lead

Areas of Expertise

Transportation planning

Environmental compliance

Multimodal networks

Air quality determination

Stakeholder engagement

Experience

<1 year with Matrix

36 years overall

Education

B.S. – Civil Engineering, Missouri University of Science and Technology

Professional Registrations / Affiliations

Professional Engineer, AZ #43298

Transportation Research Board

American Association of State Highway and Transportation Officials

Arizona State University Faculty Associate

Relevant Experience

Maricopa Regional Transportation Plan | *Maricopa County, Arizona*

As Senior Program Manager, Robert directed delivery of the region's $10 billion free way program, including:

- Delivering more than 860 lane miles of transportation infrastructure with public transportation; traffic operations; and bike, pedestrian, stormwater, and utility improvements
- Coordinating the activities of more than 250 professionals from 30 member agencies, contractors, and consultants
- Navigating challenging times when expected revenues were not realized or when project costs exceeded program amounts by instituting a cost-risk analysis program, recommending practical designs, and advocating alternative project delivery wherever feasible.

Other Experience

- Long-range framework studies to identify infrastructure in emerging areas of the region, leading directly to the interstate 11 designation from Congress in Arizona and Nevada.
- Strategic high-capacity corridor analyses to establish contect-sensitive recommendations, environmental statements, and transportation systems management and operations recommendations.
- Policy positions for automated vehicles and emerging technologies within the region.
- Reviews of policies and processes, both internal and external, for recommending improvements to program delivery, member agency relations, and employee development.
- Agendas, summaries, reports, and presentation for the Regional Council and associated committees.

Jeff Velasquez, PLA, ASLA

Placemaking & Design Task Lead



Jeff is a Project Manager with 27 years of public works experience in the fields of landscape architecture and urban design. His wide variety of project experience has included planning, design, and construction of award-winning District and Downtown revitalization projects. His expertise includes placemaking, public involvement, sustainable green systems/low-impact development (LID) design, signage and wayfinding systems, road diets (also known as road "right-sizing"), urban design and pedestrian/multi-modal improvements, complete streets, transportation projects, multi-use trail systems, and regional, community and neighborhood park design. His attention to detail, ability to achieve consensus, and focus on long-term economic development opportunities have become trademarks of Jeff's work. Jeff has been a featured speaker at the ASLA National Convention and many of his high-profile projects have been published nationally.

EXPERIENCE

- **Falcon Field Airport Historic Zone Master Plan; Mesa, AZ (City of Mesa) Project Landscape Architect.**
- **Buckeye Park and Ride Expansion; Buckeye, AZ (Valley Metro) Project Manager.**
- **Sundance Park Phase II; Buckeye, AZ (City of Buckeye) Project Manager.**
- **Downtown Streetscape Master Plan; Page, AZ (City of Page) Project Manager.**
- **Downtown Tolleson Redevelopment Project (Paseo de Luces); Tolleson, AZ (City of Tolleson) Project Manager.**
- **Downtown El Mirage Improvements – Thunderbird Road & El Mirage Road; El Mirage, AZ (City of El Mirage) Project Landscape Architect.**
- **Downtown Somerton Redevelopment Project; Somerton, AZ (City of Somerton) Project Manager.**
- **Fiesta District Improvements; Mesa, AZ (City of Mesa) Project Landscape Architect.**
- **Downtown Chandler: Arizona Avenue Corridor Improvements; Chandler, AZ (City of Chandler) Project Landscape Architect.**
- **Fry Boulevard West End Corridor Study; Sierra Vista, AZ (Sierra Vista Metropolitan Planning Organization) Project Manager.**
- **Water Tower Plaza; Gilbert, AZ (Town of Gilbert) QAQC Landscape Architect.**
- **McQueen Road Improvements – Queen Creek Road to Riggs Road; Chandler, AZ (City of Chandler) Project Landscape Architect.**
- **Washington Street Improvements (Boston Street to Frye Road); Chandler, AZ (City of Chandler) Project Landscape Architect.**
- **South Arizona Avenue Entry Corridor Improvements; Chandler, AZ (City of Chandler) Project Landscape Architect**
- **Tolleson Veterans Park; Tolleson; AZ (City of Tolleson) Project Manager.**
- **Paseo Pocket Park Improvements at Fiesta District; Mesa, AZ (City of Mesa) Project Landscape Architect.**
- **Desert Breeze Park; Chandler, AZ (City of Chandler) Project Manager.**
- **Victory Acres Park (Esquer Park); Tempe, AZ (City of Tempe) Project Manager.**
- **Rio Salado Pathway Segment 4; Mesa, AZ (City of Mesa) Project Manager.**
- **Piestewa Peak Trailhead; Phoenix, AZ (City of Phoenix) Project Manager**

Experience

27 Years' Industry Experience
19 with J2

Education

B.S., Landscape Architecture, California State Polytechnic University, Pomona, CA

Registration

Arizona Landscape Architect #35538 | 2000

New Mexico Landscape Architect #489 | 2011

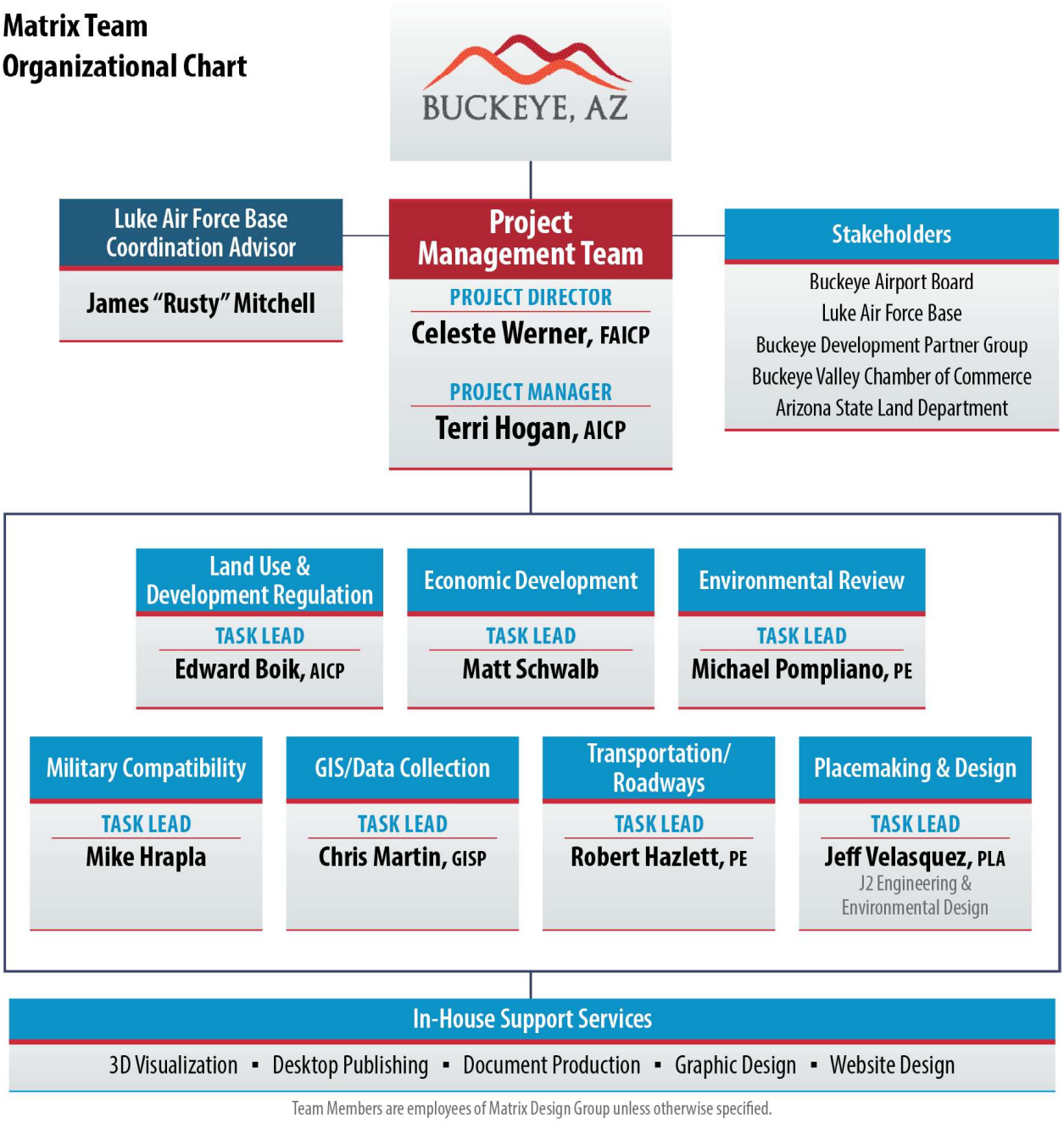
Affiliations

Arizona Association for Economic Development (AAED)

American Society of Landscape Architects (ASLA)

The Team that Matrix proposes for the Airport Employment Activity Center Specific Area Plan includes an accomplished core group of planners and technical specialists including economists and transportation engineers as well as and placemaking experts who have worked together on numerous community planning projects and land use analyses. The group of seasoned and diverse subject matter experts ensures a well-coordinated approach that incorporates a wealth of experience and up-to-date knowledge of evolving trends and state-of-the-art methods in community planning. The Team includes advanced technical leads and support staff, as well as in-house graphic designers, GIS specialists, and others ready to provide services as needed. The organization chart below details the anticipated roles of each of our technical team leaders.

Matrix Team Organizational Chart



Team Members are employees of Matrix Design Group unless otherwise specified.

D

Project Understanding and Approach

Matrix

Project Understanding

Located in the far west of the Phoenix Metropolitan Area (PMA), Buckeye with its large 640 square mile Municipal Planning Area (MPA) has been characterized by the locals as ***The West Valley*** appropriately denoting that the City is of a magnitude that cannot be ignored. As the fastest growing city in the nation, Buckeye is poised to be one of its largest and most diverse cities. With the Matrix Team leading the community-driven ***Imagine Buckeye 2040 General Plan***, the long-term vision of Buckeye was adopted by City Council and ratified by the community by nearly 80% in 2018. The community's vision is:

Buckeye in 2040 is an innovative, healthy resilient, and forward-thinking community that is safe and secure with diverse employment, housing, education, and business opportunities. Buckeye offers rural to urban lifestyles with a genuine sense of heritage while being good stewards of our natural resources, open spaces, and overall quality of life.

This balanced vision which the Matrix Team was a part of includes six (6) activity centers across the MPA which are all themed as vibrant mixed-use areas. In particular, the theme of the *Buckeye Airport Employment Activity Center* is a ***regional employment and retail hub anchored by the Buckeye Airport.*** Future uses are meant to complement and support the business functions of the airport and not infringe upon its long-term potential. This activity center was given a 5-year short-term implementation task to be refined through a specific area plan, known as the Buckeye Airport Specific Area Plan (Airport Area Plan). Given the vision of the community and the overall theme of the activity center, the Matrix Team thoroughly understands that the area around the airport has ***unlimited potential***. The Matrix Team will create an Airport Area Plan that ***intensifies and clarified uses*** while denoting this area as a ***regional employment and retail hub*** creating an ***increased employment base and diversified economy*** with ***multimodal access and connectivity***.

There is a current Airport Master Plan that is soon to be updated that envisions expansion of the airport and commercial parcels within the confines of the airport property. There are also plans for the airport to host a variety of operations including the Arizona Army National Guard "Blackhawks." This airport has also been considered to have potential similar to the ***Fort Worth Alliance Airport in Texas***. There are certainly land use and infrastructure issues to consider with existing uses around the airport and a nearby military base with overhead training routes that create both opportunities and challenges for development of the airport. However, the Matrix Team believes in ***"out of the box" thinking and that the sky is the limit for this airport and its surrounds and we can turn any constraint or challenge into a vibrant opportunity*** by employing our extensive experience in land use planning around and for airports as well as collaborating with our established relationships with Arizona State Land Department (ASLD), Luke Air Force Base (LAFB), and the development community. New and motivated private ownership combined with the high growth in Buckeye result in the momentum necessary to develop the area. Additionally, the airport is located in proximity of I-10 and SR85 and the future I-11 making it well-suited to be the City's western gateway. All the surrounding uses that will be subject to the Airport Area Plan should be compatible with the airport and complement its future uses. The area needs to have retail, restaurants, and hotels to serve the activities planned at the airport but also adjacent and nearby employment that both serves and complements the airport and the economic viability of the City.



Fort Worth Alliance Airport, Texas

In addition to the Matrix Team's overall project understanding, we have strategically partnered with the J2 design team, who also believe that ***establishing a true sense of place*** is essential for the success of the Airport Area Plan. With J2's expertise in placemaking, designing, and implementing high-profile placemaking projects, the outcome of this planning process will ensure long-term opportunities grounded in quality improvements that reflect the character of the Buckeye area. Proposed imagery, monumentation, materials, design standards, and improvements will be established making the Airport area a true destination facility. The experience of the Matrix-J2 combination is truly second to none in the State for producing quality placemaking locales.

The Matrix Team is excited to be part of this effort as your technical experts, taking ideas and inputs from the City and community and generating a range of alternatives (and implications of these choices) that can be discussed openly. Our experience in working on area specific plans across the United States allows us to bring the lessons learned from other locations to Buckeye as real-world examples of plans and results. Our experience working on recent city plans including the award-winning *Imagine Buckeye 2040 General Plan* and the *Buckeye Transportation Master Plan* gives us insider insight into the community ideals and personalities. This extensive experience also gives our planners a unique background from which they can both understand the community and shape new ideas and alternatives to address the unique challenges and opportunities identified. In addition to the City and community members, we also see the area plan as an opportunity to engage with other important stakeholders such as the Airport Advisory Board, Buckeye Valley Chambers of Commerce, ASLD, LAFB, and many other county and state agencies.

Project Approach

Matrix's philosophy to specific area planning goes beyond the preparation of basic policies and maps – it is about listening to a client's needs and engaging the community to create unique and vibrant areas within community. This philosophy results in a more usable plan that is developed based on a range of innovative alternatives specifically tailored to each community's unique identity and situation. We help turn a community's vision into reality by understanding when to preserve, protect, and leverage the best characteristics of a community's built and natural environments. Our philosophy is grounded in the following principles:

Engaging the Community - Ensuring the planning process includes a variety of community and stakeholder outreach methods to create multiple opportunities for public input, participation, and active engagement. Our process optimizes opportunities to ensure buy-in from stakeholders and the community to secure support and commitment to the specific area plan.

Integrating Best Practices - Integrating proven strategies to address common issues saves time and money in the implementation process. Best practices can come from the City's existing plans and studies, but also from our broad experience in developing similar specific area plans across the country.

Focusing on Implementation - One of the hallmarks of our plans is an emphasis on plan implementation. Preparing an innovative plan is nothing more than an academic exercise if it sits on the shelf and is not implemented. Consequently, our recommendations are focused on achieving a final product that is easy to implement.

Making it Usable/Easy to Administer - Our final product is designed to provide excellent usability and ease of maintenance. This is measured by producing a plan that is realistic and easy to understand, serves as a guide for future planning and resource decisions, and can be easily used and maintained by planning staff.

Making it Flexible - Throughout the planning process, a lot can change. New opportunities may arise for the community that need to be incorporated into the plan, workshops may need to move due to local scheduling conflicts, and so forth. Having worked on hundreds of plans, our Team understands the need to serve as a flexible partner to develop the best plan for the community.

Respecting the Process - The best decisions are those made by the community and the stakeholders. Beyond our expertise, Matrix understands that our role is to help identify issues and opportunities, provide an appropriate range of alternatives, and describe the implications of choosing a specific set of them. This enables the community, stakeholders, and decision makers to make informed decisions about the area's future.

A key aspect of our Team is our firm belief in the outreach and involvement process and the vital role it serves for the successful development and implementation of a successful specific area plan. Such studies and plans must identify and embrace each community's vision, principles, and ideals for the future. It is not enough to simply prepare a plan and expect that it will be achieved on its own. Developing an area plan requires extensive outreach to, and input from, a broad cross-section of residents, businesses, community organizations, and other stakeholders.

Our Team recognizes the importance of a multi-level outreach program that successfully engages the broad demographic spectrum of residents and businesses. This includes techniques to reach out to and engage typically under-represented populations. We have a proven track record in engaging these populations,

including busy families, seniors, youth, and other hard-to-reach populations. We do this by forming strategic partnerships with community organizations, focusing on multiple channels of cost-effective outreach, and applying electronic and social media.

The language of planning is often acronym-heavy – our program will use straightforward, simple language to make it accessible to all residents and, we hope, even make it fun! We have designed outreach plans that let people communicate with us in the ways with which they are most comfortable and provide transparent processes that validate the input given.



Our approach to community outreach is organized to achieve the following three (3) objectives:

1. An inclusive process – engage as many members of the community as possible.

2. An informative program – educate citizens and decision-makers on the process, issues, options, and potential solutions.

3. A validating experience – ensure citizens and decision-makers are heard and that they see their voices making a difference in the plan development.

Inclusivity includes strategies like use of social media and traditional media, email and eblasts, city events, city newsletters, and an ambassador program that leverages existing communication channels. The image below demonstrates our outreach and involvement success in developing the *Imagine Buckeye 2040 General Plan Update*.



Outreach and Involvement Metrics for the Imagine Buckeye 2040 General Plan Update

Some of the ways we inform stakeholders and the public are through meeting facilitation, scenario planning, workshops (both in-person and virtual), websites, and story maps.

Stakeholder engagement will be the cornerstone of the Airport Area Plan and span the length of the project ending with final adoption of the plan by the City Council. Rigorous, thorough, and transparent public participation is a vital part of any planning process and is critical to the outcome of a community-supported specific area plan that is inclusive of the needs and plans of the City of Buckeye. Public engagement will include both traditional and non-traditional forms of outreach. Traditional forms of outreach will include community open houses, facilitated stakeholder meetings, design charettes, Planning & Zoning Commission and City Council workshops and hearings, fact sheets, and a project website; non-traditional forms will include virtual community workshops, online questionnaires, handheld electronic polling, and interactive map devices that provide immediate feedback during public involvement activities.

Although in-person meetings are strongly preferred, Matrix has adopted new means of engagement due to the persistent limitations on travel and group gatherings resulting from COVID-19. We actively use, and are fully capable of supporting, online virtual meetings through different platforms such as Zoom and Microsoft Teams. We routinely conduct virtual stakeholder meetings, committee meetings, and public meetings in virtual environments. We have adapted the tools we use for in-person meetings for the virtual environment, including virtual sign-in sheets, virtual question polling, documentation and mapping tools, and feedback and comment solicitation. If desired by the City of Buckeye, Matrix will utilize virtual stakeholder engagement to conduct committee meetings and workshops until in-person meetings are deemed safe.



Matrix has developed and employs a 3-D virtual public workshop portal, a custom public engagement tool that can be used to facilitate live and on-demand meetings, tailored to each clients' specific needs. A short video depiction of this tool can be found here: ***https://youtu.be/V2wf1yJvZ6g***.

Matrix has successfully utilized this approach to keep public engagement active, in a manner considerate of public health concerns. The virtual public workshop tool was created as a value-add to our clients that does not impact current budgets or schedules and can be deployed quickly for new clients, along with our full suite of more traditional public engagement methods.

We are fully equipped with the latest tools and technology to conduct meetings both in-person and using virtual environments. We are agile and flexible — able to meet the City of Buckeye's needs while staying on schedule and within the project budget.

IDPlaces



Matrix's IDPlaces app gives the public and stakeholders the ability to put issues on a dynamic, web-based map and provides the community with multiple ways to voice their issues related to specific geographic locations. The app allows participants to mark the geographic area where the issue exists, add comments, or upload images and documents to create a more interactive experience. Comments are then available for other users to see, creating a collaborative platform.

Project Management

Matrix uses a structured project management approach that enables us to complete projects on schedule and within budget. This approach incorporates proactive communication and reporting, scheduling, budget

monitoring, resource tracking, technical guidance, and quality assurance/quality control (QA/QC). Comprehensive QA/QC measures are established for each project to ensure that all stakeholder and community input is properly documented and considered, and all statutory requirements are met. Our Team of project managers will optimize the flow of information within the Team and to the City and ensure that every concerned individual has knowledge of all project components. A branded Project Management App will be set up early in the process to ensure that the project is on time and within budget. The App will be regularly updated and can be accessed by the City's project management team 24 hours, 7 days a week.



Project Management App

Scope of Work

To organize the tasks as listed in the Request for Qualifications (RFQ), the Matrix Team has defined three (3) phases of the airport activity area planning process:

- ***Existing Conditions & Assessment - Tasks A & B***
- ***Land Use Alternatives & Plan Development – Tasks C-H***
- ***Stakeholder Engagement & Project Management – Tasks I-K***

The first and second phases will occur consecutively, with the third phase spanning the duration of the project (see notional schedule). Each primary task is divided into subtasks, and the general method of completion described.

Task A: Data Collection, Inventory, Existing Conditions, and Literature Review

Subtask A.1 Review of Applicable Plans and Studies

The Matrix Team will collect existing relevant studies, plans, policies, and regulations, including, but not limited to, *Imagine Buckeye's 2040 General Plan* (2018), *Transportation Master Plan* (2019), and *Airport Master Plan* (2007). Our firm is intimately familiar with most of these documents as the original author or a primary reviewer of the City's general plan and transportation and bike/pedestrian master plans. The Matrix Team will also review related plans from the Arizona Department of Transportation (ADOT), Maricopa County Department of Transportation (MCDOT), Flood Control District of Maricopa County (FCDMC), and LAFB, as well as other pertinent studies, plans, policies, and regulations to ensure all identified challenges, opportunities, and goals are addressed and Buckeye's vision for the Airport Activity Area is realized.

Subtask A.2 Data Collection, Assessment, and Mapping

The Matrix Team will compile (including native format files whenever possible) the applicable plans, studies, maps (including GIS data), and other documents and data that currently exist, as well as data from other regional, county, and state agencies. During our prior working relationship with the City on the general and transportation plans, we collected a comprehensive database of existing conditions and GIS files from the City and stakeholders, including roads, rail, canals, utilities, and socioeconomic and demographic variables. We will ensure that all data is properly updated so that the most current information is utilized for the Airport Area Plan. We will work with the City staff and other agencies to obtain this data using Requests for Information (RFIs). Pertinent information that is contained in the data collected will then be reviewed in depth and used by the Matrix Team to assist with the development of the Airport Area Plan. The Matrix Team will create a GIS map or maps of the existing conditions to be used as background information throughout the process. These maps will be made accessible on the project website and presented to the City's project management team.

Task A: Deliverables

- RFIs for City departments and other agencies, as needed (electronic)
- A brief memo and/or PowerPoint summarizing all data collected (electronic)
- GIS map(s) of existing conditions (electronic)

Task B: Existing Entitlements/Uses, Building Sizes/Dimensions, and Development Envelopes

Subtask B.1 Identification of Existing Entitlements and Development Standards

The Matrix Team will work with the City to document existing entitlements, uses, building sizes/dimensions, and development envelopes, as well as any other information to the built environment. The basis of this information will be from all available secondary sources and from City records. We will work with City staff as needed to obtain this data using Requests for Information (RFIs).

Subtask B.2 Assess and Map

Pertinent information that is collected for Task B.1 will be reviewed in depth and used by the Matrix Team to assist with the development of the Airport Area Plan. The Matrix Team will create a GIS map or maps of the built environment to be used throughout the process. These maps will be made accessible on the project website and presented to the City's project management team.

Task B Deliverables

- Requests for Information (RFIs) for City departments and other agencies, as needed (electronic)
- A brief memo and/or PowerPoint of all the data collected (electronic)
- GIS map(s) of the built environment (electronic)

Task C: Land Use and Design

Subtask C.1 Detailed Alternative and Preferred Land Use Plan

The Matrix Team will create a detailed land use plan for the *Buckeye Airport Employment Activity Center* through the successful actions outlined below.

Subtask C.1.1 Land Use Alternatives

The Matrix Team and the City's project management team will develop alternatives for the Airport Area Plan. Factors to consider are the anticipated physical characteristics of growth and characteristics of the planning area; community input received through workshops and other avenues, as well as design and placemaking elements and other identified opportunities and constraints. For each alternative, the Matrix Team will identify planning and development issues for which there are clear policy solutions and directions, as well as for issues where similar opportunities are not as clear. The preferred plan will intensify and clarify uses complementary and compatible with existing uses at the airport and on lands adjacent to the Study Area and will be further responsive to stakeholder input. The plan will clearly define each use and support the identification of parcel-level developments and potential projects (see Task E.1) that can create an ***interconnected, regional employment and retail hub***.

Subtask C.1.2 Preferred Land Use Plan

The preferred land use plan will be complementary and compatible with existing uses at the airport and on lands adjacent to the Study Area, as well as responsive to stakeholder input. These uses will be defined within the plan and promote the ultimate vision for the activity center as defined in the general plan.

Subtask C.3 Development Standards

State law authorizes and encourages cities to develop specific area plans that are regulatory in nature and the Matrix Team will ensure development standards that promote the vision of the *Buckeye Airport Employment Activity Center* as expressed by the community and other stakeholders are included in the airport plan. These standards will address employment character and compatible infill as well as design, siting, and use.

Subtask C.3 Airport Development Protections

The Matrix Team has years of experience and has completed many projects that demonstrate our commitment to the importance of preserving and protecting airports, both military and civilian, from encroachment. Variables that pertain to airport encroachment include building heights, noise, and future expansions; all will be fully addressed within the Airport Area Plan.

Subtask C.4 Transitional Development Standards

The City of Buckeye has a long history of promoting transitions between developments to reduce incompatibilities and ensure that adjacent uses and intensities are blended appropriately. The Matrix Team understands the importance and land use transitions and will continue this precedent and add language in the plan to ensure appropriate and effective transitional development standards.

Subtask C.5 Design and Placemaking Standards

The Matrix Team, including design and placemaking experts, will work with stakeholders and the community more broadly through design charettes to develop design concepts and standards that meet the ultimate vision for the Airport Area Plan. Input from the charettes and the resulting concepts and standards will inform the land use alternatives developed as Subtask C.1.1.

Task C Deliverables

- PowerPoint detailing alternative land use plans and their implications (electronic)
- Development, design, and airport protection standards (electronic)
- Land use GIS maps (electronic)
- Draft plan with preferred land use map (electronic)

Task D: Prepare Policies and Goals

Subtask D.1 Goals and Policies

The Matrix Team will develop goals and policies that support defining the theme and vision of the *Buckeye Airport Employment Activity Center* and that are responsive to all relevant outcomes and insights from the economic development assessment and environmental review and all additional pertinent City and stakeholder concerns or direction. Goals and policies will further support and lead to an implementation plan for actions that can be systematically accomplished as the initial steps toward ultimate build out. Matrix recognizes these goals and policies are critical to ensuring City staff, decision makers, and developers can effectively guide development to meet the shared vision for the activity area.

Task D Deliverables

- Goals and policies (electronic)

Task E: Identify Future Potential Development Uses/Projects

Subtask E.1 Development Uses/Projects

The Matrix Team will identify parcel-level uses and potential future projects that can increase Buckeye's employment base and ***help diversify the local and regional economies while supporting and enhancing airport business functions***. Matrix will engage and collaborate with stakeholders to identify any new or emergent needs and concern and ensure all key elements of their vision for the activity area are captured. The Team will also integrate results from the cost benefit analyses and other Task F efforts, as well as pertinent economic and employment information provided by City staff and local economic development organizations, to ensure recommendations are practical, sustainable, and can realize the Activity Center's full potential.

Task E Deliverables

- Future land use descriptions (electronic)

Task F: Economic Development

Subtask F.1 Cost Benefit Analysis

The Matrix Team economist will conduct a thorough cost benefit analysis estimating implementation and long-term maintenance costs for any proposed public improvements and programs, relative to land value and sales tax as well as tax burdens, increased revenue, and workforce benefits, to guide parcel-level designations in Tasks E.1.

Subtask F.2 Financing Mechanisms

Our economist will provide a list and description of viable financing mechanisms for targeted developments in the activity area. These mechanisms may include, but are not limited to, cost-share loans and grants for private property improvement, special taxing districts, improvement districts, and redevelopment and revitalization districts.

Subtask F.3 Feasibility of Public-Private Partnerships

Public-Private Partnerships (PPPs) involve collaboration between a government agency and a private sector company to finance, build, and operate projects such as transportation networks, parks, and convention centers. Increased interest among private property owners in developing lands around the airport suggests The Matrix Team will explore the opportunity and feasibility of PPPs which may be a viable funding mechanism for major infrastructure improvements. The Matrix Team will also build on our existing relationships and knowledge of agencies and organizations including WESTMARC to identify opportunities for PPPs.

Subtask F.4 Vacant Property Policies

The Matrix Team will evaluate Buckeye's existing vacant property regulations and policies, as well as those from surrounding communities. Numerous vacant properties cause blight and degradation of property values throughout a community. An implementation task may be recommended if needed to enhance the existing vacant property polices and property maintenance code.

Subtask F.5 Marketing and Identity Strategies

The Matrix Team has a robust and talented marketing and communications division. Initially the project will be given identity through project branding as approved by the City's project management team. Branding gives the project an identity beyond just a name, builds recognition, and creates a consistent experience for the public. A cohesive brand makes project materials more memorable and visually stimulating. Our graphic designers will develop a unique look for the Airport Area Plan, making it easily identifiable through the entire engagement process. This branding identity will be combined with preferred design and placemaking concepts and then carry forward to strategies to continue marketing the Airport Area Plan through build out. Matrix brings in-house marketing and communications specialists with extensive experience in project branding, identity building, and placemaking. Branding enhances a project's identity and recognition to extend beyond its name and create a consistent and memorable experience for the public. A strong and cohesive brand makes project materials more visually stimulating, engaging, and interesting. Our graphic designers will work with the City's project management team to develop a unique look that integrates and makes easily identifiable all project documents, the project website, public outreach and engagement materials, and the final Area Plan. Branding will look to placemaking principles and concepts and be combined with preferred placemaking designs and strategies as a wholistic effort. Ultimately, the project brand will carry forward in marketing the plan and development through build out.

Subtask F.6 Permitting, Land Use, Licensing, or Other City Process Enhancements

The City of Buckeye prides itself in being "open for business" and one element of success and competitive advantage in this area is having an efficient and cost effective permitting and licensing process. To encourage development within the *Buckeye Airport Employment Activity Area*, the Matrix Team will draft regulatory incentives to be implemented after plan adoption.

Subtask F.7 Implementation Plan and Financing Strategy

The Matrix Team believes that the real value of area plans like in their implementation and we have extensive experience creating success implementation strategies. Matrix implementation plans include recommended and prioritized tasks, specified timeframes, designated city department, potential implementation partners, and potential funding sources. The Airport Area Plan will include recommended actions and a realistic implementation schedule, as well as a section or appendix on potential funding strategies. The implementation plan will be incorporate the vision, goals, and polices that are created during the process. The list of prioritized financial strategies will be derived from the inventory and analysis as well as outputs of this section.

Task F Deliverables

- A brief memo with bullet points for Economic Development (electronic)

Task G: Road Alignments & Public Improvements in the Specific Area Plan Area

Subtask G.1 Road Alignments and Public Improvements

The Matrix Team will consider planned alignments and planned roadway improvements in the Study Area and region at large as part of developing the Specific Area Plan. Our specialists will refer to Buckeye's *Transportation Master Plan* (TMP) and approved community master plans (CMPs), as well as the City's Capital Improvement Plan (CIP), and work with appropriate department heads to ensure that the Area Plan respects and is consistent with these future road alignments and, conversely, that planned roadway improvements support the vision for and timing of development efforts in the activity area. In addition to roadway-related improvements, other important public improvements for build-out of the airport area include sewers, water mains, and drainage conduits, as well as private utilities. The Matrix Team will review planned public and private improvements in the vicinity of the airport, articulate any needed additions to the implementation plan, and create a future road and public improvement map.

Task G Deliverables

- Road and public improvement GIS map (electronic)

Task H: Environmental Review

Subtask H.1 Environmental Review

Matrix recognizes that property owners and/or developers may need to conduct reviews, including for environmental hazards, natural resources, and cultural resources before initiating ground-breaking activities on Study Area parcels. Our environmental and cultural resource compliance specialists bring the expertise needed to identify the type and scope of environmental reviews that are required in different development contexts and the skills to coordinate and consult with regulatory entities and stakeholders during review processes. Our specialists can help the City of Buckeye identify the constraints and opportunities related to hazards and natural and cultural resources that developers may face and can help guide marketing efforts accordingly or help incentivize development by completing reviews before parcels are marketed. We focus on making projects go while meeting stewardship obligations and standards.

Task H Deliverables

- A brief memo with bullets for the Environmental Review (electronic)

Task I: Coordination with Buckeye Airport Master Plan Update

Subtask I.1 Coordination with Buckeye Airport Master Plan Update

The Matrix Team is aware that the *2007 Buckeye Municipal Airport Master Plan* is being updated and that the land use types and configuration ultimately promoted are pertinent to the development and success of the *Buckeye Airport Employment Activity Center* plan. The Matrix Team further understands that these two processes should not occur in isolation but through coordinated and collaborative efforts. We will work directly with the professional team tasked with updating the Airport Master Plan, as well as address the

compatibility of activity area developments with and the protection of airport operations through activity area and transitional area development standards.

Task I Deliverables

- Updates on coordination with airport master planning efforts within monthly status reports, as needed (electronic)

Task J: Outreach and Involvement

Subtask J.1: Kick-off Meeting – 1 meeting

The Matrix Team recognizes that key City staff have important knowledge of the ***Imagine Buckeye 2040 General Plan,*** including the themes assigned activity centers, and specifically the Buckeye Airport Employment Activity Center. Matrix will work with the City's team to review and refine the Area Plan scope of work, budget, and schedule at project initiation. This kick-off meeting will also provide the first opportunity to define the City's and Matrix' roles and responsibilities; the project goals and objectives; information needs; public outreach goals, types of engagement, targeted groups, and communication protocols; as well as the makeup, goals, responsibilities, and scope of engagement with the Airport Area Plan Stakeholder Group. The Matrix Team will also work with the City to discuss the project website, document outline and format, and potential branding schemes, as well as the dates and times of all meetings. The kick-off meeting may also include discussions specifically on the existing uses in the plan Study Area and the different uses that might be proposed. Other possible developments in the Study Area, including additional uses, road alignments, sidewalks, and other public amenities, will also be discussed.

Subtask J.2: Community Open House Meetings – up to 2 meetings

Up to two (2) community open house meetings will be held during the existing conditions and assessment part of Task A and the land use alternatives and plan development part of Task C. These meetings will be held at the Executive Conference Room at City Hall and at Coyote Branch Library. In addition to these meetings, the public will be informed of all the public workshops and hearings that will be held in council chambers. By shifting the location of these meetings, participation can be enhanced, resulting in more effective engagement with the community and better insight into the diverse interests and concerns of residents.

Subtask J.2.1 Community Meeting #1

The Matrix Team and City staff will facilitate a community meeting at City Hall to educate attendees about what the airport Area Plan is and how it relates to the citizen-approved ***Imagine Buckeye 2040 General Plan*** and vision for the airport activity area. At this meeting, the public will be informed of and invited to participate in the process for the life of the project. The Team will also seek input through electronic polling questionnaires during this meeting.

Subtask J.2.2 Community Meeting #2

The Matrix Team and City staff will facilitate a community meeting at the Coyote Branch Library once the plan is drafted. This meeting will be designed to give the public an overview of the draft document and it will be held in time to receive meaningful input and make any needed changes prior to finalization and presentation to the City's appointed and elected boards.

Subtask J.3: Airport Area Plan Stakeholder Group – up to 4 meetings

Beyond City staff and appointed/elected officials there are a number of stakeholder groups who will be included in the planning process due to jurisdictional interests, role in infrastructure use and development, and/or potential to be impacted by development near the airport. Those groups include, but are not necessarily limited to: the City Council, the Airport Advisory Board, Buckeye Valley Chamber of Commerce, Union Pacific Railroad, MCDOT, ADOT, Valley Metro, various utilities, FCDMC, Maricopa Association of Governments (MAG), ASL, Bureau of Land Management (BLM), LAFB and WESTMARC. This group will meet up to four (4) times during the length of the project to provide feedback and direction for the plan. All meetings will be facilitated by the Matrix Team and City staff and held virtually or at City Hall.

Subtask J.3.1 Stakeholder Group Meeting #1

This meeting is intended to educate attendees about what the airport Area Plan is, as well as how it relates to the general plan. The process, timeframe, roles, and responsibilities of the group will be discussed. An electronic polling questionnaire will be utilized to better understand issues, opportunities, and constraints affecting the Buckeye Airport and surrounding lands.

Subtask J.3.2 Stakeholder Group Meeting #2

This second Stakeholder Group meeting will be a design charrette at City Hall focused on visual assessments of visioning and placemaking scenarios. The goal of this meeting will be to derive a set of design concepts and standards that support and begin to realize the ultimate vision of the airport Activity Center.

Subtask J.3.3 Stakeholder Group Meeting #3

Land use alternatives that the project management team has outlined with respect to input from the community and stakeholder groups will be reviewed and assessed in this meeting. The goal of the meeting will be to obtain consensus regarding a preferred land use plan.

Subtask J.3.4 Stakeholder Group Meeting #4

The draft plan will be presented in this meeting and next steps toward any needed refinement will be discussed.

Subtask J.4 Development Partner Group Meeting – 1 meeting

Soon after the kick-off meeting, the Matrix Team will present to the City's Development Partner Group. The purpose of this meeting will be to formally introduce the project to members of the Development Partner Group to inform them of the process and communication channels. Members of these boards will also be invited to self-select to join the Airport Area Plan Stakeholder Group.

Subtask J.5 Planning and Zoning Workshop – up to 2 meetings

Subtask J.5.1 Planning and Zoning Commission Workshop #1

Soon after the project kick-off meeting, the Matrix Team will conduct a joint workshop with the Planning & Zoning Commission and City Council in the executive conference room at City Hall. The purpose of this meeting will be to formally kick-off the project for the Commission and Council and to inform them of the planning process and project communication channels.

Subtask J.5.2 Planning and Zoning Commission Workshop #2

After the land use alternatives have been derived by the Project Management Team from input on the preferred land use alternative from the various stakeholders, the Matrix Team will present to the Planning and Zoning Commission and City Council at a joint workshop to get their direction on the preferred land use plan. The next steps of the plan will also be discussed at this meeting.

Subtask J.6 City Council Workshop – up to 2 meetings

Subtask J.6.1 City Council Workshop #1

Soon after the kickoff meeting, the Matrix Team will conduct a joint workshop with the Planning & Zoning Commission and City Council in the executive Conference Room at City Hall. The purpose of this meeting will be to formally kick-off the project for the Commission and Council to inform them of the process and communication channels.

Subtask J.6.2 City Council Workshop #2

After the land use alternatives have been derived by the project management team from input on the preferred land use alternative from the various stakeholders, the Matrix Team will present to the Planning & Zoning Commission and City Council at a joint workshop to get their direction on the preferred land use plan. The next steps of the plan will also be discussed at this meeting.

Subtask J.7 Stakeholder Coordination – up to 10 meetings

The Matrix Team will conduct in person or virtual, individual, face-to-face interviews with designated stakeholders who may be unable to attend the regular Airport Area Plan Stakeholder Group meeting(s). A stakeholder interview summary memorandum of interview results will be prepared and distributed to the City project management team.

Subtask J.8: Public Hearings – 2 meetings

It is anticipated that the activity area planning process will be approximately one (1) year in duration from project kick-off to final plan approval. The Buckeye Airport Employment Activity Center Specific Area Plan will be a standalone document that is already referenced in the ***Imagine Buckeye 2040 General Plan*** as a future related plan on the Land Use Map and as a short-term implementation task in the implementation plan. Per ARS 9-461.09, specific plans need only be heard for recommendation by a municipality's planning and zoning commission and then approved via ordinance or resolution by its city council. Once the final document is approved, it will be designated as a specific area plan.

Subtask J.8.1 Planning & Zoning Commission Hearing

The Matrix Team and the City project management team will present the final draft to the Planning and Zoning Commission for a recommendation of approval. The City will prepare the staff report and advertise the hearing; Matrix will provide a PowerPoint summarizing the plan and any needed meeting materials. The final draft of the document will be delivered to the City in time for the staff report to be prepared.

Subtask J.8.2 City Council Presentation

The Matrix Team and the City project management team will present the final draft to the City Council for approval. Materials will be provided as described in Subtask J.8.1, above. The Matrix Team will complete any needed revisions following Planning and Zoning Commission approval.

Subtask J.9 Final Document (The RFQ also listed this separately as a Deliverable Subtask L.1)

Following the final public hearing, the final document will be made available as a PDF digital file for public distribution and posted on the project website. Additionally, ten (10) hard copies of the final document, bound and in color, will also be provided to the City, along with one (1) editable electronic copy (Microsoft Word) and one (1) non-editable electronic copy (Adobe Acrobat PDF).

Subtask J.10: Project Branding and Website

Matrix will regularly update a dedicated, branded project website created and hosted by the Matrix Team where interested parties can obtain information, studies, documents, and meeting dates. Project branding is discussed in detail in Subtask F.5. Our in-house graphics and website development experts are skilled in developing branded websites and website materials that are easy to access and understand and that provide timely project information and updates throughout the planning process. The project website will include information about the project and a schedule of events, as well as the ability to download and comment on project documents. The website will also serve as ***an interactive tool*** for high-level planning assessments and provide the public an opportunity to sign up for project updates. The branding itself will be approved by the City's project management team and utilized for all material related to the airport Area Plan.

Subtask J.11: Informational Fact Sheet # - Process Overview & Timeline

This branded fact sheet will describe the purpose, goals, process, and schedule of the Airport Area Plan as well as providing project contacts and methods to provide input into the planning process. This fact sheet will be completed within the initial months of the project and will be available for public distribution as an electronic document on the project website.

Subtask J.12: Informational Fact Sheet #2 - Visioning & Alternative Land Use Planning Results

The second branded fact sheet will describe the results of the visioning and design charrette process as well as illustrate the preferred land use plan. This fact sheet will be completed mid-way through the project and will be available for public distribution as an electronic document on the project website.

Subtask J.13: Informational Fact Sheet #3 -Executive Summary (The RFQ also listed this separately as a Deliverable Subtask L.2)

The third factsheet will be prepared to provide an executive summary of the final draft of the Airport Area Plan. It will be a brochure and will include a summary of each section and the preferred land use plan, goals, and policies as well as the implementation plan. This brochure will be completed following the City Council Presentation (Subtask J.8.2) and will be available for public distribution as an electronic document on the project website. Additionally, ten (10) hard copies of executive summary will be provided with one (1) editable electronic copy (Microsoft Word) and one (1) non-editable electronic copy (Adobe Acrobat PDF).

Task J Deliverables

- Kick-off meeting agenda and summary of meeting (electronic) – 1
- Community meeting agenda, materials, and summary of meeting (electronic if virtual) – up to 2
- Stakeholder meeting agenda, materials, and summary of meeting (electronic if virtual) – up to 4
- Development Partner meeting agenda, materials, summary of meeting (electronic if virtual) - 1
- Workshop meeting agenda, materials, summary of meeting (electronic if virtual) – up to 2
- Individual stakeholder meeting agendas, materials, summary of meetings (electronic if virtual) – up to 10
- Branded project website
- Informational Fact Sheet #1 (electronic)
- Informational Fact Sheet #2 (electronic)
- Informational Fact Sheet #3 (electronic, 10 hard copies)
- Final draft document (electronic)
- Final document (electronic, 10 hard copies)

Task K. Administrative Tasks

Subtask K.1: Standing Meetings and Phone Calls with City

The Matrix Team will conduct standing meetings with the City's project management team and communicate via phone calls as needed.

Subtask K.2: Monthly Progress Reports (up to 1 page)

Monthly one (1)-page progress reports will be provided by Matrix to the City's project management team.

Subtask K.3: Meeting Minutes and Summaries

The Matrix Team will track, save, and distribute meeting minutes and summaries to the City's project management team.

Subtask K.4: Meeting Materials

All meeting materials such as PowerPoints, comment forms, presentation boards, and sign in sheets for each meeting will be provided to the City's project management team by Matrix.

Subtask K.5 Project Schedule

The Matrix Team will maintain and manage the project schedule by regularly updating the previously described project app that will be accessible to Buckeye's project management team. The project app ensures that the planning process is completed on time and within budget and that it includes transparent communications with the City's project management team.

Subtask K.6: Stakeholder Questions

The Matrix Team will be responsive and answer questions from the public, other stakeholders, and City staff throughout the duration of the project via email and phone calls in a timely fashion.

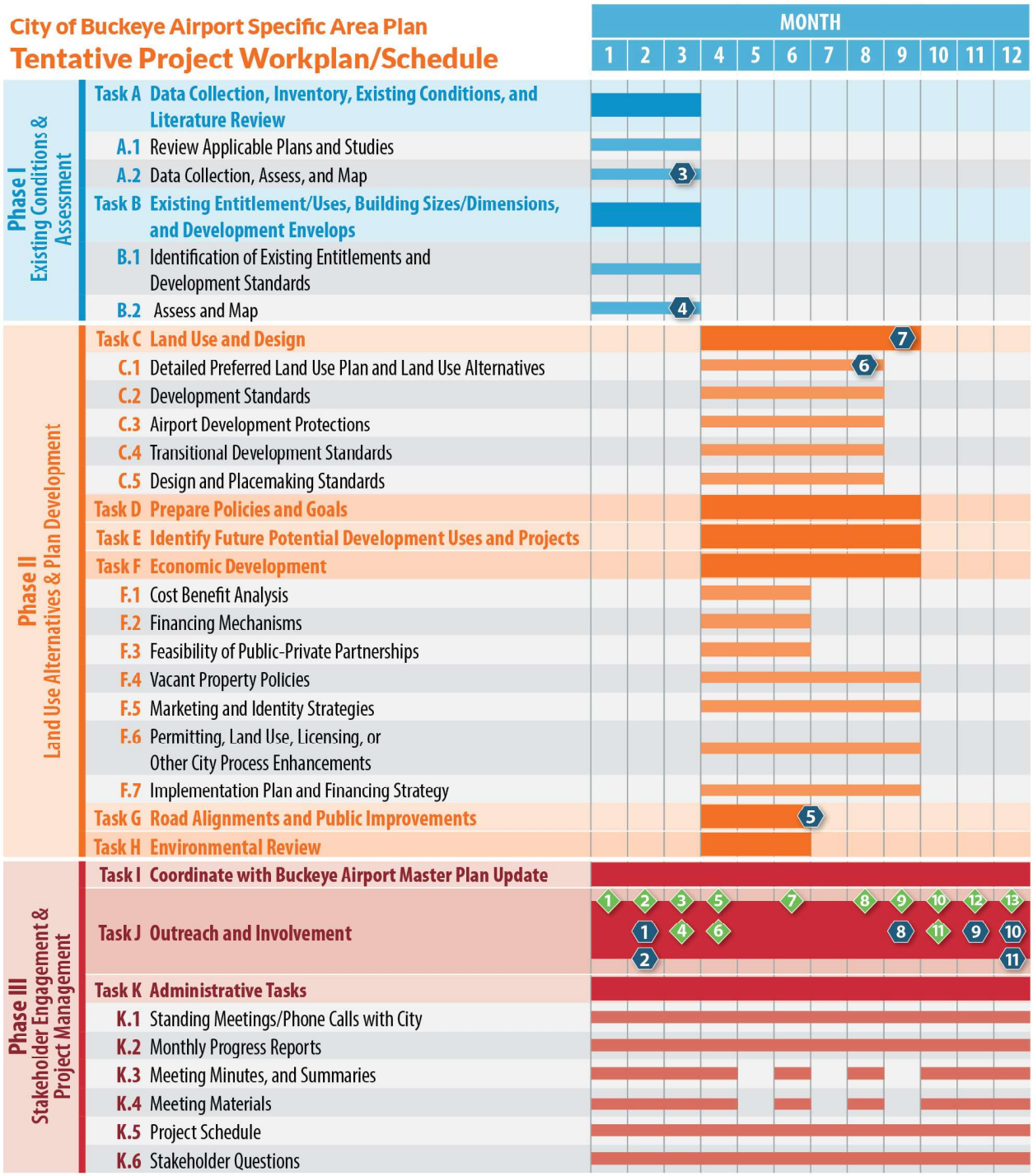
Task K Deliverables

- Project management app
- Monthly status reports (electronic)

Tentative Project Work Plan/Schedule

The Matrix Team will ensure allocation of the right resources at the right time coupled with or local presence and a commitment to responsiveness and communication will ensures proactive identification of potential scheduling issues and the ability to resolve them. The following timeline is based on the scope of work as provided in this section. However, the proposed timeline as represented in the following pages is notional or tentative and should, therefore, be considered flexible and subject to refinement at the first project management team meeting. Matrix also recognizes that minor changes in project schedules are common and that additional tasks may be desired. The nominal schedule can accommodate those variables.

City of Buckeye Airport Specific Area Plan
Tentative Project Workplan/Schedule



Deliverables:

1. Project Branding and Webpage
2. Informational Fact Sheet #1
3. GIS Map of Existing Conditions
4. GIS Map of Built Environment
5. GIS Map of Planned Roads and Public Improvements
6. GIS Maps of Land Use Alternatives
7. Draft Plan with Goals and Policies
8. Informational Fact Sheet #2
9. Final Draft Plan
10. Final Document
11. Executive Summary

Public Meetings:

1. Project Management Team Kickoff Meeting
2. Stakeholder Group Meeting #1
3. Stakeholder Interviews (up to 10)
4. Community Meeting #1
5. Development Partner Group Meeting
6. Planning and Zoning Commission/ City Council Workshop #1
7. Stakeholder Group Meeting #2
8. Stakeholder Group Meeting #3
9. Community Meeting #2
10. Stakeholder Group Meeting #4
11. Planning and Zoning Commission/ City Council Workshop #2
12. Planning and Zoning Commission Hearing
13. City Council Hearing



Matrix

Anniston, AL | Atlanta, GA | Colorado Springs, CO | Denver, CO | Niceville, FL
Parsons, KS | Phoenix, AZ | Tamuning, GU | Texarkana, TX | Washington, DC

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.F. Emergency Backup Generator installation at Fire Station 701.
DATE PREPARED: 02/24/22	**DISTRICT NO.:** 2
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Change Order No. 3 to the Construction Contract (No. 2021036) between the City of Buckeye and LightDay Solar, Inc., for additional labor and materials related to Fire Station 701; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.

RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

ADDITIONAL RELEVANT GOALS:
GOAL 1: Fiscal Wellness and Financial Flexibility and Accountability

SUMMARY

PROJECT DESCRIPTION:
As part of the Capital Improvement Program, emergency backup generators were installed at six (6) locations citywide and the Fire Station 701 on Miller Road in Buckeye was added as a seventh (7th) location via Change Order. This Change Order is to add installation labor and materials for underground conduit and wiring upgrade, additional Ballard, additional trenching, new service entrance section including underground conduit connection to existing feeder conduit from transformer and concrete pad removal and reinstallation in an amount not to exceed $105,160.94. The Original contract for $1,298,592.00 was awarded on August 17, 2021. Change Order #2 increased the contract amount to $1,366,686.61 and this Change Order #3 increases the contract value to $1,471,847.55. The revised value of contract is $1,471,847.55.

BENEFITS:
This allows the City to continue operating and providing vital services to residents in the event of power outages without loss of revenue.

FUTURE ACTION:
None.

FINANCIAL IMPACT STATEMENT:
This project is budgeted as part of the Capital Improvement Program. Munis Project Ledger CIP 2020026.

CURRENT FISCAL YEAR TOTAL COST:

$105,160.94

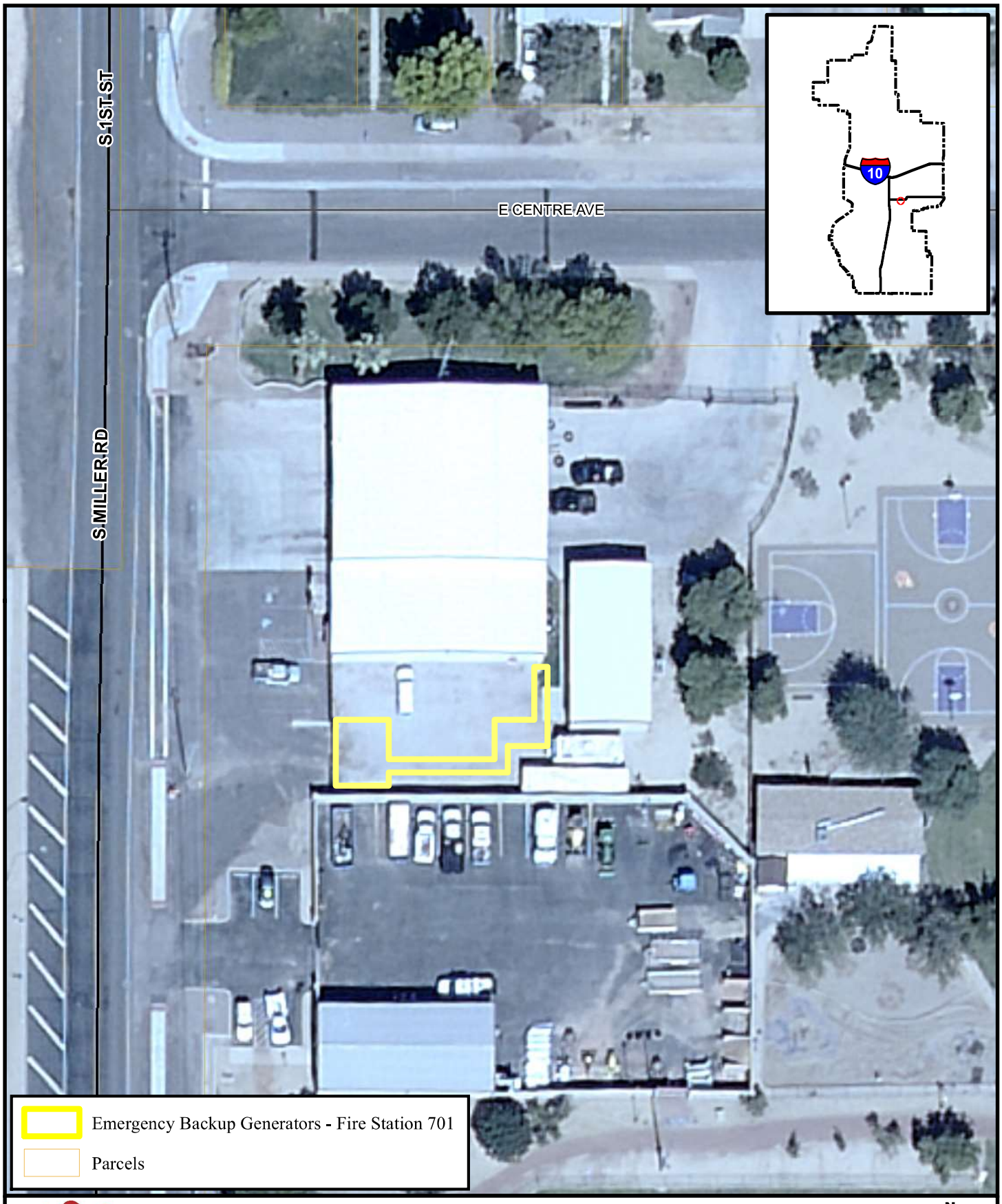
BUDGETED:
Yes

FISCAL YEAR:
FY2022

FUND/DEPARTMENT:
50211000-543080 (CIP 2020026)

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:
MAP.pdf
CO #3 signed by firm and Chris.pdf
LightDay Solar.pdf



BUCKEYE, AZ

CIP 103700 Emergency Backup Generators Citywide

N

While every effort has been made to ensure the accuracy of this information, the City of Buckeye makes no warranty, expressed or implied, as to its absolute accuracy and expressly disclaims liability for the accuracy thereof.

0 25 50 100 Feet

Date: 2/7/2022

Document Name: CIP103700_EmergencyBackupGenerators_8x11

CITY OF BUCKEYE
CONTRACT NO. 2021036
EMERGENCY BACKUP GENERATORS CITYWIDE
LIGHTDAY SOLAR, INC.

CHANGE ORDER #3

Pursuant to the Contract between the City of Buckeye (City) and Lightday Solar, Inc. (Contractor), dated August 17, 2021, the following changes apply:

1. Change in Scope of Work to add installation labor and materials for underground conduit and wiring upgrade, additional Ballard, additional trenching, new service entrance section including underground conduit connection to existing feeder conduit from transformer and concrete pad removal and reinstallation for the Emergency Generator at Fire Station 701 on Miller Road, in an amount not to exceed **$105,160.94** pursuant to Exhibit A.

Total cost for this Change Order shall not exceed **$105,160.94**. This Change Order increases the contract amount from **$1,366,686.61** to **$1,471,847.55**.

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk has hereunto subscribed their names _____.

CITY:
THE CITY OF BUCKEYE, ARIZONA
an Arizona municipal corporation

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction and Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
LIGHTDAY SOLAR, INC.

Hyeonmoo Lee
_____
Hyeonmoo Lee, CEO

Adobe Sign Transaction Number: CBJCHBCAABAAiZtDaEopT9KTOFKh-ZZz1P4m03TXVDmL

EXHIBIT A

LIGHTDAY SOLAR Inc.

Quote

Bring Sun Power to Your Home & Business!!!

5861 S Kyrene Rd STE9, Tempe, AZ 85283
480-921-3977
ROC#251678

Estimate	6460
Date	2/2/2022
Sales Exec.	Michael Lee

Customer information	
City of Buckeye	
530 Monroe Ave	
Buckeye, AZ 85326	623-349-6173

Project Name:	**Generator in Fire Station 701**
Project Site: Fire Station 701	
404 S. Miller Road	
BUCKEYE, ARIZONA 85326	

Description	Supplier Part Number	Qty		Unit Price	Amount
Additional Ballard, 4" in diameter		4		2,850.00	11,400.00
Underground Conduit and Wires upgrade		1		26,583.04	26,583.04
Additional Trenching;From Generator to ATS and to EDP, 40ft		1		11,400.00	11,400.00
Additional Trenching for Gener. heater and battery charger, 50ft		1		12,250.00	12,250.00
New Servcie Entrance Section including Underground Conduit Connection to the Existing Feeder Conduit from the Transformer		1		28,750.00	28,750.00
Concrete Pad Removal and Reinstallation		1		4,725.00	4,725.00
Additional underground scan near dumsters in Fleet Managment		1		1,250.00	1,250.00
Concrete Cutting, Removal and re-concrete, 20ft in Fleet Management		1		5,740.00	5,740.00
Additional Performance and Payment Bonds		1		3,062.90	3,062.90
*The price includes materials, installation labor, Administration, and taxes					
*The Price includes only difference from the original bid documents					
				Subtotal	105,160.94
				Total	**105,160.94**

CO #3-revised -Em. backup generators - Light Day Solar

Final Audit Report 2022-02-23

Created:	2022-02-23
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAiZtDaEopT9KTOFKh-ZZz1P4m03TXVDmL

"CO #3-revised -Em. backup generators - Light Day Solar" History

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Signature Date: 2022-02-23 - 4:22:47 PM GMT - Time Source: server- IP address: 174.205.236.187

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Document e-signed by CA Williams (cwilliams@buckeyeaz.gov)
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Agreement completed.
2022-02-23 - 4:37:21 PM GMT

CONSTRUCTION CONTRACT
BETWEEN
CITY OF BUCKEYE
AND
LIGHTDAY SOLAR, INC.

Contract No. 2021036

THIS CONTRACT is entered into by and between the CITY OF BUCKEYE, an Arizona municipal Corporation ("City") and Lightday Solar, Inc., an Arizona corporation ("Contractor"). The terms of this Contract are to be construed consistently with the other Contract Documents enumerated in Article 1 of the General Conditions of the Construction Contract.

In consideration of the mutual promises of the parties, the City and the Contractor agree as follows:

1. THE WORK: The Contractor shall furnish all labor, materials, equipment and services required to purchase and install Emergency Generators at six locations throughout the City of Buckeye, in accordance with Exhibit B, Plans and specifications attached hereto.

2. CONTRACT TIME: The Contractor shall commence the Work only if and when directed in a written Notice to Proceed signed by the City. The Work shall be substantially completed within **Two Hundred Seventy (270) calendar days**. In view of the difficulty or impossibility of determining the City's damages from delay, should the Contractor fail to achieve Substantial Completion by that date, as extended by any City approved Change Orders, the Contractor agrees to pay and will pay to City, in addition to all other sums pursuant to the Contract Documents, the sum of $710.00 for each calendar day of delay as liquidated damages for such delay and not as a penalty. This sum may be withheld from the balance of the Contract Price as it becomes due. Should liquidated damages exceed the Contract Price due or to become due, then the Contractor shall pay the City the difference within 3 days of receipt of written demand.

3. CONTRACT PRICE: Subject to increases and decreases for Change Orders in accordance with the Contract Documents, the City shall pay to the Contractor the following Contract Price, in progress payments as provided in the Contract Documents: **ONE MILLION, TWO HUNDRED NINETY EIGHT THOUSAND, FIVE HUNDRED NINETY TWO DOLLARS AND NO CENTS** ($1,298,592.00).

4. SUPPLEMENTAL TERMS AND CONDITIONS: The following supplemental terms and conditions and/or documents are part of this Contract:

A. General Conditions of the Construction Contract.
B. Plans & Specifications.
C. Scope of Work.
D. Bid Form.
E. Payment and Performance Bonds.

IN WITNESS WHEREOF, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names this August 17, 2021.

CITY OF BUCKEYE:

Eric W. Orsborn, Mayor

ATTEST:

Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams

Christopher A. Williams, Manager
Construction & Contracting Division

APPROVED AS TO FORM:

Shiela B. Schmidt

City Attorney

CONTRACTOR:
LIGHTDAY SOLAR, INC.

Hyeonmoo Lee

Hyeonmoo Lee, CEO

Adobe Sign Transaction Number: CBJCHBCAABAA8R42GDftuKov7DocSxgvhDf4igeXlGGD

Adobe Sign Transaction Number: CBJCHBCAABAAdPIOfX2JSn-YKedZDKUbwU3bj_U5So5h

EXHIBIT A
General Conditions

GENERAL CONDITIONS
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GENERAL CONDITIONS

ARTICLE 1
GENERAL DEFINITIONS

"Addenda" means clarifications or changes in the Work provided to bidders in writing prior to the public bid on the Contract.

"Contract Documents" or "Contract" means the Construction Contract between City and Contractor, the General Conditions of the Construction Contract, any Supplemental Conditions of the Construction Contract, the Drawings, the Specifications, the Performance and Payment Bonds, the Project Manual, Addenda and Modifications.

"Date of Substantial Completion" shall be the date certified by the City that the work is in the Condition defined herein as substantial completion.

"Day" means calendar day unless specifically otherwise provided herein or by law.

"Modifications" means Change Orders signed by the City, or other written amendments signed by both the City and the Contractor at or after the execution of the Contract, or the City's written interpretations or directions for minor changes in the Work. A “minor change” is defined as one having no impact on cost or time or the City’s approved design intent, as determined by the City.

"Project" means all components of the improvements to be constructed for the City, regardless of whether the Work is all or only a part.

"Project Manual" means the written volume so titled which includes the bid documents, sample forms, specifications, and description of the project.

"Substantial Completion" means the Contractor's work is sufficiently complete in accordance with the Contract Documents so that the City can occupy or utilize the work or designated portion thereof for the use for which it is intended.

"Work" consists of all labor (including supervision), materials, equipment, supplies and other items reasonably required to construct all or a portion of the Project according to the Contract Documents.

ARTICLE 2
INTENT

A. The Contract represents the entire and integrated agreement between the City and the Contractor, and it supersedes all prior oral or written negotiations, representations or agreements. The Contract may only be changed by written modifications, and the Contractor understands and agrees that if the Contractor proceeds with any work upon verbal request only, Contractor is agreeing by his conduct that such work, or change in the work, constitutes a minor change.

B. The Contract Documents are to include all items reasonably necessary to construct the Work, expressly or by inference. Words and abbreviations which have well-known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

ARTICLE 3
CONTRACTOR

A. The Contractor is the individual or legal entity identified in the Contract Documents who is licensed to perform the Work under the laws of the State of Arizona. The Contractor shall only use duly licensed Subcontractors in connection with the Work, subject to the provisions for City approval contained in the Contract Documents.

ARTICLE 4
OTHER CONTRACTORS AND COOPERATION

A. The City reserves the right to award other contracts related to the Project, or to perform certain work itself. Such other work may or may not be known to the City or disclosed to the Contractor prior to bidding this project. The Contractor shall afford the City and other contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly coordinate its Work with theirs in such manner as the City may direct. The Contractor shall also assure at its own cost reasonable access of other contractors to the site and their work.

B. Upon request of the Contractor, the City will provide the Contractor with a copy of all plans, specifications, schedules and other data relating to other contracts or work. The Contractor shall thoroughly examine these documents and shall within three (3) days of completing such examination notify the City in writing of any conflicts with the Work to be performed by the Contractor. In no event shall such notice be given so late as to interfere with or delay the work to be performed by the Contractor. Failure of the Contractor to request, review, or provide written notice as provided above shall constitute a waiver of any objections or claims the Contractor may have as a result of the necessity to coordinate the Contractor's work with other activities.

C. Should the Contractor sustain any damage through any act or omission of any other contractor, Contractor shall have no claim or cause of action against the City for such damage and hereby waives any such claim. The Contractor does not waive any claim or cause of action against any other contractor or subcontractor to recover any and all damages sustained by reason of the acts or omissions of such other contractor. The phrase "acts or omissions" as used in this section shall be defined to include, but not be limited to, any reasonable delay on the part of any such other contractor, whether due to negligence, gross negligence, inadvertence or any other cause.

D. Should the Contractor cause damage to the work or property of any other contractor or of the City, the Contractor shall upon receiving due notice, promptly attempt to settle with such other contractor by agreement, repair or otherwise to resolve the dispute. If such separate contractor sues or initiates a proceeding against the City on account of any damage alleged to have been caused by the Contractor, the City shall notify the Contractor who shall, to the furthest extent permitted by law, indemnify and hold harmless for, from, and against defend such proceedings, and if any judgment or award against the City arises there from the Contractor shall pay or satisfy it and shall reimburse the City for all attorney's fees and court or other costs which the City has incurred.

ARTICLE 5
SITE CONDITIONS AND ENVIRONMENTAL MATTERS

A. The Contractor shall thoroughly acquaint himself with all available information concerning the conditions of the Work and is responsible for correctly and fully estimating the difficulty and cost of successfully performing the Work.

B. The Contractor agrees that it has thoroughly examined the site, plans and specifications, boring data and all other soils information and as-built data made available and by submission of the bid herein avows that it has satisfied itself as to the character, quality and quantity of surface and subsurface materials or existing obstacles to be encountered. The Contractor acknowledges that boring data and other soils information and as-built data made available is only a general indication of materials and/or conditions likely to be found adjacent to holes bored or in existing structures or facilities or other areas. If the Contractor determines that the information is erroneous, inadequate or ambiguous, it shall immediately report its conclusions to the City in writing. If the Contractor determines that the information is erroneous, inadequate, or ambiguous, and after reporting its conclusions to the City, remains dissatisfied or uninformed, the Contractor shall refrain from submitting a bid, or if the Contractor does submit a bid, the Contractor shall be deemed to have waived any claim it may have as the result of the alleged erroneous, inadequate or ambiguous information.

C. The Contractor shall immediately, and before such conditions are disturbed, notify the City in writing of:

1. Subsurface or latent physical conditions encountered at the site which differ materially from those indicated in the Contract and which were not known by the Contractor or could not have been discovered by careful examination and investigation of the information available at bid time and which could adversely affect the timely performance of the Work or its cost; or

2. Unknown and unexpected physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered in the locale or generally recognized as inherent in Work of the character provided for in the Contract.

D. The City shall within ten (10) days, or such other reasonable time as necessary, investigate the conditions discovered. If the City find that conditions are so materially different as to support an equitable adjustment in the Contract Price or the Contract Time, this will be done by written Change Order. If the City determine that no Change Order will be issued, the Contractor shall continue with the Work at no additional cost and under no change in Contract Time.

E. No claim by the Contractor for an increase in the Contract Price or Contract Time hereunder shall be allowed without proper advance notice and an adequate opportunity for the City to investigate.

F. Environmental Matters: Contractor shall provide or cause to be provided a copy of this Section (Environmental Matters) to each Subcontractor and each Sub-subcontractor participating in the Work.

1. Definitions. The following terms will have their respective designated meanings:

"**Environmental Law**" means any and all laws, ordinances, regulations, rules and administrative and court decisions (federal, state and local) now or hereafter in effect and as in effect from time to time and as amended from time to time pertaining to environmental conditions or to protection or regulation of the environment (including, without limitation, the Comprehensive Environmental Response Compensation

and Liability Act of 1980, as amended (42 U.S.C. Section 9601, et seq.); the Resource Conservation and Recovery Act of 1976 and the Solid Waste Disposal Act (42 U.S.C. 6901, et seq.); the Toxic Substances Control Act of 1976 (15 U.S.C. Section 2601, et seq.); the Superfund Amendments and Reauthorization Act of 1986, Title III (42 U.S.C. Section 11001 et seq.); the Clean Air Act (42 U.S.C. Section 7401, et seq.); the Federal Water Pollution Control Act (33 U.S.C. Section 1251, et seq.); the Safe Drinking Water Act (42 U.S.C. Section 300f, et seq.); the Hazardous Materials Transportation Act (49 U.S.C. Section 5101, et seq.); the Oil Pollution Act (33 U.S.C. Section 2701 et seq.); the Arizona Environmental Quality Act (Arizona Revised Statutes Section 49-101, et seq.); the Arizona Underground Storage Tank Act (A.R.S. Section 49-1001, et seq.); the Arizona Water Quality Assurance Revolving Fund Act (A.R.S. Section 49-281, et seq.) and any successor statutes to the foregoing and any regulations, rules or guidelines promulgated pursuant thereto.)

"**Hazardous Substance**" means any of the following: (i) any petroleum, oil, gasoline, kerosene, other petroleum product, flammable substance, volatile organic compound, volatile solvent, explosive, asbestos, polychlorinated biphenyl, dioxin, toxic herbicide or pesticide, radioactive material, radon gas and materials containing formaldehyde; (ii) any material, substance or waste now or hereafter defined as or included in the definition of "hazardous substances," "hazardous wastes," "hazardous materials," "extremely hazardous wastes," "extremely hazardous substances," "restricted hazardous wastes," "toxic substances," "regulated substances," "solid wastes," "pollutant," or "contaminant" or words of similar import in any Environmental Law; (iii) any other material, substance or waste now or hereafter classified or regulated as "hazardous" or "toxic" under any Environmental Law; (iv) any material, substance or waste now or hereafter listed in the United States Department of Transportation Table (49 CFR 172.101) or classified by the United States Environmental Protection Agency as "hazardous" (40 CFR Part 302) or in any successor or replacement tables or classifications as in effect from time to time; and (v) any Hazardous Waste.

"**Hazardous Waste**" means "hazardous waste", as defined in the Resource Conversation and Recovery Act of 1976 and the Solid Waste Disposal Act (42 U.S.C. 6901 et seq.) and any successor statutes and any regulations, rules or guidelines promulgated pursuant thereto as in effect from time to time (including, without limitation, any such waste resulting from removal of, demolition of, modifications of or additions to part or all of any existing structure, facility or equipment).

"**Contractor Hazardous Waste**" means any Hazardous Waste arising during or from the Work that is generated by the acts or omissions of Contractor, a Subcontractor or any Sub-subcontractor (including, without limitation, a Contractor Release) and that is not City Hazardous Waste.

"**City Hazardous Waste**" means Hazardous Waste (i) that consists of Hazardous Substances in any existing structure, facility or equipment on City's property or otherwise present on City's property at commencement of the Work, and (ii) that has become Hazardous Waste due to any part of the Work. However, City Hazardous Waste does not include any Hazardous Substance that has become a Hazardous Waste due to any Contractor Release.

"**Project Hazardous Waste**" means any Hazardous Waste arising on City's property from the Work (including, without limitation, Contractor Hazardous Waste and City Hazardous Waste), regardless of: (a) whether generated by the acts or omissions of City, Contractor, a Subcontractor or a Sub-subcontractor; (b) whether it consists of Hazardous Substances that were on or in City's property at commencement of the Work and that have become Hazardous Waste in the course of the Work; and (c) whether it consists of Hazardous Substances that are brought on to City's property for or during the Work by Contractor, a Subcontractor or a Sub-subcontractor and that have become Hazardous Waste in the course of the Work.

"**OSHA**" means the Federal Occupational Safety and Health Act (29 U.S.C. Section 651 et seq.) and any successor statutes and any regulations, rules or guidelines promulgated pursuant thereto as in effect from time to time.
"**Release**" means any discharging, disposing, dumping, emitting, emptying, escaping, injecting, leaching, leaking, pouring, pumping, releasing, spilling, or similar action or event.

"**Contractor Release**" means a Release of a Hazardous Substance (including, without limitation, Hazardous Substances that were on or in City's property at commencement of the Work) arising from acts or omissions of Contractor or any Subcontractor or Sub-subcontractor or their employees or workers. However, Contractor Release does not include Releases of pre-existing Hazardous Substances on City's property of which City had not made Contractor aware and as to which Contractor, Subcontractors and Sub-subcontractors acted reasonably.

G. General Requirements.

1. Compliance with Environmental Law and OSHA. Contractor shall comply with, and shall cause all Subcontractors and Sub-subcontractors to comply with, this section and with all Environmental Law and OSHA applicable to (i) Contractor, (ii) Subcontractors, (iii) Subsubcontractors, (iv) the Work and (v) all of their activities in respect of the Work.

2. Hazardous Substances. (i) Hazardous Substances may be transported to and from and stored, used and be present on City's property in such quantities as are generally recognized to be usual and customary for performance of the Work. (ii) Hazardous Waste may be generated on City's property of such kinds and in such quantities as are generally recognized to be usual and customary in connection with performance of the Work. Hazardous Waste so generated may be stored temporarily on City's property. (iii) Prior to final completion of the Work, Contractor shall remove or cause to be removed from City's property and disposed of in accordance with Environmental Law and OSHA any Hazardous Substances (other than Project Hazardous Waste) brought onto City's property during the Work or used in connection with the Work. (iv) Other than as provided in (i), (ii) and (iii), Contractor shall not, and Contractor shall cause all Subcontractors and Sub-subcontractors to not, dispose of, generate, manufacture, process, produce, Release, treat or otherwise store, use or have in or on or transport to or from City's property any Hazardous Substance, regardless of whether the Hazardous Substance is preexisting on City's property or otherwise.

3. Releases of Hazardous Substances. Upon any Release of any Hazardous Substance in connection with the Work, whether relating to a pre-existing condition on City's property (for example, arising from any demolition of, modification of, or addition to any structure, facility or equipment) or relating to acts or omissions of Contractor, a Subcontractor or a Sub subcontractor, Contractor shall take any immediate action reasonably necessary to contain the Release. City may elect to have Contractor control and carry out any containment, clean-up, removal and remediation activity. Alternatively, City shall have the right to elect to control and carry out any containment, clean-up, removal and remediation activity. Regardless of who takes the actions, Contractor shall absorb, without reimbursement from City, all costs and expense incurred by Contractor in connection with any Contractor Release. In addition, Contractor shall pay or reimburse City for all costs and expenses incurred by City relating to any Contractor Release. If the amount is not paid promptly, City may offset the amount against any amount payable by City to Contractor under the Contract Documents or otherwise. Remediation, removal, and other cleanup action arising from any Release shall be in full compliance with Environmental Law and OSHA and shall be subject to approval by City. In addition, City may require remedial, removal or other cleanup action in excess of applicable minimum requirements of Environmental Law and OSHA (A) as reasonably necessary or appropriate in the judgment of City to permit human use and habitation of City's property and to permit

use of City's property, and (B) as reasonably consistent in the judgment of City with such habitation and uses.

4. Hazardous Waste. City will arrange for handling, storage and disposal of any Project Hazardous Waste. On an interim basis until City can make arrangements, Contractor shall assure proper handling (including, without limitation, segregation from waste that is not Hazardous Waste) and storage of Project Hazardous Waste in full compliance with Environmental Law and OSHA. Contractor shall pay all of City's expenses of storing, handling and disposing of Contractor Hazardous Waste. City will deliver a statement to Contractor showing City's expenses, and Contractor will promptly pay such amount to City. If the amount is not paid promptly, City may offset the amount against any amount payable by City to Contractor under the Contract Documents or otherwise.

5. Notifications to City. Contractor shall notify City's Project Manager immediately upon occurrence of any of the following: (i) any discovery by Contractor, a Subcontractor or any Sub-subcontractor of any Hazardous Substance in any existing structure, facility or equipment on City's property. (ii) any Release of any Hazardous Substance on City's property in connection with the Work; (iii) the creation or generation of any Hazardous Waste resulting from the Work (including, without limitation, Hazardous Waste arising from the removal of, demolition of, modification of, or addition to any existing structure, facility or equipment); (iv) the need for any remediation or removal of any Hazardous Substance relating to the Work whether relating to a pre-existing condition on City's property or to acts or omissions of Contractor, a Subcontractor or a Sub-subcontractor; or (v) any claim, demand, inquiry, investigation, litigation or other action or proceeding by any governmental authority or other person relating to any Hazardous Substance, Hazardous Waste, Environmental Law or OSHA relating to the Work. Except for immediate action to contain any Release of any Hazardous Substance and except for interim handling and storage of Project Hazardous Waste, Contractor shall not take any action as to any matter in **(i), (ii), (iii), (iv)** or **(v)** without the prior written approval of City and City shall have the right to elect to control and carry out any such action or matter.

6. Other Asbestos. Contractor and each Subcontractor and Sub-subcontractor to comply with all requirements of Environmental Law and OSHA concerning any other asbestos in the Work area.

H. Construction Site Safety Requirements: Contractor shall have sole responsibility and liability for construction site safety. Without limiting other actions in this regard, Contractor shall, and shall cause each Subcontractor and Sub-subcontractor to, comply with worker health and safety requirements in Environmental Law and OSHA. In addition, Contractor shall take all reasonable necessary and appropriate steps to assure the health and safety of persons occupying any part of the facility in which the Work site is located or in the vicinity of or passing by the Work site and shall also take all reasonable necessary and appropriate steps to protect from damage or destruction the property of City and other persons in any part of the Facility in which the Work site is located or in the vicinity of or passing by the Work site. Among other actions in this regard Contractor shall comply with the requirements of the applicable fire code.

I. Environmental, Health and Safety Concerns by Contractor, Subcontractors or Subsubcontractors. If in the course of the Work, any environmental, health or safety concern exists or arises, whether relating to a Hazardous Substance, OSHA or otherwise, then the Work activities related to the concern must be discontinued until the concern is resolved. This means prior to disturbing a suspected Hazardous Substance or otherwise interacting with a potential health or safety hazard. The City's Project Manager must be notified immediately of the concern. Work shall not resume until approval has been provided by City. Close coordination will be maintained between City and Contractor so the Project schedule is impacted the least amount possible.

J. Scope of Indemnity. The indemnity in Article 13 of this Contract includes any claim by any person and City's attorneys' fees and other costs and expenses in defending any claim by any person that City is responsible or liable for any of the following arising from the acts or omissions of Contractor, any Subcontractor, any Sub-subcontractor or any of their employees or other workers relating to the Work: (i) any violation of Environmental Law or OSHA; (ii) any failure by Contractor, any Subcontractor or any Sub-subcontractor to perform or comply with any obligation or requirement in this Article, (iii) any Contractor Release of any Hazardous Substance; (iv) any improper disposition of any Hazardous Substance or Hazardous Waste; (v) any claim by any employee, agent, independent contractor or other worker of Contractor, any Subcontractor or any Sub-subcontractor and any claim by any other person of personal injury, death or property damage arising from any Contractor Release of any Hazardous Substance or arising from any failure by Contractor, any Subcontractor or any Sub-subcontractor to comply with any Environmental Law or OSHA or this section.

ARTICLE 6
PRODUCT SAMPLES, TESTS, AND CERTIFICATES

A. The Contractor shall furnish Product Samples of all items requested or required by the City. Product Samples shall be properly identified and submitted with such promptness as to cause no delay in Work or in the work of any other contractor and to allow time for consideration by the City. The City will review Product Samples.

B. Each Product Sample must be accompanied by a letter of transmittal containing the following information:

1. Date of Submission
2. Name of Project
3. Location of Project
4. Branch of Work (Specification Section Number)
5. Project Number
6. Name of Submitting Contractor
7. Name of Subcontractor

C. The Contractor shall furnish to the City a certificate stating that material or equipment submitted complies with Contract Documents. If a certificate originates with the manufacturer, the Contractor shall endorse it and submit it to the City together with a statement of compliance in its own name.

D. No tests, inspections or approvals performed or given by the City or others acting for the City or any agency of Federal, State or Local government nor any acts or omissions by the City in administering this Contract shall relieve the Contractor from its duty to perform the Work in accordance with the Contract Documents and applicable law.

E. Unless the City is authorized at the time of submittal to return samples at the Contractor's expense, rejected samples will be destroyed.

F. After delivery of materials, the City may make such tests as it deems necessary, with samples required for such tests being furnished by and at the cost of the Contractor. Any test is for the benefit of the City and shall not relieve Contractor of the responsibility for providing quality control measurements to assure that Work strictly complies with the Contract Documents. No test shall be construed as implying acceptance of materials, work, workmanship, equipment, accessories or any other item or thing.

G. On the basis of the test results, materials, workmanship, equipment or accessories may be rejected even though general approval has been given. If items have been incorporated in Work, the City shall have the right to cause their removal and replacement by items meeting Contract Document requirements or to demand and secure appropriate reparation to the City from the Contractor.

ARTICLE 7
AS-BUILT DRAWINGS

A. Prior to Substantial Completion, the Contractor shall complete and turn over to the City the As-Built Drawings. The As-Built Drawings shall consist of a set of drawings which indicate all field changes that were made to adapt to field conditions, changes resulting from contract Change Orders and all buried and concealed installation of piping, conduit and utility services. All buried and concealed items both inside and outside the facility shall be accurately located on the As-Built Drawings as to depth and in relationship to not less than two permanent features such as interior or exterior wall faces. The As-Built Drawings shall be clean and all changes, corrections and dimensions shall be given in a neat and legible manner in a contrasting color.

B. For any changes or corrections in the Work which are made subsequent to Substantial Completion, revisions shall be submitted to the City prior to Final Payment.

ARTICLE 8
SUPERINTENDENCE BY THE CONTRACTOR

A. The Contractor shall have a competent superintendent on the site at all times during the progress of the Work. Contractor's superintendent must be acceptable to the City. The superintendent shall have such assistants with such individual specialized competencies including, but not limited to, CPM scheduling, as may be necessary to fully understand and oversee all aspects of the Work. The superintendent and his assistants all shall be physically fit for their Work and capable of going to all locations where Work is being performed. A communication to the superintendent or his designated assistants by the City is binding upon the Contractor. The Contractor's superintendent shall be responsible for the prevention of accidents at the site. The Commercial Construction Safety Code of the Arizona Industrial Commission shall apply to all Work, and a copy of the Code shall be available at the site.

B. The Contractor shall at all times enforce strict discipline and good order among the workers on the Project and shall not employ or continue to employ any unfit person on the Project or any person not skilled in the work assigned to him. The Contractor shall be responsible to the City for all acts and omissions of its employees, Subcontractors, Suppliers, anyone whom the Contractor may allow to perform or inspect or supervise any Work, and their agents and employees together with anyone whom the Contractor may allow to come on the Project site. In addition, if the Contractor receives written notice from the City to dismiss those subcontractors or employees or one who is a hindrance to proper or timely execution of the Work, the Contractor shall dismiss those employees and agrees to replace those dismissed without delay to the Project and at no additional cost to the City.

C. The Contractor shall competently and thoroughly direct and superintend all of the Work and shall be solely responsible for all construction safety, means, methods, techniques, sequences and procedures. It shall coordinate and schedule all Work under this contract, the performance of all its employees, Subcontractors, and Suppliers, and the timely procurement of all necessary labor, materials, equipment, supplies, and all else needed to do the Work.

ARTICLE 9
SUBCONTRACTS

A. The Contractor shall supply with its bid to the City a written list of all proposed subcontractors and suppliers. The City will promptly reply to the Contractor in writing stating whether the City, after due investigation, has any objection to any such proposed subcontractor or supplier. The Contractor shall not employ any subcontractor or supplier against whom the City has reasonable objection. If, prior to the award of the Contract, the City has a reasonable objection to any subcontractor or supplier and refuses in writing to accept such person or organization, the apparent low bidder may, prior to the award, either withdraw his bid without forfeiture of bid security or may propose an acceptable substitution thereof provided that same results in no change in the bid price. Failure of the bidder to submit an acceptable substitute in a timely manner shall render its bid nonresponsive.

B. No substitution or change shall be made by the Contractor in the subcontractor/supplier list after its submission to the City without prior written approval by the City. Unapproved or untimely substitutions may be cause for invalidation of the Contractor's bid in the City's discretion, thereby rendering the Contract voidable.

C. All work performed for the Contractor by a subcontractor shall be pursuant to an appropriate written agreement which specifically binds the subcontractor to all applicable terms and conditions of the Contract Documents, but no contractual relationship shall exist between any subcontractor or supplier of any tier and the City, unless the City invokes the assignment provisions of the following subsection. Upon request, the Contractor shall provide fully executed copies of any subcontracts and purchase orders to the City.

D. The Contractor hereby assigns to the City (and its assigns) all its interest in any subcontracts and purchase orders now existing or hereinafter entered into by the Contractor for performance of any part of the Work, which assignment will be effective upon termination of the Contract by the City and only as to those subcontracts and purchase orders which the City assumes in writing. All subcontracts and purchase orders shall provide that they are freely assignable by the Contractor to the City and its assigns. Such assignment is part of the consideration to the City for entering into this Contract with the Contractor and may not be withdrawn prior to final completion.

E. The City may require each proposed subcontractor whose subcontract will exceed $100,000.00 to furnish a performance bond and a payment bond on City-approved forms in the full amount of its subcontract. The City will reimburse the Contractor for the documented cost of the subcontractor's performance bond premiums in the event the City requires such bonds by the subcontractor.

ARTICLE 10
COMMUNICATIONS

A. All project notices, requests, instructions, modifications, approvals, and claims must be in writing, unless expressly specified otherwise in the Contract.

B. Communications will be deemed to have been made if delivered in person or if mailed to the address designated in the Contract or otherwise agreed upon by the parties.

ARTICLE 11
PERMITS, TAXES, AND FEES

A. The Contractor shall secure and pay for any necessary building permits and for all other permits, fees, licenses and inspections necessary for the proper execution and completion of the Work, and shall immediately deliver copies to the City. The Contractor shall be responsible for complying with all applicable Federal, State and local laws, codes, notice requirements, and regulations applicable to the site and prosecution of the Work. Contractor shall be responsible for and pay any costs associated with or arising from any non-compliance.

B. The Contractor shall pay all taxes for and related to the Work or its portion thereof which are legally enacted at the time bids are received, whether or not yet effective.

ARTICLE 12
INSURANCE

A. Insurance Requirements: Concurrently with the execution of the Contract, the Contractor shall furnish the City of Buckeye a certificate of insurance on a standard insurance industry ACORD form. The ACORD form shall be issued by an insurance company authorized to transact business in the State of Arizona.

B. Contractor, subcontractors and subconsultants shall procure and maintain until all of their obligations have been discharged, including any warranty periods under this Contract are satisfied, insurance against claims for injury to persons or damage to property, which may arise from or in connection with the performance of the work hereunder by the Contractor, his agents, representatives, employees, or subcontractors.

C. The insurance requirements herein are minimum requirements for this Contract and in no way limit the indemnity covenants contained in this Contract.

D. The City in no way warrants that the minimum limits contained herein are sufficient to protect the Contractor from liabilities that might arise out of the performance of the work under this Contract by the Contractor, his agents, representatives, employees, subcontractors or subconsultants and Contractor is free to purchase such additional insurance as may be determined necessary.

E. Minimum Scope and Limits of Insurance. Contractor shall provide coverage at least as broad and with limits of liability not less than those stated below. The Contractor waives all rights of subrogation under the following policies.

(1) Commercial General Liability-Occurrence Form Policy shall include bodily injury, property damage, broad form contractual liability and XCU coverage.

General Aggregate	$2,000,000
Products-Completed Operations Aggregate	$1,000,000
Personal & Advertising Injury	$1,000,000
Each Occurrence	$1,000,000

The policy shall be endorsed to include the following additional insured language: “The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor”.

The policy shall contain a waiver of subrogation against the City of Buckeye.

(2) Automobile Liability- Bodily injury and property damage for any owned, hired, and non-owned vehicles used in the performance of this Contract

Combined Single Limit (CSL)	$1,000,000

The policy shall be endorsed to include the following additional insured language: "The City of Buckeye shall be named as an additional insured with respect to liability arising out of the activities performed by, or on behalf of the Contractor including automobiles owned, leased, hired or borrowed by the Contractor".

(3) Workers Compensation and Employers Liability

Workers Compensation	Statutory
Employers' Liability	
Each Accident	$ 1,000,000
Disease-Each Employee	$ 1,000,000
Disease-Policy Limit	$ 1,000,000

(4) Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $5,000,000 per occurrence combined limit Bodily Injury and Property Damage, that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

The policy shall contain a waiver of subrogation against the City of Buckeye.

F. Additional Insurance Requirements. The policies shall include, or be endorsed to include, the following provisions:

(1) On insurance policies where the City of Buckeye is named as an additional insured, the City of Buckeye shall be an additional insured to the full limits of liability purchased by the Contractor even if those limits of liability are in excess of those required by this Contract.

(2) The Contractor's insurance coverage shall be primary insurance and non-contributory with respect to all other available sources.

(3) Coverage provided by the Contractor shall not be limited to the liability assumed under the indemnification provisions of this Contract.

G. Subconsultant's and Subcontractor's Insurance. Contractor's certificate(s) shall include all subcontractors as additional insureds under its policies or subcontractors shall maintain separate insurance as determined by the Contractor, however, subcontractor's limits of liability shall not be less than $1,000,000 per occurrence / $2,000,000 aggregate. All coverages for subcontractors and subconsultants shall be appropriate to cover all of its work performed herein.

H. Notice of Cancellation. Each insurance policy required by the insurance provisions of this Contract shall provide the required coverage and shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days prior written notice has been given, by certified mail, return receipt requested to:

Christopher A. Williams, Manager
Construction & Contracting Division
City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326

I. Acceptability of Insurers. Insurance is to be placed with insurers duly licensed in the State of Arizona and with an A. M. Best's rating of no less than A -. The City in no way warrants that the above required minimum insurer rating is sufficient to protect the Contractor from potential insurer insolvency.

J. Verification of Coverage

(1) Contractor shall furnish the City Certificates of Insurance (ACORD form or equivalent approved by the City) and with original endorsements effecting coverage as required by this Contract. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. *Any policy endorsements that restrict or limit coverages shall be clearly noted on the certificate of insurance.*

(2) All certificates and endorsements are to be received and approved by the City before work commences. Each insurance policy required by this Contract must be in effect at or prior to the earlier of commencement of work under this Contract or the signing of this Contract and remain in effect for the duration of the Project. Failure to maintain the insurance policies as required by this Contract or to provide evidence of renewal is a material breach of contract.

(3) All certificates of insurance required by this Contract shall be sent directly to the City of Buckeye, Manager, Construction & Contracting. The contract number and project description shall be included on the Certificates of Insurance. The City reserves the right to require complete, certified copies of all insurance policies required by this Contract, at any time.

K. Approval. Any modification or variation from the insurance requirements in this Contract shall be approved by the City, whose decision shall be final.

L. Liability Notwithstanding Insurance: Approval, disapproval or failure to act by Owner regarding any insurance supplied by Contractor or its Subcontractors shall not relieve the Contractor of full responsibility or liability for damages, errors, omissions or accidents as set forth in this Contract. Neither the bankruptcy or insolvency of Contractor's insurer nor any denial of liability by Contractor's insurer shall exonerate Contractor from the liability or responsibility of Contractor set forth in this Contract.

ARTICLE 13
INDEMNIFICATION

A. To the fullest extent permitted by law, Contractor agrees to defend, indemnify and hold Owner, its officers, agents and employees, harmless for, from and against any and all claims, lawsuits, judgments, costs and expenses for personal injury (including death), property damage or other harm for which recovery of damages is sought, suffered by any person or persons, that may arise out of or be occasioned by Contractor's breach of any of the terms or provisions of this Contract, or by any negligent, grossly negligent or strictly liable act or omission of Contractor, its officers, agents, or employees, in the performance of this Contract; except that the indemnity provided for in this paragraph shall not apply to any liability resulting from the sole negligence or fault of Owner, its officers, agents, employees or separate

contractors. The provisions of this paragraph are solely for the benefit of the parties hereto and are not intended to create or grant any rights, contractual or otherwise, to any other person or entity.

ARTICLE 14
PROGRESS AND SCHEDULING

A. Planning, scheduling and progress monitoring are essential functions of the Contractor. Within ten (10) days after the award of the Contract, the Contractor shall prepare and submit for the City a Schedule of Values allocating the Contract Price among the various portions of the Work for purposes of progress payments. The Schedule of Values shall be substantially equivalent to AIA Forms G702 and G703 or as specified by the City.

B. The Contractor shall also furnish the City with a Narrative Report corresponding with each monthly update which shall include a description of current and anticipated problem areas, delaying factors and their impact, fragmentary networks (fragnet) of delays, and an explanation of corrective action taken or proposed. If the Project is behind schedule in any month, the Contractor's Narrative Report shall indicate precisely what measurements it will take in the next thirty days to put the Work back on schedule.

C. The Contractor shall employ and supply a sufficient force of workers, material and equipment, and shall prosecute the Work with such diligence so as to maintain the rate of progress indicated on the Progress Schedule, to prevent work stoppage, and to ensure completion of the Project within the Contract Time.

D. The Contractor shall be responsible to prepare, submit and maintain the schedules and Narrative Reports indicated above, and the failure to do so may be considered a material breach of this Contract. Any additional or unanticipated cost or expense required to maintain the schedules shall be solely the Contractor's obligation and shall not be charged to the City.

ARTICLE 15
DAILY LOG

A. The Contractor shall maintain a daily log of construction activities for each calendar day of the Contract Time, using a form approved by the City. The Contractor shall document all activities at the Project site, including:

1. Weather conditions showing the high and low temperatures during work hours, the amount of precipitation received on the job site, and any other weather conditions which adversely affect Work at the site;
2. Soil conditions which adversely affect Work at the site;
3. The hours of operation by Contractor and individual Subcontractor personnel;
4. The number of Contractor and Subcontractor personnel present and working at the site, by subcontract and trade, and updated schedule activity number.
5. The equipment active or idle at the site;
6. A description of the Work being performed at the site, by updated schedule activity number.
7. Any delays, disruptions or unusual or special occurrences at the site;
8. Materials received at job site; and
9. A list of all visitors at the site.

B. The Contractor shall provide copies of the daily logs to the City on a weekly basis. The daily log does not constitute written notice to the City when such notice is required by the Contract Documents.

ARTICLE 16
MISCELLANEOUS DUTIES

A. The Contractor shall submit to the City upon request all payrolls, reports, estimates, records and any other data concerning Work performed or to be performed and concerning materials supplied or to be supplied, as well as Subcontractor payment applications and each Subcontractor's progress payment check. The requirements of this subsection shall be provided in all contracts between the Contractor and its Subcontractors.

B. During construction and for five (5) years after Final Payment, the Contractor shall retain and shall also require all Subcontractors to retain for review and/or audit by the City all correspondence, meeting minutes, memoranda, electronic media, books, accounts, reports, files, time cards, material invoices, payrolls, and evidence of all communications, direct and indirect costs, and all other matters related to the bidding and performance of the Work.

C. Upon request by the City, a legible copy or the original of any or all such records shall be produced by the Contractor at any time during or after construction as the City may request.

D. The Contractor shall be responsible for laying out its own Work and for any damage which may occur to work of any other contractor because of the Contractor's own errors or inaccuracies. The Contractor shall also be responsible for unloading, uncrating, storing and handling all materials and equipment to be erected or placed by it, whether furnished by the Contractor or others.

E. The Contractor, Subcontractors, and Suppliers shall be responsible for taking all appropriate field measurements prior to fabrication and installation of any item. Such measurements shall be taken sufficiently in advance so as to avoid any delay or potential delay. Failure to adhere to this provision shall render such delays the responsibility of the Contractor.

F. Unless otherwise specifically mentioned, all anchors, bolts, screws, fittings, fillers, hardware, accessories, wiring, conduit, ductwork, trim and other parts required for or in connection with any item or material to make a complete, serviceable, finished and quality installation shall be furnished and installed as part of the item whether or not expressly called for by the Drawings or Specifications.

G. All materials shall be shipped and stored and handled in a manner that will afford protection and ensure their being in factory-new condition at the time they are incorporated in the Work. After installation, they shall be properly protected against damage or deterioration until Final Completion of the Project.

H. When standards and specifications issued by The American Society of Testing and Materials, the American Institute of Steel Construction, the U.S. Department of Commerce (Commercial Standards), or other technical or standard setting organizations are cited in the Contract Documents, such standards or specifications (and all related standards or specifications) shall be equally as binding and have the full force and effect as though incorporated word for word. Unless otherwise specifically stated, the standards and specifications referred to shall be the latest edition or revision of such specifications that is in effect on the date of the public bid.

I. Any part of the Work damaged during installation or prior to final acceptance of Work shall be repaired so as to be unnoticeable and to be equal in quality, appearance, serviceability and other respects to an undamaged item or part of the Work. Where this cannot be fully accomplished the damaged item or part shall be replaced. After installation, all exposed surfaces and parts of an item or of the Work shall be cleaned in a manner that will not damage the finish or any of the parts of the item, so that the completed work is left in first class condition, free of all defects. All damaged or defaced Work shall be repaired or replaced to the City's satisfaction at the expense of Contractor.

J. The Contractor shall procure and furnish to the City all guarantees, warranties, manuals, and spares that are called for by the specifications or that are mentioned in the manufacturer's product literature. Guaranties and warranties shall commence as of the date of Substantial Completion of the Project.

K. The Contractor shall pay all royalties and license fees. The Contractor shall defend all suits or claims for infringement of any patent rights and shall save the City harmless from loss on account thereof, except that the City shall be responsible for loss attributable when a particular design, process or the product of a particular manufacturer or manufacturers is specified. If the Contractor has any reason to believe that the design, process or product specified could be an infringement of a patent, it shall be responsible for such loss unless it promptly gives such information in writing to the City.

L. The Contractor shall limit its operations to the confines of the Project, except as necessary to connect to existing utilities, and shall not, without the prior written permission of the affected property City, and encroach on property outside the site. Contractor shall not permit unauthorized persons or activities on the site and shall maintain the site in a safe and secure manner.

M. The Contractor shall prearrange time with the City whenever it becomes necessary to interrupt any service to make connections, alterations or relocations and shall fully cooperate with the City in doing Work so as to cause the least annoyance and interference with the continuous operation of the City's business or official duties. Any existing plumbing, heating, ventilating, air conditioning or electrical disconnections which may affect portions of this construction or building or any other building must be coordinated with the City to avoid any disruption of operation within the building or construction or other building or utilities. In no case, unless previously approved in writing by the City, shall utilities be left disconnected at the end of a workday or over a weekend. Any interruption of utilities, whether negligently, intentionally, or accidentally, shall not relieve the Contractor's responsibility for the interruption or from liability for loss or damage caused by such interruption even though such loss or damage was not foreseeable by Contractor or subcontractor, or from responsibility for repairing and restoring the utility to normal service. Repairs and restoration shall be made before the workmen responsible for the repair and restoration leave the job.

N. The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. If the Contractor fails to properly clean up during construction, or if a dispute arises between the Contractor and/or separate Contractors as to their responsibility for cleaning up, the City may clean up and charge the costs thereof to the Contractors responsible as determined by the City. At the completion of the work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery and surplus materials. If the Contractor fails to clean up at the completion of the work, the City may do so and the cost thereof shall be charged to the Contractor.

ARTICLE 17
INSPECTION OF WORK

A. All Work done and all materials are subject to inspection by the City to determine if they conform to the Contract Documents. The City shall at all times have access to the Work, including materials being fabricated or stored off site. The Contractor shall furnish at the Contractor's cost any facilities necessary for sufficient and safe access to the Work.

B. Inspections, tests, measurements, or other acts of the City are for the sole purpose of assisting the City in determining that the Work, materials, rate of progress, and quantities comply with the Contract Documents and/or Contractor's requests for payment. These acts or functions shall not relieve the Contractor from performing the Work in full compliance with contract requirements nor relieve the Contractor from any of the quality, compliance and responsibility for the Work assigned to it by the Contract Documents. No inspection by the City shall constitute or imply acceptance or waiver of rights.

C. Nonconforming Work or materials may be rejected and Contractor shall correct such rejected Work without additional compensation, even if the Work or materials have been previously inspected or accepted by the City or even if the City failed to observe the unsuitable Work or materials.

D. Any Work required to be inspected by the City prior to being covered, which is covered up without prior inspection or without prior consent of the City, must be uncovered and recovered by the Contractor, if requested by the City, at no cost to City, notwithstanding the provisions of the following subsection.

E. Contractor shall notify the City in writing at least 48 hours prior to the time at which the City must be present to perform an inspection. Failure to provide such notice will place the Contractor at risk for all consequences of non-inspection and having to uncover work.

ARTICLE 18
CORRECTION OF WORK

A. If any portion of the Work is covered over contrary to the request of the City or as required by the Contract or the applicable building standards, it must be uncovered for observation at the Contractor's expense if requested by the City in writing.

B. If any portion of the Work, other than those portions required to be inspected by the City prior to being covered, has been covered over, the City may request that it be uncovered for observation. If such portion is found to be in accordance with the requirements of the Contract Documents, the cost of uncovering it shall be charged to the City as a Change Order. If such portion is found not to be in accordance with the requirements of the Contract Documents, the Contractor shall bear such costs.

C. The Contractor shall promptly remove from the site and replace any material or correct any Work found by the City to be defective or failing to conform to the requirements of the Contract, whether or not fabricated, installed or completed, and whether discovered before or after Substantial Completion. The Contractor shall bear all costs of correcting such Work or material, including the cost of necessary additional professional services and the cost of repairing or replacing all work of separate contractors or subcontractors damaged by such removal or correction. The City shall notify the Contractor immediately in writing upon its knowledge that additional professional services will be necessary and of the extent and estimated costs of the additional services. The City may consent to accept such Work or material with an appropriate adjustment in Contract Price.

D. If the Contractor does not promptly replace or correct such Work or material, the City may replace or correct the Work or material, and charge or deduct the cost of removal and replacement from any monies due to the Contractor, or recover such costs from the Contractor.

E. If, within two (2) years after the date of Substantial Completion, any of the Work is found to be defective or not in accordance with the requirements of the Contract, the Contractor shall correct it promptly after receipt of a written notice from the City to do so. If the Contractor does not promptly replace or correct such Work or material, the City may replace or correct the Work or material, and charge or deduct the cost of removal and replacement from any monies due to the Contractor, or recover such costs from the Contractor. Nothing contained in this section shall be construed to establish a period of limitation with respect to any obligation of the Contractor under the Contract or the law. The obligation of the Contractor under this section shall be in addition to and not in limitation of any obligations imposed by special guaranties or warranties required by the Contract, given by the Contractor, or otherwise recognized or prescribed by law.

F. If, during the running of a guarantee or warranty period, the Contractor must perform repair work to any portion of the Work, the running of the warranty or guarantee period is tolled from the time the defect or deficiency is discovered through the time when the Contractor successfully completes all repairs and retesting and start-up activities.

ARTICLE 19
DELAYS AND TIME EXTENSIONS

A. If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the City, or by any separate Contractor employed by the City, or by changes in the Work, or by labor disputes, fire, unusual delay in transportation, unusually severe weather conditions, adverse soil conditions, unavoidable casualties, delays specifically authorized by the City, or by causes beyond the Contractor's control, avoidance, or mitigation, and without any fault or negligence of the Contractor or Subcontractor or Supplier at any tier, then the Contract Time shall be extended by Change Order for such reasonable time as the City may determine that such event has delayed the critical path of the Work or individual milestone or overall completion of the Work after considering the advice of the City, if the Contractor complies with the notice and documentation requirements set forth below. The Contractor shall pay any additional fees or costs incurred by the City as the result of delays caused by the Contractor for circumstances not excused as provided herein.

B. Initial notice of any delay in the Work shall be made in writing to the City immediately but in no event later than 24 hours after discovery of the event giving rise to the delay. Then, Contractor shall provide additional details of the delay in writing to the City within seven (7) calendar days from the beginning of the delay. Failure to meet these time requirements shall absolutely bar any and all later claims. The detailed notice shall indicate the cause of the delay, the anticipated length of the delay, the probable effect of such delay upon the progress and cost of the Work, and potential mitigation plans. If the cause of the delay is continuing, the Contractor must give written notice every month at the same time it submits the updated progress Narrative Report to the City. Within fifteen (15) days after the elimination of any such delay, the Contractor shall submit further documentation of the delay and, if applicable, a formal written request covering an extension of time for such delay. The written request for time extension shall state the cause of the delay, the number of days' extension requested and provide a fully documented analysis of the Progress Schedule, including a fragnet and any other data demonstrating a delay in the critical path of the Work or individual milestone or the overall project completion. If the Contractor does not comply with the notice and documentation requirements set forth above, the claim for delay is absolutely barred.

C. If the Contractor incurs damages related to expenses caused by a delay for which the City is solely responsible, which is unreasonable under the circumstances, and which was not contemplated by the parties at the time of formation of this Contract, then the parties shall attempt to reach an agreement on the Contractor's claim, provided that the Contractor has notified the City in writing as specified above, including why the City is believed by the Contractor to be solely responsible for the delay. Failure to provide such timely notice shall be deemed an absolute and final waiver of any rights to additional sums. Any disputes will be resolved in accordance with the City of Buckeye Procurement Code, as amended or superseded.

D. The Contractor shall have no right to claim for alleged extended or unabsorbed home office overhead; claims for delays shall be limited to provable extended site costs.

E. The date of beginning and the time for completion as specified herein are ESSENTIAL CONDITIONS of this Contract; and it is further mutually understood and agreed that the Work embraced in this Contract shall be commenced on a date to be specified in the notice to proceed or at a preconstruction meeting, but in no event later than ten (10) days after the execution of this Contract, whichever first occurs. Said Work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will ensure full completion thereof within the time specified. The time for completion of the same takes into consideration the average climatic range and usual industrial conditions prevailing in this locality. If the Contractor shall neglect, fail or refuse to complete the Work within the time herein specified, or any extension thereof granted by the City, then the Contractor does hereby agree to pay to City the per diem amount specified in the Contract. This amount is agreed to be liquidated damages for such breach and not a penalty therefore. The per diem amount shall be paid for each and every calendar day that the Contractor shall be in default after the time stipulated in the Contract for completing the Work. The amount is fixed and agreed upon by and between the Contractor and City because of the impracticality and extreme difficulty of fixing and ascertaining the actual damages the City would in such event sustain. Said sums may be withheld by the City from any amounts due to the Contractor from the City, whether as the result of this Contract or any other obligation between the City and the Contractor.

F. The parties hereby agree that if the Contractor submits an original or updated schedule which shows the project and/or individual Milestone(s) completing earlier than required by the adjusted contractual completion date(s), the differences between the forecasted early completion and the required completion shall be considered Project-owned float available for use by both the City and the Contractor.

G. The Contractor shall not sequester shared float through such strategies as extending activity duration estimates to consume available float, using preferential logic, using extensive crew/resource sequencing, etc. Since float time within the schedule is jointly owned, no time extensions will be granted nor delay damages paid until a delay occurs which extends the work beyond the adjusted Contract completion date. Since float time within the Construction Schedule is jointly owned, it is acknowledged that City-caused delays on the project may be offset by City-caused time savings (i.e., critical path submittals returned in less time than allowed by the Contract, approval of substitution requests which result in a savings of time to the Contractor, etc.). In such an event, the Contractor shall not be entitled to receive a time extension or delay damages until all City-caused time savings are exceeded and the Contract completion date or milestone date is also exceeded.

H. It is agreed that no time extensions shall be granted nor delay damages paid unless the delay is clearly demonstrated by the updated Construction Schedule current as of the month the change was issued or the delay occurred and which delay cannot be mitigated, offset, or eliminated through such actions as revising the intended sequence of work or other reasonable means.

ARTICLE 20
SUSPENSION OF WORK

A. The City may, at any time and without cause, order the Contractor in writing or cause the Contractor to suspend, delay or interrupt all or any part of the Work for such period of time as the City may determine to be appropriate for its convenience. Equitable adjustment shall be made for any increase in the Contract Time necessarily caused by such suspension or delay by written Change Order.

ARTICLE 21
RIGHT TO STOP WORK

A. If the Contractor fails to correct defective Work as required, or fails to carry out the Work in accordance with the Contract Documents, the City by written notice, may order the Contractor to stop the Work or any portion of the Work, until the cause for the order has been eliminated to the satisfaction of the City.

B. The City may stop Work without written notice for 24 hours whenever in its professional opinion such action is necessary or advisable to ensure conformity with the Contract Documents. The Contractor shall not be entitled to an adjustment in the Contract Price or Contract Time under this subsection. The right of the City to stop the Work shall not give rise to a duty on the part of the City to exercise this right for the benefit of the Contractor or others.

ARTICLE 22
CHANGES

A. After this Contract is signed, Modifications in the Contract Price, the Contract Time or Scope of the Work may only be made by written Change Order.

B. By written directive at any time, the City may make any changes within the general scope of the Contract or issue additional instructions, require additional or modified Work or direct deletion of Work. The Contractor shall not proceed with any change involving an increase or decrease in cost or time without prior written authorization from the City and shall proceed in accordance with the procedures set forth in this section. If the Contractor proceeds with any change involving an increase or decrease in cost or time without written authorization as required by this paragraph, the Contractor hereby waives all rights or claims Contractor may have as a result of the change. The City's right to make changes shall not invalidate the Contract or relieve the Contractor of any liability. Any requirement of notice of change to the Surety shall be the responsibility of the Contractor.

C. The cost or credit to the City resulting from a change in Work shall be determined in one or more of the following ways:

1. By unit prices stated in the Contract.

2. By cost, as defined below, properly itemized and supported by sufficient, substantiating data to permit evaluation, plus a fee of ten percent (10%) of items (a) through (h) described below. Such costs shall be itemized by crafts as defined within the schedule of values and limited to the following items directly allocable to the change in the Work:

(a) Cost of materials, including delivery but excluding Subcontractor-supplied materials.

(b) Fully-burdened cost of labor, including, but not limited to, payroll taxes, social security, old age and unemployment insurance, vacation and fringe benefits required by agreement or routinely paid by contractor, and worker's or workman's compensation insurance but excluding Subcontractor's labor.

(c) Rental value of equipment and machinery to be established by rental receipts and not to exceed reasonable and customary rates for the locale of the Work. For owned equipment, contractor must prove reasonable rental rate pursuant to actual ownership costs.

(d) Cost of Subcontracted work calculated as above and Subcontractor's Field Supervision calculated in accordance with paragraph (e) below, plus Subcontractor's insurance and bond premiums as applicable. Insurance and bond premium cost shall not exceed a total of two percent (2%) of Subcontractor's documented cost.

(e) Contractor's Field Supervision not to exceed five percent (5%) of (a), (b) and (d) above; the parties agree that this mark-up shall fully cover all contractor Field Supervision overhead.

(f) Contractor's insurance and bond premiums not to exceed a total of two percent (2%), or documented cost.

(g) Sales tax at full value.

(h) If this method of cost or credit calculation is selected, in no event shall the combined total fee including all levels or tiers of Subcontractors exceed twenty percent (20%) of the total cost of paragraphs (a), (b), (c) and (d). Field Supervision is to be excluded at all levels for the purposes of the limit imposed by this paragraph.

3. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation; provided that such lump sum shall not exceed that amount calculated under item 2 above.

D. If none of the above methods is agreed upon, the Contractor shall promptly proceed with performing the change, upon receipt of a written order signed by the City. Any dispute regarding the pricing methodology or cost of the change shall not relieve the Contractor from proceeding with the change as directed by the City. The cost or credit to the City shall be determined by the City on the basis of the preceding subsection.

E. A fully executed Change Order shall be full and final settlement of all claims for direct, indirect, delay, disruption, inefficiency and any other consequential costs related to items covered or affected, as well as time extensions. Any such claim not presented by the Contractor for inclusion in the Change Order is irrevocably waived.

F. In an emergency affecting the safety of life, or of the structure, or of adjoining property, the Contractor, without special instruction or authorization from the City, is permitted to act at its discretion to prevent threatened loss or injury. Any compensation claimed by the Contractor on account of such emergency work shall be determined in accordance with this section.

ARTICLE 23
PAYMENT

A. Payments on account of the Contract Price will be made monthly as Work progresses. Payment Applications, covering labor, material, equipment, supplies, and other items completed, delivered, or suitably stored on site during a period ending on the last calendar day of each month, shall be submitted to the City by the Contractor on the current edition of AIA Documents G702 and G703, within five (5) days after end of the period. Payment Applications shall be notarized, shall be supported by such data substantiating the Contractor's right to payment as the City may require, and reflect retainage, if any, as is provided. All payments shall be subject to any offset or retainage provisions of the Contract.

B. Each payment made to the Contractor shall be on account of the total amount payable to the Contractor, and title to all Work covered by a paid partial payment shall thereupon pass to the City. Nothing in this section shall be construed as relieving the Contractor from the sole responsibility for care and protection of materials and Work upon which payments have been made, for restoration of any damaged Work, or as a waiver of the right of the City to require fulfillment of all terms of Contract Documents.

C. The City, within seven (7) days after receipt of the Payment Application, will either issue a Certificate for Payment for such amount as is properly due or issue written notice of the reasons for withholding such a certificate.

D. The issuance of a Certificate for Payment will constitute a representation by the City, observations at the site and the data comprising the Application for Payment, that the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his certificate); and that the Contractor is entitled to payment in the amount certified.

E. Payment may be withheld in whole or in part to protect the City on account of:

1. Unsatisfactory job progress as determined by the City.
2. Defective Work or materials not remedied.
3. Disputed Work or materials.
4. Claims or other encumbrances filed or reasonable evidence indicating probable filing of claims or other encumbrances by Subcontractors or Suppliers, or others.
5. Failure of the Contractor to make payment to Subcontractors or Suppliers within seven (7) days after receipt of each progress payment.
6. A reasonable doubt as determined by the City that the Work can be completed for the unpaid balance of the Contract Price or within the Contract Time.
7. The Contractor's failure to perform any of its contractual obligations under the Contractor Documents, or any other Contract with the City.
8. Deficiencies or claims asserted by City against Contractor arising from any other project. Within fourteen (14) days following the receipt of the Certificate of Payment, the City shall pay to the Contractor the value of the Work in place and materials suitably stored at the site. The remaining 10% shall be retained by the City until the Contract is 50% completed at which time the retainage shall be reduced to 5%; provided that: (a) the Contractor is making satisfactory progress on the Contract; and (b) in the City's sole judgment, there is no specific cause or claim requiring a greater amount than 5% to be retained. Thereafter, the City shall pay the Contractor

95% of the value of the Work, unless and until it determines satisfactory progress is not being made, at which time the 10% retainage may be reinstated. Such 10% reinstatement would be 10% of the total contract value of Work in place and materials stored. The City's sole judgment concerning the satisfactory progress of the Work shall be final.

F. Within sixty (60) days after the issuance of the Certificate of Final Completion by the City and receipt of all other documents required by the Contract, all retained amounts shall be paid to Contractor as part of Final Payment:

1. The Final Payment shall not become due until the Contractor delivers to the City full and final unconditional releases from Subcontractors and major Suppliers acknowledging payment in full. Any claim filed thereafter shall be the responsibility of the Contractor.

2. If any claim remains unsatisfied after all payments are made, the Contractor shall immediately upon demand refund to the City all monies that the latter may be compelled to pay in discharging such claim including all costs, interest and attorneys' fees.

G. If any payment of the Contract Price is not made within thirty (30) days and without just cause, interest shall thereafter accrue on the unpaid principal balance at the minimum rate allowed by state law (A.R.S. § 44-1201) on the due date.

ARTICLE 24
WARRANTY

A. The Contractor warrants that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be free from faults and defects and in strict conformance with the Contract Documents.

B. Neither provision of manufacturers' warranties nor Final Payment nor use or occupancy of all or a portion of the Premises by the City shall constitute an acceptance of Work not performed in accordance with the Contract Documents or relieve the Contractor or its sureties of liability with respect to any warranties or responsibility for faulty materials and workmanship.

C. This warranty shall continue for a period of 1 year from the date of final acceptance of the work. If the City takes possession of any part of the work before final acceptance, this warranty shall continue for a period of 1 year from the date the City takes possession.

D. The Contractor or its sureties shall remedy any defects in the Work and any resulting damage to the Work or the Work of others at its own expense.

E. The Contractor shall be liable for correction of all damage resulting from defective Work. If the Contractor fails to remedy any defects or damage, the City may correct the Work or repair the damages and the cost and expense incurred in such event shall be paid by or be recoverable from the Contractor.

F. The warranties provided in this section shall be in addition to and not in limitation of any other warranty or remedy provided by law or by the Contract Documents.

ARTICLE 25
SUBSTANTIAL COMPLETION

A. When the Contractor requests a Substantial Completion Inspection for the Work or a designated portion thereof, the City shall determine the validity of the request. A list of items to be completed or corrected shall be prepared by the Contractor and presented to the City with the request for inspection. By submitting a request for Substantial Completion Inspection the Contractor thereby certifies that it has performed a thorough inspection of the Project in preparing the list of items to be completed or corrected, has consulted with its subcontractors, and that the remaining incomplete or defective work shall be completed within thirty (30) days of submission of the request. The City shall evaluate the Contractor's request and list of uncompleted items and, if appropriate in their judgment, add to or delete items from the list necessary to complete the work. The failure to include items on any punch list shall not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents. By submitting a request for Substantial Completion Inspection, the Contractor thereby certifies that the remaining incomplete or defective Work required by the Contract Documents shall be completed within thirty (30) days.

B. If the City, on the basis of Substantial Completion inspection, determines that the Work has been substantially completed in accordance with the Contract Documents, then the City will prepare a Certificate of Substantial Completion, which shall establish the date of Substantial Completion; shall state the responsibilities of the Contractor for remaining punchlist items, maintenance, heat and utilities, security, and damage to the work; and shall fix the time, not to exceed thirty (30) days, within which the Contractor shall complete the punch list. The Certificate of Substantial Completion shall be submitted by the City to the Contractor for their written acceptance of the responsibilities assigned to them in such Certificate. The Project shall not be deemed substantially complete until the Certificate is issued irrespective of City occupancy.

ARTICLE 26
FINAL INSPECTION

A. When the Contractor submits in writing to the City a request for a final inspection of the Work, the City shall determine the validity of the request. Following the inspection, if there are items to be completed or corrected, the City will determine the dollar value to be withheld in accordance with the retainage provisions of the Contract. In the event that the Contractor has not completed the punch list items within the time designated in the Certificate of Substantial Completion, the City retains the right to have these items corrected at the expense of the Contractor, including all architectural, engineering and inspection costs and expenses incurred by the City.

B. The City shall not be required to release the retainage until such items have been completed and inspected.

ARTICLE 27
ASSIGNMENT OF CLAIMS

A. The City and Contractor recognize that in actual economic practice overcharges resulting from antitrust violations are in fact borne by City. Therefore, the Contractor hereby assigns to City any and all claims for such overcharges. The Contractor in all subcontracts shall require all Subcontractors to likewise assign all claims for overcharges to the City.

ARTICLE 28
DISPUTES

A. All of Contractor's claims and disputes shall first be referred to the City for initial determination, by written notice, not more than seven (7) days from the occurrence of the event which gives rise to the dispute, or not more than seven (7) days from the date that the Contractor knew or should have known of the problem. Unless the claim is made in accordance with these time requirements, it is irrevocably waived. The City shall render a written decision within a reasonable time. The City's decision may be reviewed in accordance with City of Buckeye Procurement Code, as amended or superseded. Any claim not timely filed or not complete at the time of filing is irrevocably waived.

B. Any failure of the City to make a decision within the time limit set forth shall not be construed as acquiescence in all or any part of the Contractor's claim for relief. Unless otherwise agreed in writing, the Contractor shall carry on the Work and maintain its progress during any claims and controversy proceedings, and the City shall continue to make payments to the Contractor in accordance with the Contract Documents.

ARTICLE 29
FORUM

A. No suit or action shall be commenced hereunder by any claimant other than in the Arizona Superior Court, and only after all contractual and administrative procedures have been fulfilled. By submitting a bid for this project, Contractor agrees to be bound by the City of Buckeye Procurement Code Dispute Resolution Procedures and waives any objections to those procedures.

ARTICLE 30
TERMINATION BY THE CITY

A. This Contract may be terminated by the City under the conditions stated in A.R.S. § 38-511.

ARTICLE 31
TERMINATION FOR CAUSE

A. The City may terminate the Contract upon the occurrence of any one or more of the following events:

1. If the Contractor refuses or fails to prosecute the Work, or any separable part, with such diligence as will ensure its completion within the Contract Time; or if the Contractor fails to complete the Work within the Contract Time;

2. If the Contractor or any of its key subcontractors is adjudged a bankrupt or insolvent or makes a general assignment for the benefit of creditors, or if the Contractor or any of its key subcontractors or a third party files a petition to take advantage of any debtor's act or to reorganize under the bankruptcy or similar laws concerning the Contractor or any of its key subcontractors, or if a trustee or receiver is appointed for the Contractor or any of its key subcontractors or for any of the Contractor's property on account of the Contractor's insolvency, and the Contractor or its successor in interest or any of its key subcontractors does not provide adequate assurance of future performance in accordance with the Contract within ten (10) days after receipt of a request for assurance from the City;

3. If the Contractor fails to supply sufficient skilled workmen or suitable materials or equipment;

4. If the Contractor fails to make prompt payments to subcontractors or suppliers at any tier, or for labor, materials or equipment;

5. If the Contractor fails to comply with laws, ordinances, rules, codes, regulations, orders or similar requirements of any public entity having jurisdiction;

6. If the Contractor fails to follow any reasonable instructions by the City;

7. If the Contractor performs Work which deviates from the Contract Documents, and neglects or refuses to correct rejected Work; or

8. If the Contractor otherwise violates in any material way any provisions or requirements of the Contract Documents. Once the City determines that sufficient cause exists to justify the action, the City may terminate the Contract without prejudice to any other right or remedy the City may have, after giving the Contractor and its Surety seven (7) days' notice by issuing a written Declaration of Default. The City shall have the sole discretion to permit the Contractor to remedy the cause for the contemplated termination without waiving the City's right to terminate the Contract.

B. If the Contract is terminated, the City may take over the Work and prosecute it to completion, by contract or otherwise, and may exclude the Contractor from the site. The City may take possession of the Work and of all of the Contractor's tools, appliances, construction equipment, machinery, materials, and plant which may be on the site of the Work, and use the same to the full extent they could be used by the Contractor, without liability to the Contractor. In exercising the City's right to prosecute the completion of the work, the City may also take possession of all materials and equipment stored at the site or for which the City has paid the Contractor but which are stored elsewhere, and finish the Work as the City deems expedient. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

C. If the unpaid balance of the Contract Price exceeds the direct and indirect costs and expenses of completing the Work, and all City damages including liquidated damages and compensation for additional professional and consultant services, such excess shall be used to pay the Contractor for the cost of the Work it performed and a reasonable allowance for overhead and profit. If such costs exceed the unpaid balance, the Contractor shall immediately upon demand pay the difference to the City. In exercising the City's right to prosecute the completion of the Work, the City shall have the right to exercise its sole discretion as to the manner, methods, and reasonableness of the costs of completing the Work, and the City shall not be required to obtain the lowest figure for Work performed in completing the contract. If the City takes bids for remedial Work or completion of the project, the Contractor shall not be eligible for the award of such contracts.

D. If the Contract is terminated, the City may demand that the Contractor's Surety take over and complete the Work on the Contract. The City may require that in so doing, the Contractor's Surety not utilize the Contractor in performing the Work. Upon the failure or refusal of the Contractor's Surety to take over and begin completion of the Work within 20 days after the demand, the City may take over the Work and prosecute it to completion as provided above.

E. The City shall have the option of requiring any, all or none of the Subcontractors to perform according to their subcontracts and may assign any or all of the subcontracts to a general contractor selected to complete the Work.

F. If the City takes over the Work, unexecuted orders entered into by the Contractor for performance of any part of the Work will be effective upon acceptance by the City in writing and only as to those subcontracts and purchase orders which the City designates in writing.

G. The Contractor shall be liable for any damage to the City resulting from the termination or from the Contractor's refusal or failure to complete the Work, and for all costs necessary for repair and completion of the Project over and beyond the amount of the Contract. The Contractor shall be liable for all legal fees and costs required to enforce the provisions of the Contract.

H. If the City terminates the Contract, the Contractor shall remain liable for liquidated damages for delay until such reasonable time as may be required for final completion of the Work. Such damages shall be in addition to and not in lieu of any other damages sustained by City in completing the Work.

I. In the event the Contract is terminated, the termination shall not affect any rights of the City against the Contractor. The rights and remedies of the City under this section are in addition to any other rights and remedies provided by law or under this Contract. Any retention or payment of monies to the Contractor by the City will not release the Contractor from liability.

J. If the Contract is terminated under this section, and it is determined for any reason that the Contractor was not in default under the provisions of this Section, the termination shall be deemed a Termination for Convenience of the City and, the rights and obligations of the parties shall be determined in accordance with the following section.

ARTICLE 32
TERMINATION FOR CONVENIENCE OF THE CITY

The City, by written notice to the Contractor, may terminate this Contract in whole or in part when sufficient appropriated or other funds are not available or in the sole discretion of the City it is in the City's best interest. In such case, the Contractor shall be paid for all Work executed and reasonable termination expenses, and a reasonable allowance for profit and overhead on Work done, provided that such payments exclusive of termination expenses shall not exceed the total Contract Price as reduced by other contract payments previously made to the Contractor and as further reduced by the value of the Work as yet not completed. The Contractor shall not be entitled to profit and overhead on Work, which was not performed.

ARTICLE 33
ASSIGNMENT OF CONTRACT

Contractor shall not assign any amount or part of the Contract or any of the funds to be received under the Contract unless Contractor has the prior written approval of the City and the Contractor's Surety has been given notice and has given written consent to any such assignment.

ARTICLE 34
LAW TO GOVERN

This Contract is made under and shall be construed in accordance with the laws of the State of Arizona. If any portion of this Contract is found to be unenforceable the rest and remainder of the Contract shall remain in full force and effect so as to effectuate the intent of the parties. Each party acknowledges that it has had an opportunity to review this Contract with counsel and this document shall be construed fairly and equitably so as to effectuate the intention of the parties irrespective of who is determined to have been the drafter of the document.

ARTICLE 35
E-VERIFY REQUIREMENTS

To the extent applicable under Ariz. Rev. Stat. §41-4401, the Contractor and its subcontractors or subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under Ariz. Rev. Stat. §23-214(A). The Contractor's or its subcontractor's or subconsultant's failure to comply with such warranty shall be deemed a material breach of this Agreement and may result in the termination of this Agreement by the City.

ARTICLE 36
COMPLIANCE WITH FEDERAL IMMIGRATION LAWS AND REGULATIONS

Consultant warrants that it complies with all Federal Immigration laws and regulations that relate to its employees and complies with A.R.S. § 23-214.A. Consultant acknowledges that pursuant to A.R.S. § 41-4401 and effective September 30, 2008, a breach of this warranty is a material breach of this contract subject to penalties up to and including termination of this contract, and that the City retains the legal right to inspect the papers of any employee who works on the contract to ensure compliance with this warranty.

ARTICLE 37
ISRAEL

Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel, or any entity that does business in Israel or any territories controlled by Israel.

END OF SECTON

EXHIBIT B
Plans & Specifications

SPECIFICATIONS

STANDBY GENERATOR ELECTRICAL SPECIFICATIONS

KIMLEY-HORN PROJECT NO. 191342018

CITY OF BUCKEYE, ARIZONA
CITY PROJECT NO. 103700

Sites:

City Hall
530 Monroe Ave.
Buckeye, AZ 85326

Community Center
201 E. Center Ave.
Buckeye, AZ 85326

Saide Recreation Center
1003 E. Eason Ave.
Buckeye, AZ 85326

Sundance Crossing Library
21699 W. Yuma Road #116
Buckeye, AZ 85326

City Fuel Yard
23454 W. Highway MC85
Buckeye, AZ 85326

Fleet Maintenance Yard
415 E. Arizona Eastern
Buckeye, AZ 85326



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END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

A. This section shall include raceways, enclosures, supporting devices ancillary fittings and appurtenances. Furnish and install the complete raceway systems as shown on the Drawings and as specified herein.

B. Raceway is a broad-scope term that shall be defined by the National Electrical Code under Article 100.

1.02 APPLICATIONS

A. Except as otherwise shown on the Drawings, or otherwise specified, all underground and in-slab conduit raceways shall be shall be made with schedule 40 PVC. Bends to grade shall be made with plastic coated rigid galvanized steel conduit.

B. Except as otherwise shown on the Drawings, or otherwise specified, all outdoor exposed power, control, and instrumentation, signal, and communication conduit shall be rigid steel conduit, except where areas are denoted as corrosive or NEMA 4X. The inside of the chlorine storage building shall be a NEMA 4X corrosive area. In those area furnish plastic coated rigid steel conduit, fittings, and boxes.

1.03 SUBMITTALS AND SHOP DRAWINGS

A. Process catalog submittals for the following:

1. Plastic Jacketed Rigid Steel Conduit
2. Rigid Non-Metallic Conduit
3. Liquid-tight Flexible Conduit
4. Liquid-tight Fittings
5. Conduit Bushings
6. Conduit Bodies
7. Conduit Sealing Fittings
8. Expansion-Deflection Fittings
9. Expansion Fittings
10. Cast Metal Boxes
11. NEMA 4X J-Boxes
12. Tape Products
13. Wiring Devices
14. Supporting Devices
15. Labels
16. Grounding Devices
17. Foam Sealant
18. Conduit End Bell Fittings

PART 2 - PRODUCTS

2.01 RACEWAYS

A. Rigid metallic aluminum conduit shall be manufactured of 6063 alloy, T-1 temper, with no more than 0.02% copper content. All conduit couplings shall be threaded aluminum. All such conduit

shall be listed with UL and comply with UL-6 and ANSI C80.5. Aluminum conduit shall be Easco, Indalex or equal.

B. Rigid metallic steel conduit shall be hot-dip galvanized inside and outside and over threads. All such conduit shall comply with U.L. Standard UL-6, Federal Specification WWC-581-D, ANSI C90.1, and NEMA RN1-1980. Furnish Wheatland, Allied or equal.

C. Plastic coated rigid steel conduit shall consist of rigid steel body that complies with above specifications for rigid metallic steel conduit, plus conduit shall have 40 mil thick heat-fused PVC over outside and 2 mil coat of fully catalyzed phenolic inside. The inside coat shall have the chemical resistance of the outer coating and shall not dissolve in lacquer thinner. All couplings shall be equipped with PVC sleeves that extend one pipe diameter or 2", whichever is less, beyond the end of the coupling. All plastic coated conduit shall conform to NEMA Standard #RNI-1974 (Type A) and such conduit shall be Robroy "Plastibond Red", or equal.

D. Non-metallic rigid conduit shall be Schedule 40 PVC. Such conduit shall be UL listed for 90 degrees C and shall conform to NEMA TC-2 and UL-651 standards. Furnish Carlon, Cantex, or equal. Furnish manufacturer's approved solvent for joining couplings.

E. Liquid-tight flexible conduit shall consist of hot-dipped galvanized, flexible interlocking steel core with thermoplastic cover, integral copper ground wire (through 1-1/4" trade size) and shall be Anaconda Sealtite or equal.

2.02 CONDUIT FITTINGS

A. NEMA 4 locknuts for rigid metallic conduit shall consist of galvanized steel body with neoprene sealing ring. Furnish Crouse-Hinds, T&B, or equal.

B. NEMA 1 locknuts for rigid metallic conduits shall be galvanized steel for use with galvanized steel conduit and hardened aluminum for use with aluminum conduit.

C. Conduit field-applied hubs for sheet metal enclosures shall be aluminum body with recessed neoprene sealing ring, threaded NPT insert, and shall be, T&B 370 AL series, or equal products by OZ/Gedney.

D. Conduit hubs for non-metallic enclosures shall be fiberglass polyester reinforced with galvanized steel core, complete with locknut and grounding bushing. All such hubs shall be Crouse-Hinds Type NHU, or equal.

E. Rigid metallic conduit chase nipples, split couplings, slip fittings, unions, reducers, and enlargers, shall be hot-dip or mechanically galvanized malleable iron.

F. Rigid metallic conduit short els and long els shall be hot-dip galvanized malleable iron with NPT threaded hubs and male ends. Throats shall be smooth and free from burrs. All such fittings shall be OZ/Gedney Type "9" Series, Appleton, or equal.

G. Rigid metallic conduit split couplings shall have threaded body with split tightening shelves with neoprene sandwich. Furnish malleable iron mechanically galvanized body. Such fittings shall be OZ type "SSP", or equal.

H. Rigid metallic conduit grounding bushings shall be aluminum body with threaded hub, bakelite insulated throat, and tin-plated copper ground lug. Furnish OZ/Gedney type ABLG, or equal.

I. Liquid-tight flexible conduit fittings shall be hot-dip galvanized steel body with internal locking ring and ground cone plus external ground wire fitting. Furnish straight or angle connectors as required. All such connectors shall be OZ/Gedney 4Q series, or equal.

J. Rigid metallic conduit expansion/deflection fittings shall consist of galvanized malleable iron hubs with heat-fused epoxy coating, flexible neoprene joining sleeve banded to hubs with stainless steel bands, and with internal bonding jumper and guide cones. Furnish Crouse-Hinds type "XDHF" or equal.

K. Rigid metallic conduit expansion fittings shall consist of metallic barrel joined to hubs at each end. One hub shall be threaded to barrel and other hub shall have slip fit to allow up to four (4") inches of conduit lateral movement. Provide external bonding jumper for each expansion joint. Furnish Crouse-Hinds type "XJ", OZ Type "AX", or equal.

L. Conduit waterstops for sealing inside of conduit runs shall consist of aluminum pressure discs with sandwiched neoprene seal and with 316 stainless steel hardware. Furnish OZ/Gedney type "CS" series products, as indicated.

2.03 CONDUIT BODIES AND BOXES

A. Conduit bodies such as "C", "LB", "T" and the like pulling fittings shall be zinc coated with malleable iron or aluminum (material shall match conduit). Covers for damp and/or wet location use shall be gasketed cast metal with "wedge-nut" clamps. Covers for dry locations shall be cast aluminum and hardware shall be 316 stainless steel. All covers shall be equipped with clamp type clevises. Furnish Crouse-Hinds Form 7, or Appleton Form "FM7" products.

B. Conduit bodies for use in corrosive areas shall be as specified above but shall have 40 mil plastic coated PVC jacket and 2 mil interior coating as specified for plastic coated rigid steel conduit. Furnish Robroy Plasti-bond Red fittings or equal.

C. Conduit bodies such as "GUA", "GUAT", "GUAL", and the like pulling/splicing fittings shall be cast aluminum with threaded cast aluminum covers. All such conduit bodies shall be Killark "GE" series, or equal products by Crouse-Hinds or Appleton.

D. Cast metal outlet boxes, pullboxes, and junction boxes whose volume is smaller than 100 cubic inches, and cast metal device boxes, shall be sand-cast, copper-free aluminum or zinc coated sand-cast malleable iron. All boxes shall have threaded hubs. Furnish Crouse-Hinds "FD" style condulets, Appleton "FD" style Unilets, or equal.

E. Covers for cast metal boxes shall be gasketed cast metal covers with 316 stainless steel screws and shall be suitable for use in wet or damp locations.

2.04 PULL AND JUNCTION BOXES

A. Pullboxes and junction boxes whose volume is less than 100 cubic inches shall be furnished as specified hereinbefore except where sheet metal types are shown, in which case, furnish such sheet metal enclosures in NEMA 4X 316 stainless steel construction with gasketed covers of same material.

B. Pullboxes and junction boxes whose volume is 100 cubic inches and greater shall be NEMA 4X 316 grade stainless steel type with gasketed stainless steel covers. Provide print pocket and interior back panel for mounting of terminal strips where terminal strips are called for on the drawings. Sheet metal boxes shall be as manufactured by Hoffman or equal.

C. Covers for sheetmetal pullboxes and junction boxes over 100 cubic inches (and for smaller sized where shown) shall have hinged doors. All hardware shall be 316 stainless steel.

D. Cast metal junction boxes shall be cast aluminum type with gasketed, cast metal covers and with stainless steel cover screws.

2.05 LABELS

A. Buried conduit marking tape for marking path of secondary buried conduits shall be four (4") inch nominal width strip of polyethylene with highly visible, repetitive marking "BURIED CONDUIT" or similar language, repeated along its length.

B. Voltage warning labels for cabinets shall be waterproof vinyl strips with adhesive back and shall have "DANGER (VOLTAGE) - DISCONNECT ALL SOURCES OF POWER BEFORE ENTERING". Letters shall be highly visible red color on white background.

2.06 SUPPORTING DEVICES

A. Mounting hardware, nuts, bolts, lockwashers, and washers, shall be Grade 304 stainless steel.

B. Unless otherwise indicated, channel framing and supporting devices shall be manufactured of ASTM 6063, TO6 grade aluminum; 1-5/8" wide x 3-1/4" deep (double opening type). Clamp nuts for use with channels shall be grade 316 stainless steel.

C. Where indicated, furnish grade 316 stainless steel slotted channel members 1-5/8" wide x 1-5/8" deep or 1 5/8" x 3 1/4" deep, double-faced type. All hardware and conduit clamps shall be grade 316 stainless steel.

D. Conduit clamp supports for terminating conduits onto cable trays shall be mechanically galvanized malleable iron with adjustable angle clamp. Fittings shall be provided with 316 stainless steel hardware. Furnish OZ/Gedney type CTC products.

E. All such channel members and fittments shall be B-Line, Unistrut or equal.

F. Conduit straps, and associated nuts, lockwashers and bolts for use with channels shall be 316 stainless steel with 316 stainless steel hardware. Furnish B-Line products or equal.

G. After-set concrete inserts (drilled expansion shields "D.E.S.") shall consist of two types. For anchors to accommodate 5/16" diameter bolts and smaller, provide HILTI "HDI" series 304 stainless steel anchors. For anchors to accommodate 3/8" diameter and larger bolts, provide HILTI "HVA" series with 316 stainless steel threaded inserts.

H. Hanger rod shall be 3/8" minimum diameter Type 316 stainless steel all-thread.

I. One hole conduit clamps shall be two piece nest-back or clamp-back type constructed of cast malleable iron or cast copper-free aluminum. The material shall match the conduit. Furnish Crouse-Hinds series 500 clamp and series CB spacer, T&B series 1270/1280 clamp + series 1350 spacer (add suffix "al" for aluminum items for T&B parts), OZ\Gedney 14G clamp + series 141G spacer + 141NG nestback (if required), or equal. Finish for malleable iron items shall be hot dip galvanized

J. Conduit beam clamps shall be hot-dip galvanized malleable iron and shall be as follows:

TYPE	MANUFACTURER
Right Angle	OZ/Gedney Type "UBCG", or equal.
Parallel	OZ/Gedney Type "UPCG", or equal.
Edge	OZ/Gedney Type "UECG", or equal.

K. Hanger rod beam clamps shall be clamp type with hardened steel, bolt, Steel City "500" Series, Crouse-Hinds series "500", or equal. Furnish swivel stud for each rod make- up.

L. Conduit "J" hangers shall consist of steel straddle with detachable bolt. Finish shall be electro-galvanized. Furnish Kindorf type "C-149", Unistrut "J-1200" Series, or equal.

M. Conduit "U" bolts shall be hot-dip galvanized steel with 316 stainless steel hex-head bolts.

N. Equipment stands for supporting devices such as control stations, device boxes and the like, shall consist of a welded structural steel c-channel and plate steel floor plate as detailed on the drawings. Equipment stands shall be hot-dipped galvanized after fabrication.

2.07 MISCELLANEOUS MATERIAL

A. Double bushings for insulating wiring through sheet metal panels shall consist of mating male and female threaded phenolic bushings. Phenolic insulation shall be high-impact thermosetting plastic rated 150 degrees C. Furnish OZ Type "ABB", or equal.

B. Conduit pull-cords for use in empty raceways shall be glass-fiber reinforced tape with foot-marked identification along its length. Furnish Thomas, Greenlee, or equal products.

C. Conduit thread coating compound shall be conductive, non-galling, and corrosion-inhibiting. Furnish Crouse- Hinds Type "STL", Appleton Type "ST", or equal.

D. Plastic compound for field-coating of ferrous material products shall be PVC in liquid form that sets-up semi- hard upon curing. Furnish Rob Roy "Rob Kote", Sedco "Patch Coat", or equal.

E. Zinc spray for coating galvanized steel threads shall be Research Laboratory type "LPS", Mobil "Zinc-Spray" or equal conductive zinc-rich spray enamel product.

F. Foam sealant for waterproofing uses shall be "AV280 Hydrofoam" by Avanti Internarional of Webster, Texas or equal.

PART 3 - EXECUTION

3.01 RACEWAYS

A. Install the conduit system to provide the facility with the utmost degree of reliability and maintenance free operation. The conduit system shall have the appearance of having been installed by competent workmen. Kinked conduit, conduit inadequately supported or carelessly installed, do not give such reliability and maintenance free operation and will not be accepted.

B. Raceways shall be installed for all wiring runs, except as otherwise indicated.

C. Conduit sizes, where not indicated, shall be N.E.C. code-sized to accommodate the number and diameter of wires to be pulled into the conduit. Unless otherwise indicated, 3/4" trade-size shall be minimum size conduit.

D. Unless otherwise noted, conduit runs shall be installed exposed. Such runs shall be made parallel to the lines of the structure. Conduit shall be installed such that it does not create a tripping hazard or an obstruction for headroom.

E. All runs of rigid conduit shall be threaded, and all male threads shall be coated with non-galling thread compound prior to assembly.

F. Plastic coated metallic conduit lengths shall be joined with threaded metallic coupling that shall be each equipped with a 40 mil thickness sleeve that shall extend over the threads of the joined conduit. Each joint shall be watertight.

G. Field-cut threads in runs of plastic coated metallic conduit shall be cut with a special die that has rear reamed out oversize so as to slip over plastic coating. Do not attempt to cut threads on plastic coated conduit with regular dies, whereby plastic coating is skinned back to allow the incorrect die to be used. Coat all field-cut threads with cold-galvanizing spray, use two coats to provide 1-mil minimum coating thickness.

H. Conduit runs made in concrete pours or surface-mounted runs that are attached to the structure shall be equipped with an expansion/deflection fitting where they cross an expansion joint, or at every 100 feet.

I. Unless otherwise shown, conduit penetrations through floors located below enclosures, shall be made each with couplings set flush with the outside faces of the concrete pour. Each pair of couplings shall be joined with a threaded spool piece. Use coated aluminum or galvanized steel couplings.

J. Rigid metallic conduit runs shall have their couplings and connections made with screwed fittings and shall be made up wrench-tight. Check all threaded conduit joints prior to wire pull. Coat all male threads with Crouse-Hinds "STL" or equal, conductive lubricant prior to joining.

K. All conduit runs shall be watertight over their lengths of run, except where drain fittings are indicated. In which cases, install specified drain fittings.

L. Plastic jacketed flexible steel conduit shall be used to connect wiring to motors, limit switches, bearing thermostats, and other devices that may have to be removed for servicing. Unless otherwise indicated, maximum lengths of flex shall be three (3') feet.

M. Where plastic jacketed flex is installed, make up terminal ends with liquid-tight flex connectors. In wet locations, install sealing gaskets on each threaded male connector. Each flex connector shall be made-up tightly so that the minimum pull-out resistance is at least 150 lbs. Install external spirally-wrapped ground wire around each run of liquid-tight flex and bond each end to specified grounding-type fittings.

N. Empty conduits shall have pull-ropes installed. Identify each terminus as to location of other end and trade size of conduit. Use blank plastic waterproof write-on label and write information on each label with waterproof ink. Pull a mandrel through each conduit to check and clear blockage before installing pull-rope. Owner's representative shall witness test. Provide documentation that all conduits are clear and ready for future use. Cap exposed ends of empty conduit with threaded plugs.

O. Conduit runs into boxes, cabinets and enclosures shall be set in a neat manner. Vertical runs shall be set plumb. Conduits set cocked or out of plumb will not be acceptable.

P. Conduit entrances into equipment shall be carefully planned. Cutting away of enclosure structure, torching out sill or braces, and removal of enclosure structural members, will not be acceptable.

Q. Use approved hole cutting tools for entrances into sheet metal enclosure. Use of cutting torch or incorrect tools will not be acceptable. Holes shall be cleanly cut and they shall be free from burrs, jagged edges, and torn metal.

R. All raceways shall be swabbed clean after installation. There shall be no debris left inside. All interior surfaces shall be smooth and free from burrs and defects that would injure wire insulation.

3.02 CONDUIT BODIES AND BOXES

A. Conduit bodies such as "LB", "T", "GUAT", etc., shall be installed in exposed runs of conduit wherever indicated and where required to overcome obstructions and to provide pulling access to wiring. Covers for such fittings shall be accessible and unobstructed by the adjacent construction. GUA series pulling bodies rather than LB fittings and the like, shall be used for splicing purposes as well as pulling access.

B. Covers for all conduit bodies shall be installed with gasketed cast metal type where located in damp or wet locations.

C. All conduit boxes installed whose inside volume is less than 100 cubic inches shall be cast metal type with gasketed cast metal cover, unless otherwise indicated.

D. All conduit boxes whose inside volume exceeds 100 cubic inches shall be sheet metal type except where gasketed cast metal type, stainless steel or fiberglass reinforced polyester are indicated.

3.03 RACEWAY SUPPORT

A. All raceway systems shall be adequately and safely supported. Loose, sloppy and inadequately supported raceways will not be acceptable. Supports shall be installed at intervals not greater than those set forth by the NEC, unless shorter intervals are otherwise indicated, or unless conditions require shorter intervals of supports.

B. Multiple runs of surface mounted conduit on concrete or masonry surfaces shall be supported off the surface by means of aluminum channels. Attach each slotted channel support to concrete surface by means of two (2) 1/4" diameter stainless steel bolts into drilled expansion shields.

C. Single runs of surface mounted conduit on concrete or masonry surfaces shall be supported with hot-dipped malleable iron conduit clamps and nest-back spacers. Furnish plastic coated malleable iron conduit clamps and nest backs where corrosive areas are called out.

D. Conduit runs that are installed along metallic structures shall be supported by means of hot-dipped galvanized beam clamps as specified herein.

3.04 LABELING

A. In addition to labeling requirements as specified throughout this and other Sections, install wiring and raceway labeling as follows:

1. Apply write-on identification to empty conduits to identify each conduit as to terminus of other end and also to identify trade size of conduit.

2. Where active conduits terminate into bottoms of motor control centers, install label on each conduit terminus and show number and size of wiring and function of circuitry and trade size of conduit.

END OF SECTION

PART 1 - GENERAL

1.01 SCOPE

A. This section shall include wire and cable, terminating devices, splice kits, labeling, and appurtenances.

1.02 STANDARDS

A. ASTM

B. UL 1277 Electrical Power and Control Tray Cables

C. UL 1685 Flame Exposure Test for Tray Cables

D. ICEA T-29-520 Vertical Cable Tray Flame Test

E. IEEE 1202 Flame Testing of Cables for use in Cable Tray

1.03 SUBMITTALS AND SHOP DRAWINGS

A. Process catalog submittals for the following:

1. Power and control cable
2. Instrument cable
3. Conductor Connectors
4. Tape Products
5. Labels

PART 2 - PRODUCTS

2.01 WIRE AND CABLE

A. All conductors shall be soft-drawn annealed copper, Class B stranding that meets ASTM B-8. Copper conductors shall be uncoated, except as otherwise specified.

B. Single conductor cable for power, control, and branch circuits shall have cross-linked polyethylene insulation, rated for 600 volts. Cable shall be NEC type XHHW-2. All such cable shall be rated for wet or dry use. Cable insulation shall be color coded with factory pigmented colors below size #6 awg. Color coding shall be as specified under Part 3 of this section. Cable shall be as manufactured by Southwire or equal.

C. Instrument cable for analog circuits, shall be # 16 awg, twisted shielded pairs or triads with PVC insulation and overall jacket. Cable assembly shall be rated for 600 volts, wet or dry locations. Furnish Okonite "Okoseal-N Type P-OS" or approved equal.

D. Single conductor cable for 24 volt dc control shall be minimum size #16. Furnish MTW type insulation for panel wiring and XHHW-2 insulation for field wiring in conduits.

E. Single conductor cable 1/0 and above for use in cable trays shall be rated for CT (cable tray) use. Insulation shall be cross-linked polyethylene, XHHW-2. Furnish Southwire XHHW/TC or approved equal.

F. Multi-conductor power cable for use in cable trays shall be 600 volt and rated for CT use. Cable assembly shall be three or four conductor with ground conductor. Insulation of each conductor shall be cross-linked polyethylene, XHHW. Ground shall be bare. Cable assembly shall have an overall PVC jacket. Furnish Southwire type TC or approved equal.

G. Multi-conductor control cable for use in cable trays shall be 600 volt and rated for CT use. Insulation of each conductor shall be cross-linked polyethylene, XHHW. Cable assembly shall have an overall PVC jacket. Furnish Southwire type TC Control Cable or approved equal.

H. Multi-conductor instrumentation cable for use in cable trays shall be 600 volt rated and rated for CT use. Cable assembly shall consist of shielded pairs or triads with overall shield and Nylon jacket. Conductor insulation shall be flame retardant PVC. Furnish Okonite Company “Okoseal-N Type SP-OS or approved equal.

I. Multiconductor cable for connection of the output of VFDs to motors shall be 90 deg C rated, 2000 volt copper conductors with RHW insulation, copper tap shield and groiund conductors. Furnish Service Wire Company "ServiceDrive" or equal cable.

J. Ground mat and associated upcomers and grounding conductors shall be tin-plated stranded copper.

K. Cable for RS485 applications shall be Belden #9841.

L. Telephone cable for underground shall be solid conductor 22 awg and shall meet REA Specification PE-39. Furnish HWC series N08022-XX in pair numbers as indicated on the drawings.

M. Telephone cable for inside of buildings shall be unshielded, twisted pair, solid conductor 24 awg and shall be in pairs as indicated on the drawings. Furnish Belden model 9562 (two pair), 9566 (six pair), 9570 (ten pair), or 9585 (twenty five pair).

N. Fiber optic cable shall be 6 fiber count cables. Cable shall be 62.5 um multimode and shall be suitable for installation in conduit. Furnish Corning FREEDM One Riser Cables.

2.02 CONNECTORS

A. Mechanical connectors for 600V class wiring shall be tin-plated copper alloy bolted pressure type with bronze tin-plated hardware. Furnish connectors as follows:

TYPE	MANUFACTURER & TYPE
Single conductor to flat-plate connector	Blackburn LH
Multiple conductor to flat-plate connector	Blackburn L2H, L3H, L4H
Split-bolt connector	Blackburn HPS
Two-bolt parallel connector with spacer	Blackburn 2BPW
Cross Connector	Blackburn XT

Splice Connector Blackburn S

Flush ground connector OZ Type "VG"

B. Insulated spring wire connectors, "wire-nuts", for small building wire taps and splices shall be plated spring steel with thermoplastic jacket and pre-filled sealant. Connector shall be rated for 600 volts, 75 degrees C continuous. Furnish King Technology, or equal.

C. Connectors for control conductor connections to screw terminals shall be crimp-type with vinyl insulated barrel and tin-plated copper ring-tongue style connector. Furnish T&B "Sta-Kon", 3M "Scotchlok", or equal.

D. Terminal strips for miscellaneous field terminations of control and instrumentation circuits shall consist of 12 point box lug terminals with marking surface. Terminal assembly shall accept #18 to #12 awg and shall be rated 600 volts. Furnish Allen-Bradley #1492-HJ812 terminal blocks.

2.03 INSULATING PRODUCTS

A. Tape products shall be furnished as hereinafter specified and shall be Plymouth, Okonite, 3M, or equal.

B. General purpose electrical tape shall be 7 mil thick stretchable vinyl plastic, pressure adhesive type, "Slipknot Grey", 3M Scotch 33+, or equal.

C. Insulating void-filling tape and high voltage bedding tape shall be stretchable ethylene propylene rubber with high-tack and fast fusing surfaces. Tape shall be rated for 90 degrees C continuous, 130 degrees C overload, and shall be moisture-proof. Void filling tape shall be "Plysafe", 3M Scotch 23, or equal.

D. High temperature protective tape shall be rated 180^{O}C continuous indoor/outdoor, stretchable, self-bonding silicone rubber. High temperature tape shall be Plysil #3455, 3M Scotch 70, or equal.

E. Insulation putty filler-tape shall be Plymouth #32074, 3M Scotchfill, or equal.

F. Arc and fireproofing tape shall be Plymouth #3318, 3M Scotch #70 or equal.

2.04 LABELS

A. Colored banding tape shall be 5 mil stretchable vinyl with permanent solid color. Colors shall be as hereinafter specified. Tape shall be Plymouth "Slipknot 45", 3M Scotch #35, or equal.

B. Numbered wire marking labels shall be PVC sleeve-type markers, T&B, Brady or equal. Markers using adhesive are not acceptable.

C. Cable identification ties shall be weather resistant polyester with blank write-on space, T&B, Brady or equal.

2.05 MISCELLANEOUS MATERIAL

A. Cable grips shall be 316 SS grip-type wire mesh with machined metal support. Furnish Kellems, Appleton, or equal products.

B. Wire pulling compound shall be non-injurious to insulation and to conduit and shall be lubricating, non- crumbling, and non-combustible. Furnish Gedney "Wire- Quick", Ideal "Yellow" or equal.

C. Fiber Optic Patch Panels shall be 12 fiber with SC connectors. Furnish Corning SPH-01P units. Furnish two patch panels per RTU enclosure. One shall be for the 6 fiber cable ring and the other shall be for interconnection of fiber optic cables for the video surveillance system cameras.

D. Patch cables shall be factory terminated and tested in lengths as needed with SC or ST connectors as required. Furnish Industrial Networking Solutions or equal products.

E. Conduits for concrete encased ductbanks that are supported by piers shall be fiberglass conduits manufactured by Champion.

PART 3 - EXECUTION

3.01 POWER AND CONTROL CABLE

A. Power and control conductors shall be sized as shown and where no size is indicated, the conductor size shall be #12 awg for power circuits #14 awg for 120 vac control circuits, and #16 awg for instrumentation circuits.

B. Equipment grounding conductors shall be installed with type XHHW insulated stranded copper conductors and the insulation color shall be green in sizes up to and including #10 awg.

C. Color coding shall be as follows. Non-factory color coded cables shall be marked with specified color tape. Use the following colors:

CONDUCTOR	120/208V SYSTEMS	480V SYSTEMS
Phase A or L1	Black	Brown
Phase B or L2	Red	Orange
Phase C	Blue	Yellow
Neutral	White	N/A
Ground	Green	Green

D. Branch circuits may be spliced for receptacle, lighting and small appliance load inside appropriate junction boxes. Feeders, branch circuit, power wiring, control wiring, and signal wiring shall be installed without splice.

E. Except as otherwise specified, taps and splices with #10 AWG and smaller, shall be made with insulated spring wire connectors. Such connectors in damp or wet locations shall be waterproofed by filling interstices around wires with silicone rubber and further insulating with an envelope of stretched piece of EPR tape around each wire. Then, apply one-half lapped layer of electrical tape over all.

F. Motor connections made with #10 AWG and smaller wire shall be made up with set-screwed copper lugs with threaded-on insulating jacket. After make-up of each connector, install two (2)

layers half-lapped, of high temperature tape over connector barrel and down one (1") inch over wires.

G. Taps, splices, and connections in #8 AWG and larger wires shall be made with copper alloy bolted pressure connectors. Each such connector shall be insulated by means of applying insulation putty over sharp edges so as to present a smooth bonding surface. Next, apply at least four (4) layers, half-lapped each layer of EPR tape. Then, make final wrapping of at least three (3) layers, half-lapped each layer of electrical tape.

H. Control wiring connections to stud type and screw type terminals shall be made with ring-tongue type crimp connectors. Label each terminal jacket with wire marking label at each connection.

I. Each wire connection shall be made up tightly so that resistance of connection is as low as equivalent length of associated conductor resistance.

J. Numbered marking labels shall be installed to identify circuit numbers from panelboards. Install labels on each wire in each panelboard, junction, pullbox and device connection.

K. Label each wiring run with write-on waterproof labels inside motor control center. Install write-on label ties around wire group at conduit entrance and write-on label the wire size, conduit size and service.

L. Install PVC sleeve type numbered marking on each control wire termination at each terminal strip and at each device. Do this in motor control center, terminal cabinets, safety switches, remote controllers, pilot operators, and instrumentation equipment. Number selected shall correspond to number on terminal strip.

M. All wiring inside equipment enclosures shall be neatly trained and laced with nylon tie-wraps.

N. Tie wrap cables in tray.

3.02 INSTRUMENTATION WIRING

A. All 4-20mA analog pairs shall have shields grounded at the instrumentation panel and insulated on the field end unless otherwise required by instrument supplier. Single point grounding shall be maintained.

3.03 GROUND WIRING

A. Each item of equipment shall be adequately and thoroughly grounded. Comply with Article 250 of N.E.C., except where higher standards of grounding have been specified. In addition to requirements as specified under Section 26 04 50, install grounding for general wiring systems as follows.

B. Equipment grounding conductors (EGC) shall be installed in each run of power and control conduits. These wires shall be green colored in sizes #6 AWG and smaller and green banded in larger sizes. Ground wires shall be type XHHW-2 insulated copper wires.

C. EGC runs into equipment shall be grounded to equipment bus where available, or to equipment ground lugs.

D. Where grounding type bushings are installed, bond EGC thereto, and furthermore, ground each bushing lug to equipment ground bus or ground lug, or ground rod.

E. In each motor terminal box, install equipment ground lug and connect EGC thereto. Bond pump frame to motor frame. Bond motor and pump to grounded electrode conductor.

F. Run continuous ground in tray, bond to each section and to all switchgear, panels, and transformers.

3.04 LABELING

A. In addition to labeling requirements as specified throughout this Section, install wiring and raceway labeling as follows:

1. Apply numbered wire marking labels to control wiring terminations for each termination in each item of equipment. Use PVC sleeve type labels.

2. Apply numbered wire marking labels to power and control wiring terminations in motor control centers, panelboards, and at outlets, to identify circuit numbers. Use PVC sleeve type labels.

3. Apply numbered wire marking labels to each signal wire termination in each instrument junction box, and in each item of equipment served by instrumentation circuits. Use PVC sleeve type labels.

4. Apply write-on identification labels to wiring sets in each motor control center, and in each pullbox and junction box. Show wire size, conduit size, and line and load information. Use waterproof plastic write-on labels with nylon tie-wraps.

3.05 TESTING

A. Each run of 600V class power and control wiring shall be tested prior to connection of line and load. Make tests with 1000V dc hand-crank or motor driven ohmmeter. Each run of wiring shall be tested phase-to-phase and/or phase-to-neutral, and phase-to-ground. Test results for each test shall be equal to or greater than 25,000,000 ohms with 1000V dc applied. All tests shall be made in the presence of the Owners representative or Engineer.

B. Test all runs of signal wiring with 250V dc megger. Insulation values shall meet or exceed 1,000,000 ohms per 100 feet (cable to shield).

C. Should any cable or circuit fail to meet the above tests, replace wire and retest.

END OF SECTION

No specifications on this page for formatting purposes.

PART 1 - GENERAL

1.01 SCOPE

A. This specification covers the requirements for generator distribution panelboards.

B. This specification defines minimum requirements, characteristic guidelines and features required.

1.02 STANDARDS

A. All panelboards shall be designed, manufactured and tested in accordance with the latest applicable standards of UL and NEMA. Panelboards shall be UL listed.

1.03 SUBMITTALS

A. Submit outline and dimensional drawings and catalog literature to Engineer for review.

PART 2 - PRODUCTS

2.01 GENERAL

A Panel and Main breaker AIC Ratings shall be as indicated on the drawings.

B Branch circuit Breakers shall be rated 14,000 amps rms symmetrical interrupting capacity.

C Panelboards shall have integrated SPD rated for 200 kA. Provide alarm contacts, event counter, and indicator lights.

2.02 CONSTRUCTION

A. All buses shall be tin-plated copper.

B. Enclosures shall be painted steel.

C. NEMA 3R for installation outdoors.

2.03 MANUFACTURER

A. Panelboards shall be Square D type I-Line or equal.

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install panelboards as scheduled and in locations shown on the drawings. Provide grounding as specified per 26 04 50 and per NEC.

PART 4 - PAYMENT

4.01 PAYMENT

A. Payment for electrical shall be made on a unit price basis as shown in the Bid Schedule and shall constitute full payment for these items.

END OF SECTION

1. Spec Notes

A. Summary of statement of work provided by engineering firm.

2. Intent

A. It is the intent of these specifications to provide in operating condition an on-site standby electrical power generation system as appropriate for the location and conditions. The system shall include, but not be limited to.

1. Engine-generator
2. Cooling system
3. Sub-base fuel tank
4. Fuel delivery system
5. Starting batteries
6. Battery charger
7. Exhaust system
8. Weather protective enclosure
9. Block heater
10. Circuit breaker
11. Conduit
12. Wire fittings
13. Accessories required to provide a complete operating system.

B. The generator shall be of certified output as manufactured by Blue Star Power Systems, Inc. or prior approved equal.

C. The manufacturer must be 100% American owned. Any request for approval of an alternate product or supplier must be receive no later than 21 days prior to the bid date. This request must include a paragraph by paragraph statement of compliance or deviation to the written specification.

D. Any requests for deviations to the specification must include adequate, specific engineering data to warrant approval. Any request for approval of a different supplier other than that specified above must include a complete history of past performance and references detailing past success in furnishing a unit of the size specified. A minimum of three references shall be furnished along with contact person's name and contact information. Requests for approval that are incomplete, inaccurate or that cause the specifier to ponder as to what is being offered to meet the requirements of the specification will be rejected. There will be no exceptions to these requirements.

3. Submittals

A. Current application literature completely describing the engine generator set, including complete engine and generator engineering data sheets.

B. Current applicable literature describing all accessories.

C. Complete dimensional and electrical drawings locating accessories, anchor bolt and mounting dimensions, fuel, exhaust and cooling piping connections. All information will be coordinated with the installing contractor.

4. Rating: Standby

A. The generator set shall deliver its full output rating continuously for the duration for any normal power failure. This rating is applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating.

B. The generator set shall be capable of being operated at rated power until the normal power is restored.

C. The standby generator set shall be started and accelerated to rated speed immediately upon loss of normal power when equipped with cold ambient starting aids such as an engine jacket water heater.

D. The generator set shall accept 100% of rated load in one step up to the engine capability to recover to rated speed.

5. Environment

A. The engine generator set shall be capable of producing rated kW and kVA when operating at 500 ft (152 m) altitude, and ambient temperature range of 0°F (-18°C) minimum to 122°F (50°C) maximum.

B. The generator set manufacturer shall provide data to verify the generator set will operate as required in the specified altitude and ambient conditions.

II. Engine and Components

1. Starting System

A. The engine will be equipped with an electric, DC starting motor, positive engagement, of enough capacity to crank the engine to starting speed for a minimum of one minute, at the specified ambient temperature without overheating.

2. Diesel Fuel System*
(*Only applies for all sites except for Community Center. This site utilizes a natural gas generator and the following subsections A. B. Do not apply.)

A. The fuel storage tank, fittings, valves, gauges and piping shall be supplied by the generator set manufacturer in accordance with NFPA 30, UL142, applicable local codes and as specified within.

B. Flexible fuel connectors shall be supplied to isolate engine vibration to the fuel system components.

3. Cooling System: Radiator

A. Unit mounted radiator will be furnished complete with a blower fan and 50% glycol coolant.

B. The maximum external radiator airflow restriction shall not exceed 0.5 " WC

C. The cooling system will be sized to maintain a safe engine operating temperature at the specified ambient and altitude conditions. D. Proper cooling system exhaust airflow ducting must be used to prevent recirculation overheating.

4. Exhaust System: Critical Grade

A. An Exhaust silencer rated Critical Grade shall be furnished of industrial standard construction, all welded, for stationary engine applications.

B. The silencer shall attenuate exhaust noise to a critical level.

C. A seamless, stainless steel convoluted flexible exhaust connector shall be provided where required to isolate engine vibration and thermal expansion from the exhaust system components. Long radius, low restriction fittings will be used throughout, and pipe size will be sufficiently sized to handle the engine exhaust volume, at the specified conditions without exceeding the maximum allowable back pressure as specified by the engine manufacturer.

5. Engine Lubrication System

A. The engine shall be furnished with a gear type lube oil pump that will furnish oil under pressure to moving engine components. Full flow lube oil filters shall be provided in addition to a bypass valve that will allow lube oil circulation in the event of excessive restriction of the filtering system.

6. Governing System: Isochronous Zero Speed Droop Governing System

A. The engine generator set shall be provided with an isochronous electronic governor of the constant speed type.

B. The governor shall be capable of maintaining a steady state frequency bandwidth of not more than ±0.25%, at any constant load, from no load to full load.

7. Engine Starting Battery

A. A lead-acid, heavy duty battery system shall be furnished of enough capacity to provide a minimum of five full cycle starts for ten seconds of engine cranking time with ten second rest periods between start attempts at the specified ambient conditions.

B. The lead acid battery will be 12 volt or 24 volts as required by the engine specification.

C. The commercial type lead acid battery will include a manifold vent which directs corrosive gases away from the electrical connections and cables.

D. The cells of the battery will be bonded, and the partition inter-cell connectors will create a shorter current path to deliver more power to the battery terminals.

8. Battery Charger: 5 Amp

A. The charger shall be of the two stage, completely automatic, variable current output type and shall be 5- or 6-amp minimum output current at the required system DC voltage.

B. Charger shall incorporate automatic current limiting with a rectangular current limit characteristic and shall be capable of operating into a short circuit or dead battery indefinitely without damage or overheating.

C. Charger shall be equipped with output fuses on the charging leads to prevent charging errors due to long cable runs.

9. Engine Block Heater

A. An engine cooling jacket water heater shall be provided which will be thermostatically controlled to maintain the engine block at a suitable temperature to assure rapid starting under the specified ambient temperature.

B. The heater operating voltage should match the utility voltage available at the installation site. C. The heater will be of the industrial tank type with thermo-syphon or pump assisted circulation.

III. GENERATOR AND COMPONENTS

1A. City Hall Generator Performance Rating

A. Rated kW: 300 kWe
B. Volts: 277/480
C. PF: .8
D. Hertz: 60
E. RPM: 1800
F. Temp Rise: 130 Deg C

G. Ambient Temp: 27 Deg C

1B. City Hall Mainline Circuit Breaker:

A. Breaker : 450 amps
B. Rating: Standard 80%
C. Shunt: No
D. Aux: No
E. Ground Fault: No
F. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a
NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

2A. Community Center Generator Performance Rating

A. Rated kW: 250 kWe
B. Volts: 120/208
C. PF: .8
D. Hertz: 60
E. RPM: 1800
F. Temp Rise: 130 Deg C
G. Ambient Temp: 27 Deg C

2B. Community Center Mainline Circuit Breaker:

A. Breaker : 800 amps
B. Rating: Standard
C. Shunt: No
D. Aux: No
E. Ground Fault: No
F. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a
NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

3A. Coyote Branch Library Generator Performance Rating

A. Rated kW: 300 kWe
B. Volts: 277/480
C. PF: .8
D. Hertz: 60
E. RPM: 1800
F. Temp Rise: 130 Deg C
G. Ambient Temp: 27 Deg C

3B. Coyote Branch Library Mainline Circuit Breaker:

A. Breaker : 1000 amps
B. Rating: Standard 80%
C. Shunt: No
D. Aux: No
E. Ground Fault: No
F. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

4A. Fleet Management Generator Performance Rating

A. Rated kW: 100 kWe
B. Volts:120/240 (3Φ) High Leg Delta
C. PF: .8
D. Hertz: 60
E. RPM: 1800
F. Temp Rise: 130 Deg C
G. Ambient Temp: 27 Deg C

4B. Fleet Management Mainline Circuit Breaker:

A. Breaker : 200 amps Rating: Standard 80% Shunt: No
B. Aux: No
C. Ground Fault: No
D. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

5A. City Fuel Yard Generator Performance Rating

A. Rated kW: 30 kWe
B. Volts:120/240 (1Φ)
C. PF: .8
D. Hertz: 60
E. RPM: 1800
F. Temp Rise: 130 Deg C
G. Ambient Temp: 27 Deg C

5B. City Fuel Yard Mainline Circuit Breaker:

A. Breaker : 100 amps
B. Rating: Standard 80%
C. Shunt: No
D. Aux: No
E. Ground Fault: No
F. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a
NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

6A. Saide Recreation Center Generator Performance Rating

A. Rated kW: 175 kWe
B. Volts:120/208 (3Φ)
C. . PF: .8
D. Hertz: 60
E. RPM: 1800

F. Temp Rise: 130 Deg C
G. Ambient Temp: 27 Deg C

6B. Saide Recreation Center Mainline Circuit Breaker:

A. Breaker : 600 amps
B. Rating: Standard 80%
C. Shunt: No
D. Aux: No
E. Ground Fault: No
F. Bell Alarm: No

A. UL listed molded or insulated case main output circuit breaker, sized to suit the rated voltage and current of the unit must be mounted in a NEMA rated enclosure at the unit manufacturers' facility prior to unit shipment.

B. The line side breaker connections are to be terminated at the factory.

C. Any system utilizing a manual reset exciter field circuit breaker and/or current transformers is unacceptable.

7. Construction-PMG Design

A. The power generator will be of the salient pole synchronous type. The generator will be rated at 60 Hertz.

B. The generator will be equipped with amortisseur windings to facilitate parallel operation and application to waveform distorting loads.

C. The generator will be of the single bearing type with flange-mounted design.

D. The bearing will be a sealed, frictionless, cartridge type. The coupling will be a laminated steel, semi-flexible, piloting type drive disc.

E. The excitation system will be of the brushless design.

F. Insulation class will be in accordance with the most recent NEMA_MG1.22.40 requirements for the generator at the specified ambient conditions and temperature rise.

G. The generator will be provided with a power terminal cabinet of adequate size for connection of load conductors. Permanent Magnet Generator system (when specified) must be of the true PMG design. Any other external means of excitation support is unacceptable.

H. The alternator shall be rated at the specified output with a maximum temperature rise of 130 deg. C in an ambient temperature of 27 Deg C.

I. The generator shall be capable of supporting the minimum starting kVA (SkVA) required with a maximum instantaneous voltage dip of
30%. "Sustained" voltage dip figures are irrelevant and DO NOT meet the requirements of this specification.

J. Factory documentation of compliance to these requirements shall be included as part of the approval submittal prior to release to production.

K. 3600 rpm alternators will not be accepted.

L. No exceptions to these requirements will be allowed.

8. Generator Voltage Regulator

A. The voltage regulator shall be of digital, microprocessor design with solid state voltage build-up. Voltage build-up relays or other external devices are not acceptable.

B. The regulator shall be encapsulated for humidity, corrosion and abrasion protection.

C. The regulator shall provide 1.0% steady state regulation, true volts per hertz operation with adjustable cut in, loss of sensing continuity shutdown, over-excitation shutdown, RMS voltage sensing and over-voltage protection.

9. Control Panel

A. Functional Description: When the mode-selector switch on the control and monitoring panel is in the automatic position, remote-control contacts in one or more separate automatic-transfer switches initiate starting and stopping of the generator set. When the mode-selector switch is switched to the on position, the generator set manually starts. The off position of the same switch initiates generator-set shutdown. When the generator set is running, specified system or equipment failures or derangements automatically shut down the generator set and initiate alarms. Operation of a remote emergency-stop switch also shuts down the generator set.

B. Non-proprietary software/firmware.

C. Configuration: Operating and safety indications, protective devices, basic system controls, and engine gages are grouped on a common control and monitoring panel mounted on the generator set. Mounting method isolates the control panel from generator-set vibration. Owner-specified monitoring points shall be wired to a terminal strip provided at control panel for Owner's connection to Building Management System. Terminal strip shall be configured according to Owner's terminal designations as indicated on the drawings.

D. Indicating and Protective Devices and Controls: Include those required by NFPA 110 for a Level 1 system, and the following:

1. AC voltmeter.
2. AC ammeter.
3. AC frequency meter.
4. DC voltmeter (alternator battery charging).
5. Engine-coolant temperature gage.
6. Engine lubricating-oil pressure gage.
7. Running-time meter.
8. Ammeter-voltmeter, phase-selector switch(es).
9. Generator voltage adjusting rheostat.
10. Start-stop switch.
11. Overspeed shutdown device.
12. Coolant high-temperature shutdown device.
13. Coolant low-level shutdown device.
14. Oil low-pressure shutdown device.
15. Fuel tank rupture alarm.
16. Fuel tank high-level shutdown of fuel supply alarm.
17. Low battery alarm.
18. Battery charger malfunction alarm.

E. Supporting Items: Include sensors, transducers, terminals, relays, and other devices, and wiring required to support specified items. Locate sensors and other supporting items on engine, generator, or elsewhere as indicated. Where not indicated, locate to suit manufacturer's standard.

F. Remote Emergency-Stop Switch (when required will be shown on drawings): Flush wall-mounted, unless otherwise indicated and prominently labeled. Push button is protected from accidental operation.

10. Base Design

A. The mounting base shall be constructed of steel.

B. The base shall be designed to rigidly support the engine-generator set, ensure permanent alignment of rotating parts, be arranged to provide easy access to allow changing of lube-oil, and ensure that alignment is maintained during shipping and normal operation.

C. The base shall permit skidding in any direction during installation and shall withstand and mitigate the effects of synchronous vibration of the engine and generator set.

D. The base shall be provided with suitable holes for anchoring to a concrete support structure.

E. An engine lube oil drain must be plumbed to the exterior of the base with stainless steel lines and shut-off valves, and bulkhead fittings to easily allow the draining of the engine oil for maintenance purposes. Units rated 500 kW and higher must be supplied with heavy gauge

steel, removable, base mounted lifting brackets rated to lift the entire unit, complete with all accessories to facilitate setting the unit in place at the installation site.

11. Vibration Isolation

A. Units rated 500 kW and less shall be provided with fail-safe, dome type vibration isolation mounts to isolate normal unit vibration to the base structure.

B. Neoprene Pad type vibration isolation mounts of the proper size and quantity shall be provided to be placed between the unit base structure and the concrete support structure to minimize the transmission of vibration and deflection due to unevenness of the concrete mounting surface.

12. Fuel Storage*

(*Only applies for all sites except for Community Center. This site utilizes a natural gas generator and the following subsections A. B. Do not apply.)

A. A sub-base type fuel tank with a minimum capacity for 24 Hours of operation at 100% rated load shall be provided.

B. The tank shall be constructed to the UL142 Standard for Steel Above ground Tanks for Flammable and Combustible Liquid and be of double walled construction.

C. The tank shall be complete with required normal and emergency vents, openings, low level and leak alarm contacts and lifting provisions.

D. The fuel level indicator/sender shall be visible from the point of fill, and provide the necessary signal to the gen-set controller to allow remote monitoring and alarming of the fuel level.

E. The exterior finish is to be black baked polyurethane powder coat.

F. Any request for approval of an alternate tank must comply with the prior approval procedure previously stated.

13. Weatherproof/Sound Attenuated Enclosure

A. The gen-set outdoor enclosure shall be formed of minimum 14-gauge sheet metal with rear openings for air intake, and a punched opening panel in front of the radiator for cooling air exhaust.

B. The roof is to be pitched for increased structural integrity and watershed.

C. Hinged doors with Lockable handles, keyed alike with additional external padlock provisions shall be provided.

D. The engine exhaust silencer is to be mounted within the gen-set enclosure and shall be provided with a rain collar and rain cap or suitable termination to prevent the entrance of rain and debris.

E. The enclosure is to be finish painted with baked polyurethane powder coat with hammered texture finish in standard color White, Gray, or Tan.

F. The enclosure and exhaust system shall be designed to limit the noise level to 85 dBa at 23 feet when operating at full rated load.

14. Additional Requirements

N/A

IV. OPERATION AND MAINTENANCE

1. Factory Testing

A. The completed generator set shall be tested, and the Guaranteed Performance Certification shall be completed at the factory.

B. The test equipment and metering used shall have an accuracy class of 1% or better, shall be regularly calibrated, with current calibration records traceable to the National Bureau of Standards.

C. A certified copy of the unit specific test report shall be provided prior to shipment of the equipment.

D. All test procedures shall be performed in accordance with IEEE 115 and MIL STD 705 test methods.

E. Factory tests shall include but not be limited to the following. All readings shall be recorded on the test report:

- Minimum 1-hour load test
- Full, rated load at 1.0 PF
- Maximum load carrying capabilities of the engine generator set at 1.0 PF
- Maximum single block load pickup capability
- Kilowatts
- Amperes
- Voltage

- Kilovolt amperes
- Resistance of generator main and exciter stators
- Insulation test of the generator main field, main armature, exciter field, exciter armature
- Dielectric test of the generator main field, main armature, exciter field, exciter armature
- Lube oil pressure
- Water temperature
- Battery charge rate (if applicable)
- Heaters, jacket water and/or lube oil
- Safety shutdowns and automatic controls
- All accessories (remote annunciator panels, chargers, pumps Etc.)
- Phase sequence on three phase units
- Full load at .4PF to verify the motor starting capability of the engine generator set (optional)
- Frequency
- Full rated load at rated PF
- Maximum load, to verify engine power, overload and maximum capability.
- Frequency and voltage transient recordings at 0-25%, 0-50%, 0-75% and 0-100% rated load
- Frequency at maximum output
- Regulator adjustment range
- Voltage balance L-L & L-N

F. Testing shall include the following MIL-STD-705 test methods:

- Insulation Resistance Test
- High Potential Test
- Winding Resistance Test
- Open Circuit Saturation Curve Test
- Start and Stop Test
- Overspeed Protective Device Test
- Phase Sequence Test (Rotation)
- Phase Balance Test (Voltage)
- Rheostat Range Test
- Regulator Range Test
- Frequency Adjustment Range Test
- Low Oil Pressure Protective Device Test
- Over temperature Protective Device Test
- Controls, Direction of Rotation
- Maximum Power Test

G. All factory testing must be performed after the entire unit has been finished painted such that all paint residue and debris is burned off all engine exhaust components and other hot surfaces during the testing process.

H. Initial paint "burn-off" will not be allowed at the job-site start-up and testing.

2. Training

Conduct training course for operating staff as designated by the Contracting Officer. The training period shall consist of a total 8 hours of normal working time and shall start after the system is functionally completed but prior to final acceptance.

3. Installation

A. Comply with packaged engine-generator manufacturers' written installation and alignment instructions and with NFPA 110.

B. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.

C. Install packaged engine generator to provide access, without removing connections or accessories, for periodic maintenance.

D. Electrical Wiring: Install electrical devices furnished by equipment manufacturers but not specified to be factory mounted.

4. Startup and Warranty Validation

A. The initial job-site start-up and warranty validation of the engine generator set and automatic transfer switch (if applicable) will be performed by an authorized service representative of the manufacturer.

B. The start-up procedure will include testing and instruction to site personnel of normal operation and maintenance of the actual unit and all accessories provided.

C. A two-hour full available building load test shall be conducted.

D. All systems shall be operated and tested for proper starting and stopping and transfer of the emergency power system.

5. Manufacturer's Product Period of Warranty

A. The standby electric generating system components, complete engine-generator and instrumentation panel shall be warranted by the manufacturer against defects in material and factory workmanship for a period of 2 Year / 2000 Hour Comprehensive.

B. Such defective parts shall be repaired or replaced at the manufacturer's option, free of charge.

C. The warranty period shall commence when the standby system is invoiced by the factory.

D. Multiple warranties for individual components (engine, alternator, controls, etc.) will not be acceptable.

E. Complete warranty documents must be provided.

PART 1 GENERAL

1.01 SCOPE

A. This section refers to all 120V/240V 1Φ, 120/240V 3Φ, 120/208V 3Φ and 277/480 volt automatic transfer switchgear.

B. The transfer switch shall be coordinated with the Emergency Generator and furnished by the generator supplier. Reference Section 26 02 20.

1.02 STANDARDS

A. The transfer switch shall be UL 1008 listed and labelled, with UL-type rated cabinets and UL listed CU-AL terminals. Circuit breakers shall be UL 489 listed.

B. The transfer switch shall be suitable for use in emergency, legally required and Standby applications per NEC 700, 701, and 702.

C. The transfer switch shall comply with NFPA 70,99, and 110 (Level 1 systems).

D. The transfer switch shall comply with NEMA ICS 10.

E. The transfer switch shall comply with IEEE 446 Recommended Practice for Emergency Power Systems.

F. Voltage surge performance and testing shall be in compliance with the requirements of IEEE C62.41 (Category B3) and IEEE C62.45.

G. The transfer switch shall be designed and manufactured in facilities certified to ISO9001.

1.03 SUBMITTALS

A. Process catalog submittals and shop drawings for automatic transfer switch in accordance with the requirements set forth in the Standard General Conditions.

PART 2 PRODUCTS

2.01 GENERAL

A. Automatic transfer switch shall be breaker based, two breaker type, designed for operation and switching loads between utility power and Standby generator sets. The transfer switch shall be suitable for use in emergency, legally required, and optional Standby applications. The transfer switch shall monitor both power sources, signals generator set startup, automatically transfers power, and returns the load to the primary source when the utility returns and stabilizes.

B. Transfer switching shall be accomplished using electrically operated power circuit breakers with integral over-current protection and draw-out functionally. Circuit breakers shall be UL 489 listed shall withstand a fault condition for up to 60 cycles. Transfer switch shall be UL listed for service entrance.

C. Transfer switch shall be 100 msec closed transition. The total transfer time shall not exceed 6 cycles with normal voltage applied.

D. Voltage rating shall be per each specific site design plan. See One-Line diagram of each individual project location.

E. Operating temperature range shall be -40 deg C to 60 deg C.

2.02 POWER CIRCUIT BREAKERS

A. Circuit breakers shall be draw-out, electrically-operated, with long, short, instantaneous and ground fault electronic trip units. Each breaker shall have an Arc Flash Reduction Switch.

B. Breaker close and trip circuits shall be 24 volts DC. Breaker charging power shall be derived from the connected AC source.

C. Breaker tripping shall cause that breaker's source to be considered failed. When the breaker is tripped, the control system shall initiate transfer to the alternate source. The control system shall log this as a fault condition separate from a source failure.

D. Breakers shall be bus-connected to load lugs with tin-plated copper bus. Bracing shall be rated at 100kA per UL standards.

E. Circuit breakers shall be rated 1600 amps at 480 volts with an interrupting rating of 65,000 amps rms symmetrical.

F. Breakers shall be Square D, Masterpact or approved equal.

2.03 CONTROL SYSTEM

A. Transfer switch shall have a microprocessor-based control with digital display. Controls shall allow operator to enter settings and make adjustments to software-enabled features. The controls shall measure load phase current, power factor, real power and apparent power. The controls shall monitor phase voltages for both sources for over/under voltage, loss of phase, and over/under frequency. Control system shall have optically isolated inputs and isolation transformers for AC power input. Control system shall be capable of communicating with the specified generator and owners SCADA system via Modbus RTU.

B. The control system shall be microprocessor based and developed specifically for automatic transfer switch operation.

C. The control system shall have non-volatile flash memory to store the settings. Settings shall not be lost if controller power is lost.

D. An onboard battery shall maintain the real-time clock setting and the engine start delay.

E. The controls shall be field configurable using the operator panel and manufacturers software. The operator panel shall have LED indicator panel for sources and available/connected status. The operator panel shall have Test/Exercise/Bypass buttons. The operator panel shall have an analog bar graph meter and digital display. The operator panel shall be password protected to limit access to settings to authorized personnel.

F. Control system shall have programmable exerciser with selectable "No Load" and "Test with Load" modes. Control system shall also have a test mode that allows the operator to simulate a power failure in the utility source and verify proper system operation. the test mode shall also have "No Load" and "Test with Load" modes.

G. The control system shall have relay signal module with auxiliary switches for remote indication. Contacts shall be 1) Source 1 Connected/Available, 2) Source 2 Connected/Available, 3) Not in Auto, 4) Test/Exercise Active, 5) Failed to Disconnect, and 6) Failed to Transfer/Retransfer.

H. The control system shall have a 50 event date/time stamped event recorder.

I. The control system shall have the following adjustable time delays:

1. Engine start: 0 to 120 seconds
2. Transfer normal to emergency: 0 to 120 seconds
3. Re-transfer emergency to normal: 0 to 30 minutes.
4. Programmed transition: 0 to 60 seconds.

J. The control system shall have the following three phase sensing for under-voltage on both sources:

1. Accuracy: +/- 2%
2. Pickup: 85% to 98% of nominal voltage
3. Dropout: 75% to 98% of pickup setting
4. Dropout time delay: 0.1 to 1.0 seconds

K. The control system shall have the following three phase sensing for over-voltage on both sources:

1. Accuracy: +/- 2%
2. Pickup: 95% to 99% of dropout setting
3. Dropout: 105% to 135% of nominal voltage
4. Dropout time delay: 0.5 to 120 seconds

L. The control system shall have the following over/under frequency sensing for both sources:

1. Accuracy: +/- 0.5 Hz
2. Pickup: +/-5% to +/-20% of nominal frequency
3. Dropout: +/-1% beyond pickup
4. Dropout time delay: 0.1 to 15 seconds

M. The control system shall have the following voltage imbalance sensing:

1. Dropout: 2% to 10%
2. Pickup: 90% of dropout
3. Time delay: 2.0 to 20 seconds

N. The control system shall have the following phase rotation sensing:

1. Time delay: 100 msec

2. Loss of single phase detection
3. Time delay: 100 msec

O. The control system shall have eight steps of load sequencing with adjustable time delay for each step on transfer and re-transfer.

P. Provide extended paralleling protection such that if both breakers are closed longer than 100 msec, the generator breaker shall be tripped.

2.04 CONSTRUCTION

A. Enclosure shall be NEMA 3R gasketed, front access only. Depth shall not exceed 48", width shall not exceed 48". Enclosure height shall not exceed 100" tall.

B. Transfer switch shall have lugs for at least six parallel sets 3/0 AWG copper cables. All cables for utility, generator, load, and controls, shall be top entry and top exit.

2.05 MANUFACTURER

A. Transfer switch shall be Generac Blue Star series transfer switch with integral controller or approved equal. Transfer switch shall be furnished by the generator supplier and coordinated with the generator.

PART 3 EXECUTION

3.01 GENERAL

A. Installation will be by others. Provide start up services and commissioning. Coordinate startup and interfaces with generator manufacturer.

B. Prior to startup provide setpoint configuration to Engineer for review. Setpoint configuration shall have manufacturer's recommended values for exercising and transfer modes. Make all breaker trip unit settings. Breaker settings will be provided by Engineer.

C. Provide a manufacturer’s representative that shall perform startup services. Startup of transfer switch shall be done at the same time as generator startup. Configure settings according to approved setpoint configuration and provide final setpoint configuration after startup.

D. Provide a 1 hour training session for Owner’s personnel. Training session shall include:

1. Safety
    a. General safety precautions
    b. Equipment safety code
    c. Electric shock and arc flash
2. Overview
3. Components
    a. External components
    b. Controls/Instruments

c. Settings

4. Operating Instructions

   a. Auto/Manual modes
   b. How to change settings
   c. Settings
   d. Description of operation in transition phases

5. Preventative Maintenance

   a. Inspection procedures with equipment in operation.
   b. Potential trouble symptoms

6. Planned Maintenance Requirements

   a. Procedures for testing equipment after maintenance has been performed.

7. Service Events

   a. Alarms/Display Messages
   b. Procedures
   c. Symptom list

8. Troubleshooting

   a. Probable cause and recommendation

9. Demonstration

   a. The instructor will demonstrate the automatic transfer by simulating a power outage. This will allow the engine to start and pick up the emergency load. The demonstration shall be scheduled with the Owner so as to not interrupt processes.

END OF SECTION

No specifications on this page for formatting purposes.

PART 1 - GENERAL

1.01 SCOPE

A. Furnish and install complete grounding systems in accordance with Article 250 of the National Electrical Code as shown on the Drawings and as specified herein.

B. Provide ground mat grounding electrode system as shown on the drawings and as specified herein.

1.02 SUBMITTALS

A. Submit manufacturers' catalog sheets with catalog numbers marked for the items furnished, which shall include:

1. Ground well casings
2. Ground rods
3. Terminal lugs and clamps
4. Exothermal welding materials
5. Ground cable
6. Ground connection hardware

PART 2 - PRODUCTS

2.01 GROUNDING ELECTRODES

A. All ground mat grounding electrodes and grounding electrode conductors shall consist of tin plated stranded copper.

B. All ground rods shall be copper clad steel products, 3/4" diameter x 10 foot long, unless otherwise indicated. Ground rods shall be Blackburn #6258, or equal. Provide heavy duty ground rod clamps, exothermic welds where concealed or below grade. Equal to Blackburn #GG58 where vertical connections are installed and #GUV where U-bolt connectors are installed to serve horizontal connections.

2.02 GROUNDING DEVICES

A. Connectors shall be furnished as specified under Section 26 01 20.

B. Conduit grounding bushings shall be furnished as specified under Section 26 01 10.

C. Equipment grounding conductors shall be furnished as specified under Section 26 01 20.

D. Flush cast metal grounding plates shall consist of bronze body with flat plate on top and bolted clamp connector on bottom. Furnish OZ type "VG", or equal flush connectors. Each such connector shall be furnished with silicon bronze connector bolts for installation of top-mounted grounding connectors.

E. Exothermal welding kits shall be "Cadweld" products as manufactured by Erico. Molds, cartridges, powder, and accessories shall be as recommended by the manufacturer.

2.03 GROUND TEST WELLS

A. Ground test wells shall be furnished each ground rod for the purpose of field testing the ground mat system.

B. Ground test wells shall each consist of ground rod with connector attached to a #4 upcomer from the ground mat and contained within an access well with labeled top.

C. Ground test well enclosures shall be Brooks product #3RT series, or equal. Enclosures shall be 10 1/4" diameter and shall include cast iron cover with integrally cut "GROUND TEST WELL" in top of cover.

PART 3 - EXECUTION

3.01 GROUND MATS AND GROUND WELLS

A. Install ground mat around the perimeter of structures, electrical equipment racks, the generator pad and where indicated on the drawings. Use #4/0 AWG tin-plated copper stranded conductor for the ground mat. Install upcomer with indicated wire sizes of tin plated copper conductors. Exothermally weld all connections.

B. Unless other larger sizes are indicated on the drawings, install #2 upcomers from ground mat to PLC, and other equipment indicated on the drawings. Install "VG" flush floor connector to serve each upcomers and run #2 stingers from top side of each "VG" to ground bus in equipment. Bond VG to rebar in concrete.

C. Install ground rods in test wells where indicated on the drawings.

3.02 GENERATOR

A. Bond generator frame to ground ring shown in plans.

B. Provide ground ring with circumference, and gage wire shown on plans. Provide ground well and ground test well in location and quantity shown on plans.

3.03 WIRING SYSTEMS GROUNDING

A. All equipment enclosures, ATS and generator frames, metallic conduit systems and exposed structural steel systems shall be grounded.

B. Equipment grounding conductors shall be run with all wiring. Sizes of equipment grounding conductors shall be based on Article 250 of the N.E.C. except where larger sizes may be shown. Bond each equipment grounding conductor to the equipment grounds at each end of each run.

Run 4/0 ground full length of tray, bond to each section and every enclosure where conductors originate or terminate. Protect grounded equipment conductor in conduit where it leaves the tray.

C. Liquid tight flexible metal conduit in sizes 1" and larger shall be equipped with external bonding jumpers. Use liquid tight connectors integrally equipped with suitable grounding lugs.

D. Where conduits enter into equipment free of the metal enclosure, install grounding bushing on each conduit and bond bushing lug to equipment ground bus.

E. Where conduits enter equipment enclosures, equip each penetration inside with grounding bushing. Install bonding jumper from each grounding bushing to ground bus.

F. Equipment enclosures that do not come furnished with a ground bus, install ground lug in each enclosure that shall be bonded to the metal cabinet or backpan of the enclosure.

G. Separately derived systems shall be each grounded as shown and shall comply with Article 250 of the NEC except where higher standards are shown.

3.04 TESTING

A. All exothermic weld connections shall successfully resist moderate hammer blows. Any connection which fails such test or if upon inspection, weld indicates a porous or deformed connection, the weld shall be remade.

B. All exothermic welds shall encompass 100 percent of the ends of the materials being welded. Welds which do not meet this requirement shall be remade.

C. Test the ground resistance of the system. All test equipment shall be furnished by Contractor and be approved by Engineer. Test equipment shall be as manufactured by Biddle or approved equal. Dry season resistance of the system shall not exceed five ohms. If such resistance cannot be obtained with the system as shown, provide additional grounding as directed by Engineer.

END OF SECTION

No specifications on this page for formatting purposes.

PART 1 - GENERAL

1.1 DESCRIPTION

A. General:

1. Conduct a Power System Short Circuit Study, Protective Device Coordination Study, and Arc Flash Hazard Analysis for the Electrical Distribution System (EDS) as specified in the CONTRACT DOCUMENTS.
2. The CONTRACTOR shall coordinate with the City's Electrical, Instrumentation and Control Inspection Firm (EI&C Inspector) as outlined in this specification to perform the POWER SYSTEM / ARC FLASH HAZARD ANALYSIS. The EI&C Inspection Firm will perform the POWER SYSTEM / ARC FLASH HAZARD ANALYSIS and shall here in be referred to as ANALYSIS FIRM.
3. The software used to conduct the study and analysis shall be the latest version of SKM Power*Tools, by SKM Systems Analysis, Inc.

1.2 SCOPE

A. CONTRACTOR Scope:

1. The CONTRACTOR shall be responsible for providing the following data to the ANALYSIS FIRM:
   a. Project Schedule.
   b. Electrical Utility contact information.
   c. Division 16000 Engineer approved submittals, including the ENGINEERS review comments.
   d. Additional equipment information as requested by the ANALYSIS FIRM per Section 1.2.A3.
   e. Marked up single line diagram(s) with installed conductor lengths, sizes and count.
   f. Changes in design as a result of RFI's, Addendums, Engineer Clarifications, Sketches or revisions, which may affect the Power System / Arc Flash Analysis.
2. CONTRACTOR shall provide ANALYSIS FIRM a minimum of a 2-week notice of the following construction milestones:
   a. Electrical Equipment Delivery.
   b. Electrical Equipment Energization.
   c. Electrical Equipment Testing.
   d. Substantial Completion.
3. Based upon outcome of analysis additional equipment information may be required by the CONTRACTOR for upstream or downstream equipment in the electrical distribution system.
4. CONTRACTOR shall be responsible for implementation of the protective device settings. Implementation of recommended settings outside of the project scope of

work resulting from system coordination changes is the responsibility of the OWNER.

5. CONTRACTOR shall provide ANALYSIS FIRM with safe access to all equipment on site throughout construction for the purpose of verifying the EDS protective device information.
6. CONTRACTOR shall install labeling as required by specification 16050 section 3.1 for voltage labeling and other labels as required.

B. ANALYSIS FIRM Scope

1. Conduct a Power System/Arc Flash Hazard Analysis for new and modified areas of the EDS as specified in the CONTRACT DOCUMENTS. The analysis shall be performed in accordance with IEEE and shall utilize the ANSI method of short circuit analysis. An SKM model of the EDS shall be developed or modified using ENGINEER'S approved Equipment Submittals, site collected data, and Utility short circuit data. Deliverables shall include a short circuit analysis results, a protective device coordination analysis results, and arc flash / shock hazard analysis results and work tasks required by the CONTRACTOR. The ANALYSIS FIRM shall coordinate new protective devices with existing protective devices in the EDS as required.
2. Where additional electrical equipment is being added or modified and upon request from the ANALYSIS FIRM, the ENGINEER will transmit the existing Arc Flash Documentation to the ANALYSIS FIRM for use in completing the required updates.
3. ANALYSIS FIRM shall acquire the Electrical Utility Company's published available Short Circuit current tables for use in the studies. For larger service sizes greater than 480VAC, the ANALYSIS FIRM is to coordinate with the ENGINEER and Utility Company for calculated available short circuit current.
4. ANALYSIS firm shall verify that protective devices are correct per SKM model and analysis results.
5. ANALYSIS FIRM shall install Arc Flash Hazard Warning labels per this specification.
6. ANALYSIS FIRM shall install the updated laminated Single Line Diagram's, Panel Schedules, and Load Summaries. Updates will be made by the ANALYSIS FIRM based on as-build documentation provided by the CONTRACTOR.
7. ANALYSIS FIRM shall deliver the final SKM Model and all associated data and library files used in the model to the OWNER. The ANALYSIS FIRM shall relinquish all rights of the SKM model and all associated data and library files to the OWNER.

1.3 REFERENCES

A. Reference Standards: Comply with applicable provisions and recommendations of the following, except where otherwise shown or specified.

1. IEEE 141-1993, Recommended Practice for Electric Power Distribution for Industrial Plants (IEEE Red Book).
2. IEEE 242-2001, Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems (IEEE Buff Book).
3. IEEE 1584-2002, Guide for Performing Arc Flash Hazard Calculations

4. NFPA 70E, Standard for Electrical Safety in the Workplace.
5. IEEE 551, Recommended Practice for Calculating Short-Circuit Currents in Industrial and commercial Power Systems (IEEE Violet Book).
6. NFPA 70, National Electrical Code (NEC).

1.4 SUBMITTALS

A. Preliminary Technical Memorandum:
   1. ANALYSIS FIRM shall provide a preliminary submittal review and a technical memorandum providing comments for equipment submitted on. This will be submitted for approval by the ENGINEER and OWNER. Submittal shall include:
      a. Technical Memorandum
         1) Review for adequate installation based on available fault current.
         2) Recommendations for alternate equipment based on system coordination.
         3) Recommendations for alternate design considerations based on energy levels.
   2. Preliminary Technical Memorandum shall be submitted and reviewed by the ENGINEER to ensure EDS electrical equipment order being released for manufacturing meets the requirements of the project.

B. Final Report:
   1. ANALYSIS FIRM shall submit a final sealed report to the CONTRACTOR upon project substantial completion. Final report shall be in PDF format and include all documents as noted in section 1.4.B.2 below.
   2. ANALYSIS FIRM to provide the following documents in the final report:
      a. Final Report
      b. SKM Single Line Diagrams – Power Study Management Scenario
      c. SKM Time Current Curves
      d. Arc Flash Labels

C. Submittals shall be delivered in pdf format, unless otherwise specified. CONTRACTOR shall provide 4 cd(s) of the final deliverable report to the ENGINEER.

PART 2 - PRODUCTS

2.1 POWER SYSTEM / ARC FLASH ANALYSIS FINAL REPORT

A. Professional Certified Report:
   1. ANALYSIS FIRM shall provide a certified report that shall include but is not limited to:

a. An executive summary.
b. Methods, assumptions, and procedures used in the analysis.
c. Results of short-circuit analysis listing equipment that is applied above its short-circuit current rating, and recommendations if appropriate.
d. Results and recommendations of the protective device coordination and time-current analysis, including time-current curves (TCC's).
e. Documentation of all study input data, including utility available fault currents; cable sizes, types and lengths; motor data; breaker types and settings; fuse sizes and types, etc.
f. Findings and recommendations requiring actions not within the ANALYSIS FIRM scope of work.
g. Electrical Distribution System Overview as illustrated on the CONTRACT DOCUMENTS.
h. Appendices with the SKM documents of the equipment data used in the analysis and the analysis results.

2. Report shall be reviewed and sealed by a Professional Engineer registered in the state of Arizona.

B. SKM Single-Line Diagram(s):

1. SKM Single-Line Diagram(s) legible on 11" x 17" sheet size, landscape view. Include the following information:
   a. Location and function of each protective device in the system, such as relays, direct-acting trips, fuses, etc.
   b. Type designation, current rating, range or adjustment, manufacturer's style or type for all protective devices.
   c. Power, voltage ratings, impedance, primary and secondary connections of all transformers.
   d. Type, manufacturer, and ratio of all current transformers energizing each relay.
   e. Manufacturer's nameplate data of all motors and generators.
   f. Sources of short circuit currents such as utility ties, generators, synchronous motors, and induction motors.
   g. All significant circuit elements such as transformers, cables, breakers, fuses, reactors, etc.
   h. Normal switching conditions where possible.
   i. The final settings of adjustable breakers, relays and direct-acting trips.

C. Short Circuit Study:

1. The short circuit analysis shall be performed to determine the adequacy of circuit breakers, surge arresters, busways, switches, and fuses by tabulating and comparing the short circuit ratings of these devices with the available fault currents. Short circuit momentary duties and interrupting duties shall be calculated on the basis of worst case scenario / maximum available fault current at the switchgear busses and motor control centers.

2. Normal system operating method, alternate operation, and operations which could result in maximum fault conditions shall be thoroughly addressed in the analysis. The analysis shall assume all motors operating at rated voltage. Redundant/standby motors shall be excluded where known system limitations prevent simultaneous operation. Electrical equipment bus impedance shall be assumed zero (SKM default setting).

D. Protective Device Coordination Study:

1. The protective device coordination analysis shall be performed to determine the required settings/sizes of the protective devices to maximize selectivity. The phase over-current and ground-fault protection settings shall be included as well as settings for all other adjustable protective devices, excluding vendor supplied packaged equipment. Areas lacking complete coordination shall be identified and justification provided for allowing condition to remain or the ENGINEER shall provide solution to resolve situation.
2. SKM Time-Current Curve(s) legible on 11" x 17" sheet size, landscape view on 10-cycle, green log-log graph paper. Include the following information for each time-current curve:
   a. Protective device, relay, or fuse showing graphically that the settings provide protection and selectivity within industry standards. Each curve shall be identified, and the tap and time dial settings shall be specified.
   b. Each device shall be positioned to provide maximum selectivity to minimize system disturbances during fault clearing. Where selectivity cannot be achieved, the ENGINEER shall be notified as to the cause.
   c. Points for cable and equipment damage.
   d. Circuit interrupting device operating and interrupting times based on the amperage.
   e. A SKM Single line sketch of bus and breaker arrangement for each time-current curve.
3. Provide breaker setting table with sign off form for CONTRACTOR use during implementation of breaker settings.

E. Arc Flash/Shock Hazard Analysis:

1. The arc flash / shock hazard analysis shall be conducted in accordance with the methods outlined in IEEE Standard 1584 and stated hereinafter. Work shall be in accordance with NFPA 70E which includes the fabrication of labels with the Arc Flash / Shock Hazard analysis results, the calculated Incident Energy (cal/cm^2), Equipment Name, Owner and Owner contact information, and the date the analysis was performed.
2. The analysis shall include the following IEEE 1584 analysis process steps:

a. Collect current and accurate system and installation data.
b. Determine modes of operation.
c. Determine bolted fault current.
d. Determine arc fault current.
e. Determine protective device characteristic and arc fault duration.
f. Document system voltages
g. Select working distances.
h. Calculate Incident Energy (cal/cm^2).
i. Calculate the Arc Flash Boundary.

3. Within the final report, provide a copy of each installed Equipment Specific Arc Flash label on 8½" x 11" sheet size, portrait view in actual size and color as printed and installed on the actual field equipment.

2.2 LABELS

A. Arc Flash Hazard Warning Labels:

1. PPE Category Label:

a. A standard Arc Flash Hazard Warning label (Category Label) shall be installed on all equipment that meets the NFPA 70E Category 1 or 2 parameters, including a maximum of 25 kA available fault current and arc-duration parameters (clearing time). All other components must have an equipment specific label generated from SKM using calculated values as described in 2.2.A.2.

b. Provide a 2" x 4" label format with coloring to match the labels shown on Figure 2.2.B.1 below.



Figure 2.2.B.1

2. Calculated Equipment Specific Labels:
   a. Arc Flash and Shock Hazard Warning labels shall be installed on all equipment with an SKM calculated Incident Energy level.
   b. Label shall have an orange header with the wording, "WARNING, Arc Flash and Shock Hazard," and shall include the following information taken directly from the arc flash hazard analysis:
      1) Equipment designation.
      2) Nominal system voltage.
      3) Protection boundaries:
         a) Arc Flash Boundary.
         b) Limited approach boundary.
         c) Restricted approach boundary.
   c. Calculated available incident energy in cal/cm^2 and the corresponding working distance.
   d. Study Date.
   e. Labels shall be machine printed, with no field-applied markings.
   f. Provide standard 4” x 5” rectangular labels.
   g. Provide a label with coloring and formatted to match Figure 2.2.B.2 below.

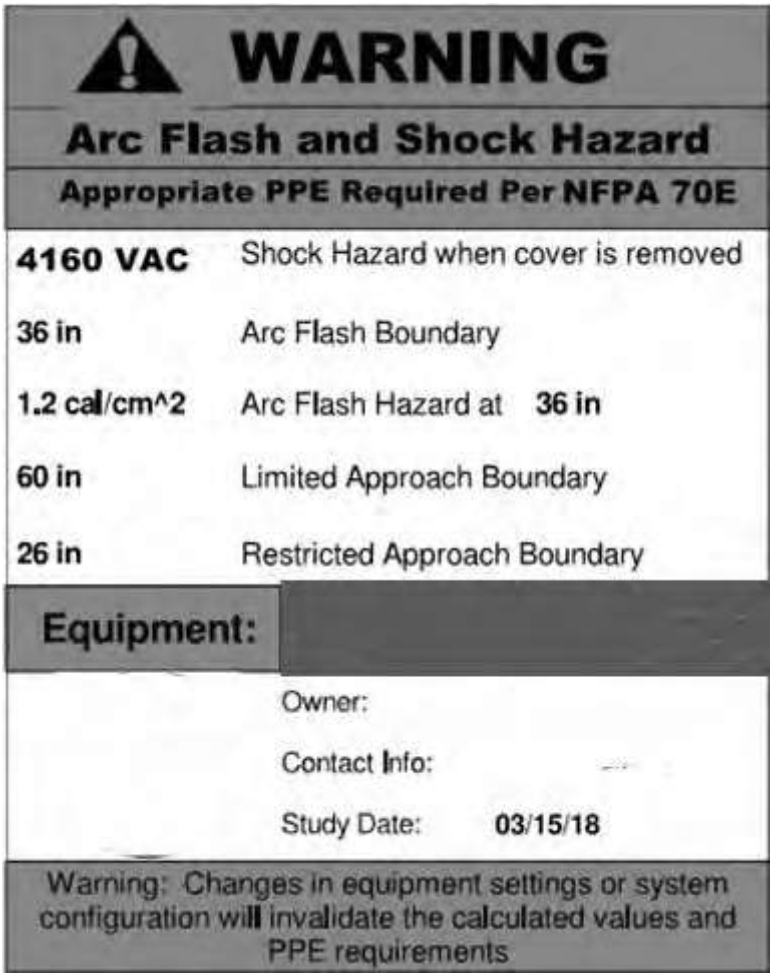


Figure 2.2.B.2

3. Label Material:
   a. Label shall be an indoor/outdoor high performance, pressure sensitive safety sign.
   b. Materials shall be UV rated surface printed polyester with polyester over-laminate. Labels shall be abrasion, chemical and heat resistant (-40°C to 110°C), with an average outdoor durability of five to eight years.
   c. Comply with ANSI Z535.4 for safety signs and labels.
   d. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.
   e. Product Manufacture: Provide the following:
      1) Printer and Label Materials
         a) BRADY Powermark Printer, BRADY Label Part# 13651
         b) Or Approved Equal.

PART 3 - EXECUTION

3.1 GENERAL

A. ANALYSIS FIRM shall inspect all installed equipment for conformance with the fully executed POWER SYSTEM / ARC FLASH ANALYSIS. Any deviations found shall immediately be brought to the OWNER and ENGINEERS attention.

3.2 BREAKER SETTINGS

A. The CONTRACTOR shall coordinate with the ENGINEER and ANALYSIS FIRM to implement the breaker settings defined in the approved preliminary report submittal.
   1. The CONTRACTOR shall complete form 16215 – A – Power System / Arc Flash Analysis Sign-off Form for each breaker.

B. The ANALYSIS FIRM shall inspect all breaker settings implemented in the field by the CONTRACTOR. If the recommended breaker setting(s) are adjusted, the ANALYSIS FIRM will update the final report with the actual settings. CONTRACTOR or ENGINEER is to provide written justification for any deviations.

3.3 BREAKER TESTING

A. The CONTRACTOR shall coordinate the final settings of the breakers during the start-up and functional testing of the process systems EDS. If the breaker settings require adjustment, the CONTRACTOR will coordinate with the ENGINEER and ANALYSIS FIRM to update the Power System Arc Flash Analysis Report with the final settings.

3.4 LABELING

A. All Service Entrance Sections (SES), switchboards, switchgear, Motor Control Centers (MCC), transformers, distribution boards, panel boards, disconnects and control panels shall have both an Arc Flash Hazard Warning label and a voltage label as identified in specification section 16050. The ANALYSIS FIRM shall determine the proper Arc Flash Hazard Warning label.
   1. Install all labels level and in an upright position. Do not cut or alter in any way. Install labels in a professional manner. Clean surface as needed to allow for good adhesion.
   2. Labels shall not be installed atop any manufacturer name plate data or equipment tag labels.
   3. Labels shall not be installed atop any existing voltage warning or Arc Flash Hazard Warning labels that may already exist on the equipment. Existing voltage and Arc Flash Hazard Warning labels shall be removed and the surface thoroughly cleaned before application of any new labels.
   4. Where equipment does not have sufficient space for an Arc Flash Label the CONTRACTOR shall furnish a fabricated mounting plate constructed of stainless

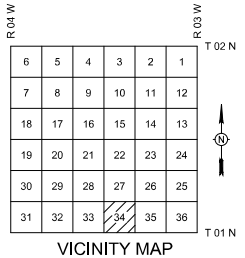
steel sheet metal per direction from the ENGINEER. Mounting plate shall be affixed to the equipment using stainless steel screws. Installation shall maintain the equipment NEMA rating of the equipment. Mounting plate shall not interfere with equipment operation and shall be readily visible.

5. In the case of more than one source of power to a piece of equipment, the highest voltage label shall be applied, and an additional label shall be applied indicating more than one source of power located inside the equipment.
6. For outdoor switchgear, place a single Arc Flash Hazard Warning label on the outside of the access door nearest to the main breaker, and one inside on the respective breaker enclosure. All other Arc Flash Hazard Warning labels shall be placed inside the access doors on the respective breaker enclosure or cover. If there are back access panels to the equipment, the arc flash labels placed at the front of the gear shall be duplicated and placed on the back access panels at the same relative location.
7. For disconnect switches, panel boards, distribution boards, load centers, and control panels, the labels should be applied in plain view on the front cover.

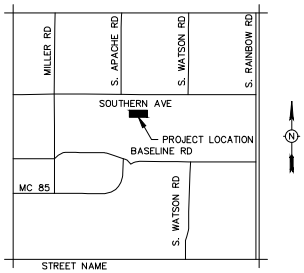
+ + END OF SECTION + +

FUEL YARD
STANDBY GENERATOR
23454 W. HWY MC85
BUCKEYE, ARIZONA 85326

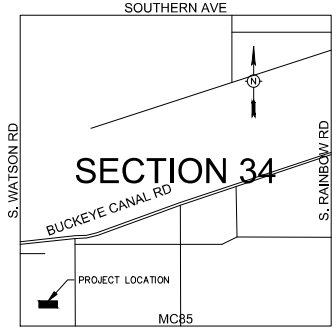
A PORTION OF THE SESW OF SECTION 34, TOWNSHIP T01N, RANGE R03W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

SUMMARY OF BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL DETAILS
6	STRUCTURAL NOTES AND PLAN
7	STRUCTURAL DETAILS

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT: EG
DRAFTED: JN
CHECKED: MAC
FIELD SURVEY
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: FUEL YARD STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer — Certificate No. 50368 — Michael A. Colombo — Date Signed 07/07/20 — ARIZONA, U.S.A.
Expires 12/31/21

SUBMITTAL: FINAL

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 1 of 7

COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL GENERAL NOTES

ENGINEER INFORMATION
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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

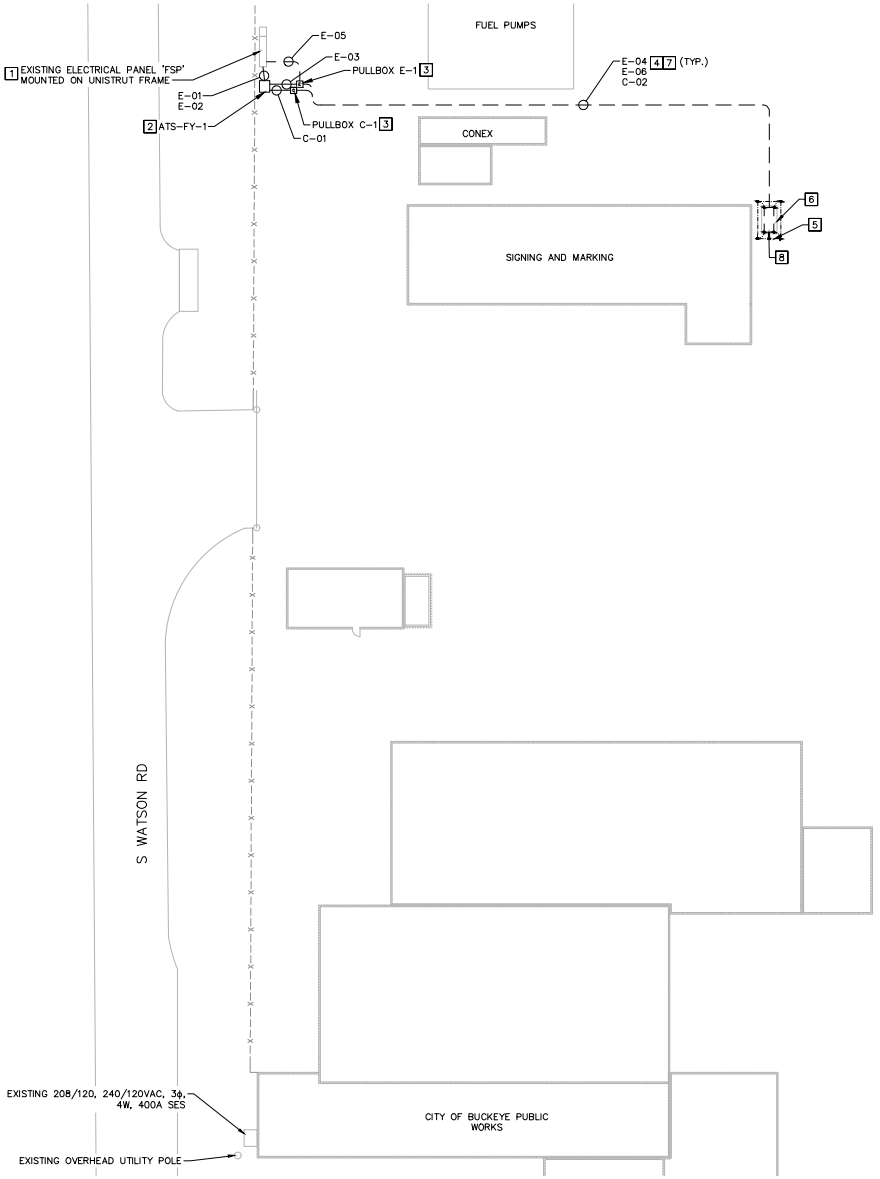
AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer CERTIFICATE NO. 50368 Michael A. Colombo Date Signed 07/07/20 ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE 07/07/2020	LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012	SHEET NUMBER 2 of 7

COB PLAN TRACKING #

COB PERMIT #



GENERATOR ELECTRICAL SITE PLAN
CITY FUEL YARD (23454 W HWY MC85)

A — SCALE:1"=20'

CONSTRUCTION NOTES

1. TERMINATE NEW CONDUIT TO EXISTING PANEL 'FSP'. SPLICE INTO EXISTING FEEDER CONDUCTORS AND EXTEND TO NEW ATS. TERMINATE NEW ATS CONDUCTORS ON EXISTING 100A/2P MAIN BREAKER LUGS.
2. MOUNT ATS ON NEW UNISTRUT H-FRAME RACK.
3. #5 ELECTRICAL PULLBOX DETAIL SHOWN ON SHEET 5.
4. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 5.
5. PROVIDE GROUND RING FOR GENERATOR. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 5.
6. GENERATOR STRUCTURAL DETAILS SHOWN ON STRUCTURAL PLANS. SEE SHEET 6 AND 7.
7. SEE CONDUIT SCHEDULE ON SHEET 4 FOR CONDUIT AND INTERCONNECTION DETAILS.
8. PROPOSED 24KW/30KVA, 240/120V, 1 PHASE, 3W NEMA 3R DIESEL GENERATOR WITH 132 GALLON BELLY TANK.

NORTH

GRAPHIC SCALE IN FEET
0 10 20 40

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SITE PLAN

ENGINEER INFORMATION
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WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

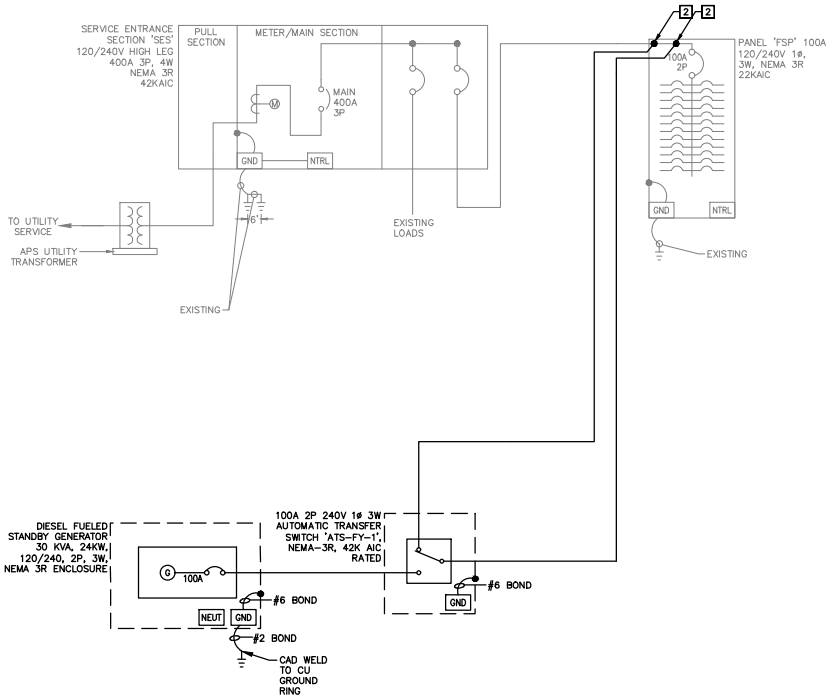
DESIGN SEAL
Registered Professional Engineer
CERTIFICATE NO. 30368
Michael A. Cisneros
ARIZONA, USA
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	3 of 7

SUBMITTAL: FINAL

COB PLAN TRACKING #

COB PERMIT #



A — **ONE LINE DIAGRAM - PROPOSED**
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1. PROVIDE NEW 20A/1P BREAKER IN EXISTING SPACE IN PANEL 'FSP'. MATCH EXISTING AIC RATING.
2. INSTALL NEW CONDUIT FROM EXISTING PANEL 'FSP' TO NEW ATS. SEE CONDUIT SCHEDULE FOR CONDUIT AND CONDUCTOR SIZE.

PANEL: "FSP"

VOLTAGE: 120/240 — PANEL BUS: 100 AMPS
PHASE, WIRES: 1ø, 3W — MAIN: 100 BREAKER
SCCR (AMPS): EXISTING
SOURCE: UNKNOWN

DESCRIPTION	VA	CB	CKT	A	B	CKT	CB	VA	DESCRIPTION	
EXISTING UNKNOWN LOAD		20/1	1	0.0		2	20/2		EXISTING UNKNOWN LOAD	
EXISTING UNKNOWN LOAD		20/1	3		0.0	4				
EXISTING UNKNOWN LOAD		20/1	5	0.0		6	20/2		EXISTING UNKNOWN LOAD	
LIGHTING PANEL		20/1	7		0.0	8				
EXISTING UNKNOWN LOAD		20/1	9	0.0		10	20/1		GATE MOTOR	
SPACE			11		2.0	12	**20/1**	**240**	**GENERATOR BLOCK HEATER**	1
CONEX SUBPANEL		50/2	13	2.0		14	**20/1**	**240**	**GENERATOR BATTERY CHARGER**	1
			15		0.0	16			SPACE	
			TOTALS	2.0	2.0	AMPS				

LOAD CALCULATIONS:
SUBTOTAL (VA): 480
+25% PER NEC (VA): 120
TOTAL (VA): 600 @ 240V, 1Ø = 2.5 AMPS

C — **PANEL SCHEDULE**
SCALE:NOT TO SCALE

GENERATOR LOAD CALCULATION

LOAD DESCRIPTION	AMPS
EXISTING LOADS	
PANEL FSP	80
TOTAL REMOVED LOAD	0
PROPOSED LOADS	
PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	4
TOTAL PROPOSED LOAD	4
FUTURE LOADS	0
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	84
PERCENT LOADED % (TOTAL LOAD/100A)	84%

*EXISTING SITE DEMAND REFERENCED FROM 'CITY OF BUCKEYE FUEL SYSTEM ELECTRICAL DWGS IFB-2008-002.'

D — **GENERATOR LOAD SUMMARY**
SCALE:NOT TO SCALE

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CONDUIT STATUS	CONDUCTORS/CABLE QTY	CONDUCTORS/CABLE SIZE	CONDUCTORS/CABLE FROM	CONDUCTORS/CABLE TO	CONDUCTORS/CABLE PURPOSE	REMARKS
E-01	2"	NEW	3	#1 AWG	PANEL FSP	ATS-FY-1	POWER	
			1	#8 AWG			GROUND	
E-02	2"	NEW	3	#1 AWG	PANEL FSP	ATS-FY-1	POWER	
			1	#8 AWG			GROUND	
E-03	2"	NEW	3	#1 AWG	ATS-FY-1	PULLBOX E-1	POWER	
			1	#8 AWG			GROUND	
E-04	2"	NEW	3	#1 AWG	PULLBOX E-1	GENERATOR	POWER	GENERATOR ANCILLARY LOADS: PANEL FSP, CKT 12 & 14
			1	#8 AWG			GROUND	
E-05	2"	NEW	4	#8 AWG	PANEL FSP	PULLBOX E-1	POWER	GENERATOR ANCILLARY LOADS: PANEL FSP, CKT 12 & 14
			1	#8 AWG			GROUND	
E-06	2"	NEW	4	#8 AWG	PULLBOX E-1	GENERATOR	POWER	GENERATOR ANCILLARY LOADS: PANEL FSP, CKT 12 & 14
			1	#8 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		ATS-FY-1	PULLBOX C-1	CONTROLS	GENERATOR CONTROLS
C-2	1"	NEW	8-PR #16 AWG		PULLBOX C-1	GENERATOR	CONTROLS	GENERATOR CONTROLS

B — **CONDUIT AND CONDUCTOR SCHEDULE**
SCALE:NOT TO SCALE

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**%Vdrop
1	Utility Published Data	28369	28,369										28,369	
2	SES	1	28,369	NM	Copper	4	Set of	3/0	400	50	480	3	25,981	0.16%
3	ATS	2	25,981	NM	Copper	2	Set of	2	100	300	480	3	7,810	1.19%

E — **FAULT CURRENT CALCULATION**
SCALE:NOT TO SCALE

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REVISIONS:
1
2
3

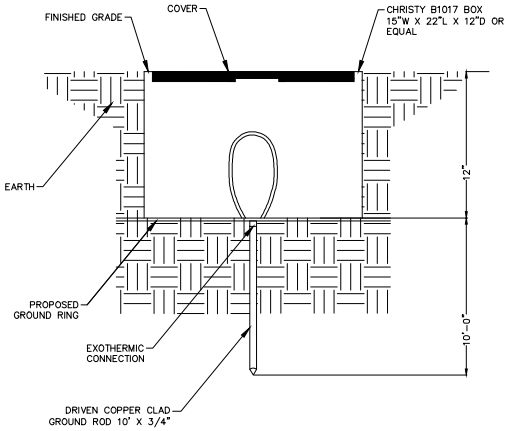
PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
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WWW.KIMLEY-HORN.COM

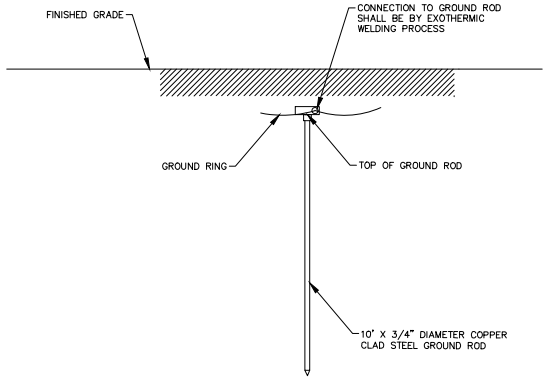
COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer — Certificate No. 50368 — Michael A. Colombo — Date Signed 07/07/20 — ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 7

SUBMITTAL: FINAL
COB PLAN TRACKING #
COB PERMIT #



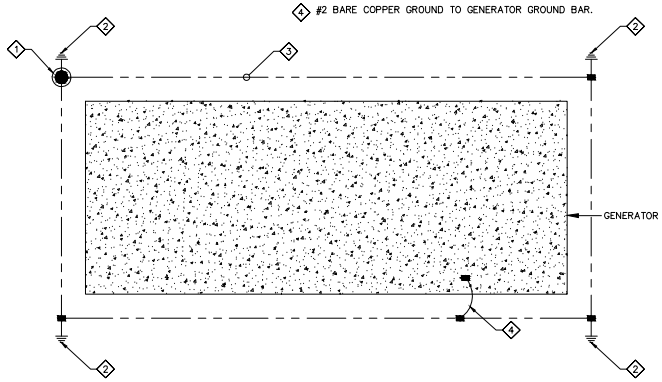
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



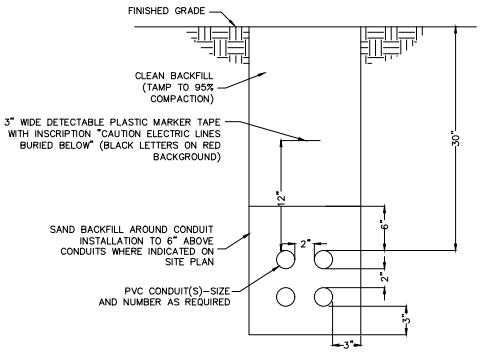
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



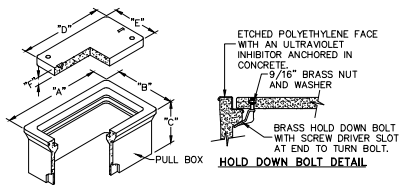
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



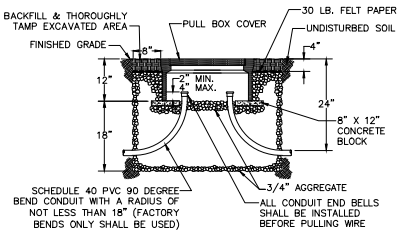
HOLD DOWN BOLT DETAIL



LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

LID 'A'

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
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PLAN NAME
ELECTRICAL DETAILS

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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO. 50368
Richard A. Colombo
Not Valid Without Signature
ARIZONA, U.S.A.
Expires 12/31/21

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ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 7

COB PLAN TRACKING #
COB PERMIT #

STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
- BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
- RISK CATEGORY II
- Iw 1.00
- STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
- EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
- DESIGN WIND PRESSURE . . . . . .15.72 psf (STRENGTH LEVEL)
- DESIGN WIND PRESSURES FOR COMPONENTS AND CLADDING .28.0 psf
- INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
- Ie 1.00
- SITE CLASS . . . . . .D
- S_S . . . . . 0.167g S_1 . . . . . .0.077g
- S_{DS} . . . . . 0.178g S_{D1} 0.123g
- SEISMIC DESIGN CATEGORY . . . . . .B
- DESIGN BASE SHEAR (C_S"W") 0.051W
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
- ALLOWABLE BEARING PRESSURE = 1500 PSF
- ACTIVE EARTH PRESSURE = 45 PCF
- AT-REST EARTH PRESSURE = 60 PCF
- PASSIVE EARTH PRESSURE = 100 PCF
- = 0.25 (W/OUT PASSIVE PRESSURE)
- MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, $f'c$ = 3000 PSI.
REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

JOINT NOTES

CONCRETE:
SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. CONCRETE CONSTRUCTION (TABLE 1705.3)
B. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

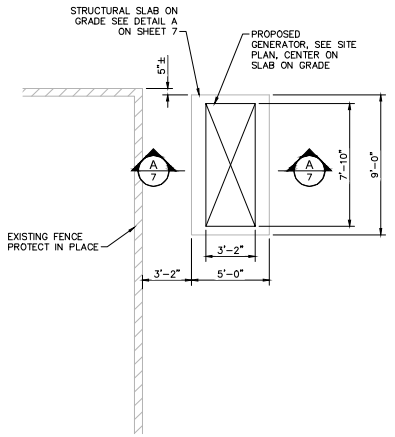
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



PROPOSED GENERATOR LOCATIONS
CITY FUEL YARD (23454 W HWY MC85)
A/– SCALE:1/4"=1'-0"

NORTH

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB WITH ENGINEER PRIOR TO CONSTRUCTION. SLAB ON GRADE SHALL BE 3'-2" FROM EXISTING FENCE. NOTIFY ENGINEER OF ANY DISCREPANCIES.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

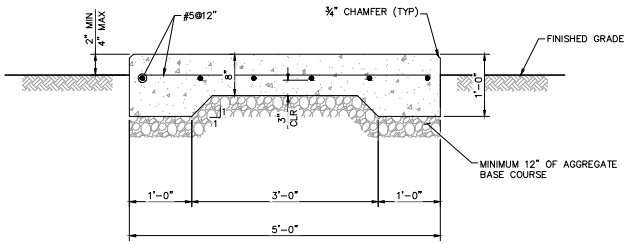
COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Date Signed 07/07/20 ARIZONA, U.S.A.

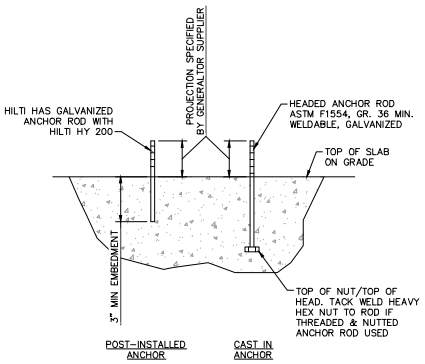
CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 7

COB PLAN TRACKING #
COB PERMIT #



A — **GENERATOR CONCRETE PAD**
SCALE:1"=1"



B — **TYP ANCHOR DETAIL**
SCALE:NOT TO SCALE

NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer (Civil)
CERTIFICATE NO.
60164
NATHAN MERRILL
Registered
ARIZONA, U.S.A.

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 7 of 7

COB PLAN TRACKING #

COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

CITY FUEL YARD (23454 W HWY MC85)

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: City Fuel Yard Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - City Fuel Yard*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustic Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 76in = 6.33\,ft$	Length of generator - 30 kW Diesel Generator Specification - see appendix.
$W_{gen} := 37.4in = 3.12\,ft$	Width of generator - 30 kW Diesel Generator Specification - see appendix.
$H_{gen} := 69.8in = 5.82\,ft$	Height of Generator - 30 kW Diesel Generator Specification - see appendix.
$L_{enc} := 94.8in = 7.9\,ft$	Length of Enclosure - 30 kW Diesel Generator Specification - see appendix..
$W_{enc} := 38in = 3.17\,ft$	Width of Enclosure - 30 kW Diesel Generator Specification - see appendix.
$H_{enc} := 86.1in = 7.17\,ft$	Height of Enclosure - 30 kW Diesel Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45\,pcf$	Active Soil Pressure
$p_{ar} := 60\,pcf$	At-Rest Soil Pressure
$p_p := 100\,pcf$	Passive Soil Pressure
$w_{soil} := 120\,pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.72psf$

Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.2kip$

Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 3.785kip$

30 kW Diesel Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.09 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.22 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 1.03 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 0.23 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 2.16 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 9ft$

Length of pad

$W_{pad} := 5ft$

Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 67.5 \cdot kip$

Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 8.64 \cdot kip$

Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

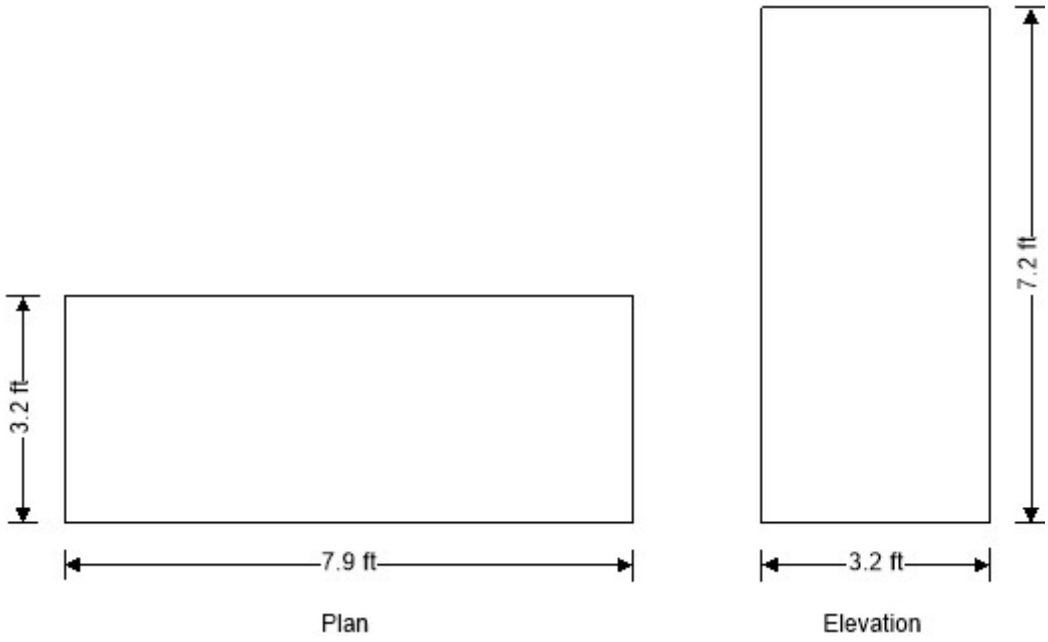
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **7.90** ft
Width of building	d = **3.17** ft
Height to eaves	H = **7.18** ft
Mean height	h = **7.18** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **869** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.97**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)
7.18	0.85	18.28

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.28** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	7.18	-1.30	18.28	-23.49	25.04	-0.59

Total vertical net force $F_{w,v}$ = **-0.59** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	7.18	0.80	18.28	9.14	56.72	0.52
B	7.18	-0.50	18.28	-11.06	56.72	-0.63
C	7.18	-0.70	18.28	-14.17	22.76	-0.32
D	7.18	-0.70	18.28	-14.17	22.76	-0.32

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **56.72** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **0.91** kips

Leeward net force $F_l = F_{w,wB}$ = **-0.6** kips

Windward net force $F_w = F_{w,wA}$ = **0.5** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **1.1** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	7.18	-0.18	18.28	0.49	25.04	0.01

Total vertical net force $F_{w,v}$ = **0.01** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	7.18	0.80	18.28	15.72	56.72	0.89
B	7.18	-0.50	18.28	-4.48	56.72	-0.25
C	7.18	-0.70	18.28	-7.59	22.76	-0.17
D	7.18	-0.70	18.28	-7.59	22.76	-0.17

Overall loading

Projected vertical plan area of wall — $A_{vert_w_0} = b \times H =$ **56.72** ft^2

Projected vertical area of roof — $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading — $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **0.91** kips

Leeward net force — $F_l = F_{w,wB} =$ **-0.3** kips

Windward net force — $F_w = F_{w,wA} =$ **0.9** kips

Overall horizontal loading — $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **1.1** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	7.18	-1.23	18.28	-22.36	11.38	-0.25
B (-ve)	7.18	-0.74	18.28	-14.74	11.38	-0.17
C (-ve)	7.18	-0.66	18.28	-13.60	2.28	-0.03

Total vertical net force — $F_{w,v} =$ **-0.45** kips

Total horizontal net force — $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	7.18	0.80	18.28	9.14	22.76	0.21
B	7.18	-0.28	18.28	-7.57	22.76	-0.17
C	7.18	-0.70	18.28	-14.17	56.72	-0.80
D	7.18	-0.70	18.28	-14.17	56.72	-0.80

Overall loading

Projected vertical plan area of wall — $A_{vert_w_90} = d \times H =$ **22.76** ft^2

Projected vertical area of roof — $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading — $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.36** kips

Leeward net force — $F_l = F_{w,wB} =$ **-0.2** kips

Windward net force — $F_w = F_{w,wA} =$ **0.2** kips

Overall horizontal loading — $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.4** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	7.18	-0.18	18.28	0.49	11.38	0.01
B (+ve)	7.18	-0.18	18.28	0.49	11.38	0.01
C (+ve)	7.18	-0.18	18.28	0.49	2.28	0.00

Total vertical net force $F_{w,v}$ = **0.01** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	7.18	0.80	18.28	15.72	22.76	0.36
B	7.18	-0.28	18.28	-0.99	22.76	-0.02
C	7.18	-0.70	18.28	-7.59	56.72	-0.43
D	7.18	-0.70	18.28	-7.59	56.72	-0.43

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **22.76** ft^2

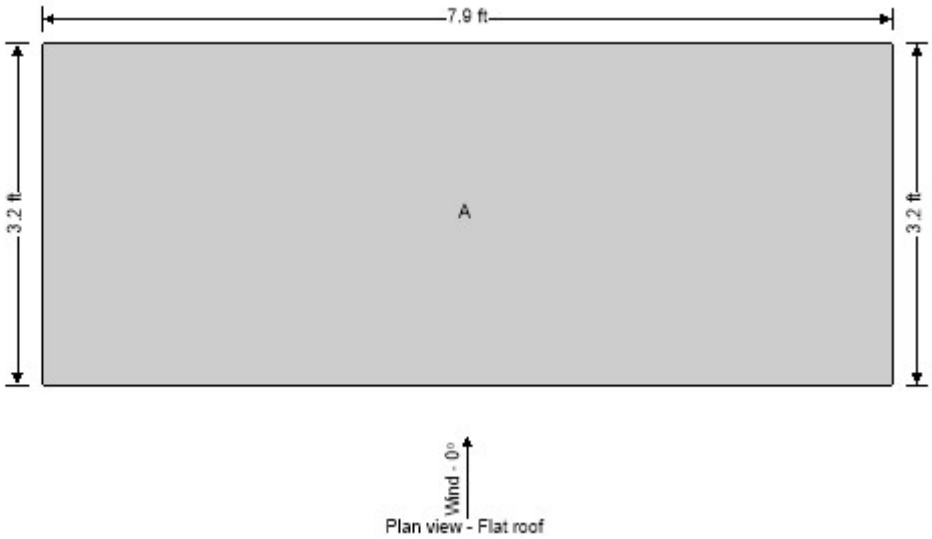
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

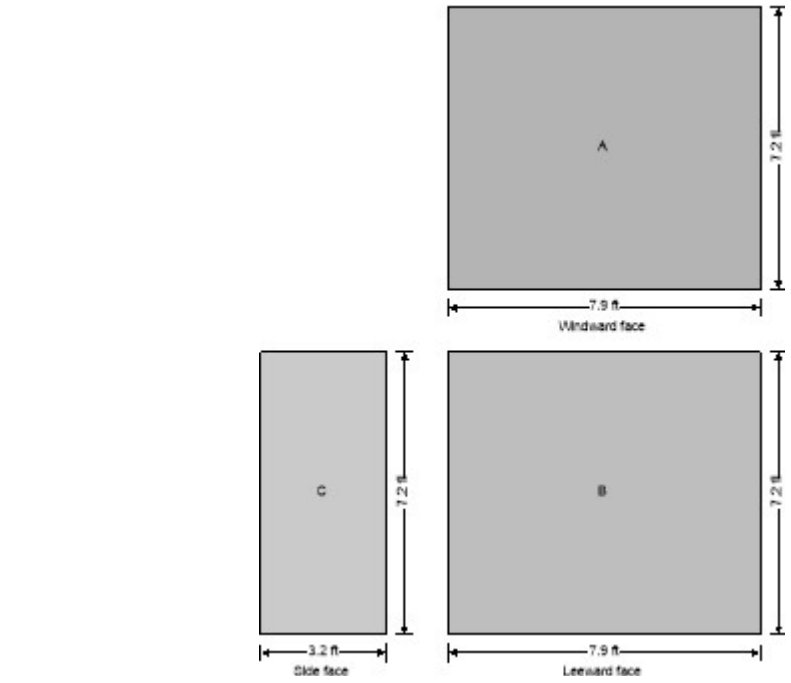
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.36** kips

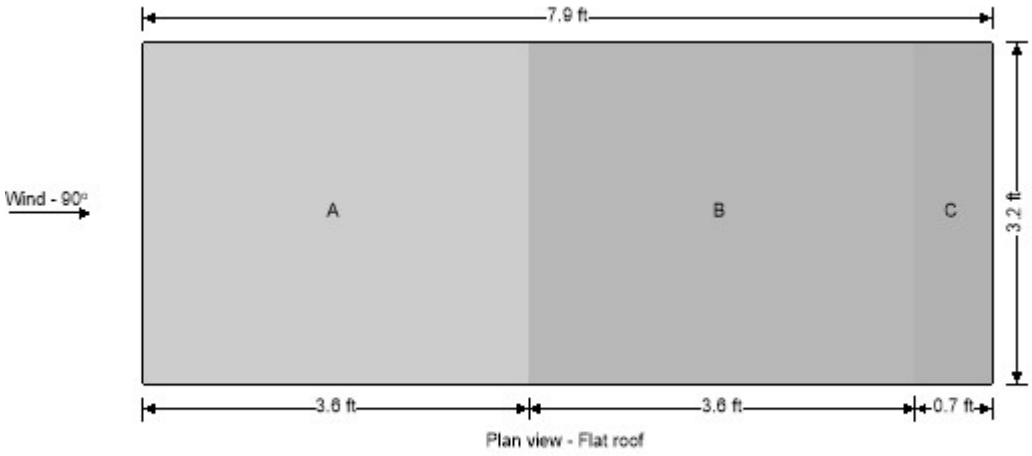
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

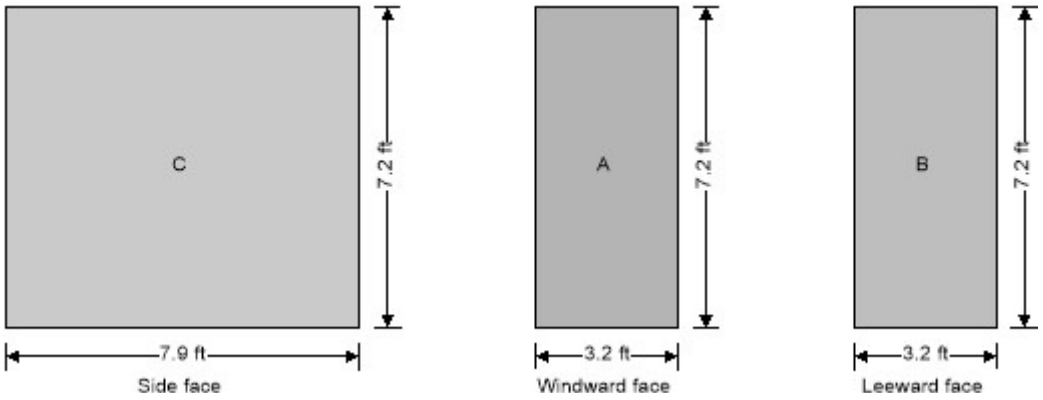
Windward net force $F_w = F_{w,wA}$ = **0.4** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.4** kips




A
7.2 ft
7.9 ft
Windward face
C
7.2 ft
B
7.2 ft
3.2 ft
Side face
7.9 ft
Leeward face


7.9 ft
Wind - 90°
A
B
C
3.2 ft
3.6 ft
3.6 ft
0.7 ft
Plan view - Flat roof


C
7.2 ft
7.9 ft
Side face
A
7.2 ft
3.2 ft
Windward face
B
7.2 ft
3.2 ft
Leeward face

1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.167**
at 1 sec period	S_1 = **0.077**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.267**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.185**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.178**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.123**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **7.18** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.136** sec
Building fundamental period (Sect 12.8.2)	$T = T_a$ = **0.136** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0509**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.2597**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient	C_s = **0.0509**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure	W = **3.8** kips
Seismic response coefficient	C_s = **0.0509**
Seismic base shear (Eq 12.8-1)	$V = C_s \times W$ = **0.2** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - City Fuel Yard

CODE REFERENCES

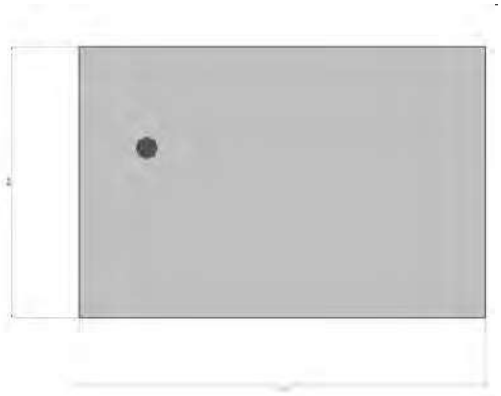
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : IBC 2015

Material Properties

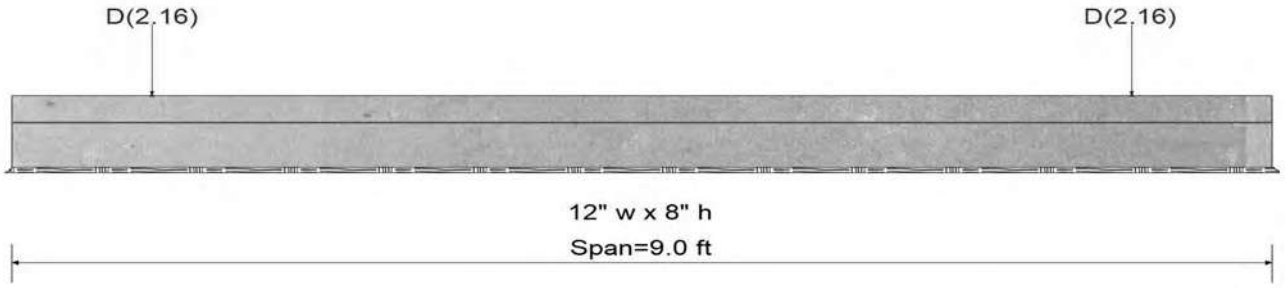
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1	=	0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination IBC 2015

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 3
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
1-#5 at 3.0 in from Top, from 0.0 to 9.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 2.160 k @ 1.0 ft
Point Load : D = 2.160 k @ 8.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	**0.308** : 1	Maximum Deflection	
Section used for this span		**Typical Section**	Max Downward L+Lr+S Deflection	0.000 in
Mu : Applied		-2.019 k-ft	Max Upward L+Lr+S Deflection	0.000 in
Mn * Phi : Allowable		6.551 k-ft	Max Downward Total Deflection	0.044 in
Load Combination		+0.90D	Max Upward Total Deflection	0.000 in
Location of maximum on span		4.553 ft		
Span # where maximum occurs		Span # 1		
Maximum Soil Pressure	=	**0.634** ksf at 0.00 ft LdComb: D Only		
Allowable Soil Pressure	=	**1.50** ksf OK		

Bearing pressures checked in Mathcad for full slab area

Shear Stirrup Requirements

Entire Beam Span Length : Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	8.047	0.25	3.76	0.07
+0.90D					
Span # 1	1	8.047	0.25	3.76	0.07

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - City Fuel Yard

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.0440	0.000		0.0000	0.000

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu Actual	(k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Suggest
+0.90D	1	0.00	5.00	0.03	0.03	0.00	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.11	5.00	0.09	0.09	0.00	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.21	5.00	0.15	0.15	0.01	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.32	5.00	0.21	0.21	0.03	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.42	5.00	0.26	0.26	0.05	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.53	5.00	0.32	0.32	0.08	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.64	5.00	0.38	0.38	0.11	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.74	5.00	0.43	0.43	0.15	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.85	5.00	0.49	0.49	0.20	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	0.95	5.00	0.54	0.54	0.25	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.06	5.00	-1.35	1.35	0.19	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.16	5.00	-1.30	1.30	0.05	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.27	5.00	-1.25	1.25	0.09	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.38	5.00	-1.20	1.20	0.22	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.48	5.00	-1.15	1.15	0.35	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.59	5.00	-1.10	1.10	0.47	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.69	5.00	-1.05	1.05	0.59	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.80	5.00	-1.00	1.00	0.70	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	1.91	5.00	-0.96	0.96	0.80	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.01	5.00	-0.91	0.91	0.90	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.12	5.00	-0.87	0.87	1.00	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.22	5.00	-0.82	0.82	1.09	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.33	5.00	-0.78	0.78	1.18	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.44	5.00	-0.73	0.73	1.26	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.54	5.00	-0.69	0.69	1.34	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.65	5.00	-0.65	0.65	1.41	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.75	5.00	-0.61	0.61	1.48	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.86	5.00	-0.57	0.57	1.55	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	2.96	5.00	-0.53	0.53	1.61	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.07	5.00	-0.49	0.49	1.66	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.18	5.00	-0.45	0.45	1.71	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.28	5.00	-0.41	0.41	1.76	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.39	5.00	-0.37	0.37	1.80	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.49	5.00	-0.33	0.33	1.84	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.60	5.00	-0.30	0.30	1.88	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.71	5.00	-0.26	0.26	1.91	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.81	5.00	-0.22	0.22	1.94	0.91	5.21	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	3.92	5.00	-0.18	0.18	1.96	0.75	5.12	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.02	5.00	-0.15	0.15	1.98	0.59	5.03	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.13	5.00	-0.11	0.11	2.00	0.44	4.94	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.24	5.00	-0.07	0.07	2.01	0.29	4.85	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.34	5.00	-0.04	0.04	2.02	0.14	4.77	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.45	5.00	-0.00	0.00	2.02	0.00	4.68	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.55	5.00	0.04	0.04	2.02	0.14	4.77	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.66	5.00	0.07	0.07	2.02	0.29	4.85	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.76	5.00	0.11	0.11	2.01	0.44	4.94	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.87	5.00	0.15	0.15	2.00	0.59	5.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	4.98	5.00	0.18	0.18	1.98	0.74	5.11	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.08	5.00	0.22	0.22	1.96	0.90	5.21	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.19	5.00	0.26	0.26	1.94	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - City Fuel Yard

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
+0.90D	1	5.29	5.00	0.30	0.30	1.91	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.40	5.00	0.33	0.33	1.88	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.51	5.00	0.37	0.37	1.84	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.61	5.00	0.41	0.41	1.80	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.72	5.00	0.45	0.45	1.76	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.82	5.00	0.49	0.49	1.71	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	5.93	5.00	0.53	0.53	1.66	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.04	5.00	0.57	0.57	1.61	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.14	5.00	0.61	0.61	1.55	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.25	5.00	0.65	0.65	1.48	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.35	5.00	0.69	0.69	1.41	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.46	5.00	0.73	0.73	1.34	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.56	5.00	0.78	0.78	1.26	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.67	5.00	0.82	0.82	1.18	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.78	5.00	0.87	0.87	1.09	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.88	5.00	0.91	0.91	1.00	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	6.99	5.00	0.96	0.96	0.90	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.09	5.00	1.00	1.00	0.80	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.20	5.00	1.05	1.05	0.70	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.31	5.00	1.10	1.10	0.59	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.41	5.00	1.15	1.15	0.47	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.52	5.00	1.20	1.20	0.35	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.62	5.00	1.25	1.25	0.22	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.73	5.00	1.30	1.30	0.09	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.84	5.00	1.35	1.35	0.05	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	7.94	5.00	1.40	1.40	0.19	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.05	5.00	-0.49	0.49	0.25	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.15	5.00	-0.43	0.43	0.20	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.26	5.00	-0.38	0.38	0.15	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.36	5.00	-0.32	0.32	0.11	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.47	5.00	-0.26	0.26	0.08	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.58	5.00	-0.21	0.21	0.05	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.68	5.00	-0.15	0.15	0.03	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.79	5.00	-0.09	0.09	0.01	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00
+0.90D	1	8.89	5.00	-0.03	0.03	0.00	1.00	5.26	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

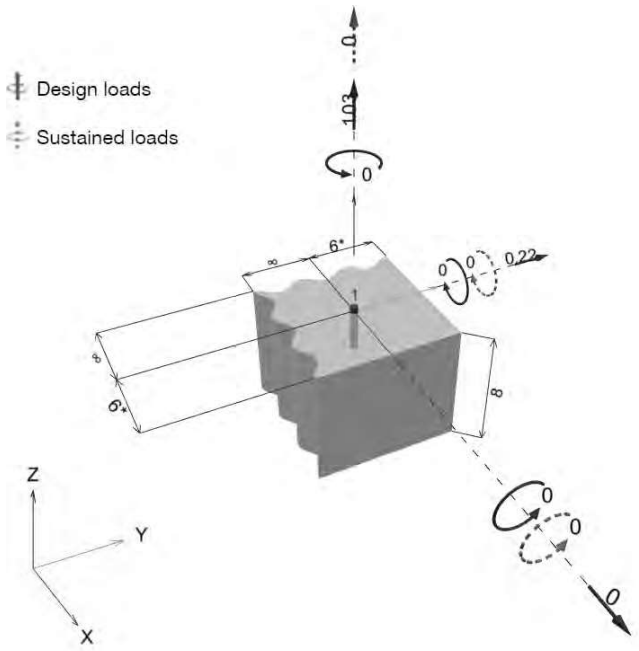
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 2.750 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2019 | 3/1/2020
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 1.030; V_x = 0.000; V_y = 0.220; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	38

2 Load case/Resulting anchor forces

Anchor reactions [kip]
Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	1.030	0.220	0.000	0.220

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	1.030	7.800	14	OK
Bond Strength**	1.030	3.088	34	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	1.030	2.760	38	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
ϕ $N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	ϕ N_{sa} [kip]	N_{ua} [kip]
12.000	0.650	7.800	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	2.750	6.000	1.000	1,100

c_{ac} [in.]	λ_a
4.136	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	4.751

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
4.751	0.650	3.088	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
2.750	6.000	1.000	4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
4.246	0.650	2.760	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.220	4.320	6	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Concrete Breakout Strength controls)**	0.220	5.945	4	OK
Concrete edge failure in direction y+**	0.220	2.773	8	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.220

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4.2 Pryout Strength (Concrete Breakout Strength controls)

$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ ACI 318-14 Eq. (17.4.2.2a)

Variables

k_{cp}	h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
2	2.750	6.000	1.000

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
8.493	0.700	5.945	0.220

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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	2.750

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	5.603

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
3.962	0.700	2.773	0.220

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.373	0.079	5/3	21	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 2.750 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 4.000 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

8 Remarks; Your Cooperation Duties

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4. APPENDIX

4.1 WIND LOADS

Hazards by Location

Search Information

Address: City fuel yard buckeye

Coordinates: 33.3703197, -112.5837766

Elevation: 869 ft

Timestamp: 2020-03-12T15:52:24.575Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	70 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

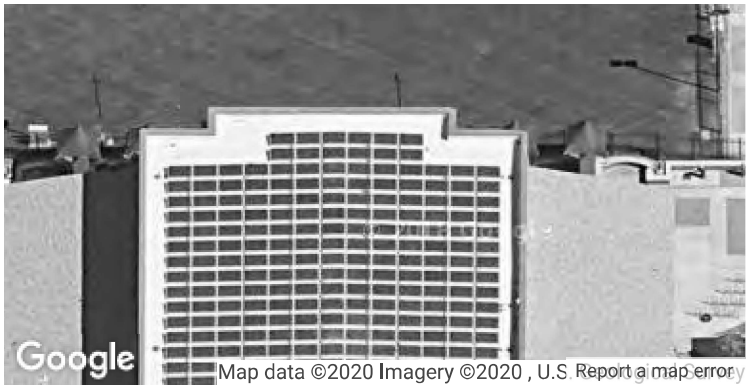
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4.2 SEISMIC LOADS

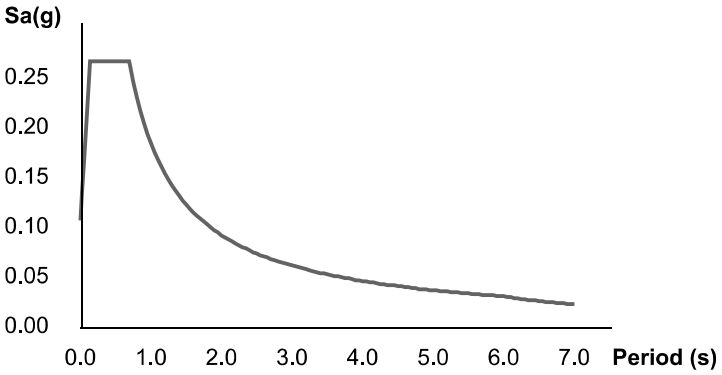
Hazards by Location

Search Information

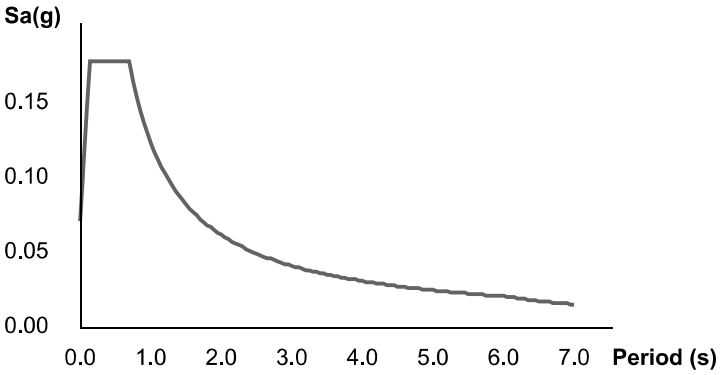
Address:	City fuel yard buckeye
Coordinates:	33.3703197, -112.5837766
Elevation:	869 ft
Timestamp:	2020-03-12T15:51:28.346Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.167	MCE_R ground motion (period=0.2s)
S_1	0.077	MCE_R ground motion (period=1.0s)
S_{MS}	0.267	Site-modified spectral acceleration value
S_{M1}	0.185	Site-modified spectral acceleration value
S_{DS}	0.178	Numeric seismic design value at 0.2s SA
S_{D1}	0.123	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.937	Coefficient of risk (0.2s)
CR_1	0.944	Coefficient of risk (1.0s)
PGA	0.073	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.117	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.167	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.178	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.077	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.082	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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4.3 GENERATOR SPECIFICATIONS

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

Standby Power Rating
30 kW, 38 kVA, 60 Hz

Prime Power Rating*
27 kW, 34 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT*

*Assembled in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories

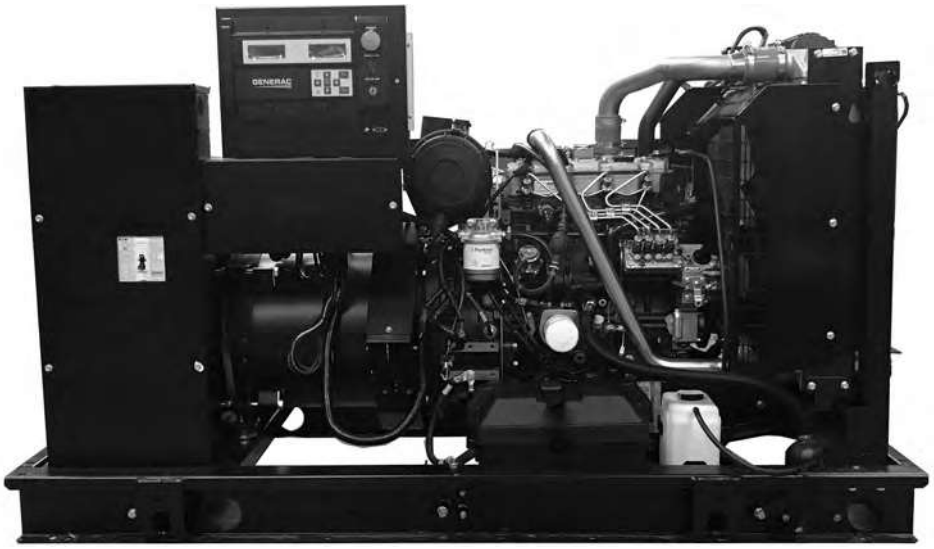


Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL508, UL489, UL142
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

1 of 6

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Unit Only)
- Engine Coolant Heater

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding (3-Phase Only)
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Unit Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S601
- Double Wall
- Normal and Emergency Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Oil Heater
- ○ Critical Silencer (Open Set Only)
- ○ Radiator Stone Guard
- ○ Level 1 Fan and Belt Guards (Open Set Only)

FUEL SYSTEM

- ○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating
- ○ Permanent Magnet Excitation

GENERATOR SET

- ○ Extended Factory Testing
- ○ 8 Position Load Center
- ○ Pad Vibration Isolation

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

ENCLOSURE

- ○ Weather Protected Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Level 2 Sound Attenuation with Motorized Dampers
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Door Alarm Switch
- ○ Enclosure Heater
- ○ Damper Alarm Contacts

WARRANTY (Standby Gensets Only)

- ○ 2 Year Extended Limited Warranty
- ○ 5 Year Limited Warranty
- ○ 5 Year Extended Limited Warranty
- ○ 7 Year Extended Limited Warranty
- ○ 10 Year Extended Limited Warranty

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Indication and Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ 100 dB Alarm Horn
- ○ Ground Fault Annunciation
- ○ 120V GFCI and 240V Outlets
- ○ Remote Communication - Modem
- ○ 10A Engine Run Relay

FUEL TANKS (Size On Last Page)

- ○ 8 in (203.2 mm) Fill Extension
- ○ 13 in (330.2 mm) Fill Extension
- ○ 19 in (482.6 mm) Fill Extension
- ○ Overfill Protection Valve
- ○ 5 Gallon Spill Box Return Hose
- ○ 5 Gallon Spill Box
- ○ Tank Risers
- ○ Fuel Level Switch and Alarm
- ○ 12' Vent System
- ○ Fire Rated Stainless Steel Fuel Hose

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Isolation Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

- ○ Spare Inputs (x4) / Outputs (x4)
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing

FUEL TANKS

- ○ UL2085 Tank
- ○ Stainless Steel Tanks
- ○ Special Fuel Tanks
- ○ Vent Extensions

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23.3:1
Intake Air Method	Turbocharged
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.5%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow
Crankcase Capacity - qt (L)	11.2 (10.6)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - RPM	1,980
Fan Diameter - in (mm)	18 (457)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.31 (7.9) ID
Fuel Return Line - in (mm)	0.2 (4.8) ID

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Brushless
Bearings	Single Sealed
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

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SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	30 kW	Amps: 125
Three-Phase 120/208 VAC @0.8pf	30 kW	Amps: 104
Three-Phase 120/240 VAC @0.8pf	30 kW	Amps: 90
Three-Phase 277/480 VAC @0.8pf	30 kW	Amps: 45
Three-Phase 346/600 VAC @0.8pf	30 kW	Amps: 36

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46
K0040124Y21	76	K0040124Y21	58
K0050124Y21	98	K0050124Y21	75

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
16.6 (63)

Diesel - gph (Lph)

Percent Load	Standby
25%	1.0 (3.7)
50%	1.4 (5.2)
75%	2.0 (7.5)
100%	2.8 (10.5)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	14.9 (56.2)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	128,638 (136)
Inlet Air	scfm (m^3/hr)	2,800 (4,757)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power scfm (m^3/min)	88 (2.5)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	49
Piston Speed	ft/min (m/min)	1,181 (360)
BMEP	psi (kPa)	159 (1,096)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	296.6 (8.4)
Max. Allowable Backpressure (Post Turbocharger)	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	892 (478)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

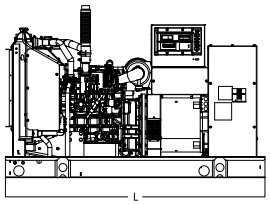
SD030 | 2.2L | 30 kW

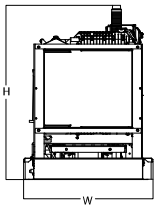
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

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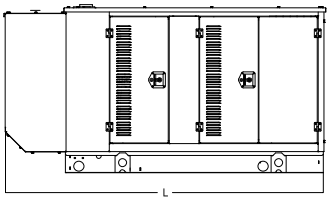
DIMENSIONS AND WEIGHTS*

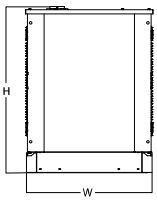




OPEN SET (Includes Exhaust Flex)

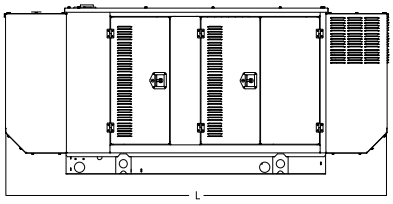
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.0 (1,930) x 37.4 (950) x 44.8 (1,138)	1,641 (745)
19	54 (204)	76.0 (1,930) x 37.4 (950) x 57.8 (1,468)	2,121 (963)
47	132 (501)	76.0 (1,930) x 37.4 (950) x 69.8 (1,773)	2,351 (1,067)
75	211 (799)	76.0 (1,930) x 37.4 (950) x 81.8 (2,078)	2,560 (1,162)
107	300 (1,136)	92.9 (2,360) x 37.4 (950) x 81.8 (2,078)	2,623 (1,190)

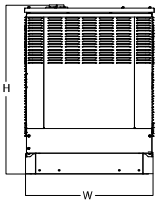




WEATHER PROTECTED ENCLOSURE

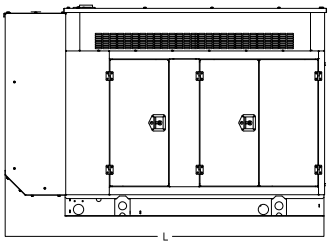
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	372 (170)	241 (110)
19	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)		
47	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		

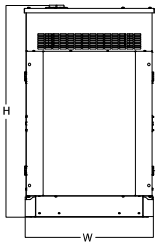




LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)	505 (230)	338 (154)
19	54 (204)	112.5 (2,857) x 38.0 (965) x 62.5 (1,582)		
47	132 (501)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		





LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,407) x 38.0 (965) x 61.1 (1,551)	510 (232)	341 (155)
19	54 (204)	94.8 (2,407) x 38.0 (965) x 74.1 (1,881)		
47	132 (501)	94.8 (2,407) x 38.0 (965) x 86.1 (2,186)		
75	211 (799)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		
107	300 (1,136)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		

(2351 lb set and tank) + (Diesel weight 7 lbs/gallon x 132 gallons) + (510 lbs enclosure weight) = **3785 LBs total**

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notic d installation drawings.

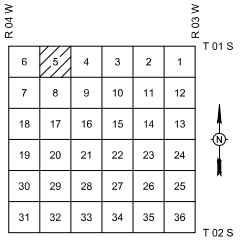
SPEC SHEET

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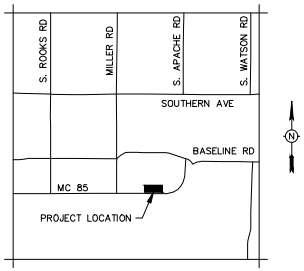
Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.
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CITY HALL
STANDBY GENERATOR
530 E. MONROE AVE.
BUCKEYE, ARIZONA 85326

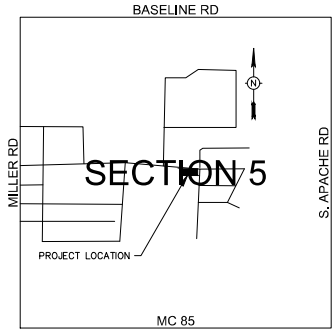
A PORTION OF THE NWSE OF SECTION 5, TOWNSHIP T01S, RANGE R03W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

SUMMARY OF BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL SCHEDULES
6	ELECTRICAL DETAILS
7	STRUCTURAL NOTES AND PLAN
8	STRUCTURAL DETAILS

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT DATE

BY: _____
PRIVATE WATER DATE

BY: _____
PRIVATE SEWER DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT DATE

(OTHER SIGNATURE LINES AS REQUIRED)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT EG | DRAFTED JN | CHECKED MAC
FIELD SURVEY | DRAFTED | CHECKED
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: CITY HALL STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL: FINAL

AS-BUILT SEAL

DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO. 50368
Michael A. Colombo
Date Signed 7/07/20
ARIZONA, USA

Expires 12/31/21

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	1 of 8

COB PLAN TRACKING #

COB PERMIT #

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL GENERAL NOTES

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

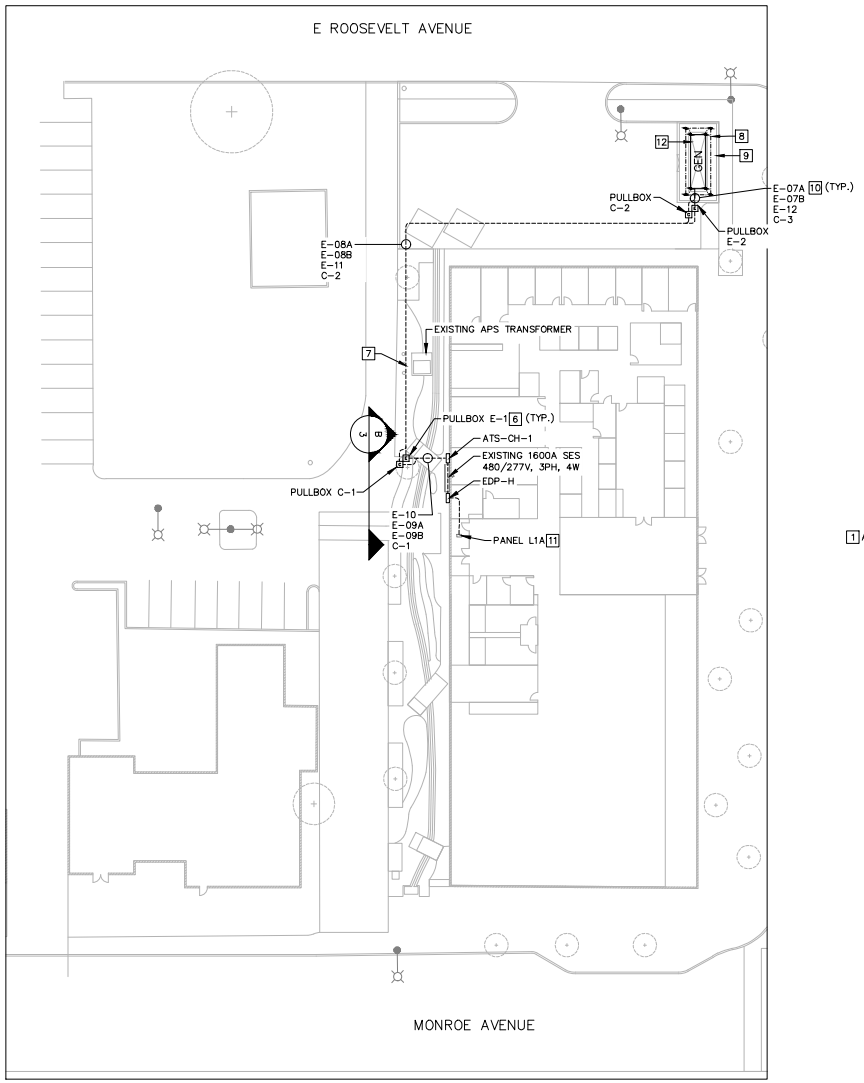
DESIGN SEAL
Registered Professional Engineer
CERTIFICATE NO. 50368
Michael A. Colpitts
Date Signed 07/07/20
ARIZONA, U.S.A.
Expires 12/31/21

SUBMITTAL: FINAL

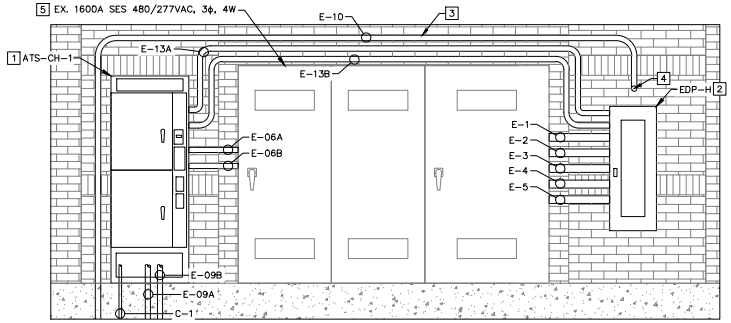
ORIGINAL PLAN DATE 07/07/2020	LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012	SHEET NUMBER 2 of 8

COB PLAN TRACKING #

COB PERMIT #



A
—
GENERATOR ELECTRICAL SITE PLAN
CITY HALL SERVER ROOM (530 MONROE AVENUE)
SCALE:1"=20'



B
—
PROPOSED ATS AND EMERGENCY DISTRIBUTION PANEL
CITY HALL SERVER ROOM (530 MONROE AVENUE)
SCALE:N.T.S.

CONSTRUCTION NOTES

1. 600A AUTOMATIC TRANSFER SWITCH 'ATS-CH-1'. MOUNT IN NEMA 3R CABINET ON GROUND BESIDE EXISTING SES. COORDINATE FINAL LOCATION IN FIELD WITH ENGINEER AND OWNER PRIOR TO ROUGH IN. SEE DETAILS ONE-LINE DIAGRAM SHEET 4. SEE INTERCONNECTION DETAILS ON 'CONDUIT AND CONDUCTOR SCHEDULE' SHEET 5.
2. 600A DISTRIBUTION PANEL 'EDP-H'. MOUNT PANEL AT LEAST 36" ABOVE FINAL GRADE. SEE PANEL CONNECTION DETAILS ON SINGLE LINE DIAGRAM SHEET 4. SEE INTERCONNECTION DETAILS ON 'CONDUIT AND CONDUCTOR SCHEDULE' SHEET 5. SEE PANEL SCHEDULE ON SHEET 5.
3. ROUTE NEW RGS CONDUITS ALONG BUILDING AS SHOWN. SEE SHEET 5 CONDUIT SCHEDULE FOR CONNECTION DETAILS.
4. PENETRATE WALL AND ROUTE GENERATOR 120/240V CONDUITS ALONG WALL WITH RGS CONDUIT. TRANSITION TO UNDERGROUND SCHED 40 PVC CONDUIT IN SAME TRENCH AS GENERATOR POWER CONDUITS. SEE CONDUIT SCHEDULE ON SHEET 5.
5. MODIFY EXISTING SES PER ONE-LINE DIAGRAM SHEET 4.
6. #5 ELECTRICAL PULLBOX. DETAIL SHOWN ON SHEET 6.
7. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 6.
8. PROVIDE GROUND RING FOR TRANSFORMER PER SPECIFICATIONS. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 6.
9. NEW WALL AND GATE AROUND GENERATOR. SEE STRUCTURAL PLANS ON SHEETS 7 AND 8.
10. SEE CONDUIT SCHEDULE ON SHEET 5 FOR CONDUIT AND INTERCONNECTION DETAILS.
11. EXISTING PANEL L1A TO POWER GENERATOR ANCILLARY LOADS. SEE ONE-LINE DIAGRAM SHEET 4, CONDUIT SCHEDULE, AND PANEL SCHEDULE ON SHEET 5.
12. PROPOSED 300 KW/375 KVA, 480/277V, 3P, 4W, NEMA 3R, DIESEL GENERATOR WITH 946 GALLON BELLY TANK AND LEVEL TWO ACOUSTIC ENCLOSURE.

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SITE PLAN

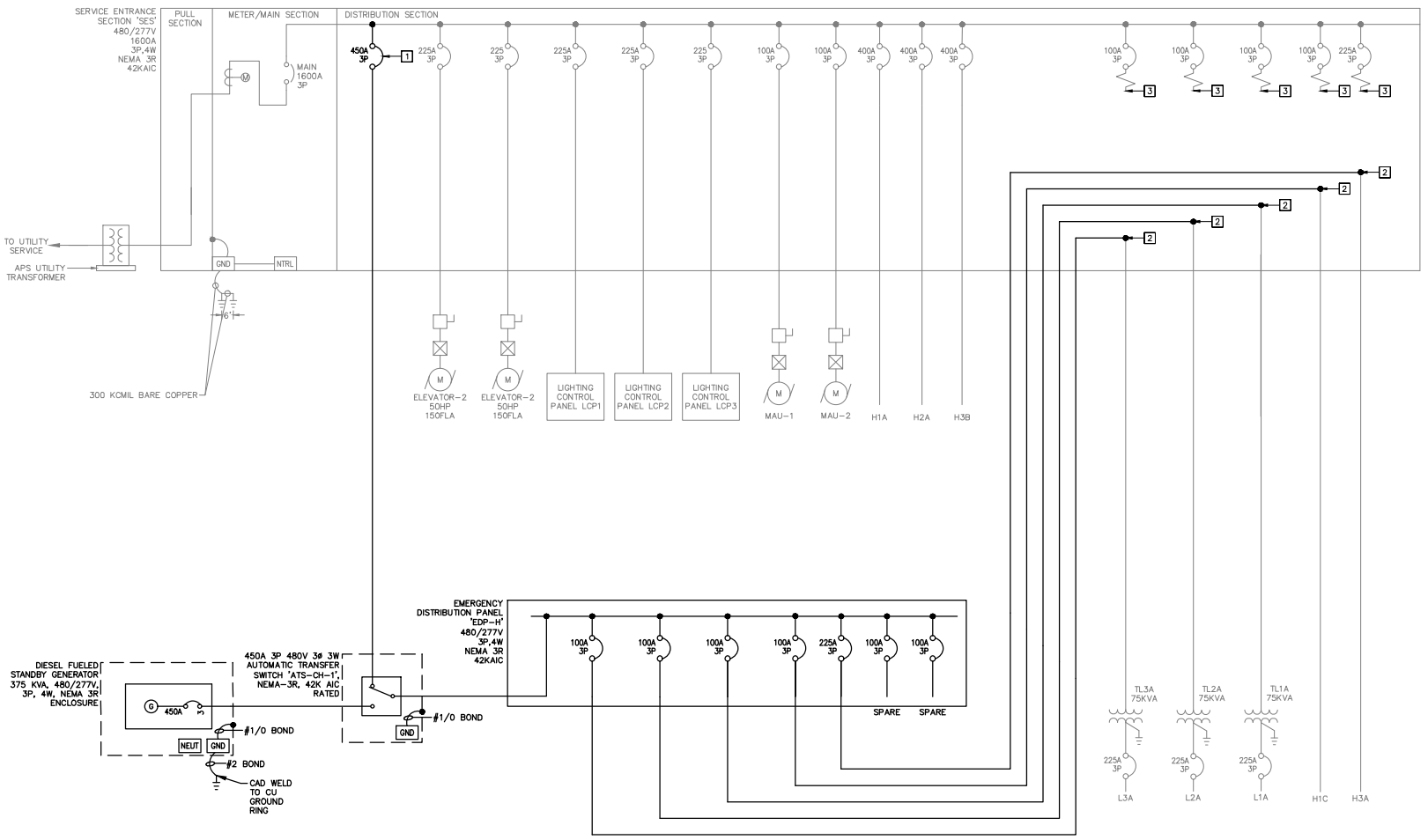
ENGINEER INFORMATION
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7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
	Registered Professional Engineer, Certificate No. 50368, Michael A. Colombo, State of ARIZONA, U.S.A. Expires 12/31/21
ORIGINAL PLAN DATE: 07/07/2020	LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012	SHEET NUMBER: 3 of 8

COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



A — **ONELINE DIAGRAM**
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1. PROVIDE NEW 450A 277/480V 3P CIRCUIT BREAKER IN EXISTING SES PANEL. PROVIDE NEW CONDUIT AND CONNECTION TO EMERGENCY DISTRIBUTION PANEL 'EDP-H'.
2. DISCONNECT LOAD SIDE OF CONDUCTOR COMING FROM EXISTING BREAKER. CONNECT EXISTING FEEDER TO NEW PANEL 'EDP-H'. ROUTE NEW CONDUCTOR INSIDE OF SES AND MAKE CONNECTION INSIDE SES. NOTE THE EXISTING EQUIPMENT SHOWN AS GREY AND NEW EQUIPMENT SHOWN AS BOLD FOR CLARITY.
3. EXISTING BREAKER TO REMAIN WITH EXISTING LOAD TO BE FED FROM NEW PANEL EDP-H. RELABEL BREAKER AS SPARE.

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
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COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer CERTIFICATE NO. 50368 Michael A. Calpinto ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 8

SUBMITTAL: FINAL
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CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE

CONDUIT			CONDUCTORS/CABLE					REMARKS
NO.	SIZE	STATUS	QTY	SIZE	FROM	TO	PURPOSE	
E-01	2"	NEW	4	#1 AWG	EMERGENCY DISTRIBUTION PANEL PANEL EDP-H	TL3A FEEDER INSIDE EXISTING SES	POWER	ROUTE NEW CONDUIT FROM EDP-H TO EXISTING SES. MAKE CONNECTION TO EXISTING TRANSFORMER TL3A FEEDER INSIDE SES.
			1	#8 AWG			GROUND	
E-02	2"	NEW	4	#1 AWG	EMERGENCY DISTRIBUTION PANEL PANEL EDP-H	TL2A FEEDER INSIDE EXISTING SES	POWER	ROUTE NEW CONDUIT FROM EDP-H TO EXISTING SES. MAKE CONNECTION TO EXISTING TRANSFORMER TL2A FEEDER INSIDE SES.
			1	#8 AWG			GROUND	
E-03	2"	NEW	4	#1 AWG	EMERGENCY DISTRIBUTION PANEL PANEL EDP-H	TL1A FEEDER INSIDE EXISTING SES	POWER	ROUTE NEW CONDUIT FROM EDP-H TO EXISTING SES. MAKE CONNECTION TO EXISTING TRANSFORMER TL1A FEEDER INSIDE SES.
			1	#8 AWG			GROUND	
E-04	2"	NEW	4	#1 AWG	EMERGENCY DISTRIBUTION PANEL PANEL EDP-H	H1C FEEDER INSIDE EXISTING SES	POWER	ROUTE NEW CONDUIT FROM EDP-H TO EXISTING SES. MAKE CONNECTION TO EXISTING PANEL H1C FEEDER INSIDE SES.
			1	#8 AWG			GROUND	
E-05	3"	NEW	4	#4/0 AWG	EMERGENCY DISTRIBUTION PANEL PANEL EDP-H	H3A FEEDER INSIDE EXISTING SES	POWER	ROUTE NEW CONDUIT FROM EDP-H TO EXISTING SES. MAKE CONNECTION TO EXISTING PANEL H3A FEEDER INSIDE SES.
			1	#4 AWG			GROUND	
E-06A	3"	NEW	4	#4/0 AWG	NEW 450A SES 277/480V BREAKER	ATS-CH-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-06B	3"	NEW	4	#4/0 AWG	NEW 450A SES 277/480V BREAKER	ATS-CH-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-07A	3"	NEW	4	#4/0 AWG	GENERATOR	PULLBOX E-2	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-07B	3"	NEW	4	#4/0 AWG	GENERATOR	PULLBOX E-2	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-08A	3"	NEW	4	#4/0 AWG	PULLBOX E-2	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-08B	3"	NEW	4	#4/0 AWG	PULLBOX E-2	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-09A	3"	NEW	4	#4/0 AWG	PULLBOX E-1	ATS-CH-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-09B	3"	NEW	4	#4/0 AWG	PULLBOX E-1	ATS-CH-1	POWER	PARALLEL CONDUIT TO ATS-CH-1
			1	#2 AWG			GROUND	
E-10	1"	NEW	4	#8 AWG	PANEL L1A	PULLBOX E-1	POWER	GENERATOR ANCILLARY LOADS: PANEL L1A, CKT 20 & 22
			1	#8 AWG			GROUND	
E-11	1"	NEW	4	#8 AWG	PULLBOX E-1	PULLBOX E-2	POWER	GENERATOR ANCILLARY LOADS: PANEL L1A, CKT 20 & 22
			1	#8 AWG			GROUND	
E-12	1"	NEW	4	#8 AWG	PULLBOX E-2	GENERATOR BLOCK HEATER/BATTERY CHARGER	POWER	GENERATOR ANCILLARY LOADS: PANEL L1A, CKT 20 & 22
			1	#8 AWG			GROUND	
E-13A	2"	NEW	4	#4/0 AWG	ATS-CH-1	PANEL EDP-H	POWER	PARALLEL CONDUIT TO PANEL EDP-H
			1	#2 AWG			GROUND	
E-13B	2"	NEW	4	#4/0 AWG	ATS-CH-1	PANEL EDP-H	POWER	PARALLEL CONDUIT TO PANEL EDP-H
			1	#2 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		ATS-CH-1	PULLBOX C-1	CONTROLS	ROUTE TO GEN CONTROL PANEL
C-2	1"	NEW	8-PR #16 AWG		PULLBOX C-1	PULLBOX C-2	CONTROLS	ROUTE TO GEN CONTROL PANEL
C-3	2"	NEW	8-PR #16 AWG		PULLBOX C-2	GENERATOR CONTROL PANEL	CONTROLS	ROUTE TO GEN CONTROL PANEL

A — CONDUIT AND CONDUCTOR SCHEDULE
SCALE:NOT TO SCALE

GENERATOR LOAD CALCULATION

LOAD DESCRIPTION	AMPS
EXISTING LOADS	
PANEL L1A	47
PANEL L2A	54
PANEL L3A	68
PANEL H1C	61
PANEL H3A	134
TOTAL CALCULATED DEMAND (EXISTING)	**364**
TOTAL REMOVED LOAD	**0**
PROPOSED LOADS	
PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	4
TOTAL PROPOSED LOAD	**4**
FUTURE LOADS	**0**
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	**368**
PERCENT LOADED % (TOTAL LOAD/452A)	**81%**

C — GENERATOR LOAD SUMMARY
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1 REPLACE EXISTING 20A/2P CIRCUIT BREAKER WITH TWO 20A/1P CIRCUIT BREAKERS FOR GENERATOR BATTERY CHARGER AND GENERATOR BLOCK HEATER.

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**% Vdrop
1	Utility Published Data	32990	32,990										32,990	
2	SES	1	32,990	NM	Copper	4	Set of	600 KCMIL	1600	50	480	3	31,327	0.34%
3	ATS	2	31,327	NM	Copper	2	Set of	4/0	450	5	480	3	30,805	0.37%
4	EDPHA	3	30,805	NM	Copper	2	Set of	4/0	450	20	480	3	28,880	0.49%

D — FAULT CURRENT CALCULATION
SCALE:NOT TO SCALE

PANEL: L1A

VOLTAGE: 120/208 PANEL BUS: 225 AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: 225 BREAKER
SCCR (AMPS): 10,000
SOURCE: 75 kVA TRANSFORMER TL1A

DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
RECEPTS, RM. 101	540	20/1	1	9			2	20/1	500	WATER FEATURE PUMP
RECEPTS, RM. 101	900	20/1	3		12		4	20/1	500	LANDSCAPE LIGHTING
RECEPTS, RM. 103, 104, 112	720	20/1	5			8	6	20/1	720	LIGHTING CONTROLPANEL
EWC RM. 112	500	20/1	7	5			8		180	NORTH PARKING LOT LIGHTING
RECEPTS RM 102, 103, 107	540	20/1	9		9		10	20/2	180	
RECEPTS RM. 106	360	20/1	11			18	12	20/2	1830	EJ-110, EJ-111, EJ-112, UJ-113
RECEPTS RM. 106	360	20/1	13	18			14		1830	
RECEPTS RM. 106	360	20/1	15		22		16	30/2	2196	UJ-106, EJ-107, EJ-108, IU-109
SECURITY SYSTEM JUNCTION BOX RM. 106	200	20/1	17			21	18		2220	
FIRE ALARM CONTROL PANEL, RM. 106	200	20/1	19	17			20	**20/1**	**1800**	**GENERATOR BATTERY CHARGER** 1
ELEVATOR PIT LIGHING AND RECEPTS	270	20/1	21		17		22	**20/1**	**1800**	**GENERATOR BLOCK HEATER**
ELEVATOR PIT SUMP PUMP	1256	20/1	23			11	24	20/1		SPARE
ELEVATOR EQUIP. RM LIGHTS/RECEPTS	270	20/1	25	7			26	20/1	550	FIRE/SMOKE DAMPERS
ELEVATOR CAB LIGHTING	1500	20/1	27		26		28		1570	
ELEVATOR CAB LIGHTING	1500	20/1	29			26	30	20/2	1570	EJ-104, EJ-105
RECEPTS, RM. 108, 109, 111, 112	900	20/1	31	9			32	20/2	125	EJ-101, EJ-102, EJ-103
RECEPTS, EXTERIOR	1260	20/1	33		12		34		125	EJ-301, IU-302
FIRE ALARM BELL	500	20/1	35			4	36	20/1		SPARE
RECEPTS SPECIAL RM. 106	2400	30/2	37	23			38	20/1	360	ROOF RECEPTACLES
	2400		39		39		40	30/2	2250	HWP-101
LIGHTING DESK RM. 101	100	20/1	41			20	42		2250	EWH-101
			TOTALS:	87.4	132.7	106.9	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (VA): **39238**
+25% PER NEC (VA): **9810**
TOTAL (VA): **49048 @ 208V, 3Ø = 136.3 AMPS**

*NEW LOADS INDICATED BY BOLD

PANEL: L3A

VOLTAGE: 120/208 PANEL BUS: 225 AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: 225 BREAKER
SCCR (AMPS): 10,000
SOURCE: 75kVA TRANSFORMER TL3A

DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
RECEPTS, RM. 305, 306-310	720	20/1	1	37			2	20/1	360	
RECEPTS, RM. 301-304, 307, 309	1080	20/1	3			40	4	20/1	360	OU-102, OU-103, OU-201, OU-202
WWC RM. 309	900	20/1	5				6	20/1	2196	
FIRE ALARM JUNCTION BOX RM. 305	200	20/1	7	25			8	20/2	2196	OU-101, OU-301, OU-302
SECURITY SYSTEM JUNCTION BOX RM. 305	200	20/1	9			14	10		1440	SYSTEM FURNITURE RM. 352
RECEPTS RM. 305	360	20/1	11				12	20/2	1440	SYSTEM FURNITURE RM. 352
RECEPTS RM. 305	360	20/1	13	15			14		1440	SYSTEM FURNITURE RM. 352
RECEPTS RM. 305	360	20/1	15			15	16	30/2	1440	SYSTEM FURNITURE RM. 352
RECEPTS RM. 305, 318	900	20/1	17				18		1440	SYSTEM FURNITURE RM. 352
LIGHTING CONTROL PANEL	200	20/1	19	15			20	20/1	1440	SYSTEM FURNITURE RM. 352
EXTERIOR RECEPTS SOUTH	1440	20/1	21			54	22	20/1	1440	SYSTEM FURNITURE RM. 352
EXTERIOR RECEPTS NORTH	1260	20/1	23				24	20/1		SPARE
SYSTEM FURNITURE RM. 352	1440	20/1	25	16			26	20/1	440	FIRE/SMOKE DAMPERS
SYSTEM FURNITURE RM. 352	1440	20/1	27			22	28	20/2	1140	EJ-104, EJ-105
SYSTEM FURNITURE RM. 352	1440	20/1	29				30		1140	UJ-303
RECEPTS ROOF	1260	20/1	31	11			32	20/2	83	EJ-301, EJ-302
IU-304, EJ305, IU-306, IU-307, IU-308, IU-309, EJ-323, IU-325	2728	20/1	33			23	34		83	
	2728	20/1	35		4		36	20/1	1620	ROOF RECEPTACLES
EJ-310, EJ311, IU-312, EJ-313, EJ-314, IU-315	2878	30/2	37	27			38	20/1	360	HWP-103
	2878		39		39		40	30/2	2250	EWH-103
LIGHTING UNDER COUNTER RM. 304	200	20/1	41			43	42		2250	
			TOTALS:	143.6	179.9	150.2	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (VA): 56844
+25% PER NEC (VA): 14211
TOTAL (VA): 71055 @ 208V, 3Ø = 197.4 AMPS

*NEW LOADS INDICATED BY BOLD

PANEL: EDP-H

VOLTAGE: 277/480 PANEL BUS: 600A AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: MLO BREAKER
SCCR (AMPS): 42,000
SOURCE: 450A SES BREAKER

DESCRIPTION	KVA	CB	CKT	A	B	C	CKT	CB	KVA	DESCRIPTION
TRANSFORMER TL3A	19	100/3	1	122			2		15	TRANSFORMER TL2A
	19		3		122		4	100/3	15	
	19		5			122	6		15	
TRANSFORMER TL1A	13		7	107			8		17	PANEL H1C
	13	100/3	9		107		10	100/3	17	
	13		11			107	12		17	
PANEL H3A	37		13	134			14			
	37	225/3	15		134		16	100/3		SPARE
	37		17			134	18			
			19	0			20			SPACE
SPARE		100/3	21		0		22			SPACE
			23			0	24			SPACE
SPACE			25	0			26			SPACE
SPACE			27		0		28			SPACE
SPACE			29			0	30			SPACE
SPACE			31	0			32			SPACE
SPACE			33		0		34			SPACE
SPACE			35			0	36			SPACE
SPACE			37	0			38			SPACE
SPACE			39		0		40			SPACE
SPACE			41			0	42			SPACE
			TOTALS:	363.5	363.5	363.5	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (KVA): 302
+25% PER NEC (KVA): 76
TOTAL (KVA): 378 @ 480V, 3Ø = 454.4 AMPS

*NEW LOADS INDICATED BY BOLD

PANEL: L2A

VOLTAGE: 120/208 PANEL BUS: 225 AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: 225 BREAKER
SCCR (AMPS): 10,000
SOURCE: 75kVA TRANSFORMER TL2A

DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
RECEPTS, RM. 209, 210, 205	900	20/1	1	9			2	20/1	200	LIGHTING CONTROLPANEL
RECEPTS, RM. 202, 203,219	540	20/1	3		17		4	20/1	1440	SYSTEM FURNITURE RM. 237
EWC RM. 210	500	20/1	5			15	6	20/1	1440	SYSTEM FURNITURE RM. 237
RECEPTS RM 201, 204, 206, 207, 208	1260	20/1	7	23			8	20/2	1440	SYSTEM FURNITURE RM. 237
SECURITY SYSTEM JUNCTION BOX RM. 205	200	20/1	9		14		10		1440	SYSTEM FURNITURE RM. 237
RECEPTS RM. 205	200	20/1	11			14	12	20/2	1440	SYSTEM FURNITURE RM. 237
RECEPTS RM. 205	200	20/1	13	14			14		1440	SYSTEM FURNITURE RM. 237
RECEPTS RM. 205	200	20/1	15		14		16	20/2	1440	SYSTEM FURNITURE RM. 237
SYSTEM FURNITURE RM. 237	1440	20/1	17			16	18		720	SYSTEM FURNITURE RM. 237
SYSTEM FURNITURE RM. 237	1440	20/1	19	32			20	20/1	2400	RECEPTS SPECIAL RM. 206
SYSTEM FURNITURE RM. 237	1440	20/1	21		32		22	20/1	2400	
SYSTEM FURNITURE RM. 237	1440	20/1	23			12	24	20/1		SPARE
SYSTEM FURNITURE RM. 237	1440	20/1	25	17			26	20/1	550	FIRE/SMOKE DAMPERS
SYSTEM FURNITURE RM. 237	1440	20/1	27		22		28	20/2	1144	
SYSTEM FURNITURE RM. 237	1440	20/1	29			22	30		1144	UJ-303
SYSTEM FURNITURE RM. 237	1440	20/1	31	13			32	20/2	83	
SYSTEM FURNITURE RM. 237	1440	20/1	33		13		34		83	EJ-203, IU-202
SYSTEM FURNITURE RM. 237	1440	20/1	35			12	36	20/1		SPARE
SYSTEM FURNITURE RM. 237	1440	30/2	37	15			38	20/1	360	HWP-102
SYSTEM FURNITURE RM. 237	1440		39		31		40	30/2	2250	
SPARE		20/1	41			19	42		2250	EWH-101
			TOTALS:	121.6	140.6	112.1	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (VA): 44844
+25% PER NEC (VA): 11236
TOTAL (VA): 56180 @ 208V, 3Ø = 156.1 AMPS

*NEW LOADS INDICATED BY BOLD

PANEL: H3A

VOLTAGE: 277/480 PANEL BUS: 225A AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: MLO BREAKER
SCCR (AMPS): 30,000
SOURCE: 225A SES BREAKER

DESCRIPTION	KVA	CB	CKT	A	B	C	CKT	CB	KVA	DESCRIPTION
LIGHTING RM. 301	1	20/1	1	22			2		5	
LIGHTING RM. 302, 303	1	20/1	3		20		4		5	OU-104, OU-105
LIGHTING RM. 309, 352	2	20/1	5			23	6		5	
LIGHTING RM. 304, 305, 306, 307, 308	0	20/1	7	25			8		6	
LIGHTING RM. 311-319, 321	2	20/1	9		31		10		6	OU 203, OU-303
LIGHTING RM. 320, 322-329	2	20/1	11	21		31	12		6	
LIGHTING RM. 352	3	20/1	13	19			14		3	
LIGHTING RM. 330-332	2	20/1	15		18		16		3	AC-1
LIGHTING RM. 333-334	2	20/1	17			15	18		3	
LIGHTING RM. 335	2	20/1	19	15			20		3	
LIGHTING RM. 336-351	3	20/1	21		19		22		3	AC-2
LIGHTING RM. 352	2	20/1	23			19	24		3	
	2		25	16			26		2	
OUTDOOR UNIT OU-16	2	20/3	27		16		28		2	EXISTING LOAD
	2		29			16	30		2	
	2		31	17			32		2	
OUTDOOR UNIT OU-17	2	20/3	33			17	34	20/3	2	OUTDOOR UNIT OU-19
	2		35		17		36		2	
	2		37	17			38		2	
OUTDOOR UNIT OU-18	2	20/3	39			17	40	20/3	2	OUTDOOR UNIT OU-20
	2		41				42		2	
			TOTALS:	130.5	136.3	134.8	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (KVA): 111
+25% PER NEC (KVA): 28
TOTAL (KVA): 139 @ 480V, 3Ø = 167.4 AMPS

*NEW LOADS INDICATED BY BOLD

PANEL: H1C

VOLTAGE: 277/480 PANEL BUS: 225A AMPS
PHASE, WIRES: 3ϕ, 4W MAIN: MLO BREAKER
SCCR (AMPS): 30,000
SOURCE: 225A SES BREAKER

DESCRIPTION	KVA	CB	CKT	A	B	C	CKT	CB	KVA	DESCRIPTION
LIGHTING RM. 137	1	20/1	1	3			2			SPACE
LIGHTING RM. 137	1	20/1	3		3		4			SPACE
LIGHTING RM. 136, 138-140	1	20/1	5			5	6			SPACE
SPARE		20/1	7	0			8			SPACE
SPARE		20/1	9		0		10			SPACE
SPARE		20/1	11			0	12			SPACE
LIGHTING RM. 130	3	20/1	13	9			14			SPACE
LIGHTING RM. 131, SOUTH	0	20/1	15		2		16			SPACE
LIGHTING RM. 131, PERIMETER	1	20/1	17			5	18			SPACE
LIGHTING RM. 131, STAND	1	20/1	19	2			20			SPACE
LIGHTING RM. 1031, CENTER	1	20/1	21		4		22			SPACE
LIGHTING RM. 131, ACCENT	1	20/1	23			3	24			SPACE
SPARE			25	0			26			SPACE
LIGHTING RM. 132-135	1	20/3	27		3		28			SPACE
SPARE			29			0	30			SPACE
SPACE			31	0			32			SPACE
SPACE		20/3	33		0		34			SPACE
SPACE			35			0	36			SPACE
	14		37	50			38			SPACE
PANEL L1C	14	20/3	39		49		40			SPACE
	13		41			45	42			SPACE
			TOTALS:	63.9	60.0	58.2	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (KVA): 50
+25% PER NEC (KVA): 13
TOTAL (KVA): 63 @ 480V, 3Ø = 75.9 AMPS

*NEW LOADS INDICATED BY BOLD

B — PANEL SCHEDULES
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SCHEDULES

ENGINEER INFORMATION
Kimley»Horn
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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

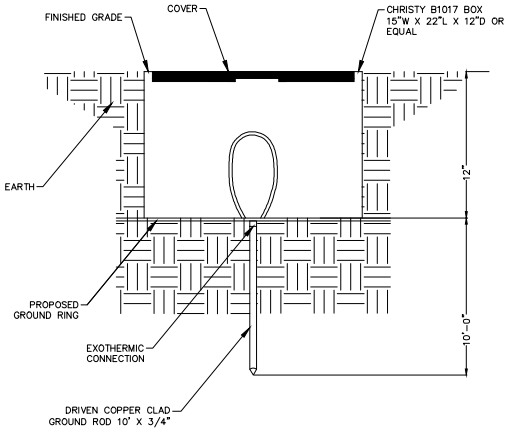
AS-BUILT SEAL

DESIGN SEAL
REGISTERED PROFESSIONAL ENGINEER
CERTIFICATE NO. 50368
Michael A. Cipriano
ARIZONA, U.S.A.
Expires 12/31/21

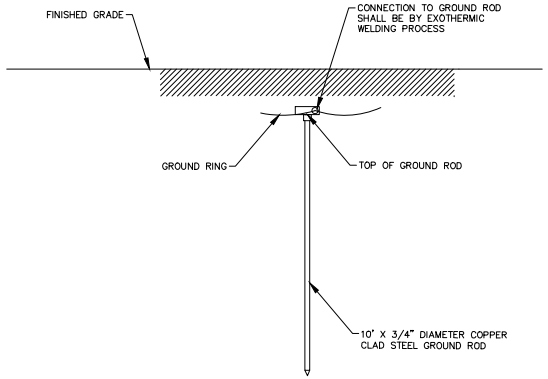
ORIGINAL PLAN DATE 07/07/2020
LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012
SHEET NUMBER 5 of 8

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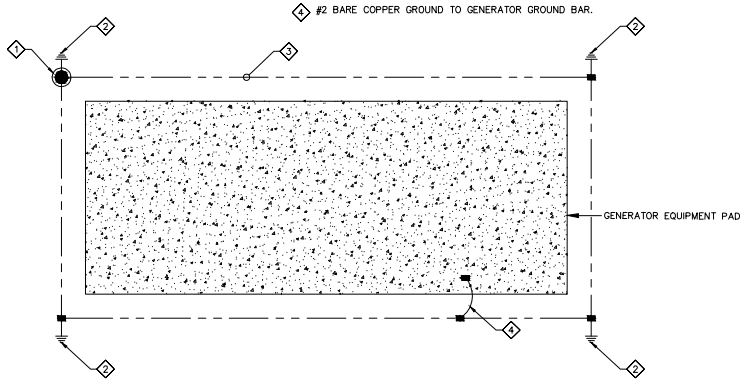
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



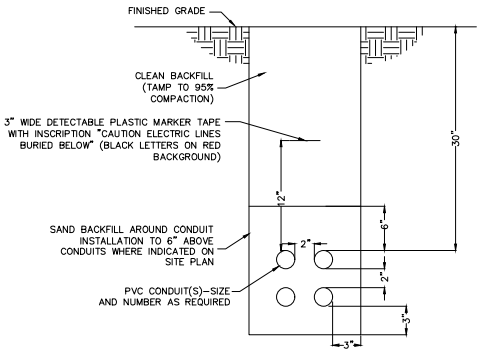
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



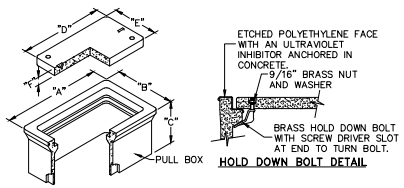
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



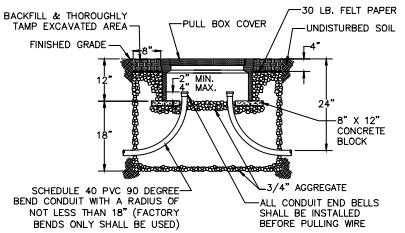
HOLD DOWN BOLT DETAIL



LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

LID 'A'

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer
CERTIFICATE NO.
50368
Michael A. Colombo
ARIZONA, U.S.A.
Expires 12/31/21

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ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 8

COB PLAN TRACKING #

COB PERMIT #

STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
RISK CATEGORY II
Iw 1.00
STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
DESIGN WIND PRESSURE . . . . . .15.72 psf (STRENGTH LEVEL)
INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
Ie 1.00
SITE CLASS . . . . . .D
S_s . . . . . 0.167g S_1 . . . . . .0.077g
S_{ms} . . . . . 0.178g S_{m1} 0.123g
SEISMIC DESIGN CATEGORY . . . . . .B
DESIGN BASE SHEAR (C_s"W") 0.051W
ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
ALLOWABLE BEARING PRESSURE = 1500 PSF
ACTIVE EARTH PRESSURE = 45 PCF
AT-REST EARTH PRESSURE = 60 PCF
PASSIVE EARTH PRESSURE = 100 PCF
= 0.25 (W/OUT PASSIVE PRESSURE)
MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

FOOTING BEARING DEPTH = 20" MIN.

FOR TOP OF FOOTING ELEVATIONS, SEE PERIMETER WALL PLAN THIS SHEET.

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

WALL BACKFILL MATERIAL, PLACEMENT AND COMPACTION SHOULD COMPLY IN FULL WITH THE PROJECT SPECIFICATIONS. COMPACTION OF EACH LIFT ADJACENT TO WALLS SHALL BE ACCOMPLISHED WITH HAND OPERATED TAMPERS OR OTHER LIGHTWEIGHT COMPACTORS. FLOODING OR JETTING IS PROHIBITED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 3000 PSI.
REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

MASONRY AND REINFORCING:

MASONRY: F'm = 1500 PSI; ASTM C90; MEDIUM WEIGHT; RUNNING BOND; STANDARD BLOCK

MORTAR: ASTM C270; TYPE S; CUBE STRENGTH = 1800 PSI

GROUT: ASTM C476, TYPE = COARSE; CUBE STRENGTH = 2000 PSI.

JOINT NOTES

MASONRY:
MASONRY WALL FOOTINGS AND SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

THE CONTRACT PERIMETER WALL AND SLAB DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO , BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS. CONTRACTOR IS RESPONSIBLE FOR ALL O.S.H.A. REQUIREMENTS, NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES AND/OR CONFLICTS.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. STEEL CONSTRUCTION (SECTION 1705.2)
B. CONCRETE CONSTRUCTION (TABLE 1705.3)
MASONRY CONSTRUCTION (SECTION 1705.4)
C. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

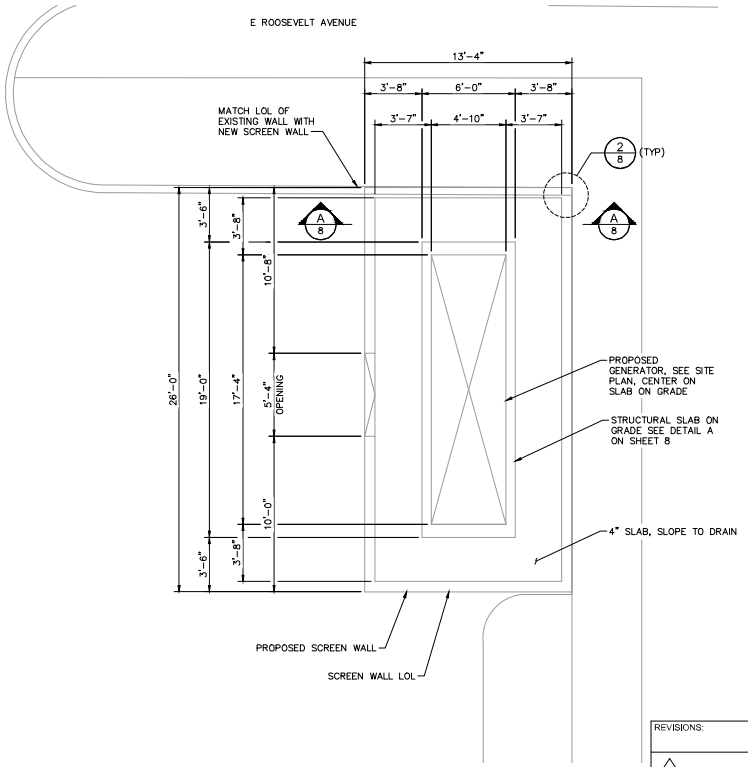
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ
GROUTED MASONRY	HILTI HY 270	HILTI KWIK BOLT 3
HOLLOWED MASONRY OR BRICK	HILTI HY 270 W/ APPROPRIATE TUBE SCREEN	HILTI HLC SLEEVE ANCHOR

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



PERIMETER WALL PLAN
CITY HALL SERVER ROOM (530 MONROE AVENUE)
A/– SCALE:1/4"=1'-0"

NORTH

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB AND ENCLOSURE WALL WITH ENGINEER PRIOR TO CONSTRUCTION.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

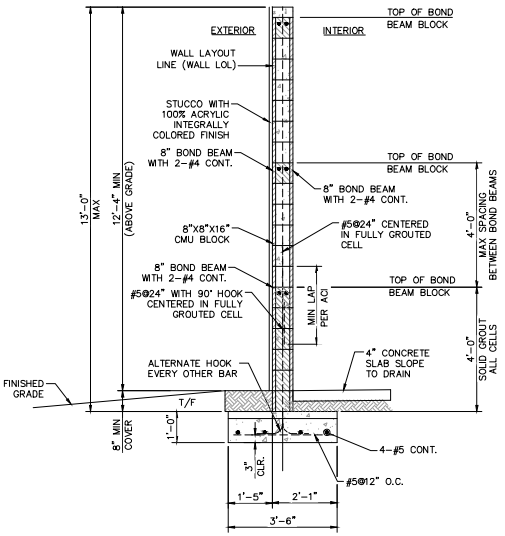
SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Date Signed 07/07/20 ARIZONA, U.S.A.

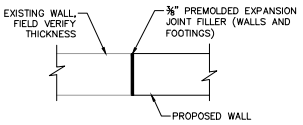
ORIGINAL PLAN DATE 07/07/2020
LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012
SHEET NUMBER 7 of 8

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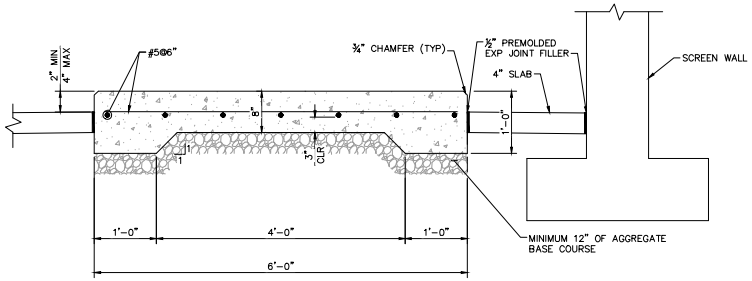
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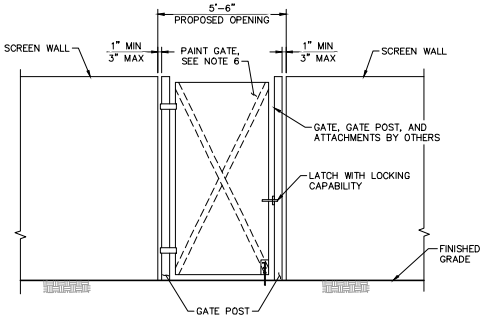
1 — **WALL SECTION**
SCALE:1/2"=1'-0"



2 — **TYPICAL WALL CONNECTION DETAIL**
SCALE:NOT TO SCALE



A — **GENERATOR CONCRETE PAD**
SCALE:1"=1"



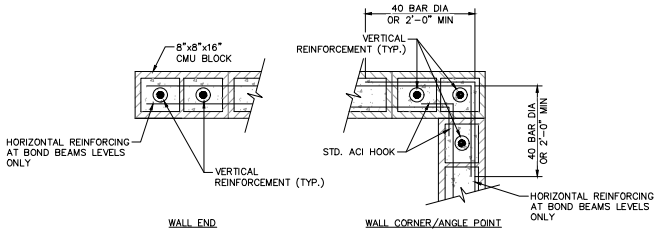
3 — **GATE DETAIL**
SCALE:3/8"=1'-0"

GATE NOTES:

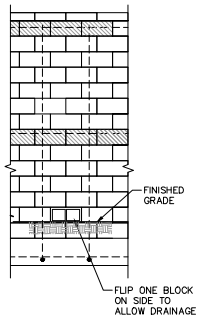
1. GATE DESIGN SHALL BE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION'S CODE REQUIREMENTS. THE GATE MANUFACTURER SHALL HAVE A LICENSED PROFESSIONAL ENGINEER SEAL AND SIGN THE GATE CALCULATIONS AND SHOP DRAWINGS.
2. LOAD COMBINATIONS USED IN GATE DESIGN SHALL BE IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
3. GATE DEFLECTION IN THE VERTICAL DIRECTION SHALL NOT EXCEED ⅛".
4. IF GATE FOUNDATIONS ARE NECESSARY, SIZES AND LOCATIONS SHALL BE DESIGNATED BY THE GATE MANUFACTURER AND APPROVED BY THE ENGINEER OF RECORD BEFORE CONSTRUCTION.
5. CENTER GATE DOOR IN PROPOSED OPENING.
6. SUBMIT PAINT COLOR TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. GATE SHALL BE GRAY OR BLACK.
7. SUBMIT GATE SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED CIVIL ENGINEER IN THE STATE OF ARIZONA.
8. HOT DIP GALVANIZE STEEL GATE ELEMENTS ACCORDING TO ASTM A123/A123M.

WALL NOTES:

1. PROVIDE STUCCO FINISH ON THE CMU ENCLOSURE WALL STUCCO THICKNESS AND FINISH SHALL MATCH EXISTING WALL ON PROJECT SITE.
2. WALL SHALL BE PAINTED PER PROJECT SPECIFICATIONS. COLOR TO MATCH THE COLOR OF EXISTING WALL PAINT SYSTEM AND COLOR SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.



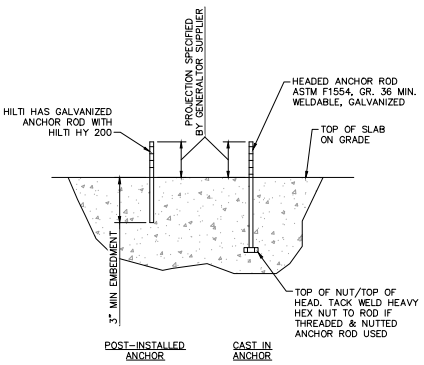
2 — **TYPICAL MASONRY DETAILS**
SCALE:NOT TO SCALE



NOTE:

IF THE LOW POINT OF ENCLOSURE SLAB IS NOT AT OPENING, PROVIDE DRAINAGE BLOCK AS SHOWN IN DETAIL.

4 — **WALL DRAIN DETAIL**
SCALE:3/8"=1'-0"



B — **TYP ANCHOR DETAIL**
SCALE:NOT TO SCALE

NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.

CITY HALL SERVER ROOM (530 MONROE AVENUE)

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REVISIONS:

1

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PLAN NAME

STRUCTURAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO.
60164
NATHAN MERRILL
Date Signed 07/07/20
ARIZONA, U.S.A.

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	8 of 8

SUBMITTAL: FINAL

COB PLAN TRACKING #

COB PERMIT #

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: City Hall Center Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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5.3 Generator Specifications.....45

1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - City Hall*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustin Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 208\,in = 17.33\,ft$	Length of generator - 300 kW Diesel Generator Specification - see appendix.
$W_{gen} := 58\,in = 4.83\,ft$	Width of generator - 300 kW Diesel Generator Specification - see appendix.
$H_{gen} := 108\,in = 9\,ft$	Height of Generator - 300 kW Diesel Generator Specification - see appendix.
$L_{enc} := 208\,in = 17.33\,ft$	Length of Enclosure - 300 kW Diesel Generator Specification - see appendix..
$W_{enc} := 57.6\,in = 4.8\,ft$	Width of Enclosure - 300 kW Diesel Generator Specification - see appendix.
$H_{enc} := 148\,in = 12.33\,ft$	Height of Enclosure - 300 kW Diesel Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45\,pcf$	Active Soil Pressure
$p_{ar} := 60\,pcf$	At-Rest Soil Pressure
$p_p := 100\,pcf$	Passive Soil Pressure
$w_{soil} := 120\,pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.72psf$ — Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.9kip$ — Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 17.979kip$ — 300 kW Diesel Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.23 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.84 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 4.29 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 1.15 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 9.68 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 19ft$ — Length of pad

$W_{pad} := 6ft$ — Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 171 \cdot kip$ — Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 38.73 \cdot kip$ — Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

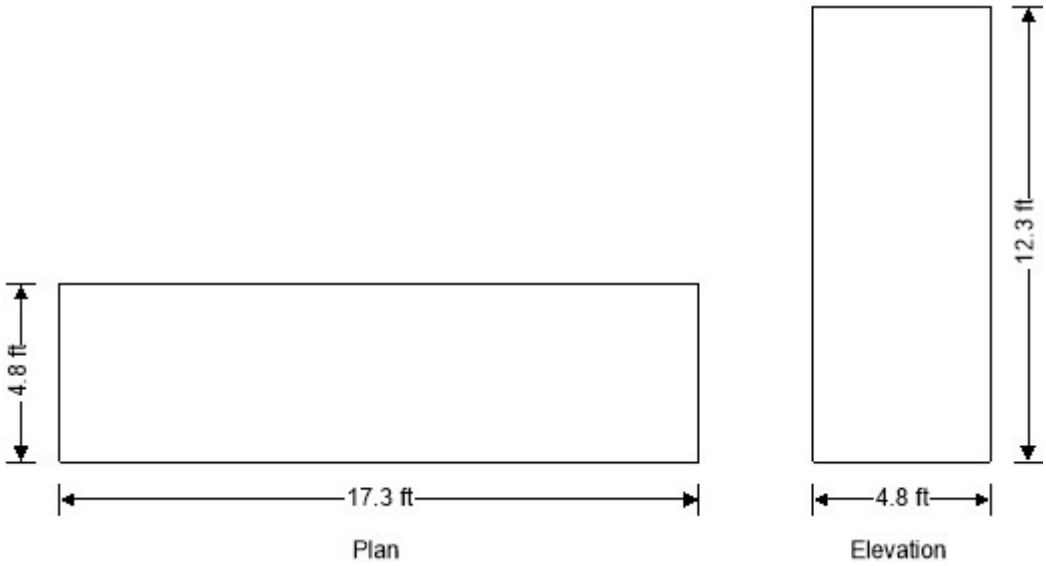
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **17.33** ft
Width of building	d = **4.80** ft
Height to eaves	H = **12.33** ft
Mean height	h = **12.33** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **873** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.97**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)

z (ft)	K_z (Table 26.10-1)	q_z (psf)
12.33	0.85	18.28

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.28** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	12.33	-1.30	18.28	-23.49	83.18	-1.95

Total vertical net force $F_{w,v}$ = **-1.95** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.28	9.14	213.68	1.95
B	12.33	-0.50	18.28	-11.06	213.68	-2.36
C	12.33	-0.70	18.28	-14.17	59.18	-0.84
D	12.33	-0.70	18.28	-14.17	59.18	-0.84

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **213.68** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **3.42** kips

Leeward net force $F_l = F_{w,wB}$ = **-2.4** kips

Windward net force $F_w = F_{w,wA}$ = **2.0** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **4.3** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	12.33	-0.18	18.28	0.49	83.18	0.04

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.28	15.72	213.68	3.36

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
B	12.33	-0.50	18.28	-4.48	213.68	-0.96
C	12.33	-0.70	18.28	-7.59	59.18	-0.45
D	12.33	-0.70	18.28	-7.59	59.18	-0.45

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H =$ **213.68** ft^2

Projected vertical area of roof $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **3.42** kips

Leeward net force $F_l = F_{w,wB} =$ **-1.0** kips

Windward net force $F_w = F_{w,wA} =$ **3.4** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **4.3** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	12.33	-1.07	18.28	-19.90	29.59	-0.59
B (-ve)	12.33	-0.82	18.28	-15.96	29.59	-0.47
C (-ve)	12.33	-0.58	18.28	-12.37	24.00	-0.30

Total vertical net force $F_{w,v} =$ **-1.36** kips

Total horizontal net force $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.28	9.14	59.18	0.54
B	12.33	-0.22	18.28	-6.70	59.18	-0.40
C	12.33	-0.70	18.28	-14.17	213.68	-3.03
D	12.33	-0.70	18.28	-14.17	213.68	-3.03

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H =$ **59.18** ft^2

Projected vertical area of roof $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.95** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.4** kips

Windward net force $F_w = F_{w,wA} =$ **0.5** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.9** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	12.33	-0.18	18.28	0.49	29.59	0.01
B (+ve)	12.33	-0.18	18.28	0.49	29.59	0.01
C (+ve)	12.33	-0.18	18.28	0.49	24.00	0.01

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.28	15.72	59.18	0.93
B	12.33	-0.22	18.28	-0.12	59.18	-0.01
C	12.33	-0.70	18.28	-7.59	213.68	-1.62
D	12.33	-0.70	18.28	-7.59	213.68	-1.62

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **59.18** ft^2

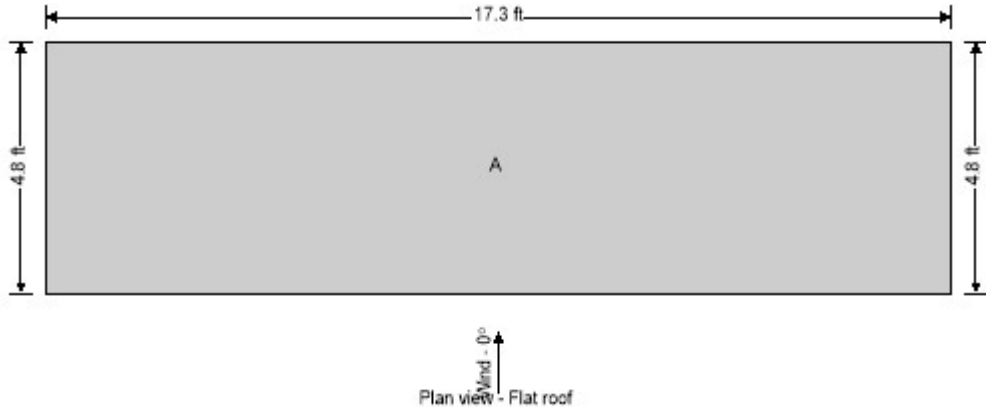
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

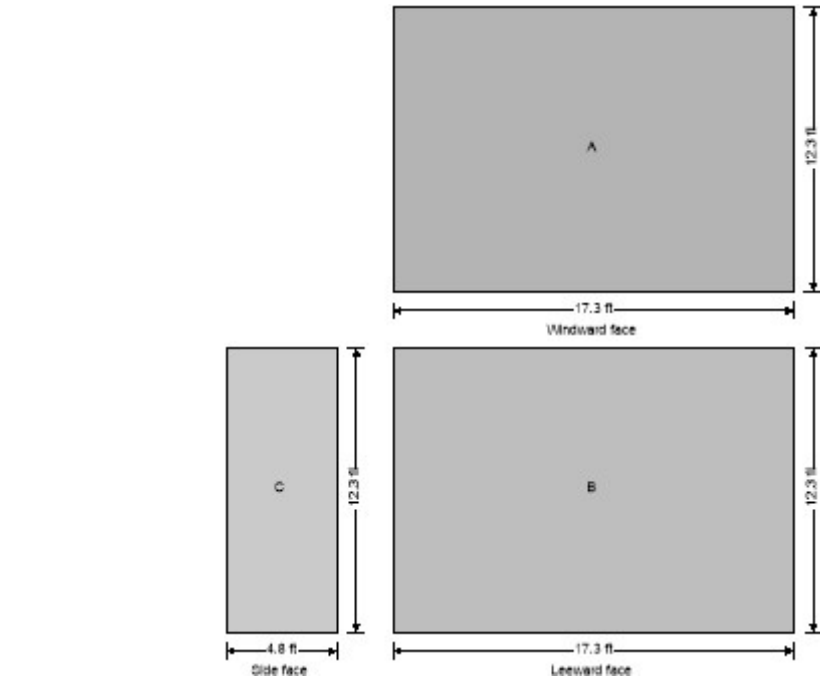
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.95** kips

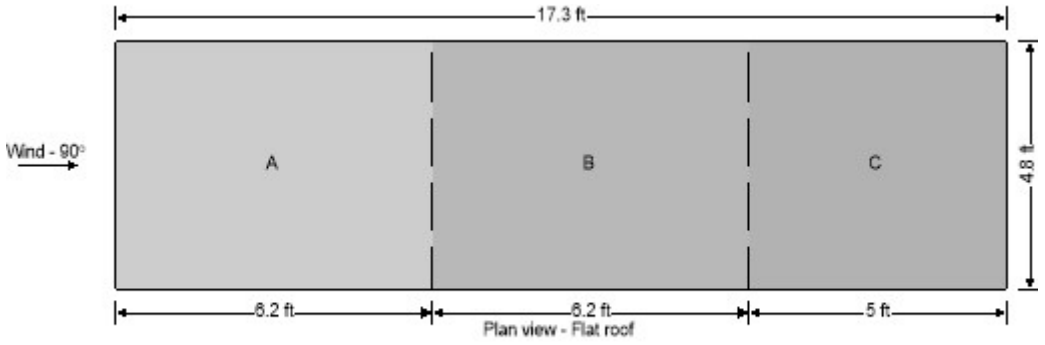
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

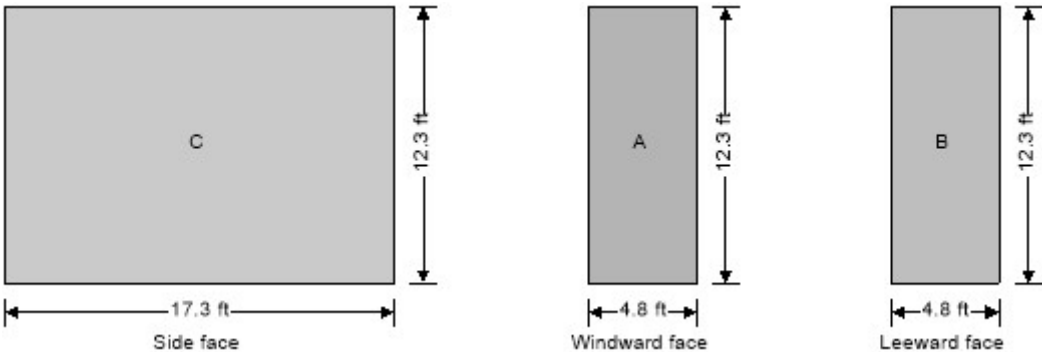
Windward net force $F_w = F_{w,wA}$ = **0.9** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.9** kips




A
12.3 ft
17.3 ft
Windward face
C
12.3 ft
B
12.3 ft
4.8 ft
Side face
17.3 ft
Leeward face


17.3 ft
Wind - 90°
A
B
C
4.8 ft
6.2 ft
6.2 ft
5 ft
Plan view - Flat roof


C
12.3 ft
17.3 ft
Side face
A
12.3 ft
4.8 ft
Windward face
B
12.3 ft
4.8 ft
Leeward face

1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.167**
at 1 sec period	S_1 = **0.077**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.267**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.185**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.178**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.123**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **12.33** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.209** sec
Building fundamental period (Sect 12.8.2)	T = T_a = **0.209** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0509**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.1685**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient C_s = **0.0509**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure W = **18.0** kips

Seismic response coefficient C_s = **0.0509**

Seismic base shear (Eq 12.8-1) $V = C_s \times W$ = **0.9** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - City Hall

CODE REFERENCES

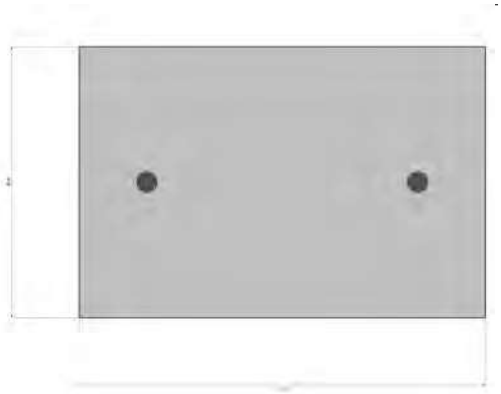
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-16

Material Properties

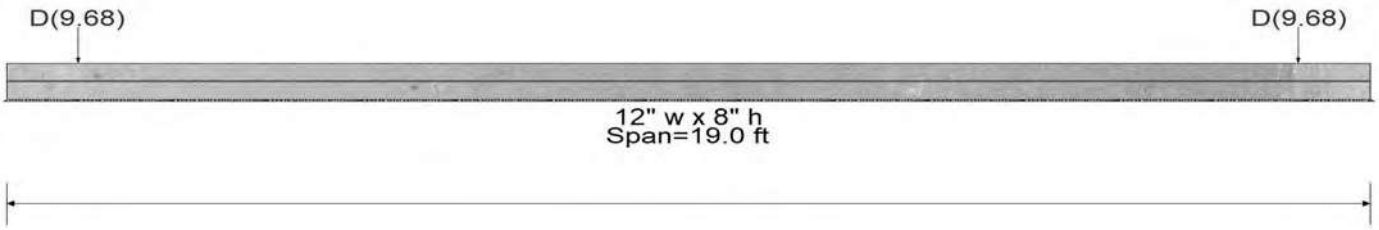
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1 =		0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination ASCE 7-16

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 4
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
2-#5 at 4.0 in from Top, from 0.0 to 19.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 9.680 k @ 1.0 ft
Point Load : D = 9.680 k @ 18.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.758 : 1	Maximum Deflection		
Section used for this span	Typical Section	Max Downward L+Lr+S Deflection	0.000 in	
Mu : Applied	-7.174 k-ft	Max Upward L+Lr+S Deflection	0.000 in	
Mn * Phi : Allowable	9.464 k-ft	Max Downward Total Deflection	0.328 in	
Load Combination	D Only	Max Upward Total Deflection	-0.124 in	
Location of maximum on span	4.694 ft			
Span # where maximum occurs	Span # 1			

Bearing pressures checked in Mathcad for full slab area

Maximum Soil Pressure = **4.723** ksf at 19.00 ft LdComb: D Only
Allowable Soil Pressure = **1.50** ksf **EXCEEDED!**

Shear Stirrup Requirements

Between 0.00 to 0.89 ft, PhiVc/2 < Vu <= PhiVc, Req'd Vs = Not Reqd 11.5.6.1, use stirrups spaced at 0.000 in
Between 1.12 to 1.34 ft, Vu > PhiVc, Req'd Vs = 0.1536, use stirrups spaced at 2.000 in
Between 1.56 to 17.21 ft, PhiVc/2 < Vu <= PhiVc, Req'd Vs = Not Reqd 11.5.6.1, use stirrups spaced at 0.000 in
Between 17.44 to 17.88 ft, Vu > PhiVc, Req'd Vs = 1.412, use stirrups spaced at 2.000 in
Between 18.11 to 18.55 ft, Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	18.106	1.40	9.46	0.15

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - City Hall

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
D Only					
Span # 1	1	18.106	1.40	9.46	0.15

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.3280	19.000	Span 1	-0.1244	9.500

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	0.00	4.00	0.41	0.41	0.00	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.22	4.00	1.20	1.20	0.09	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.45	4.00	1.96	1.96	0.36	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.67	4.00	2.68	2.68	0.80	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	0.89	4.00	3.36	3.36	1.40	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.12	4.00	-5.67	5.67	1.01	1.00	4.91	Vu > PhiVc	0.7647	0.00	2.00
D Only	1	1.34	4.00	-5.06	5.06	0.26	1.00	4.91	Vu > PhiVc	0.1536	0.00	2.00
D Only	1	1.56	4.00	-4.49	4.49	1.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.79	4.00	-3.95	3.95	2.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.01	4.00	-3.44	3.44	3.28	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.24	4.00	-2.98	2.98	4.05	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.46	4.00	-2.54	2.54	4.71	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.68	4.00	-2.14	2.14	5.28	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.91	4.00	-1.77	1.77	5.76	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.13	4.00	-1.43	1.43	6.15	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.35	4.00	-1.13	1.13	6.47	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.58	4.00	-0.85	0.85	6.73	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.80	4.00	-0.60	0.60	6.92	0.69	4.55	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.02	4.00	-0.38	0.38	7.05	0.43	4.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.25	4.00	-0.18	0.18	7.13	0.20	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.47	4.00	-0.00	0.00	7.17	0.01	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.69	4.00	0.14	0.14	7.17	0.16	3.93	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.92	4.00	0.27	0.27	7.14	0.31	4.10	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.14	4.00	0.38	0.38	7.08	0.43	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.36	4.00	0.47	0.47	7.00	0.53	4.37	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.59	4.00	0.54	0.54	6.89	0.62	4.47	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.81	4.00	0.59	0.59	6.77	0.70	4.56	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.04	4.00	0.63	0.63	6.64	0.75	4.62	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.26	4.00	0.65	0.65	6.50	0.80	4.67	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.48	4.00	0.66	0.66	6.35	0.83	4.71	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.71	4.00	0.65	0.65	6.21	0.84	4.72	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.93	4.00	0.64	0.64	6.06	0.84	4.72	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.15	4.00	0.61	0.61	5.92	0.83	4.71	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.38	4.00	0.58	0.58	5.78	0.80	4.67	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.60	4.00	0.53	0.53	5.65	0.75	4.62	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.82	4.00	0.48	0.48	5.54	0.70	4.56	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.05	4.00	0.42	0.42	5.43	0.63	4.47	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.27	4.00	0.36	0.36	5.33	0.54	4.38	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.49	4.00	0.29	0.29	5.25	0.45	4.27	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.72	4.00	0.22	0.22	5.19	0.35	4.15	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.94	4.00	0.15	0.15	5.14	0.24	4.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.16	4.00	0.08	0.08	5.10	0.12	3.88	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.39	4.00	0.00	0.00	5.09	0.00	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.61	4.00	-0.08	0.08	5.09	0.12	3.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.84	4.00	-0.15	0.15	5.10	0.24	4.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.06	4.00	-0.22	0.22	5.14	0.35	4.15	Vu < PhiVc/2	Not Reqd	0.00	0

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - City Hall

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu Actual	(k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	10.28	4.00	-0.29	0.29	5.19	0.45	4.28	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.51	4.00	-0.36	0.36	5.25	0.55	4.39	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.73	4.00	-0.42	0.42	5.33	0.64	4.49	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.95	4.00	-0.48	0.48	5.43	0.71	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.18	4.00	-0.53	0.53	5.54	0.77	4.64	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.40	4.00	-0.58	0.58	5.65	0.81	4.69	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.62	4.00	-0.61	0.61	5.78	0.85	4.73	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.85	4.00	-0.64	0.64	5.92	0.86	4.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.07	4.00	-0.65	0.65	6.06	0.86	4.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.29	4.00	-0.66	0.66	6.21	0.85	4.73	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.52	4.00	-0.65	0.65	6.35	0.82	4.69	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.74	4.00	-0.63	0.63	6.50	0.77	4.64	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.96	4.00	-0.59	0.59	6.64	0.71	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.19	4.00	-0.54	0.54	6.77	0.63	4.48	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.41	4.00	-0.47	0.47	6.89	0.54	4.38	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.64	4.00	-0.38	0.38	7.00	0.43	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.86	4.00	-0.27	0.27	7.08	0.31	4.10	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.08	4.00	-0.14	0.14	7.14	0.16	3.94	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.31	4.00	0.00	0.00	7.17	0.01	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.53	4.00	0.18	0.18	7.17	0.20	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.75	4.00	0.38	0.38	7.13	0.42	4.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.98	4.00	0.60	0.60	7.05	0.68	4.54	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.20	4.00	0.85	0.85	6.92	0.98	4.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.42	4.00	1.13	1.13	6.73	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.65	4.00	1.43	1.43	6.47	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.87	4.00	1.77	1.77	6.15	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.09	4.00	2.14	2.14	5.76	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.32	4.00	2.54	2.54	5.28	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.54	4.00	2.98	2.98	4.71	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.76	4.00	3.44	3.44	4.05	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.99	4.00	3.95	3.95	3.28	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	17.21	4.00	4.49	4.49	2.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	17.44	4.00	5.06	5.06	1.39	1.00	4.91	Vu > PhiVc	0.1536	0.00	2.00
D Only	1	17.66	4.00	5.67	5.67	0.26	1.00	4.91	Vu > PhiVc	0.7647	0.00	2.00
D Only	1	17.88	4.00	6.32	6.32	1.01	1.00	4.91	Vu > PhiVc	1.412	0.00	2.00
D Only	1	18.11	4.00	-2.68	2.68	1.40	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	18.33	4.00	-1.96	1.96	0.80	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	18.55	4.00	-1.20	1.20	0.36	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	18.78	4.00	-0.41	0.41	0.09	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Hall	Date:	5/7/2020
Fastening point:			

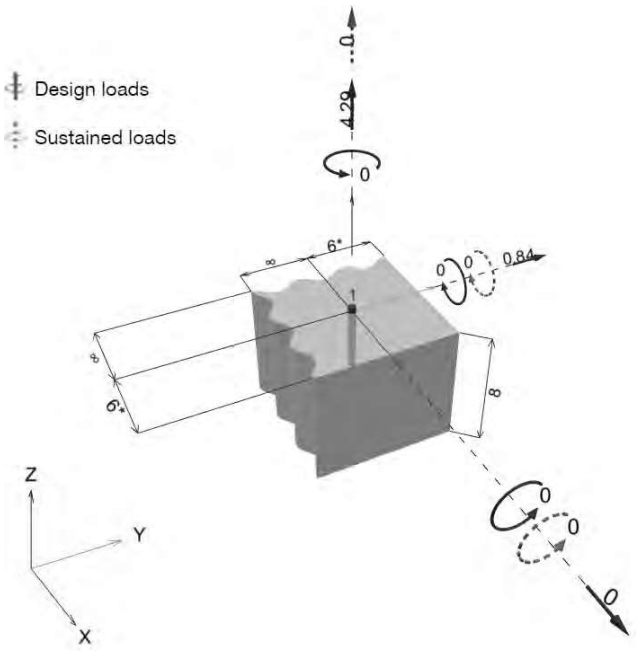
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 4.134 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	3/1/2020 | 3/1/2022
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 4.290; V_x = 0.000; V_y = 0.840; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	100

2 Load case/Resulting anchor forces

Anchor reactions [kip]
Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	4.290	0.840	0.000	0.840

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	4.290	7.800	56	OK
Bond Strength**	4.290	4.636	93	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	4.290	4.874	89	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
$\phi\ N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	$\phi\ N_{sa}$ [kip]	N_{ua} [kip]
12.000	0.650	7.800	4.290

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	4.134	6.000	1.000	1,100

c_{ac} [in.]	λ_a
8.162	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	7.132

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
7.132	0.650	4.636	4.290

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.134	6.000	1.000	8.162	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
148.64	153.36	0.991	1.000	7.809

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
7.499	0.650	4.874	4.290

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.840	4.320	20	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Bond Strength controls)**	0.840	9.984	9	OK
Concrete edge failure in direction y+**	0.840	2.989	29	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.840

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

4.2 Pryout Strength (Bond Strength controls)

$V_{cp} = k_{cp}\left[\left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}\right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

k_{cp}	$\alpha_{overhead}$	$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\tau_{k,c}$ [psi]
2	1.000	1,589	0.500	4.134	6.000	1,100

c_{ac} [in.]	λ_a
8.162	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	7.132

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
14.264	0.700	9.984	0.840

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Company:	Kimley-Horn and Associates, Inc	Page:	8
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Hall	Date:	5/7/2020
Fastening point:			

4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	4.000

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	6.039

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
4.270	0.700	2.989	0.840

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.925	0.281	5/3	100	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

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Design:	City Hall	Date:	5/7/2020
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Hall	Date:	5/7/2020
Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 4.134 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 5.384 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Fastening point:			

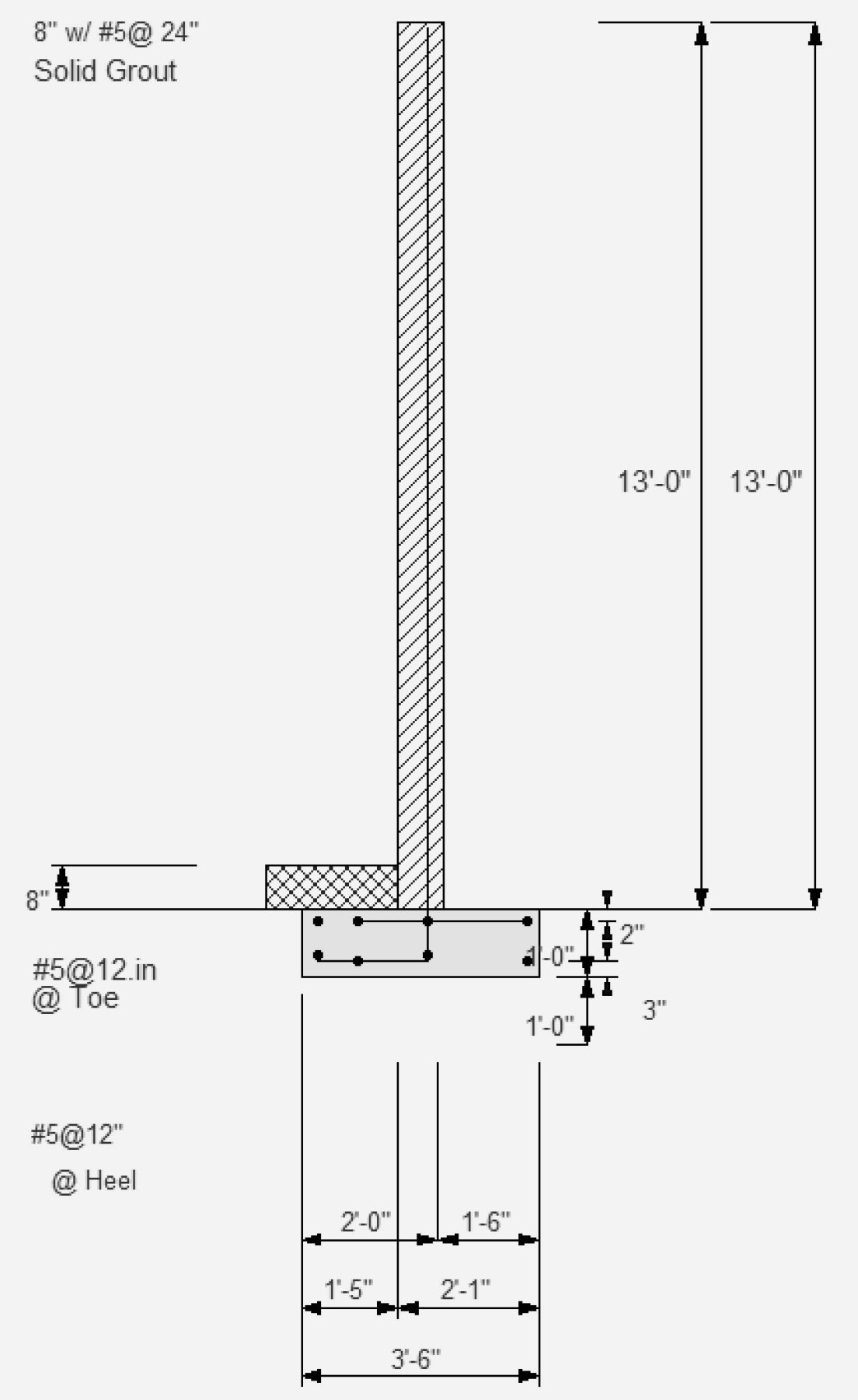
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4. SCREEN WALL DESIGN

DESIGN SUMMARY



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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Criteria



Retained Height	=	0.00 ft
Wall height above soil	=	13.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	8.00 in
Water height over heel	=	0.0 ft

Load Factors

Building Code	IBC 2018,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Soil Data and Lateral Earth Pressure

Allow Soil Bearing	=	1,500.0 psf	Soil Density, Heel	=	100.00 pcf
Equivalent Fluid Pressure Method			Soil Density, Toe	=	0.00 pcf
Active Heel Pressure	=	45.0 psf/ft	Footing||Soil Friction	=	0.250
	=		Soil height to ignore for passive pressure	=	12.00 in
Passive Pressure	=	100.0 psf/ft			

Surcharge Loads

Surcharge Over Heel	=	0.0 psf	Surcharge Over Toe	=	0.0
Used To Resist Sliding & Overturning			Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs	Axial Load Eccentricity	=	0.0 in
Axial Live Load	=	0.0 lbs			

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)

Wind on Exposed Stem

Wind on Exposed Stem (Service Level)	=	14.4 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs	Footing Type		Line Load
Footing Width	=	0.00 ft	Base Above/Below Soil		
Eccentricity	=	0.00 in	at Back of Wall	=	0.0 ft
Wall to Ftg CL Dist	=	0.00 ft	Poisson's Ratio	=	0.300

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Wall Design Summary

Stability Ratios

Overturning	=	2.01 OK
Sliding	=	3.39 OK

Soil Bearing

Total Bearing Load	=	1,617 lbs
...resultant ecc.	=	10.48 in
Soil Pressure @ Toe	=	1,229 psf OK
Soil Pressure @ Heel	=	0 psf OK
Allowable	=	1,500 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	1,720 psf
ACI Factored @ Heel	=	0 psf
Footing Shear @ Toe	=	11.5 psi OK
Footing Shear @ Heel	=	1.3 psi OK
Allowable	=	82.2 psi

Sliding

Resisting Forces

Vertical Forces	Force
Soil Over Heel (above water table, if any)	0.0 lbs
Soil Over Heel (below water table, if any)	0.0
Water Over Heel	0.0
Buoyant Force	0.0
Sloped Soil Over Heel	0.0
Surcharge Over Heel	0.0
Adjacent Footing Load	0.0
Axial Dead Load on Stem	0.0
Axial Live Load on Stem *	Omit
Soil Over Toe	0.0
Surcharge Over Toe	0.0
Stem Weight(s)	1,092.0
Earth @ Stem Transitions	0.0
Footing Weight	525.2
Key Weight	0.0
Vert. Component **	0.0
Total Vertical Loads	1,617.2 lbs

Sliding Forces

Lateral Forces	Force
Heel Active Pressure (above water table, if any)	22.5 lbs
Heel Active Pressure (below water table, if any)	0.0
Hydrostatic Force	0.0
* Heel Active Pressure	22.5
Surcharge over Heel	0.0
Adjacent Footing	0.0
Surcharge Over Toe	0.0
Load @ Stem Above Soil	187.2
Added Lateral Load	0.0
Seismic Load	0.0
Seismic-Self-weight	0.0
Lateral on Key	0.0
Totals =	209.7 lbs

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning or sliding resistance, but is included for soil pressure calculations.

Sliding Calcs

Lateral Sliding Force	=		209.7 lbs
less 100% Passive Force	=	-	305.6 lbs
less 100% Friction Force	=	-	404.3 lbs
Added Force Req'd	=		0.0 lbs OK
....for 1.5 Stability	=		0.0 lbs OK

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

Overturning

Resisting Moments

Resisting Moments	Force		Distance		Moment	
Soil Over Heel (above water table, if any)	0.0	lbs	2.79	ft	0.0	ft-#
Soil Over Heel (below water table, if any)	0.0					
Water Table	0.0					
Soil Over Heel	0.0		2.79		0.0	
Sloped Soil Over Heel	0.0					
Surcharge Over Heel	0.0					
Adjacent Footing Load	0.0					
Axial Dead Load on Stem	0.0					
Axial Live Load on Stem *	0.0					
Soil Over Toe	0.0		0.71			
Surcharge Over Toe	0.0					
Stem Weight(s)	1,092.0		1.75		1,911.4	
Earth @ Stem Transitions	0.0					
Footing Weight	525.2		1.75		919.3	
Key Weight	0.0		2.00			
Vert. Component	0.0					
Total Vertical Loads	1,617.2	lbs				
Resisting Moment					**2,830.6**	ft-#
Eccentricity					**10.5**	in

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

Overturning

Overturning Moments

Overturning Moments	Force		Distance		Moment	
Heel Active Pressure (above water table, if any)	22.5	lbs	0.33	ft	7.5	ft-#
Heel Active Pressure (below water table, if any)	0.0					
Hydrostatic Force	0.0					
Buoyant Force	0.0					
Surcharge over Heel	0.0					
Adjacent Footing	0.0					
Surcharge Over Toe	0.0					
Load @ Stem Above Soil	187.2		7.50		1,404.0	
Added Lateral Load	0.0					
Seismic Load	0.0					
Seismic-Self-weight	0.0					
Totals =	209.7	lbs				
Overturning Moment					1,411.5	ft-#

Stem Design Summary

			Bottom
			Stem OK
Design Height Above Ftg	ft	=	0.00
Wall Material Above "Ht"		=	Masonry
Design Method		=	LRFD
Thickness		=	8.00
Rebar Size		=	# 5
Rebar Spacing		=	24.00
Rebar Placed at		=	Edge
Design Data			
fb/FB + fa/Fa		=	**0.356**
Total Force @ Section			
Service Level	lbs	=	
Strength Level	lbs	=	187.2
Moment....Actual			
Service Level	ft-#	=	
Strength Level	ft-#	=	1,216.8
Moment.....Allowable		=	3,411.6
Shear.....Actual			
Service Level	psi	=	
Strength Level	psi	=	2.0
Shear.....Allowable	psi	=	69.7
Anet	in2	=	91.50
Rebar Depth 'd'	in	=	5.25
Masonry Data			
f'm	psi	=	1,500
Fy	psi	=	60,000
Solid Grouting		=	Yes
Modular Ratio 'n'		=	21.48
Wall Weight	psf	=	84.0
Equiv. Solid Thick.	in	=	7.60
Masonry Block Type		=	Normal Weight
Masonry Design Method		=	LRFD
Concrete Data			
f'c	psi	=	
Fy	psi	=	

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Footing Data

Toe Width	=	1.42 ft	f'c	=	3,000	psi
Heel Width	=	2.08	Fy	=	60,000	psi
Total Footing Width	=	3.50 ft	Footing Concrete Density	=	150.00	pcf
Footing Thickness	=	12.00 in	Min. As %	=	0.0018	
Key Width	=	0.00 in	Rebar Cover @ Top	=	2.00	in
Key Depth	=	12.00 in	@ Bottom	=	3.00	in
Key Distance from Toe	=	2.00 ft				

Footing Design Results

		Toe	Heel	
Factored Pressure	=	1,720	0	psf
Mu' : Upward	=	17,003	216	ft-#
Mu' : Downward	=	3,869	2,680	ft-#
Mu: Design	=	327	-426	ft-#
Actual 1-Way Shear	=	11.46	1.31	psi
Allow 1-Way Shear	=	43.82	43.82	psi

Toe Reinforcing	=	# 5 @ 12.00 in
Heel Reinforcing	=	# 5 @ 12.00 in
Key Reinforcing	=	None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area	0.91	in2
Min footing T&S reinf Area per fc	0.26	in2 /ft

If one layer of horizontal bars:	If two layers of horizontal bars:
#4@ 9.26 in	#4@ 18.52 in
#5@ 14.35 in	#5@ 28.70 in
#6@ 20.37 in	#6@ 40.74 in

Footing Torsion, Tu	=	0.00 ft-lbs
Footing Allow. Torsion, phi Tu	=	0.00 ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus	250.0	pci
Horizontal Defl @ Top of Wall (approximate only)	0.127	in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

5. APPENDIX

5.1 WIND LOADS

Hazards by Location

Search Information

Address: 530 Monroe Ave, Buckeye, AZ 85326, USA

Coordinates: 33.3709624, -112.5839678

Elevation: 873 ft

Timestamp: 2020-03-10T16:37:53.323Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	70 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Emergency Backup Generators Citywide
Contract No. 20-1036
LightDay Solar, Inc.

5.2 SEISMIC LOADS

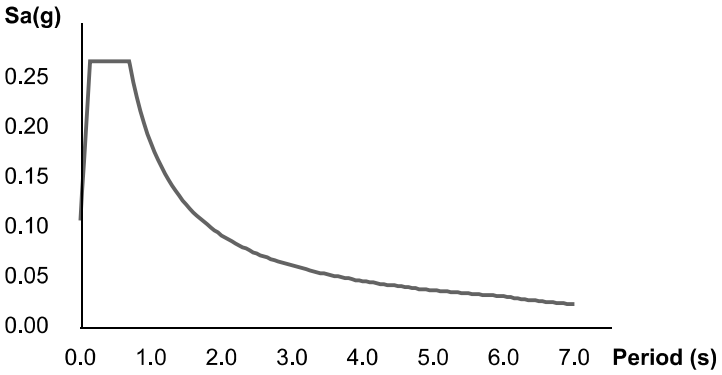
Hazards by Location

Search Information

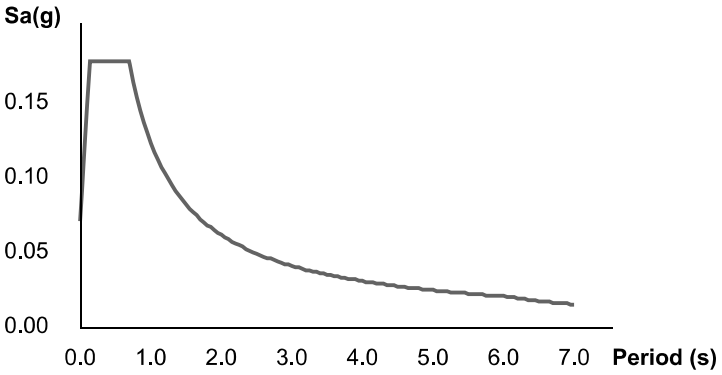
Address:	530 Monroe Ave, Buckeye, AZ 85326, USA
Coordinates:	33.3709624, -112.5839678
Elevation:	873 ft
Timestamp:	2020-03-17T14:47:49.703Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.167	MCE_R ground motion (period=0.2s)
S_1	0.077	MCE_R ground motion (period=1.0s)
S_{MS}	0.267	Site-modified spectral acceleration value
S_{M1}	0.185	Site-modified spectral acceleration value
S_{DS}	0.178	Numeric seismic design value at 0.2s SA
S_{D1}	0.123	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.937	Coefficient of risk (0.2s)
CR_1	0.944	Coefficient of risk (1.0s)
PGA	0.073	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.117	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.167	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.178	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.077	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.082	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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5.3 GENERATOR SPECIFICATIONS

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating

300 kW, 375 kVA, 60 Hz

Prime Power Rating*

270 kW, 338 kVA, 60 Hz

*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories

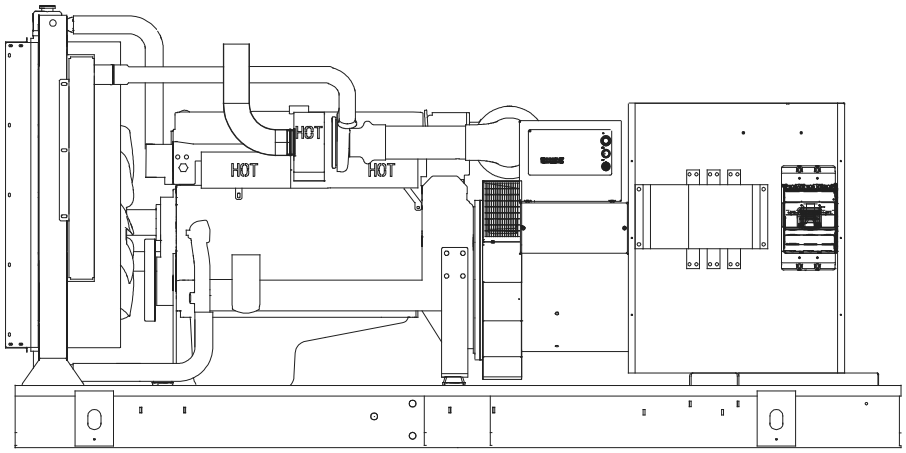


Image used for illustration purposes only

Codes and Standards

Generac products are designed to the following standards:

UL2200, UL508, UL142, UL489

NFPA 37, 70, 99, 110

NEC700, 701, 702, 708

ISO 3046, 7637, 8528, 9001

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

1 of 6

SD300 | 10.3L | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (Open Set Only)

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Permanent Magnet Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Only)

ENCLOSURE (if selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- Rhino Coat™ - Textured Polyester Powder Coat Paint

TANKS (if selected)

- UL 142
- Double Wall
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested (2 psi)
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- Rhino Coat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- 3 Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms & Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms & Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Oil Make-Up System
- ○ Oil Heater
- ○ Critical Exhaust Silencer

FUEL SYSTEM

- ○ Flexible Fuel Lines
- ○ Primary Fuel Filter

ELECTRICAL SYSTEM

- ○ 10A UL Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

GENERATOR SET

- ○ GenLink® Communications Software (English Only)
- ○ Extended Factory Testing
- ○ IBC Seismic Certification
- ○ 8 Position Load Center
- ○ 2 Year Extended Warranty
- ○ 5 Year Warranty
- ○ 5 Year Extended Warranty
- ○ 7 Year Extended Warranty
- ○ 10 Year Extended Warranty

ENCLOSURE

- ○ Standard Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating*
- ○ AC/DC Enclosure Lighting Kit
- ○ 12 VDC Enclosure Light Kit
- ○ 120 VAC Enclosure Light Kit

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Sender with Indication Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ Remote Communication - Modem
- ○ Remote Communication - Ethernet
- ○ 10A Run Relay
- ○ Ground Fault Indication and Protection Functions

TANKS (SIZE ON LAST PAGE)

- ○ Electric Fuel Level
- ○ Mechanical Fuel Level
- ○ 8” Fill Extension
- ○ 13” Fill Extension
- ○ 19” Fill Extension

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

- ○ Spare Inputs (x4) / Outputs (x4)
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing

ENCLOSURE

- ○ Motorized Dampers

TANKS

- ○ Overfill Protection Valve
- ○ UL2085 Tank
- ○ ULC S-601 Tank
- ○ Special Fuel Tanks
- ○ Vent Extensions

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition.

*Consult factory for availability

SD300 | 10.3L | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu. in)	10.3 (628.54)
Bore - mm (in)	125 (4.92)
Stroke - mm (in)	140 (5.51)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	4-Valve
Piston Type	Aluminum
Crankshaft Type	Dropped Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (qts)	30 (31.68)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	2250
Fan Diameter - mm (in)	762 (30.0)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	Common Rail
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	12.7 (0.5) NPT
Fuel Return Line - mm (in.)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520 mm Generac
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Permanent Magnet Excitation
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

4 of 6

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

	Standby		Prime	
Three-Phase 120/208 VAC @0.8pf	300 kW	Amps: 1041	270 kW	Amps: 937
Three-Phase 120/240 VAC @0.8pf	300 kW	Amps: 902	270 kW	Amps: 812
Three-Phase 277/480 VAC @0.8pf	300 kW	Amps: 451	270 kW	Amps: 406
Three-Phase 346/600 VAC @0.8pf	300 kW	Amps: 361	270 kW	Amps: 325

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

480 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	350	383	575	767	958	1150	1342
Upsize 1	400	387	581	775	968	1162	1356
Upsize 2	500	457	686	914	1143	1371	1600

208/240 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	350	280	410	535	640	770	900
Upsize 1	400	210	350	500	680	875	1100
Upsize 2	450	345	570	835	1100	1460	1710

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gal/hr (l/hr)
31 (117)

Diesel - gal/hr (l/hr)

Percent Load	Standby	Prime
25%	7.6 (28.7)	6.9 (26.1)
50%	12.6 (47.7)	11.6 (43.9)
75%	17.4 (65.9)	15.8 (59.8)
100%	22.1 (83.7)	19.9 (75.3)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby	Prime
Coolant Flow per Minute	gal/min (l/min)	95 (360)	95 (360)
Coolant System Capacity	gal (l)	16.6 (63)	16.6 (63)
Heat Rejection to Coolant	BTU/hr	814,783	733,673
Inlet Air	cfm (m^3/hr)	14,505 (411)	14,505 (411)
Maximum Radiator Backpressure	in H_2O	0.5	0.5

COMBUSTION AIR REQUIREMENTS

	Standby	Prime
Flow at Rated Power cfm (m^3/min)	850 (24.07)	765 (21.67)

ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	480	432
Piston Speed	ft/min	1654	1654
BMEP	psi	336	302

EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	cfm (m^3/min)	2240 (63.4)	2016 (57.1)
Max. Backpressure (Post Silencer)	in Hg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1020 (549)	918 (492)
Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)	101.6 (4)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

SPEC SHEET

5 of 6

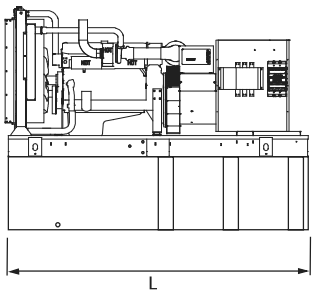
SD300 | 10.3L | 300 kW

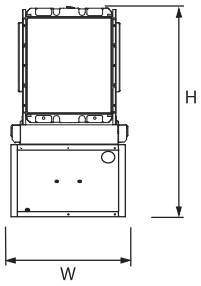
INDUSTRIAL DIESEL GENERATOR SET

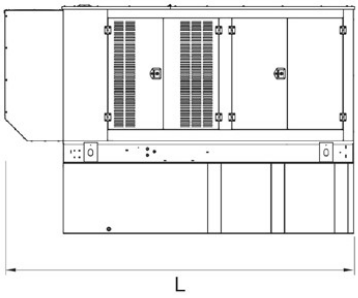
EPA Certified Stationary Emergency

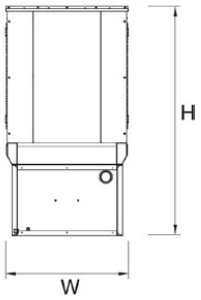
GENERAC | INDUSTRIAL POWER

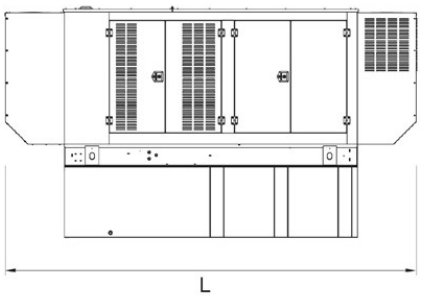
DIMENSIONS AND WEIGHTS*

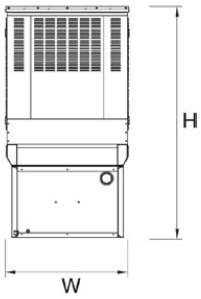


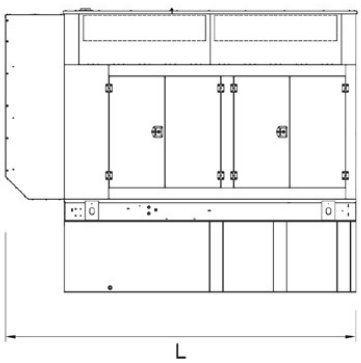


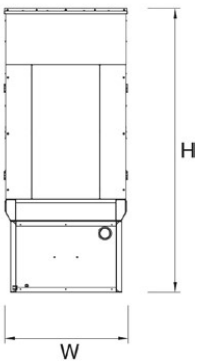












OPEN SET (Includes Exhaust Flex)

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)
No Tank	-	136 (3454) x 58 (1473) x 68 (1727)	5816 (2638)
8	183 (693)	136 (3454) x 58 (1473) x 81 (2057)	6764 (3068)
20	438 (1659)	136 (3454) x 58 (1473) x 93 (2362)	7076 (3210)
31	693 (2624)	136 (3454) x 58 (1473) x 105 (2667)	7379 (3347)
43	946 (3518)	208 (5283) x 58 (1473) x 108 (2743)	8841 (4010)
60	1325 (5015)	278 (7061) x 58 (1473) x 108 (2743)	9856 (4471)

STANDARD ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	175 (4445) x 58 (1473) x 78 (1981)		
8	183 (693)	175 (4445) x 58 (1473) x 91 (2311)		
20	438 (1659)	175 (4445) x 58 (1473) x 103 (2616)	1295 (588)	501 (227)
31	693 (2624)	175 (4445) x 58 (1473) x 115 (2921)		
43	946 (3518)	208 (5283) x 58 (1473) x 118 (2997)		
60	1325 (5015)	278 (7061) x 58 (1473) x 118 (2997)		

LEVEL 1 ACOUSTIC ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	200 (5080) x 58 (1473) x 78 (1981)		
8	183 (693)	200 (5080) x 58 (1473) x 91 (2311)		
20	438 (1659)	200 (5080) x 58 (1473) x 103 (2616)	1470 (667)	935 (425)
31	693 (2624)	200 (5080) x 58 (1473) x 115 (2921)		
43	946 (3518)	234 (5944) x 58 (1473) x 118 (2997)		
60	1325 (5015)	304 (7722) x 58 (1473) x 118 (2997)		

LEVEL 2 ACOUSTIC ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	180.6 (4588) x 57.6 (1463) x 107.2 (2724)		
8	183 (693)	180.6 (4588) x 57.6 (1463) x 120 (3048)		
20	438 (1659)	180.6 (4588) x 57.6 (1463) x 132 (3353)	2515 (1141)	1131 (514)
31	693 (2624)	180.6 (4588) x 57.6 (1463) x 144 (3658)		
43	946 (3518)	208 (5283) x 57.6 (1463) x 148(3759)		
60	1325 (5015)	278 (7061) x 57.6 (1463) x 146 (3708)		

(8841 lb set and tank) + (Diesel weight 7 lbs/gallon x 946 gallons) + (2515 lbs enclosure weight) = **17979 LBs total**

* All measurements are approximate and for estimation purposes only.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

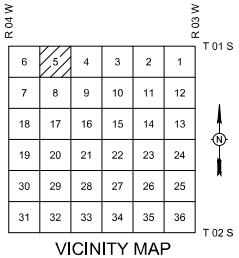
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Emergency Backup Generators | Citywide
Contract No. 2021036
LightDay Solar, Inc.

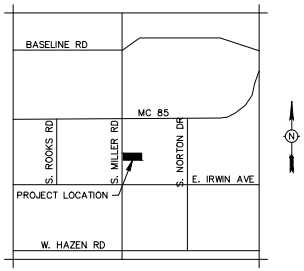
COMMUNITY CENTER STANDBY GENERATOR

201 E. CENTRE AVE.
BUCKEYE, ARIZONA 85326

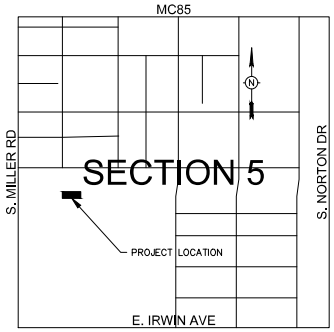
A PORTION OF THE SWSW OF SECTION 5, TOWNSHIP T01S, RANGE R03W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL DETAILS
6	STRUCTURAL NOTES AND PLAN
7	STRUCTURAL DETAILS
8	MECHANICAL NOTES
9	MECHANICAL SITE PLAN

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT DATE

BY: _____
PRIVATE WATER DATE

BY: _____
PRIVATE SEWER DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT DATE

(OTHER SIGNATURE LINES AS REQUIRED)

AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE "AS - BUILT" INFORMATION SHOWN HEREON WAS OBTAINED UNDER MY DIRECT SUPERVISION AND IS CORRECT AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
ARIZONA REGISTERED LAND SURVEYOR DATE

ARIZONA REGISTRATION NUMBER

TELEPHONE NUMBER

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT: EG
DRAFTED: JN
CHECKED: MAC
FIELD SURVEY
DRAFTED
CHECKED
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: COMMUNITY CENTER STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL: FINAL

AS-BUILT SEAL

DESIGN SEAL

Expires 12/31/21

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 1 of 9

COB PLAN TRACKING #

COB PERMIT #

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL GENERAL NOTES

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

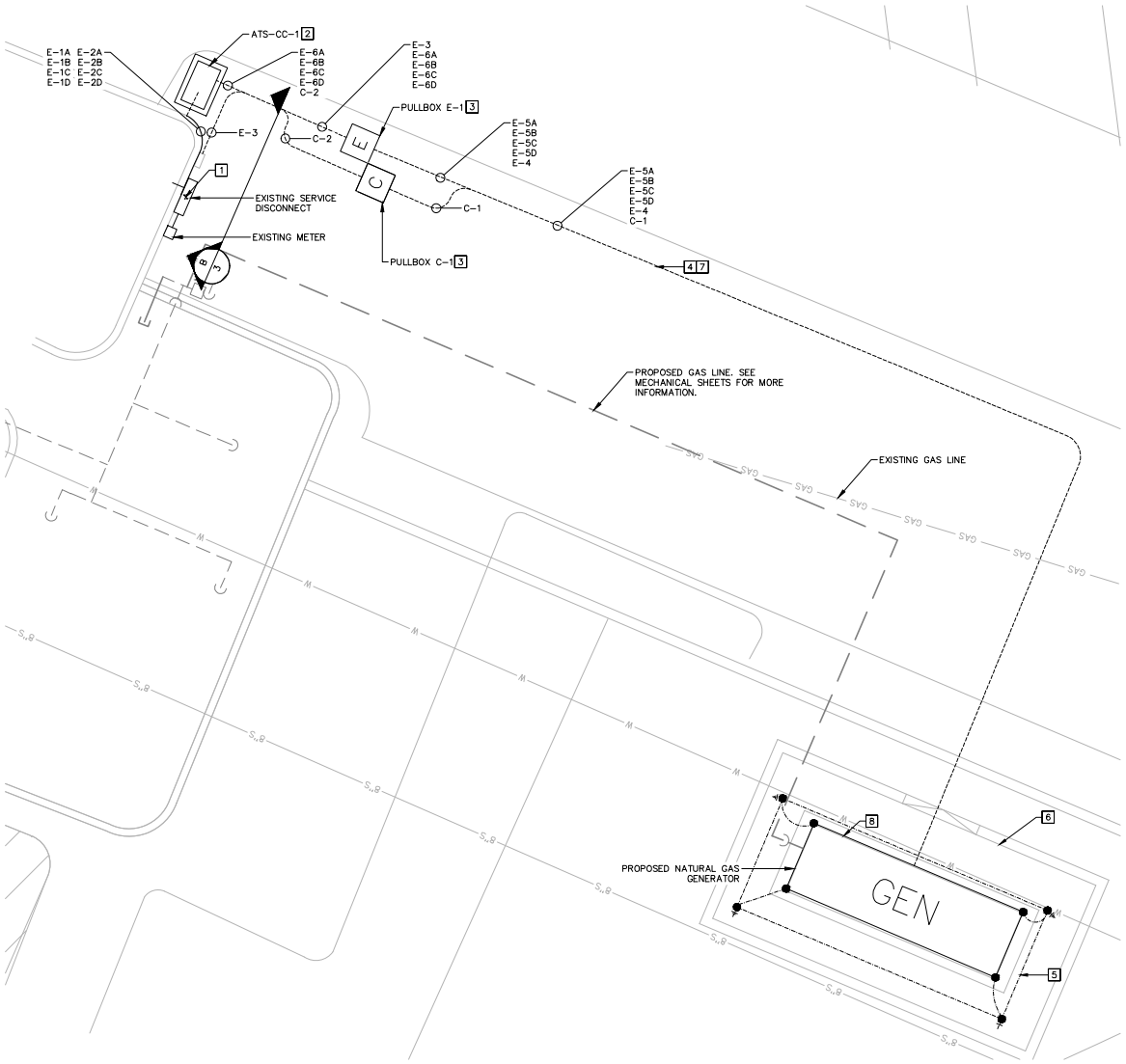
AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer CERTIFICATE OF AUTHORIZATION 50368 Michael A. Colpitts Expires 12/31/21 ARIZONA, U.S.A.

ORIGINAL PLAN DATE 07/07/2020	LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012	SHEET NUMBER 2 of 9

COB PLAN TRACKING #

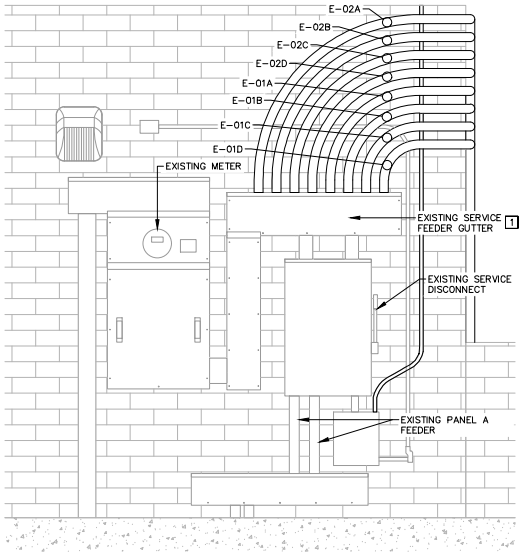
COB PERMIT #



GENERATOR ELECTRICAL SITE PLAN
COMMUNITY CENTER (201 CENTRE AVENUE)

A
–
SCALE:

GRAPHIC SCALE IN FEET
0 2 4 8



B
–
EXISTING ELECTRICAL SERVICE EQUIPMENT
SCALE:NTS

CONSTRUCTION NOTES

1. DISCONNECT EXISTING 400A FEEDER PANEL A FEEDER(S) INSIDE ELECTRICAL GUTTER. ROUTE NEW CONDUIT AS PROPOSED IN ONE-LINE DIAGRAM AND CONDUIT SCHEDULE TO/FROM ATS-CC-1. SEE DETAIL B THIS SHEET FOR PROPOSED CONDUIT BREAK LOCATION.
2. MOUNT ATS-CC-1 ON 4" THICK HOUSEKEEPING PAD. SEE ONE-LINE DIAGRAM FOR ATS-CC-1 INFORMATION.
3. #5 ELECTRICAL PULLBOX. DETAIL SHOWN ON SHEET 5.
4. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 5.
5. PROVIDE GROUND RING FOR TRANSFORMER PER SPECIFICATIONS. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 5.
6. NEW WALL AND GATE AROUND GENERATOR. SEE STRUCTURAL PLANS ON SHEETS 7 AND 8.
7. SEE CONDUIT SCHEDULE ON SHEET 4 FOR CONDUIT AND INTERCONNECTION DETAILS.
8. PROPOSED 250 KW/313 KVA, 208/120V, 3P, 4W, NEMA 3R, NATURAL GAS GENERATOR WITH LEVEL TWO ACOUSTIC ENCLOSURE.

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SITE PLAN

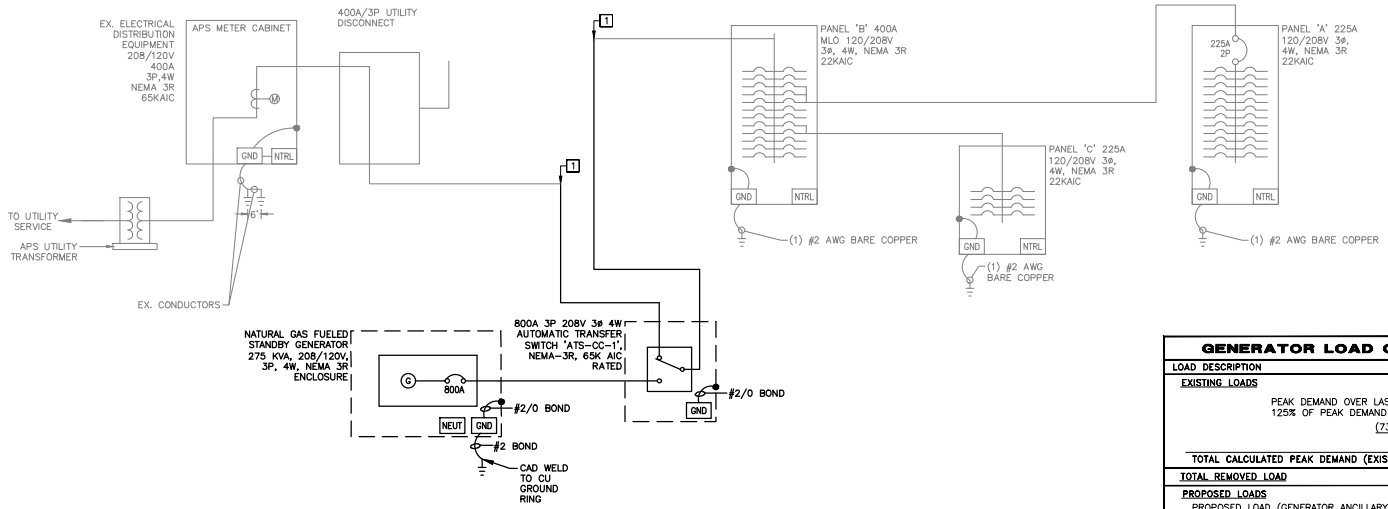
ENGINEER INFORMATION
Kimley»Horn
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PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL: Registered Professional Engineer, Certificate No. 50368, Michael A. Colombo, Date Signed 07/07/20, Expires 12/31/21, ARIZONA, U.S.A.
ORIGINAL PLAN DATE: 07/07/2020	LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012	SHEET NUMBER: 3 of 9

COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



A — **ONE-LINE DIAGRAM**
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1. DISCONNECT FEEDER TO PANEL A. RECONNECT TO ATS-CC-1. SEE CONDUIT SCHEDULE FOR INTERCONNECTION DETAILS.
2. INSTALL TWO NEW 20A/1P CIRCUIT BREAKERS FOR GENERATOR BLOCK HEATER AND GENERATOR BATTERY CHARGER.

GENERATOR LOAD CALCULATION

LOAD DESCRIPTION	AMPS
EXISTING LOADS PEAK DEMAND OVER LAST YEAR (2018)* 125% OF PEAK DEMAND (PER NEC 220.87) $\frac{(73\ KVA)(1.25)}{(208\ V)(\sqrt{3})} =$	
TOTAL CALCULATED PEAK DEMAND (EXISTING)	252
TOTAL REMOVED LOAD	0
PROPOSED LOADS PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	10
TOTAL PROPOSED LOAD	10
FUTURE LOADS (PANEL D* 49KVA, PANEL E* 83KVA)	366
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	628
PERCENT LOADED % (TOTAL LOAD/764A)	82.2%

*EXISTING SITE PEAK DEMAND, AND 'FUTURE LOADS PANEL D, PANEL E REFERENCED FROM 'BUCKEYE COMMUNITY CENTER KITCHEN ADDITION 90% PLANS.

C — **GENERATOR LOAD SUMMARY**
SCALE:NOT TO SCALE

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	SIZE	STATUS	CONDUCTORS/CABLE QTY	SIZE	FROM	TO	PURPOSE	REMARKS
E-01A	2.5"	NEW	4	#3/0 AWG	400A 3P UTILITY METER	ATS-CC-1	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-01B	2.5"	NEW	4	#3/0 AWG	400A 3P UTILITY METER	ATS-CC-1	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-01C	2.5"	NEW	4	#3/0 AWG	400A 3P UTILITY METER	ATS-CC-1	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-01D	2.5"	NEW	4	#3/0 AWG	400A 3P UTILITY METER	ATS-CC-1	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-02A	2.5"	NEW	4	#3/0 AWG	ATS-CC-1	400A 3P UTILITY DISCONNECT	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-02B	2.5"	NEW	4	#3/0 AWG	ATS-CC-1	400A 3P UTILITY DISCONNECT	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-02C	2.5"	NEW	4	#3/0 AWG	ATS-CC-1	400A 3P UTILITY DISCONNECT	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-02D	2.5"	NEW	4	#3/0 AWG	ATS-CC-1	400A 3P UTILITY DISCONNECT	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#1/0 AWG			GROUND	
E-3	1"	NEW	4	#8 AWG	PANEL C	PULLBOX E-1	POWER	GENERATOR ANCILLARY LOADS: PANEL C, CKT 5 & 7
			1	#8 AWG			GROUND	
E-4	1"	NEW	4	#8 AWG	PULLBOX E-1	GENERATOR	POWER	GENERATOR ANCILLARY LOADS: PANEL C, CKT 5 & 7
			1	#8 AWG			GROUND	
E-05A	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-05B	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-05C	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-05D	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-06A	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-CC-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-06B	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-CC-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-06C	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-CC-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
E-06D	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-CC-1	POWER	PARALLEL CONDUIT TO ATS-CC-1
			1	#1/0 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		GENERATOR	PULLBOX C-1	POWER	GENERATOR CONTROLS
							GROUND	
C-2	1"	NEW	8-PR #16 AWG		PULLBOX C-1	ATS-CC-1	POWER	GENERATOR CONTROLS
							GROUND	

B — **CONDUIT AND CONDUCTOR SCHEDULE**
SCALE:NOT TO SCALE

PANEL: C

VOLTAGE: 120/208
PHASE, WIRES: 1ø, 3W
SCCR (AMPS): EXISTING
SOURCE: PANEL B

PANEL BUS: 60 AMPS
MAIN: MLO BREAKER

	DESCRIPTION	VA	CB	CKT	A	B	CKT	CB	VA	DESCRIPTION
	EXISTING UNKNOWN LOAD		30/3	1	0.0		2	20/1		EXISTING UNKNOWN LOAD
				3		0.0	4	20/1		EXISTING UNKNOWN LOAD
				5	0.0		6	20/1		EXISTING UNKNOWN LOAD
2	GENERATOR BLOCK HEATER	1800	20/1	7		15.0	8			SPACE
2	GENERATOR BATTERY CHARGER	1800	20/1	17	15.0		18			SPACE
				TOTALS	15.0	15.0	AMPS			

LOAD CALCULATIONS:
SUBTOTAL (VA): 3600
+25% PER NEC (VA): 900
TOTAL (VA): 4500 @ 240V, 1Ø = 18.8 AMPS

D — **PANEL C SCHEDULE**
SCALE:NOT TO SCALE

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**% Vdrop
1	Utility Published Data	21553	21,553										21,553	
2	SES	1	21,553	NM	Copper	2	Set of	3/0	400	50	480	3	18,912	0.32%
3	ATS	2	18,912	NM	Copper	2	Set of	3/0	400	10	480	3	18,460	0.38%

E — **FAULT CURRENT CALCULATION**
SCALE:NOT TO SCALE

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

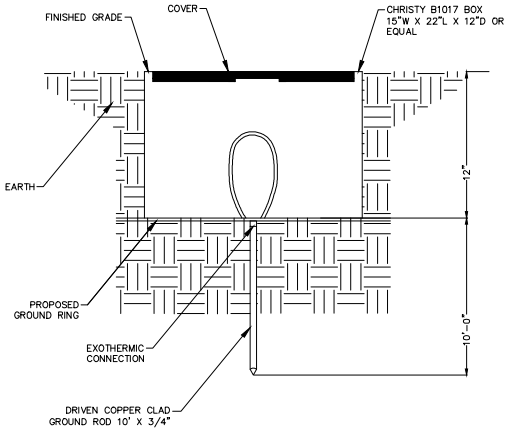
AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer
CERTIFICATE NO. 30368
Michael A. Colonico
State of ARIZONA, U.S.A.
Expires 12/31/21

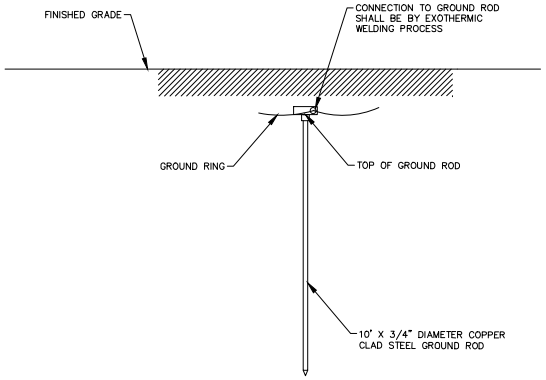
ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 9

COB PLAN TRACKING #

COB PERMIT #



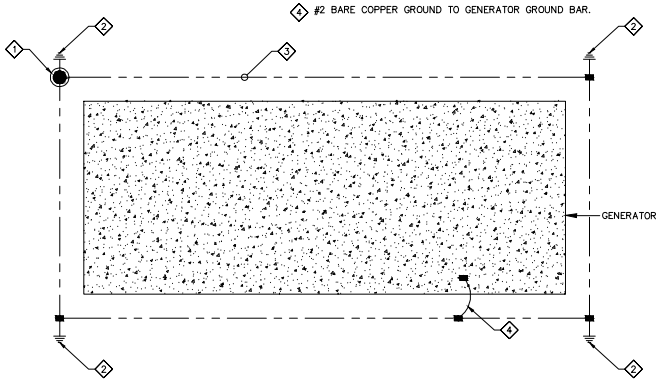
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



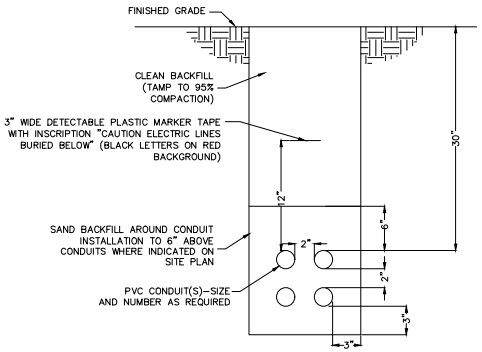
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



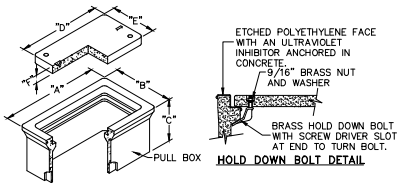
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



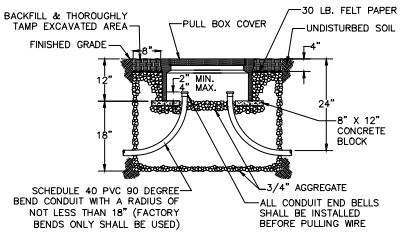
HOLD DOWN BOLT DETAIL



LID 'A'

LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
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WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO.
50368
Michael A. Clayton
Registered in ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	5 of 9

COB PLAN TRACKING #
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STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
- BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
- NOMINAL DESIGN WIND SPEED . . . . . .90 MPH
- RISK CATEGORY II
- Iw 1.00
- STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
- EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
- DESIGN WIND PRESSURE . . . . . .16.6 PSF (STRENGTH LEVEL)
- INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
- Ie 1.00
- SITE CLASS . . . . . .D
- S_S . . . . . 0.167g S_1 . . . . . .0.077g
- S_{MS} . . . . . 0.178g S_{M1} 0.123g
- SEISMIC DESIGN CATEGORY . . . . . .B
- DESIGN BASE SHEAR (C_S"W") 0.051W
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
- ALLOWABLE BEARING PRESSURE = 1500 PSF
- ACTIVE EARTH PRESSURE = 45 PCF
- AT-REST EARTH PRESSURE = 60 PCF
- PASSIVE EARTH PRESSURE = 100 PCF
- = 0.25 (W/OUT PASSIVE PRESSURE)
- MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

FOOTING BEARING DEPTH = 20" MIN.

FOR TOP OF FOOTING ELEVATIONS, SEE PERIMETER WALL PLAN THIS SHEET.

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

WALL BACKFILL MATERIAL, PLACEMENT AND COMPACTION SHOULD COMPLY IN FULL WITH THE PROJECT SPECIFICATIONS. COMPACTION OF EACH LIFT ADJACENT TO WALLS SHALL BE ACCOMPLISHED WITH HAND OPERATED TAMPERS OR OTHER LIGHTWEIGHT COMPACTORS. FLOODING OR JETTING IS PROHIBITED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 3000 PSI.
REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

MASONRY AND REINFORCING:

MASONRY: F'm = 1500 PSI; ASTM C90; MEDIUM WEIGHT; RUNNING BOND; STANDARD BLOCK

MORTAR: ASTM C270; TYPE S; CUBE STRENGTH = 1800 PSI

GROUT: ASTM C476, TYPE = COARSE; CUBE STRENGTH = 2000 PSI.

JOINT NOTES

CONCRETE:
FOOTINGS AND SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

MASONRY:
MASONRY WALL MAY BE CONTINUOUS WITH NO JOINT.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

THE CONTRACT PERIMETER WALL AND SLAB DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO , BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS. CONTRACTOR IS RESPONSIBLE FOR ALL O.S.H.A. REQUIREMENTS, NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES AND/OR CONFLICTS.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. STEEL CONSTRUCTION (SECTION 1705.2)
B. CONCRETE CONSTRUCTION (TABLE 1705.3)
C. MASONRY CONSTRUCTION (SECTION 1705.4)
D. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

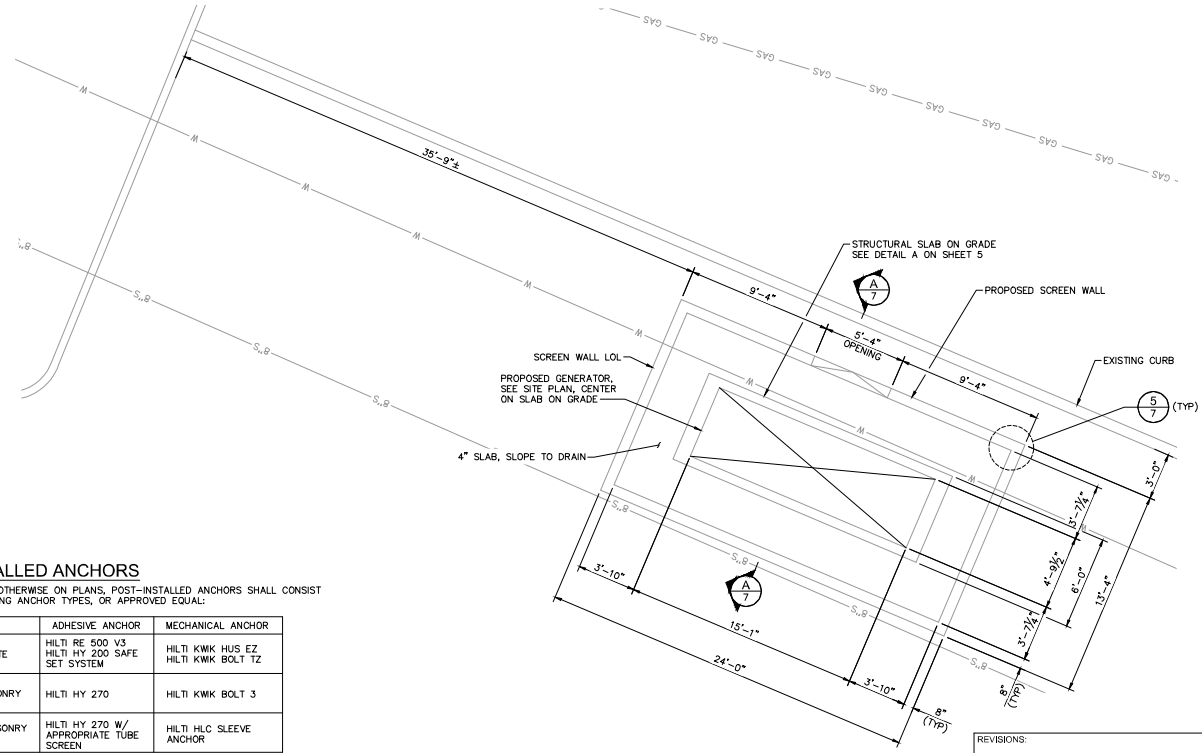
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ
GROUTED MASONRY	HILTI HY 270	HILTI KWIK BOLT 3
HOLLOWED MASONRY OR BRICK	HILTI HY 270 W/ APPROPRIATE TUBE SCREEN	HILTI HLC SLEEVE ANCHOR

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



A – **PROPOSED GENERATOR LOCATIONS**
COMMUNITY CENTER (201 CENTRE AVENUE)
SCALE:1/4"=1'-0"

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB AND ENCLOSURE WALL WITH ENGINEER PRIOR TO CONSTRUCTION. ENCLOSURE WALL SHALL BE 3'-0" FROM THE BACK FACE OF CURB. NOTIFY ENGINEER OF ANY DISCREPANCIES.

NORTH

GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

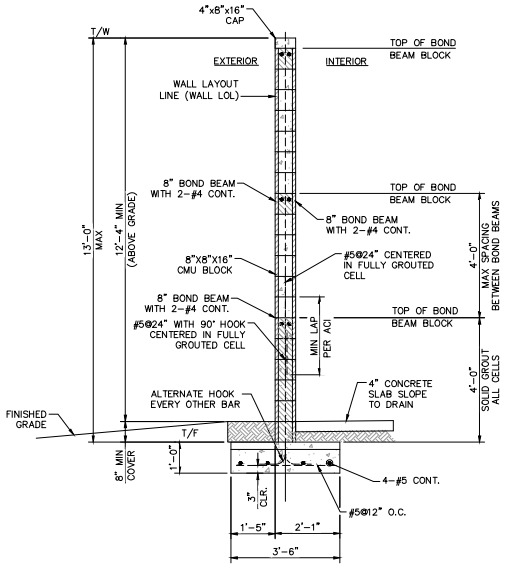
ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

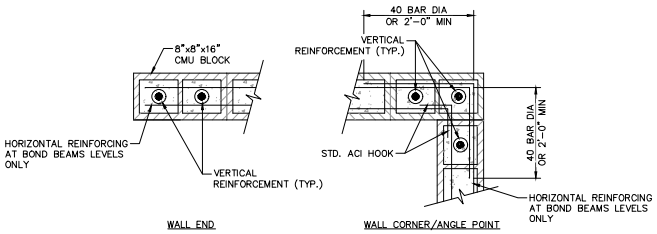
COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Date Signed 07/07/20 ARIZONA, U.S.A.

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 9

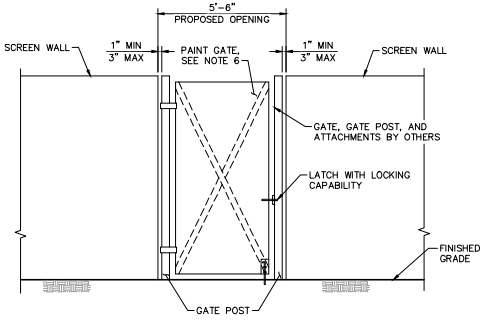
COB PLAN TRACKING #
COB PERMIT #



1 — **WALL SECTION**
SCALE:1/2"=1'-0"



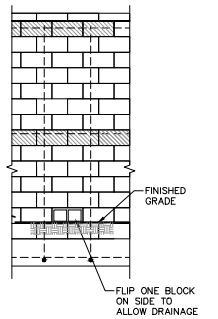
2 — **TYPICAL MASONRY DETAILS**
SCALE:NOT TO SCALE



3 — **GATE DETAIL**
SCALE:3/8"=1'-0"

GATE NOTES:

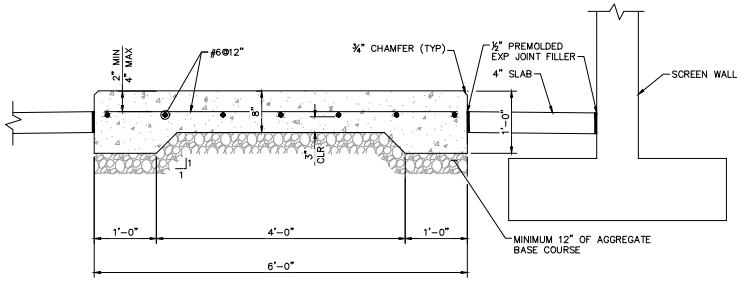
1. GATE DESIGN SHALL BE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION'S CODE REQUIREMENTS. THE GATE MANUFACTURER SHALL HAVE A LICENSED PROFESSIONAL ENGINEER SEAL AND SIGN THE GATE CALCULATIONS AND SHOP DRAWINGS.
2. LOAD COMBINATIONS USED IN GATE DESIGN SHALL BE IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
3. GATE DEFLECTION IN THE VERTICAL DIRECTION SHALL NOT EXCEED ½".
4. IF GATE FOUNDATIONS ARE NECESSARY, SIZES AND LOCATIONS SHALL BE DESIGNATED BY THE GATE MANUFACTURER AND APPROVED BY THE ENGINEER OF RECORD BEFORE CONSTRUCTION.
5. CENTER GATE DOOR IN PROPOSED OPENING.
6. SUBMIT PAINT COLOR TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. GATE SHALL BE GRAY OR BLACK.
7. SUBMIT GATE SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED CIVIL ENGINEER IN THE STATE OF ARIZONA.
8. HOT DIP GALVANIZE STEEL GATE ELEMENTS ACCORDING TO ASTM A123/A123M.



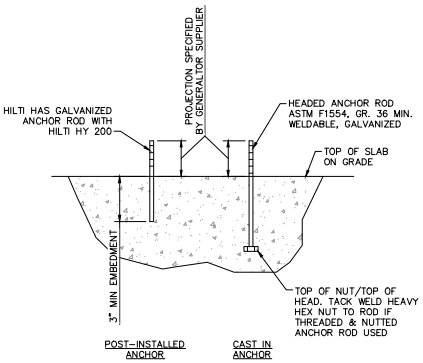
NOTE:

IF THE LOW POINT OF ENCLOSURE SLAB IS NOT AT OPENING, PROVIDE DRAINAGE BLOCK AS SHOWN IN DETAIL.

4 — **WALL DRAIN DETAIL**
SCALE:3/8"=1'-0"



A — **GENERATOR CONCRETE PAD**
SCALE:1"=1'



NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.

B — **TYP ANCHOR DETAIL**
SCALE:NOT TO SCALE

COMMUNITY CENTER (201 CENTRE AVENUE)

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO.
60164
NATHAN MERRILL
Date Signed 07/07/20
ARIZONA, U.S.A.

SUBMITTAL: FINAL

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	7 of 9

COB PLAN TRACKING #
COB PERMIT #

PLUMBING SYMBOL LIST

(NOTE: ALL OF THE SYMBOLS INDICATED BELOW MAY NOT APPEAR ON THIS PROJECT)

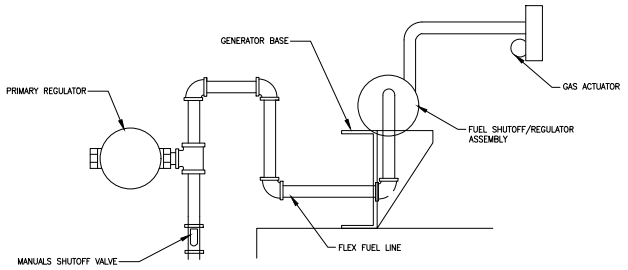
FOS	FOS	FUEL OIL SUPPLY PIPING
FOR	FOR	FUEL OIL RETURN PIPING
	G.V.	GATE VALVE
	GLV	GLOBE VALVE
	BLV	BALL VALVE
	ANV	ANGLE VALVE
	B.F.V.	BUTTERFLY VALVE
	C.H.V.	CHECK VALVE
	P.D.	PIPING TEE DOWN
	P.U.	PIPING TEE UP
	P.U.	PIPING ELBOW UP
	P.D.	PIPING ELBOW DOWN
		BRANCH – TOP CONNECTION
		BRANCH – BOTTOM CONNECTION
		BRANCH – SIDE CONNECTION
	P.T.	PLUGGED TEE
	C.O.P.	CAP ON END OF PIPE
OR		ARROW INDICATES DIRECTION OF FLOW
#		PLUMBING FIXTURE CALLOUT – (SEE SCHEDULE)
	AFF	ABOVE FINISHED FLOOR
	AFG	ABOVE FINISHED GRADE
	DN	DOWN
	(E)	EXISTING
	GA	GAUGE
	GAL	GALLON
	GLW	GREASE LADEN WASTE
	GPH	GALLONS PER HOUR
	GPM	GALLONS PER MINUTE

PLUMBING PROJECT NOTES

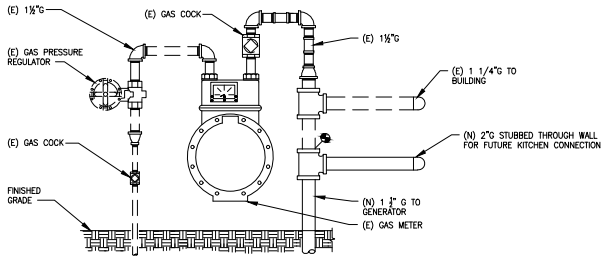
1. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/ELECTRICAL FLOOR PLANS FOR EXACT LOCATIONS OF ROUGH-IN FOR ALL EQUIPMENT AS SHOWN ON THE PLUMBING PLANS. EXACT ROUGH-IN DIMENSIONS MUST BE COORDINATED WITH THE APPROVED EQUIPMENT SUBMITTALS TO VERIFY EXACT POINTS OF CONNECTIONS.

2. ALL PLUMBING SYSTEMS AND COMPONENTS SHALL BE INSTALLED PER 2018 U.P.C.

3. ALL FUEL OIL GAS PIPING MUST BE ROUTED EXPOSED AND OVERHEAD IN ORDER TO ALLOW ROOM FOR SNOW REMOVAL WITH A SNOW BLOWER TO PROVIDE FULL ACCESS TO THE GENERATORS.



GAS PIPING TO GENETATOR CONNECTING DETAIL 1
SCALE: NONE M01



GAS METER DETAIL 2
SCALE: NONE M01

REVISIONS:
1
2
3

PLAN NAME
MECHANICAL NOTES

ENGINEER INFORMATION
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SUBMITTAL: FINAL

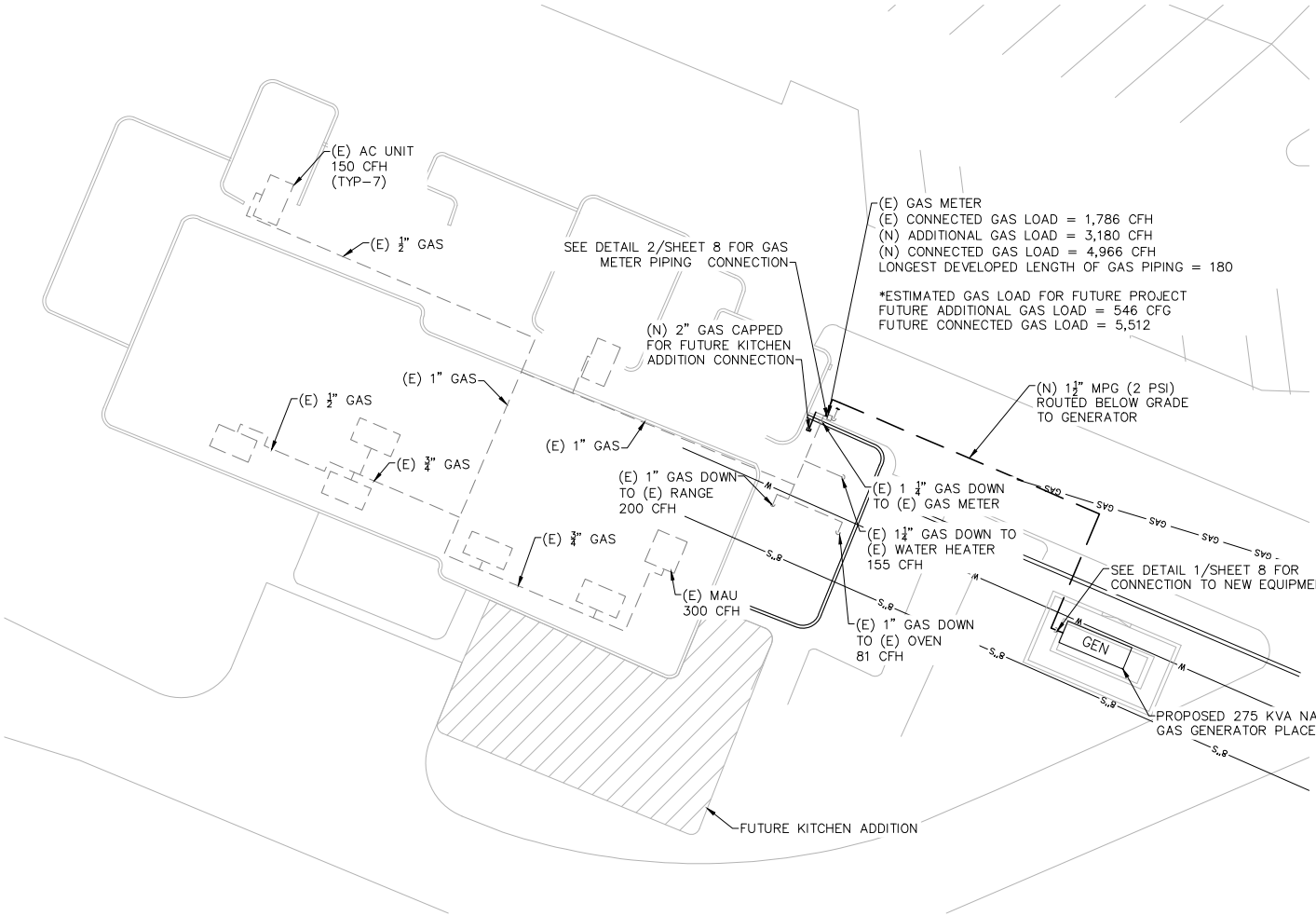
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AS-BUILT SEAL	DESIGN SEAL

Expires 12-31-2020

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	8of 9

COB PLAN TRACKING #
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CALL TWO WORKING DAYS BEFORE YOU DIG
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MECHANICAL GENERATOR SITE PLAN
COMMUNITY CENTER (201 CENTRE AVENUE)
SCALE:1"=10'

REVISIONS:
1
2
3

PLAN NAME
MECHANICAL SITE PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL
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SUBMITTAL: FINAL
AS-BUILT SEAL
DESIGN SEAL
Expires 12-31-2020
ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 9 of 9
COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: Community Center Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - Community Center*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustic Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 136\,in = 11.33\,ft$	Length of generator - 300 kW Natural Gas Generator Specification - see appendix.
$W_{gen} := 57.1\,in = 4.76\,ft$	Width of generator - 300 kW Natural Gas Generator Specification - see appendix.
$H_{gen} := 67.9\,in = 5.66\,ft$	Height of Generator - 300 kW Natural Gas Generator Specification - see appendix.
$L_{enc} := 180.6\,in = 15.05\,ft$	Length of Enclosure - 300 kW Natural Gas Generator Specification - see appendix..
$W_{enc} := 57.5\,in = 4.79\,ft$	Width of Enclosure - 300 kW Natural Gas Generator Specification - see appendix.
$H_{enc} := 111.3\,in = 9.27\,ft$	Height of Enclosure - 300 kW Natural Ga Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45\,pcf$	Active Soil Pressure
$p_{ar} := 60\,pcf$	At-Rest Soil Pressure
$p_p := 100\,pcf$	Passive Soil Pressure
$w_{soil} := 120\,pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.72psf$

Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.7kip$

Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 14.663kip$

300 kW Natural Gas Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.17 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.55 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 2.14 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 0.68 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 6.54 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 17ft$

Length of pad

$W_{pad} := 6ft$

Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 153 \cdot kip$

Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 26.15 \cdot kip$

Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

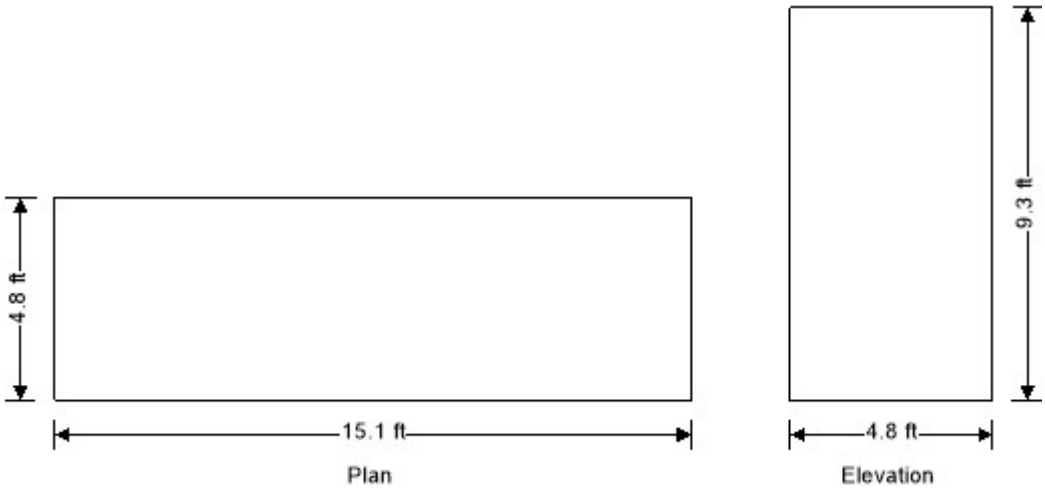
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **15.05** ft
Width of building	d = **4.79** ft
Height to eaves	H = **9.28** ft
Mean height	h = **9.28** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **871** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.97**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)
9.28	0.85	18.28

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.28** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	9.28	-1.30	18.28	-23.49	69.83	-1.64
B (-ve)	9.28	-0.70	18.28	-14.17	2.26	-0.03

Total vertical net force $F_{w,v}$ = **-1.67** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	9.28	0.80	18.28	9.14	139.66	1.28
B	9.28	-0.50	18.28	-11.06	139.66	-1.54
C	9.28	-0.70	18.28	-14.17	44.45	-0.63
D	9.28	-0.70	18.28	-14.17	44.45	-0.63

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **139.66** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **2.23** kips

Leeward net force $F_l = F_{w,wB}$ = **-1.5** kips

Windward net force $F_w = F_{w,wA}$ = **1.3** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **2.8** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	9.28	-0.18	18.28	0.49	69.83	0.03
B (+ve)	9.28	-0.18	18.28	0.49	2.26	0.00

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	9.28	0.80	18.28	15.72	139.66	2.20
B	9.28	-0.50	18.28	-4.48	139.66	-0.63
C	9.28	-0.70	18.28	-7.59	44.45	-0.34
D	9.28	-0.70	18.28	-7.59	44.45	-0.34

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H =$ **139.66** ft^2

Projected vertical area of roof $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **2.23** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.6** kips

Windward net force $F_w = F_{w,wA} =$ **2.2** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **2.8** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	9.28	-0.99	18.28	-18.73	22.23	-0.42
B (-ve)	9.28	-0.85	18.28	-16.55	22.23	-0.37
C (-ve)	9.28	-0.55	18.28	-11.79	27.64	-0.33

Total vertical net force $F_{w,v} =$ **-1.11** kips

Total horizontal net force $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	9.28	0.80	18.28	9.14	44.45	0.41
B	9.28	-0.24	18.28	-7.07	44.45	-0.31
C	9.28	-0.70	18.28	-14.17	139.66	-1.98
D	9.28	-0.70	18.28	-14.17	139.66	-1.98

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H =$ **44.45** ft^2

Projected vertical area of roof $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.71** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.3** kips

Windward net force $F_w = F_{w,wA} =$ **0.4** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.7** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	9.28	-0.18	18.28	0.49	22.23	0.01
B (+ve)	9.28	-0.18	18.28	0.49	22.23	0.01
C (+ve)	9.28	-0.18	18.28	0.49	27.64	0.01

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	9.28	0.80	18.28	15.72	44.45	0.70
B	9.28	-0.24	18.28	-0.48	44.45	-0.02
C	9.28	-0.70	18.28	-7.59	139.66	-1.06
D	9.28	-0.70	18.28	-7.59	139.66	-1.06

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **44.45** ft^2

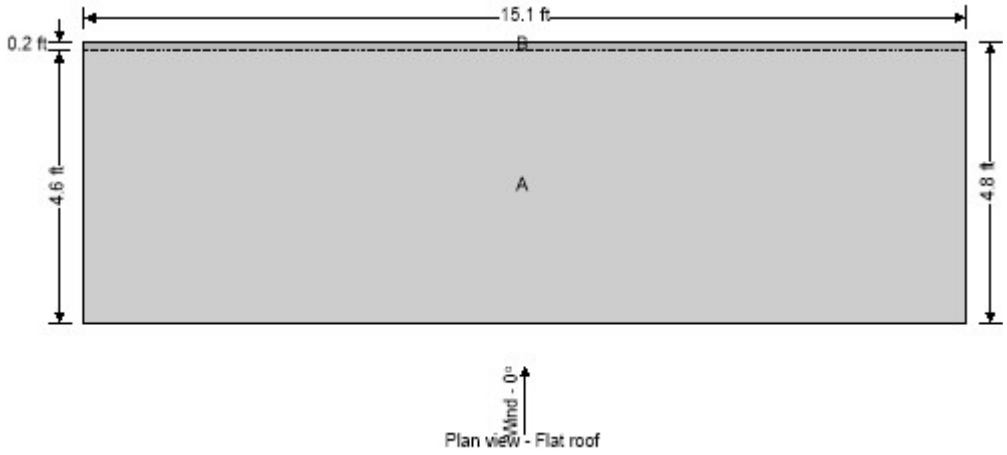
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

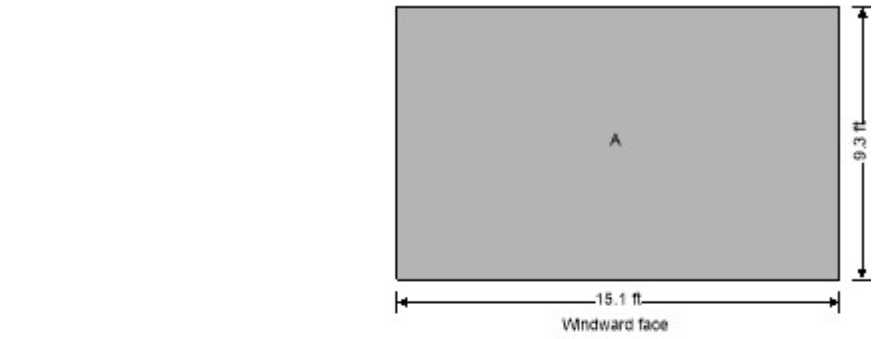
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.71** kips

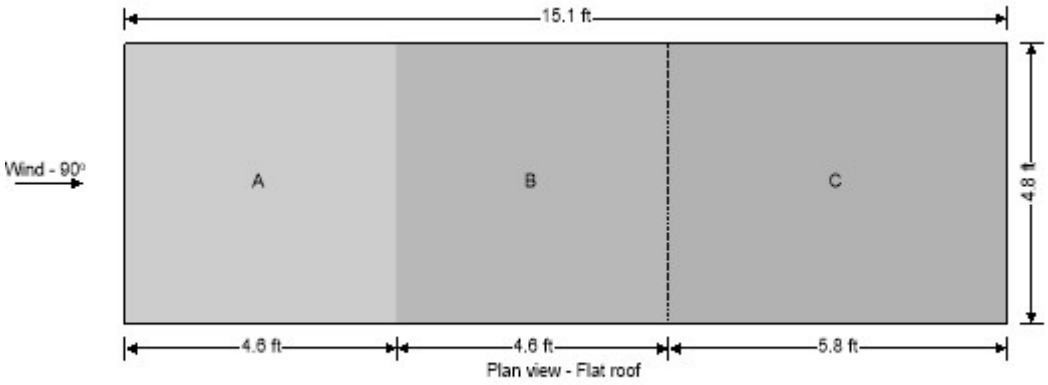
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

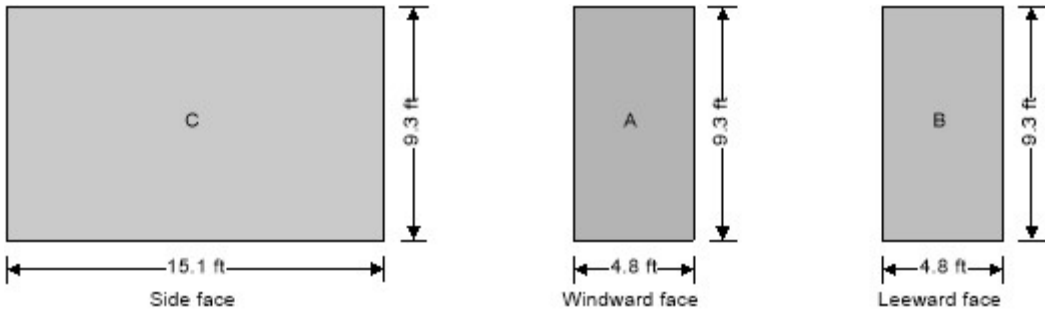
Windward net force $F_w = F_{w,wA}$ = **0.7** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.7** kips




A
9.3 ft
15.1 ft
Windward face
C
9.3 ft
4.8 ft
Side face
B
9.3 ft
15.1 ft
Leeward face


15.1 ft
Wind - 90°
A
B
C
4.8 ft
4.6 ft
4.6 ft
5.8 ft
Plan view - Flat roof


C
9.3 ft
15.1 ft
Side face
A
9.3 ft
4.8 ft
Windward face
B
9.3 ft
4.8 ft
Leeward face

1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.167**
at 1 sec period	S_1 = **0.077**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.267**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.185**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.178**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.123**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **12.33** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.209** sec
Building fundamental period (Sect 12.8.2)	T = T_a = **0.209** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0509**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.1685**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient C_s = **0.0509**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure W = **14.7** kips

Seismic response coefficient C_s = **0.0509**

Seismic base shear (Eq 12.8-1) $V = C_s \times W$ = **0.7** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Community Center

CODE REFERENCES

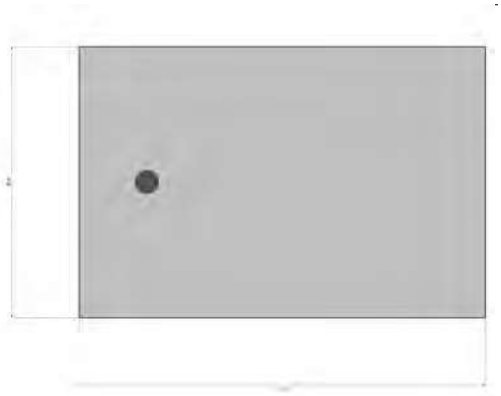
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-16

Material Properties

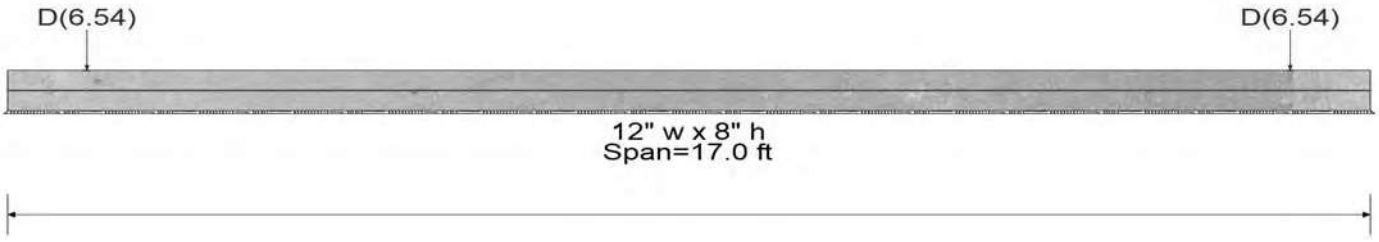
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1	=	0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination ASCE 7-16

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 4
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
1-#6 at 4.0 in from Top, from 0.0 to 17.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 6.540 k @ 1.0 ft
Point Load : D = 6.540 k @ 16.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.747 : 1	Maximum Deflection	
Section used for this span		Typical Section	Max Downward L+Lr+S Deflection	0.000 in
Mu : Applied		-5.277 k-ft	Max Upward L+Lr+S Deflection	0.000 in
Mn * Phi : Allowable		7.066 k-ft	Max Downward Total Deflection	0.190 in
Load Combination		D Only	Max Upward Total Deflection	-0.038 in
Location of maximum on span		5.000 ft		
Span # where maximum occurs		Span # 1		
Maximum Soil Pressure	=	2.743 ksf at 17.00 ft LdComb: D Only		
Allowable Soil Pressure	=	1.50 ksf EXCEEDED!		

Bearing pressures checked in Mathcad for full slab area

Shear Stirrup Requirements

Entire Beam Span Length : Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	16.000	1.15	7.07	0.16
D Only					
Span # 1	1	16.000	1.15	7.07	0.16

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - Community Center

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.1905	17.000	Span 1	-0.0379	8.500

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	0.00	4.00	0.25	0.25	0.00	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.20	4.00	0.72	0.72	0.05	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.40	4.00	1.17	1.17	0.19	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.60	4.00	1.61	1.61	0.43	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.80	4.00	2.02	2.02	0.75	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	1.00	4.00	2.42	2.42	1.15	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.20	4.00	-3.74	3.74	0.33	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.40	4.00	-3.39	3.39	0.42	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.60	4.00	-3.05	3.05	1.10	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.80	4.00	-2.73	2.73	1.71	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.00	4.00	-2.44	2.44	2.25	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.20	4.00	-2.16	2.16	2.74	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.40	4.00	-1.90	1.90	3.17	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.60	4.00	-1.66	1.66	3.55	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.80	4.00	-1.43	1.43	3.88	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.00	4.00	-1.22	1.22	4.17	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.20	4.00	-1.04	1.04	4.41	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.40	4.00	-0.86	0.86	4.62	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.60	4.00	-0.70	0.70	4.79	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.80	4.00	-0.56	0.56	4.93	0.91	4.50	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.00	4.00	-0.43	0.43	5.04	0.69	4.31	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.20	4.00	-0.32	0.32	5.13	0.50	4.16	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.40	4.00	-0.22	0.22	5.20	0.34	4.03	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.60	4.00	-0.13	0.13	5.24	0.20	3.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.80	4.00	-0.06	0.06	5.27	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.00	4.00	0.01	0.01	5.28	0.01	3.76	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.20	4.00	0.06	0.06	5.28	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.40	4.00	0.11	0.11	5.26	0.16	3.88	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.60	4.00	0.14	0.14	5.24	0.21	3.92	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.80	4.00	0.17	0.17	5.21	0.26	3.96	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.00	4.00	0.18	0.18	5.18	0.28	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.20	4.00	0.19	0.19	5.14	0.30	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.40	4.00	0.20	0.20	5.10	0.31	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.60	4.00	0.20	0.20	5.07	0.31	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.80	4.00	0.19	0.19	5.03	0.30	3.99	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.00	4.00	0.18	0.18	4.99	0.28	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.20	4.00	0.16	0.16	4.95	0.26	3.96	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.40	4.00	0.14	0.14	4.92	0.22	3.93	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.60	4.00	0.11	0.11	4.89	0.19	3.90	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.80	4.00	0.09	0.09	4.87	0.14	3.86	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.00	4.00	0.06	0.06	4.85	0.10	3.83	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.20	4.00	0.03	0.03	4.84	0.05	3.79	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.40	4.00	0.00	0.00	4.84	0.00	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.60	4.00	-0.03	0.03	4.84	0.05	3.79	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.80	4.00	-0.06	0.06	4.84	0.10	3.83	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.00	4.00	-0.09	0.09	4.85	0.14	3.86	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.20	4.00	-0.11	0.11	4.87	0.19	3.90	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.40	4.00	-0.14	0.14	4.89	0.22	3.93	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.60	4.00	-0.16	0.16	4.92	0.26	3.96	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.80	4.00	-0.18	0.18	4.95	0.28	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - Community Center

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu Actual	(k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	10.00	4.00	-0.19	0.19	4.99	0.30	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.20	4.00	-0.20	0.20	5.03	0.31	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.40	4.00	-0.20	0.20	5.07	0.31	4.01	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.60	4.00	-0.19	0.19	5.10	0.31	4.00	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.80	4.00	-0.18	0.18	5.14	0.29	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.00	4.00	-0.17	0.17	5.18	0.26	3.96	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.20	4.00	-0.14	0.14	5.21	0.22	3.92	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.40	4.00	-0.11	0.11	5.24	0.16	3.88	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.60	4.00	-0.06	0.06	5.26	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.80	4.00	-0.01	0.01	5.28	0.01	3.76	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.00	4.00	0.06	0.06	5.28	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.20	4.00	0.13	0.13	5.27	0.20	3.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.40	4.00	0.22	0.22	5.24	0.34	4.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.60	4.00	0.32	0.32	5.20	0.49	4.15	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.80	4.00	0.43	0.43	5.13	0.68	4.31	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.00	4.00	0.56	0.56	5.04	0.89	4.48	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.20	4.00	0.70	0.70	4.93	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.40	4.00	0.86	0.86	4.79	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.60	4.00	1.04	1.04	4.62	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.80	4.00	1.22	1.22	4.41	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.00	4.00	1.43	1.43	4.17	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.20	4.00	1.66	1.66	3.88	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.40	4.00	1.90	1.90	3.55	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.60	4.00	2.16	2.16	3.17	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.80	4.00	2.44	2.44	2.74	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	15.00	4.00	2.73	2.73	2.25	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	15.20	4.00	3.05	3.05	1.71	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	15.40	4.00	3.39	3.39	1.10	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	15.60	4.00	3.74	3.74	0.42	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	15.80	4.00	4.12	4.12	0.33	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.00	4.00	4.52	4.52	1.15	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.20	4.00	-1.61	1.61	0.75	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.40	4.00	-1.17	1.17	0.43	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.60	4.00	-0.72	0.72	0.19	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.80	4.00	-0.25	0.25	0.05	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Community Center	Date:	4/30/2020
Fastening point:			

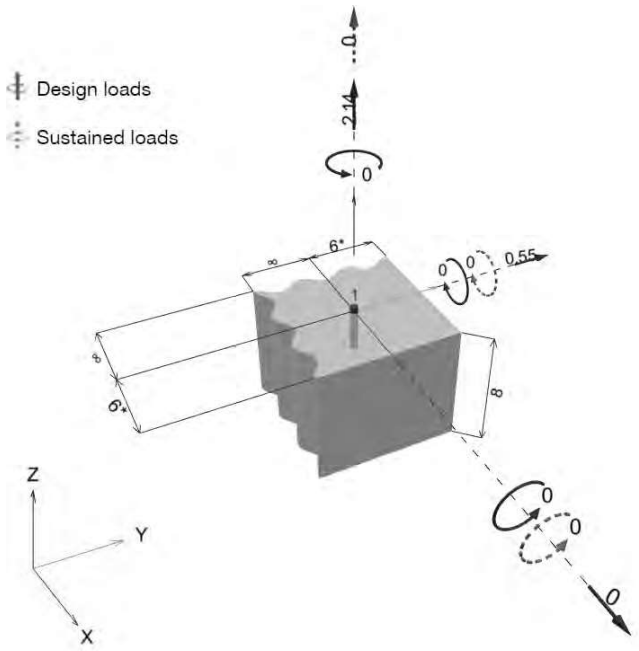
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 2.750 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2019 | 3/1/2020
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Company:	Kimley-Horn and Associates, Inc	Page:	2
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Community Center	Date:	4/30/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 2.140; V_x = 0.000; V_y = 0.550; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	78

2 Load case/Resulting anchor forces

Anchor reactions [kip]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	2.140	0.550	0.000	0.550

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	2.140	7.800	28	OK
Bond Strength**	2.140	3.088	70	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	2.140	2.760	78	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Community Center	Date:	4/30/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
$\phi\ N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	$\phi\ N_{sa}$ [kip]	N_{ua} [kip]
12.000	0.650	7.800	2.140

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	2.750	6.000	1.000	1,100

c_{ac} [in.]	λ_a
4.136	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	4.751

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
4.751	0.650	3.088	2.140

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
2.750	6.000	1.000	4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
4.246	0.650	2.760	2.140

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.550	4.320	13	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Concrete Breakout Strength controls)**	0.550	5.945	10	OK
Concrete edge failure in direction y+**	0.550	2.773	20	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.550

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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4.2 Pryout Strength (Concrete Breakout Strength controls)

$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ ACI 318-14 Eq. (17.4.2.2a)

Variables

k_{cp}	h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
2	2.750	6.000	1.000

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
8.493	0.700	5.945	0.550

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4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	2.750

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	5.603

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
3.962	0.700	2.773	0.550

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.775	0.198	5/3	73	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

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6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

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Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 2.750 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 4.000 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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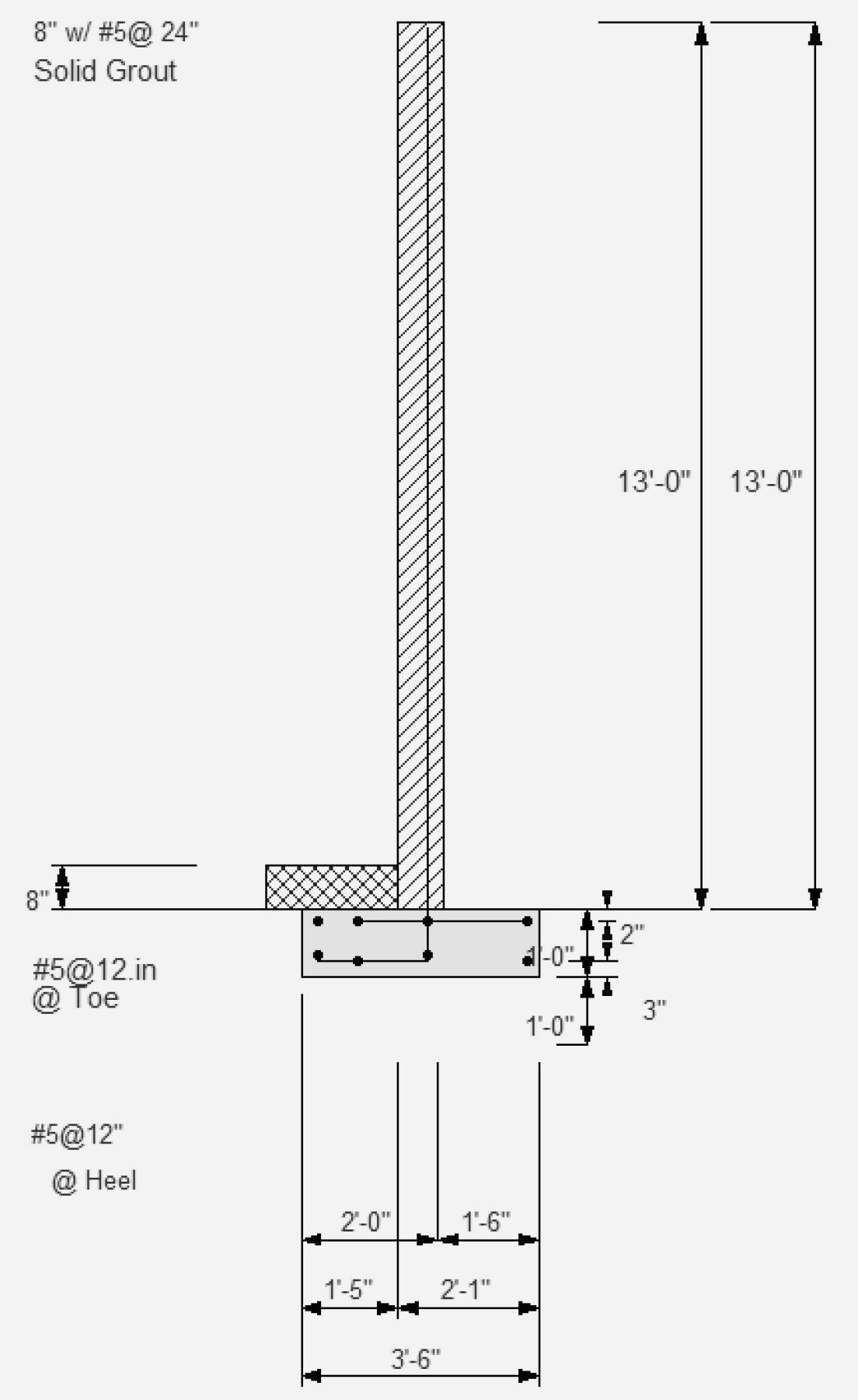
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4. SCREEN WALL DESIGN


8" w/ #5@ 24"
Solid Grout
13'-0"
13'-0"
8"
2"
1'-0"
#5@12.in
@ Toe
3"
1'-0"
#5@12"
@ Heel
2'-0"
1'-6"
1'-5"
2'-1"
3'-6"

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Criteria



Retained Height	=	0.00 ft
Wall height above soil	=	13.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	8.00 in
Water height over heel	=	0.0 ft

Load Factors

Building Code	IBC 2018,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Soil Data and Lateral Earth Pressure

Allow Soil Bearing	=	1,500.0 psf	Soil Density, Heel	=	100.00 pcf
Equivalent Fluid Pressure Method			Soil Density, Toe	=	0.00 pcf
Active Heel Pressure	=	45.0 psf/ft	Footing||Soil Friction	=	0.250
	=		Soil height to ignore for passive pressure	=	12.00 in
Passive Pressure	=	100.0 psf/ft			

Surcharge Loads

Surcharge Over Heel	=	0.0 psf	Surcharge Over Toe	=	0.0
Used To Resist Sliding & Overturning			Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs	Axial Load Eccentricity	=	0.0 in
Axial Live Load	=	0.0 lbs			

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)

Wind on Exposed Stem

Wind on Exposed Stem (Service Level)	=	14.4 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs	Footing Type		Line Load
Footing Width	=	0.00 ft	Base Above/Below Soil		
Eccentricity	=	0.00 in	at Back of Wall	=	0.0 ft
Wall to Ftg CL Dist	=	0.00 ft	Poisson's Ratio	=	0.300

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Wall Design Summary

Stability Ratios

Overturning	=	2.01 OK
Sliding	=	3.39 OK

Soil Bearing

Total Bearing Load	=	1,617 lbs
...resultant ecc.	=	10.48 in
Soil Pressure @ Toe	=	1,229 psf OK
Soil Pressure @ Heel	=	0 psf OK
Allowable	=	1,500 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	1,720 psf
ACI Factored @ Heel	=	0 psf
Footing Shear @ Toe	=	11.5 psi OK
Footing Shear @ Heel	=	1.3 psi OK
Allowable	=	82.2 psi

Sliding

Resisting Forces

Vertical Forces	Force
Soil Over Heel (above water table, if any)	0.0 lbs
Soil Over Heel (below water table, if any)	0.0
Water Over Heel	0.0
Buoyant Force	0.0
Sloped Soil Over Heel	0.0
Surcharge Over Heel	0.0
Adjacent Footing Load	0.0
Axial Dead Load on Stem	0.0
Axial Live Load on Stem *	Omit
Soil Over Toe	0.0
Surcharge Over Toe	0.0
Stem Weight(s)	1,092.0
Earth @ Stem Transitions	0.0
Footing Weight	525.2
Key Weight	0.0
Vert. Component **	0.0
Total Vertical Loads	1,617.2 lbs

Sliding Forces

Lateral Forces	Force
Heel Active Pressure (above water table, if any)	22.5 lbs
Heel Active Pressure (below water table, if any)	0.0
Hydrostatic Force	0.0
* Heel Active Pressure	22.5
Surcharge over Heel	0.0
Adjacent Footing	0.0
Surcharge Over Toe	0.0
Load @ Stem Above Soil	187.2
Added Lateral Load	0.0
Seismic Load	0.0
Seismic-Self-weight	0.0
Lateral on Key	0.0
Totals =	209.7 lbs

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning or sliding resistance, but is included for soil pressure calculations.

Sliding Calcs

Lateral Sliding Force	=		209.7 lbs
less 100% Passive Force	=	-	305.6 lbs
less 100% Friction Force	=	-	404.3 lbs
Added Force Req'd	=		0.0 lbs OK
....for 1.5 Stability	=		0.0 lbs OK

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

Overturning

Resisting Moments

Resisting Moments	Force		Distance		Moment
Soil Over Heel (above water table, if any)	0.0	lbs	2.79	ft	0.0 ft-#
Soil Over Heel (below water table, if any)	0.0				
Water Table	0.0				
Soil Over Heel	0.0		2.79		0.0
Sloped Soil Over Heel	0.0				
Surcharge Over Heel	0.0				
Adjacent Footing Load	0.0				
Axial Dead Load on Stem	0.0				
Axial Live Load on Stem *	0.0				
Soil Over Toe	0.0		0.71		
Surcharge Over Toe	0.0				
Stem Weight(s)	1,092.0		1.75		1,911.4
Earth @ Stem Transitions	0.0				
Footing Weight	525.2		1.75		919.3
Key Weight	0.0		2.00		
Vert. Component	0.0				
Total Vertical Loads	1,617.2	lbs			
Resisting Moment					**2,830.6** ft-#
Eccentricity					**10.5** in

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

Overturning

Overturning Moments

Overturning Moments	Force		Distance		Moment
Heel Active Pressure (above water table, if any)	22.5	lbs	0.33	ft	7.5 ft-#
Heel Active Pressure (below water table, if any)	0.0				
Hydrostatic Force	0.0				
Buoyant Force	0.0				
Surcharge over Heel	0.0				
Adjacent Footing	0.0				
Surcharge Over Toe	0.0				
Load @ Stem Above Soil	187.2		7.50		1,404.0
Added Lateral Load	0.0				
Seismic Load	0.0				
Seismic-Self-weight	0.0				
Totals =	209.7	lbs			
Overturning Moment					1,411.5 ft-#

Stem Design Summary

			Bottom
			Stem OK
Design Height Above Ftg	ft	=	0.00
Wall Material Above "Ht"		=	Masonry
Design Method		=	LRFD
Thickness		=	8.00
Rebar Size		=	# 5
Rebar Spacing		=	24.00
Rebar Placed at		=	Edge
Design Data			
fb/FB + fa/Fa		=	**0.356**
Total Force @ Section			
Service Level	lbs	=	
Strength Level	lbs	=	187.2
Moment....Actual			
Service Level	ft-#	=	
Strength Level	ft-#	=	1,216.8
Moment.....Allowable		=	3,411.6
Shear.....Actual			
Service Level	psi	=	
Strength Level	psi	=	2.0
Shear.....Allowable	psi	=	69.7
Anet	in2	=	91.50
Rebar Depth 'd'	in	=	5.25
Masonry Data			
f'm	psi	=	1,500
Fy	psi	=	60,000
Solid Grouting		=	Yes
Modular Ratio 'n'		=	21.48
Wall Weight	psf	=	84.0
Equiv. Solid Thick.	in	=	7.60
Masonry Block Type		=	Normal Weight
Masonry Design Method		=	LRFD
Concrete Data			
f'c	psi	=	
Fy	psi	=	

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License : KW-06059108
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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Footing Data

Toe Width	=	1.42 ft	f'c	=	3,000	psi
Heel Width	=	2.08	Fy	=	60,000	psi
Total Footing Width	=	3.50 ft	Footing Concrete Density	=	150.00	pcf
Footing Thickness	=	12.00 in	Min. As %	=	0.0018	
Key Width	=	0.00 in	Rebar Cover @ Top	=	2.00	in
Key Depth	=	12.00 in	@ Bottom	=	3.00	in
Key Distance from Toe	=	2.00 ft				

Footing Design Results

		Toe	Heel	
Factored Pressure	=	1,720	0	psf
Mu' : Upward	=	17,003	216	ft-#
Mu' : Downward	=	3,869	2,680	ft-#
Mu: Design	=	327	-426	ft-#
Actual 1-Way Shear	=	11.46	1.31	psi
Allow 1-Way Shear	=	43.82	43.82	psi

Toe Reinforcing	=	# 5 @ 12.00 in
Heel Reinforcing	=	# 5 @ 12.00 in
Key Reinforcing	=	None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area	0.91	in2
Min footing T&S reinf Area per fc	0.26	in2 /ft

If one layer of horizontal bars:	If two layers of horizontal bars:
#4@ 9.26 in	#4@ 18.52 in
#5@ 14.35 in	#5@ 28.70 in
#6@ 20.37 in	#6@ 40.74 in

Footing Torsion, Tu	=	0.00 ft-lbs
Footing Allow. Torsion, phi Tu	=	0.00 ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus	250.0	pci
Horizontal Defl @ Top of Wall (approximate only)	0.127	in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

5. APPENDIX

5.1 WIND LOADS

Hazards by Location

Search Information

Address: 201 E Centre Ave, Buckeye, AZ 85326, USA

Coordinates: 33.36614169999999, -112.5891825

Elevation: 871 ft

Timestamp: 2020-03-12T15:49:15.752Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	70 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

5.2 SEISMIC LOADS

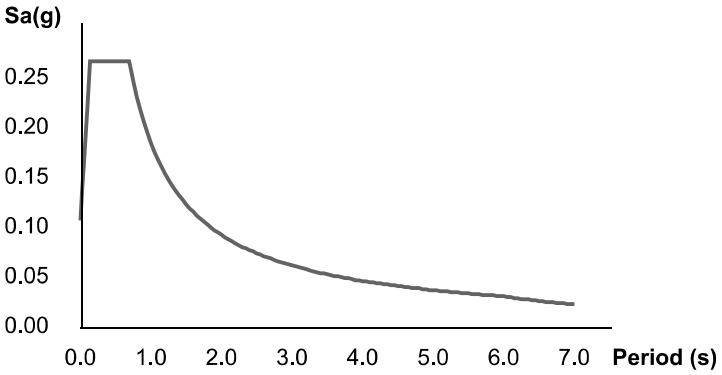
Hazards by Location

Search Information

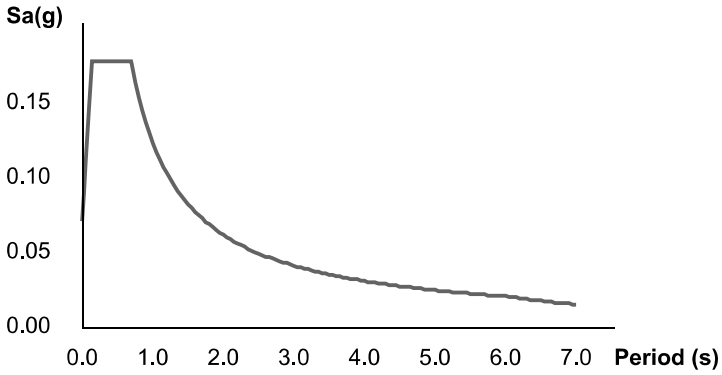
Address:	201 E Centre Ave, Buckeye, AZ 85326, USA
Coordinates:	33.36614169999999, -112.5891825
Elevation:	871 ft
Timestamp:	2020-03-12T15:50:02.995Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.167	MCE_R ground motion (period=0.2s)
S_1	0.077	MCE_R ground motion (period=1.0s)
S_{MS}	0.267	Site-modified spectral acceleration value
S_{M1}	0.185	Site-modified spectral acceleration value
S_{DS}	0.178	Numeric seismic design value at 0.2s SA
S_{D1}	0.123	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.938	Coefficient of risk (0.2s)
CR_1	0.944	Coefficient of risk (1.0s)
PGA	0.073	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.117	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.167	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.178	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.077	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.082	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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5.3 GENERATOR SPECIFICATIONS

SG250 | 14.2L | 250 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

DEMAND RESPONSE READY

Standby Power Rating
250 kW, 313 kVA, 60 Hz

Demand Response Rating
250 kW, 313 kVA, 60 Hz

Prime Power Rating
225 kW, 281 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT* *Assembled in the USA using domestic and foreign parts

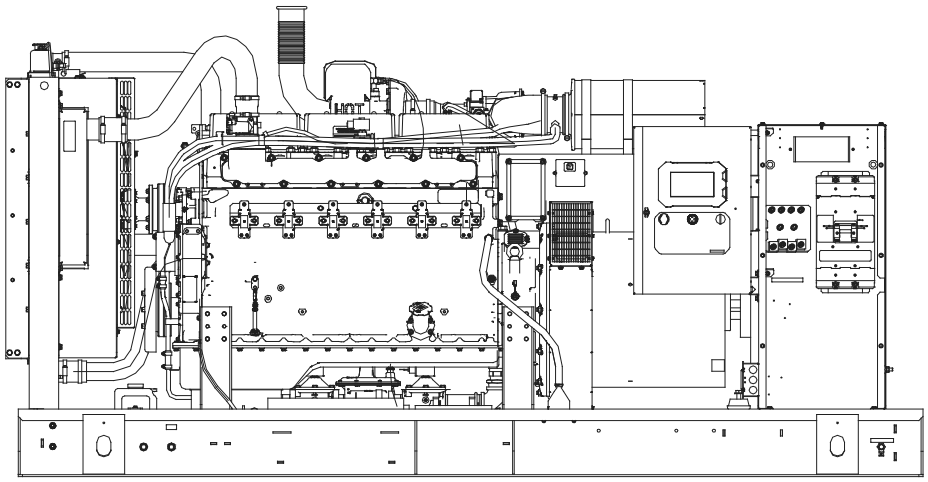


Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

UL2200, UL6200, UL1236, UL489

CSA C22.2

BS5514 and DIN 6271

SAE J1349

NFPA 37, 70, 99, 110

NEC700, 701, 702, 708

ISO 3046, 7637, 8528, 9001

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

Generac ensures superior quality by designing and manufacturing most of its generator components, such as alternators, enclosures, control systems and communications software. Generac also makes its own spark-ignited engines, and you'll find them on every Generac gaseous-fueled generator. We engineer and manufacture them from the block up — all at our facilities throughout Wisconsin. Applying natural gas and LP-fueled engines to generators requires advanced engineering expertise to ensure reliability, durability and necessary performance. By designing specifically for these dry, hotter-burning fuels, the engines last longer and require less maintenance. Building our own engines also means we control every step of the supply chain and delivery process, so you benefit from single-source responsibility.

Plus, Generac Industrial Power's distribution network provides all parts and service so you don't have to deal with third-party suppliers. It all leads to a positive owner experience and higher confidence level. Generac spark-ignited engines give you more options in commercial and industrial generator applications as well as extended run time from utility-supplied natural gas.

SG250 | 14.2L | 250 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

DEMAND RESPONSE READY

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Units Only)
- Oil Temperature Indication and Alarm

Fuel System

- NPT Fuel Connection on Frame
- Primary and Secondary Fuel Shutoff

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Permanent Magnet Excitation
- Sealed Bearing
- Amortisseur Winding
- Full Load Capacity Alternator

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby and Demand Response Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Units Only)
- Ready to Accept Full Load in <10 Seconds

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuated Enclosures)
- Gasketed Doors
- Upward Facing Discharge Hood (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

CONTROL SYSTEM



Power Zone® Pro Sync Controller

Program Functions

- NFPA 110 Level 1 Compliant
- Engine Protective Functions
- Alternator Protective Functions
- Digital Engine Governor Control
- Digital Voltage Regulator
- Multiple Programmable Inputs and Outputs
- Remote Display Capability
- Remote Communication via Modbus® RTU, Modbus TCP/IP, and Ethernet 10/100
- Alarm and Event Logging with Real Time Stamping
- Expandable Analog and Digital Inputs and Outputs
- Remote Wireless Software Update Capable
- Wi-Fi, Bluetooth, BMS and Remote Telemetry
- Built-In Programmable Logic Eliminates the Need for External Controllers Under Most Conditions
- Ethernet Based Communications Between Generators
- Programmable I/O Channel Properties
- Built-In Diagnostics

Protections

- Low Oil Pressure
- Low Coolant Level
- High/Low Coolant Temperature
- Sensor Failure
- Oil Temperature
- Over/Under Speed
- Over/Under Voltage
- Over/Under Frequency
- Over/Under Current
- Over Load
- High/Low Battery Voltage
- Battery Charger Current
- Phase to Phase and Phase to Neutral Short Circuits (I^2T Algorithm)

7 Inch Color Touch Screen Display

- Resistive Color Touch Screen
- Sunlight Readable (1400 NITS)
- Easily Identifiable Icons
- Multi-Lingual
- On Screen Editable Parameters
- Key Function Monitoring
- Three Phase Voltage, Amperage, kW, kVA, and kVAr
- Selectable Line to Line or Line to Neutral Measurements
- Frequency
- Engine Speed
- Engine Coolant Temperature
- Engine Oil Pressure
- Engine Oil Temperature
- Battery Voltage
- Hourmeter
- Warning and Alarm Indication
- Diagnostics
- Maintenance Events/Information

SPEC SHEET

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SG250 | 14.2L | 250 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

DEMAND RESPONSE READY

ENGINE SYSTEM

- ○ Engine Coolant Heater
- ○ Baseframe Cover/Rodent Guard
- ○ 2 Stage Air Cleaner
- ○ Oil Heater
- ○ Air Filter Restriction Indicator
- ○ Radiator Stone Guard (Open Set Only)
- ○ Level 1 Fan and Belt Guards (Enclosed Units Only)

FUEL SYSTEM

- ○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

GENERATOR SET

- ○ Demand Response Rating
- ○ Extended Factory Testing (3-Phase Only)
- ○ 12 Position Load Center

ENCLOSURE

- ○ Weather Protected Enclosure
- ○ Level 1 Sound Attenuated
- ○ Level 2 Sound Attenuated
- ○ Level 2 Sound Attenuated with Motorized Dampers
- ○ Level 3 Sound Attenuated (Steel Only)
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Enclosure Heaters (Motorized Dampers Only)
- ○ IBC Certification
- ○ Door Open Alarm Switch

CONTROL SYSTEM

- ○ NFPA 110 Level 1 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ 10A Engine Run Relay
- ○ Ground Fault Annunciator
- ○ 100 dB Alarm Horn
- ○ Damper Alarm Contacts (Motorized Dampers Only)
- ○ 120V GFCI and 240V Outlets

WARRANTY (Standby Gensets Only)

- ○ 2 Year Extended Limited Warranty
- ○ 5 Year Limited Warranty
- ○ 5 Year Extended Limited Warranty
- ○ 7 Year Extended Limited Warranty
- ○ 10 Year Extended Limited Warranty

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pans

CONTROL SYSTEM

- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing
- ○ Battery Box

SG250 | 14.2L | 250 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

DEMAND RESPONSE READY

ENGINE SPECIFICATIONS

General

Make	Generac
Cylinder #	6
Type	In-line
Displacement - in^3 (L)	864.71 (14.2)
Bore - in (mm)	5.31 (135)
Stroke - in (mm)	6.50 (165)
Compression Ratio	9.5:1
Intake Air Method	Turbocharged/Aftercooled
Number of Main Bearings	7
Connecting Rods	Steel Alloy
Cylinder Head	Cast Iron
Cylinder Liners	Ductile Iron
Ignition	Electronic
Piston Type	Aluminum
Crankshaft Type	Ductile Iron
Lifter Type	Solid
Intake Valve Material	Special Heat-Resistant Steel
Exhaust Valve Material	High Temp Steel Alloy
Hardened Valve Seats	High Temp Steel Alloy

Engine Governing

Governor	Electronic
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow Cartridge
Crankcase Capacity - qt (L)	36.2 (34.3)

Cooling System

Cooling System Type	Pressurized Closed Recovery
Fan Type	Pusher
Fan Speed - RPM	1,894
Fan Diameter - in (mm)	30 (762)

Fuel System

Fuel Type	Natural Gas, Propane
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
Operating Fuel Pressure - in H_2O (kPa)	7 - 11 (1.7 - 2.7)

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	57.5 A
Battery Size	See Battery Index 0161970SBY
Battery Voltage	24 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0250124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	<50

Standard Excitation	Permanent Magnet
Bearings	Sealed Ball
Coupling	Direct via Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Full Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

SG250 | 14.2L | 250 kW

INDUSTRIAL SPARK-IGNITED GENERATOR SET

EPA Certified Stationary Emergency and Non-Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

DEMAND RESPONSE READY

POWER RATINGS - NATURAL GAS

	Standby/Demand Response		Prime	
Three-Phase 120/208 VAC @0.8pf	250 kW/313 kVA	Amps: 868	225 kW/281 kVA	Amps: 782
Three-Phase 120/240 VAC @0.8pf	250 kW/313 kVA	Amps: 753	225 kW/281 kVA	Amps: 677
Three-Phase 277/480 VAC @0.8pf	250 kW/313 kVA	Amps: 376	225 kW/281 kVA	Amps: 339
Three-Phase 346/600 VAC @0.8pf	250 kW/313 kVA	Amps: 301	225 kW/281 kVA	Amps: 271

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0250124Y21	630	K0250124Y21	506
K0300124Y21	790	K0300124Y21	609

FUEL CONSUMPTION RATES*

Natural Gas – scfh (m^3/hr)

Percent Load	Standby/Demand Response	Prime
25%	1,020 (28.9)	990 (28.0)
50%	1,620 (45.9)	1,260 (35.7)
75%	2,520 (71.4)	1,980 (56.1)
100%	3,180 (90.0)	2,700 (76.5)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby/Demand Response	Prime
Air Flow (Fan Air Flow Across Radiator)	scfm (m^3/min)	10,078 (285.4)	10,078 (285.4)
Coolant Flow	gpm (Lpm)	90 (340.7)	90 (340.7)
Coolant System Capacity	gal (L)	15 (54.9)	15 (54.9)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)		See Bulletin No. 0199270SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby/Demand Response	Prime
Flow at Rated Power - scfm (m^3/min)	506 (14.3)	455 (12.9)

ENGINE

		Standby/Demand Response	Prime
Rated Engine Speed	RPM	1,800	1,800
Horsepower at Rated kW**	hp	375	337
Piston Speed	ft/min (m/min)	1,950 (594)	1,950 (594)
BMEP	psi (kPa)	190 (1,313)	171 (1,182)

EXHAUST

		Standby/Demand Response	Prime
Exhaust Flow (Rated Output)	scfm (m^3/min)	1,703 (48)	1,517 (43)
Max. Backpressure (Post Silencer)	inHg (kPa)	0.75 (2.54)	0.75 (2.54)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1,357 (736)	1,340 (727)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Demand Response - See Bulletin 10000018250
Prime - See Bulletin 0187510SSB

Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

SG250 | 14.2L | 250 kW

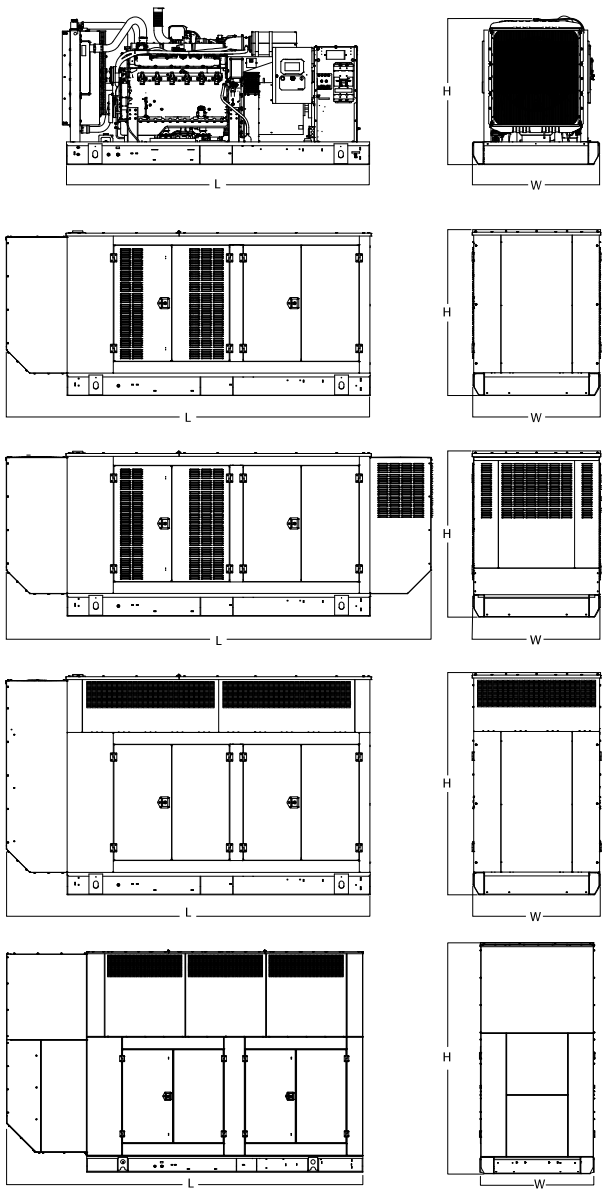
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DIMENSIONS AND WEIGHTS*

DEMAND RESPONSE READY



OPEN SET (Includes Exhaust Flex)

L x W x H - in (mm)	136.0 (3,454) x 57.1 (1,450) x 67.9 (1,725)
Weight - lbs (kg)	5,883 - 6,031 (2,668 - 2,735)

WEATHER PROTECTED ENCLOSURE

L x W x H - in (mm)	174.7 (4,437) x 57.5 (1,461) x 77.8 (1,976)
Weight - lbs (kg)	Steel: 7,448 - 7,596 (3,378 - 3,445) Aluminum: 6,654 - 6,801 (3,018 - 3,084)

LEVEL 1 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	200.2 (5,085) x 57.5 (1,461) x 77.8 (1,976)
Weight - lbs (kg)	Steel: 7,911 - 8,059 (3,588 - 3,655) Aluminum: 6,853 - 7,000 (3,108 - 3,175)

LEVEL 2 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	180.6 (4,587) x 57.5 (1,461) x 111.3 (2,827)
Weight - lbs (kg)	Steel: 8,484 - 8,632 (3,848 - 3,915) Aluminum: 7,099 - 7,247 (3,220 - 3,287)

LEVEL 3 SOUND ATTENUATED ENCLOSURE

L x W x H - in (mm)	207.3 (5,265) x 63.7 (1,618) x 128.9 (3,274)
Weight - lbs (kg)	10,840 - 10,990 (4,916 - 4,984)

(6031 lb set and tank) + (8632 lbs enclosure weight) = **14663 LBs total**

* All measurements are approximate and for estimation purposes only.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

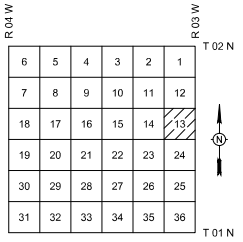
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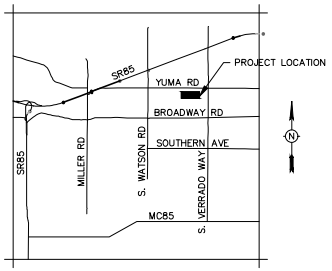
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21699 W. YUMA RD #116
BUCKEYE, ARIZONA 85326

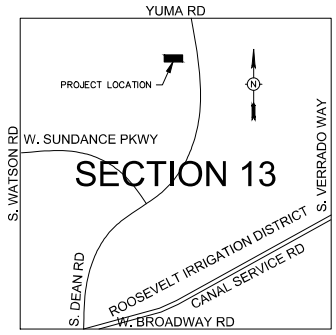
A PORTION OF THE NESE OF SECTION 13, TOWNSHIP T01N, RANGE R08W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

SUMMARY OF BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL SCHEDULES
6	ELECTRICAL DETAILS
7	STRUCTURAL NOTES AND PLAN
8	STRUCTURAL DETAILS

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT: EG | DRAFTED: JN | CHECKED: MAC
FIELD SURVEY | DRAFTED | CHECKED
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: COYOTE BRANCH LIBRARY STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
SUBMITTAL: FINAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer — Certificate No. 50368 — Michael A. Colombo — Expires 12/31/21 — ARIZONA, U.S.A.

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 1 of 8
COB PLAN TRACKING #
COB PERMIT #

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL GENERAL NOTES

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

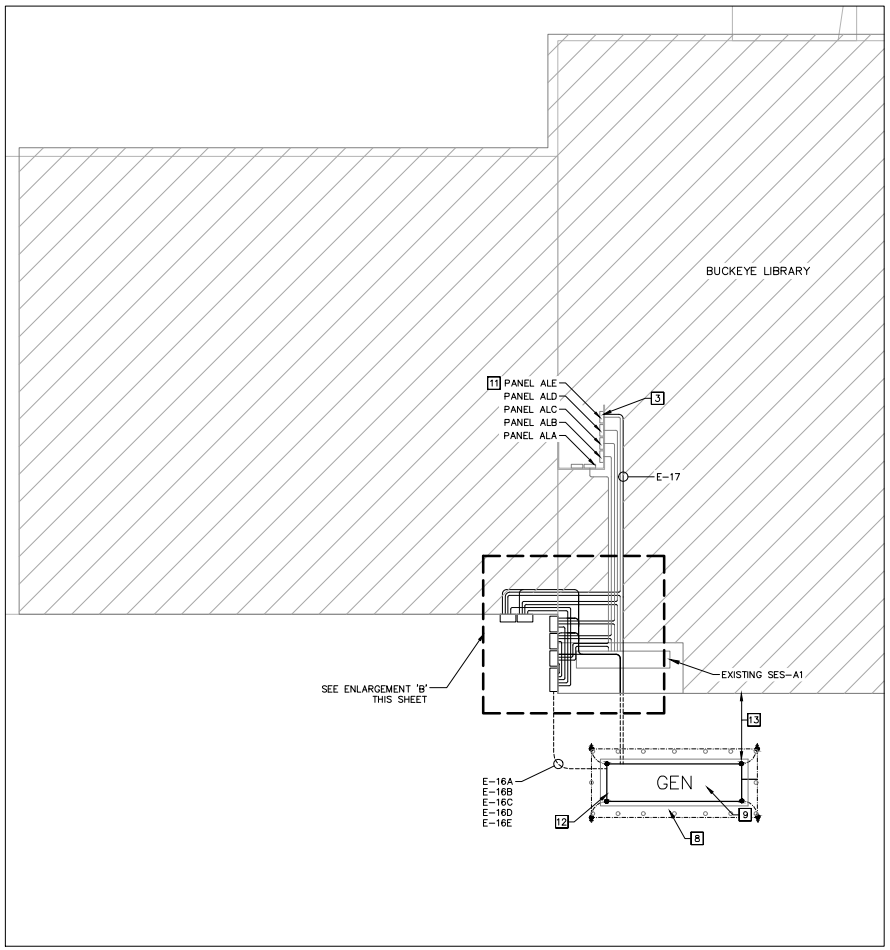
DESIGN SEAL
REGISTERED Professional Engineer CERTIFICATE NO. 50368 Michael A. Colpitts Date Signed 07/07/20 ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE 07/07/2020	LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012	SHEET NUMBER 2 of 8

SUBMITTAL: FINAL

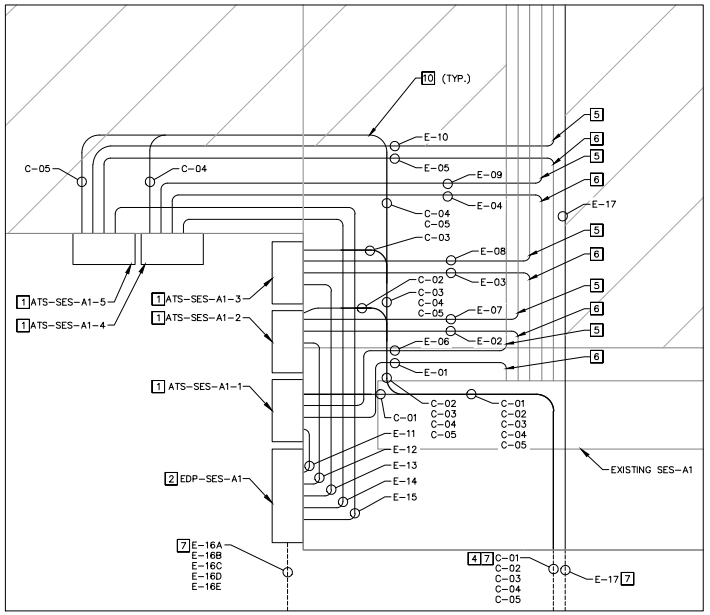
COB PLAN TRACKING #

COB PERMIT #



GENERATOR ELECTRICAL SITE PLAN
COYOTE BRANCH (21699 W. YUMA ROAD)
A — SCALE:1"=20'

GRAPHIC SCALE IN FEET
0 4 8 16



PROPOSED EQUIPMENT AND CONDUIT LOCATION
COYOTE BRANCH (21699 W. YUMA ROAD)
B — SCALE:1"=20'

GRAPHIC SCALE IN FEET
0 1 2 4

CONSTRUCTION NOTES

1. INSTALL WALL MOUNTED AUTOMATIC TRANSFER SWITCH. BOTTOM OF ATS TO BE 36" AFG AND PROVIDE AT LEAST 6" OF HORIZONTAL CLEARANCE FROM ATS. SEE ONE-LINE DIAGRAM ON SHEET 4 FOR ATS EQUIPMENT AND CONNECTION DETAILS.
2. INSTALL NEW 1000A 120/208V EMERGENCY DISTRIBUTION BOARD EDB-SES-A1 ON 4" THICK HOUSEKEEPING PAD. SEE EDB-SES-A1 INFORMATION ON SHEET 5, ONE-LINE DIAGRAM AND PANELBOARD SUMMARY. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR INTERCONNECTION DETAILS.
3. CONNECT PROPOSED CONDUIT INTO EXISTING PANEL ALE. CONNECT CONDUCTORS FROM COMPELTE SYSTEM.
4. COMBINE MULTIPLE ATS START SIGNALS IN SAME GENERATOR CONTROL PANEL. GENERATOR TO START WHEN LOSS OF POWER AT ANY ATS.
5. INTERCEPT CONDUIT FROM SES TO PANELBOARD AND ROUTE NEW CONDUIT TO PROPOSED ATS. PROVIDE JUNCTION BOX, ELBOW, AND NECESSARY FITTINGS PER SPECIFICATIONS TO REROUTE NEW CONDUITS FROM THE EXISTING PANELBOARD TO THE PROPOSED ATS. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR CONDUIT AND CONDUCTOR SIZE AND QUANTITIY.
6. INTERCEPT CONDUIT FROM SES TO PANELBOARD AND ROUTE NEW CONDUIT TO PROPOSED ATS. PROVIDE JUNCTION BOX, ELBOW, AND NECESSARY FITTINGS PER SPECIFICATIONS TO REROUTE NEW CONDUITS FROM THE EXISTING SES TO THE PROPOSED ATS. INSTALL NEW CONDUCTORS BACK TO SES. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR CONDUIT AND CONDUCTOR SIZE AND QUANTITIY.
7. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 6.
8. PROVIDE GROUND RING FOR TRANSFORMER PER SPECIFICATIONS. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 6.
9. GENERATOR STRUCTURAL DETAILS SHOWN ON STRUCTURAL PLAN. SEE SHEET 7-8.
10. SEE CONDUIT SCHEDULE ON SHEET 5 FOR CONDUIT AND INTERCONNECTION DETAILS.
11. EXISTING PANEL ALE TO POWER GENERATOR ANCILLARY LOADS. SEE ONE-LINE DIAGRAM, CONDUIT SCHEDULE, AND PANEL SCHEDULE ON SHEETS 4 AND 5.
12. PROPOSED 280KW/350KVA, 208/120V, 3 PHASE, 4W NEMA 3R DIESEL GENERATOR WITH 946 GALLON TANK.
13. GENERATOR LOCATION IS APPROXIMATE. GENERATOR AND BOLLARDS TO BE PLACED AT SAME DISTANCE SOUTH FROM BUILDING AS POLICE STATION GENERATOR AND CLEAR OF FIRE LANE.

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SITE PLAN

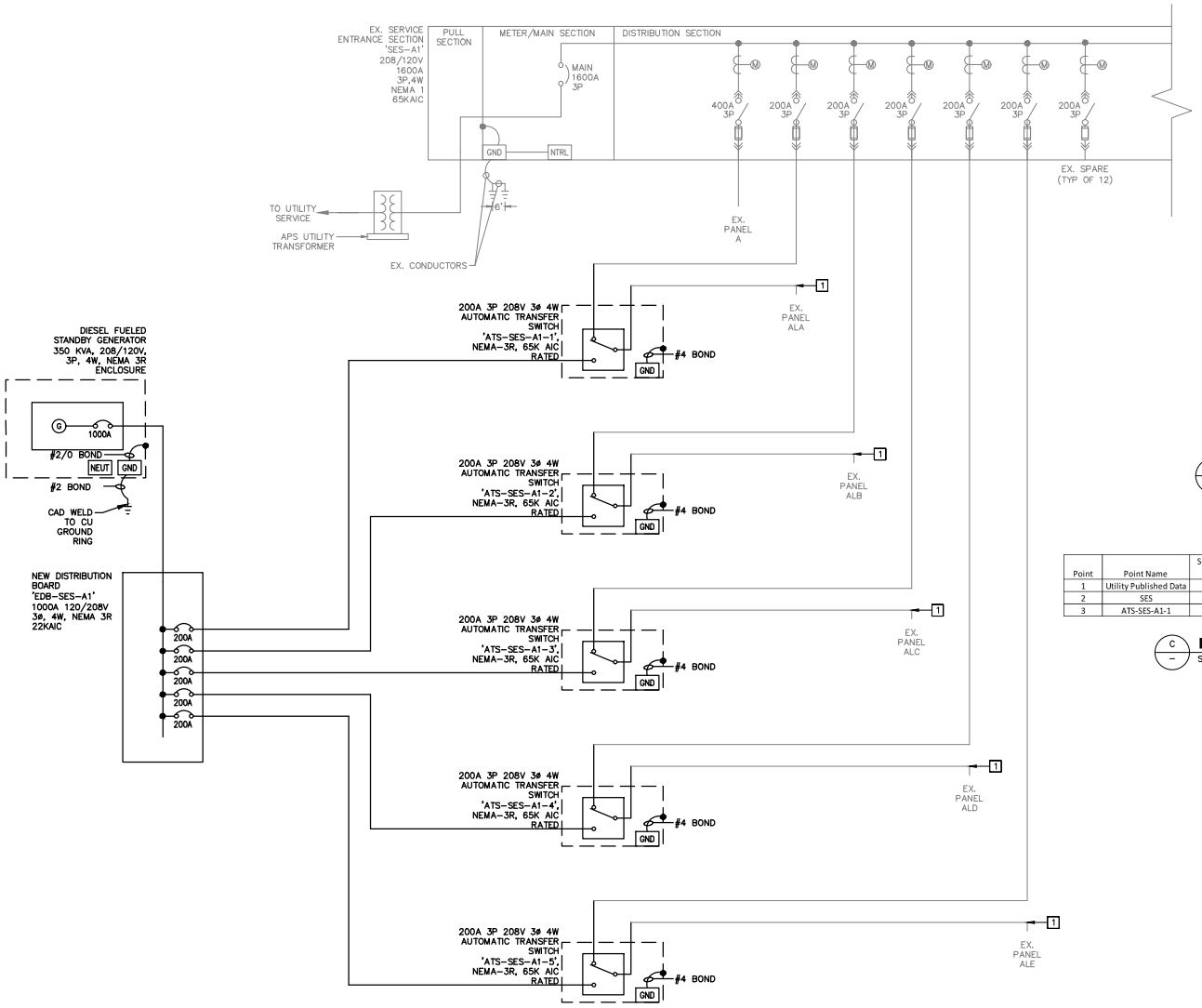
ENGINEER INFORMATION
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PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL
ORIGINAL PLAN DATE 07/07/2020	LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012	SHEET NUMBER 3 of 7

SUBMITTAL: FINAL
COB PLAN TRACKING #
COB PERMIT #

NORTH

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(OUTSIDE MARICOPA COUNTY)



A
–
ONE-LINE DIAGRAM
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1 REROUTE EXISTING CONDUIT TO NEW EMERGENCY DISTRIBUTION PANEL EDP-ATS-A1. PROVIDE NEW CONDUIT, JUNCTION BOX, ELBOW AND ANY OTHER APPURTENANCE NECESSARY TO MAKE CONNECTION AS INDICATED PER ONE-LINE DIAGRAM ON THIS SHEET. NOTE THE EXISTING EQUIPMENT SHOWN AS GREY AND NEW EQUIPMENT SHOWN AS BOLD FOR CLARITY. UTILIZE DROP CEILING FOR CONDUIT ROUTING BETWEEN SES AND PANEL ALA, ALB, ALC, ALD, AND ALE.

GENERATOR LOAD CALCULATION

LOAD DESCRIPTION	AMPS
EXISTING LOADS	
PANEL ALA	147
PANEL ALB	127
PANEL ALC	160
PANEL ALD	141
PANEL ALE	180
TOTAL CALCULATED PEAK DEMAND (EXISTING)	755
TOTAL REMOVED LOAD	0
PROPOSED LOADS	
PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	4
TOTAL PROPOSED LOAD	4
FUTURE LOADS	0
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	759
PERCENT LOADED % (TOTAL LOAD/1000A)	75.9%

*EXISTING SITE DEMAND REFERENCED FROM 'CITY OF BUCKEYE SUNDANCE CROSSINGS MUNICIPAL TENANT IMPROVEMENT 3-17-2014 AS-BUIILT PLANS.

B
–
GENERATOR LOAD SUMMARY
SCALE:NOT TO SCALE

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**% Vdrop
1	Utility Published Data	56194	56,194										56,194	
2	SES	1	56,194	NM	Copper	4	Set of	600 KCML	1600	20	480	3	54,233	0.14%
3	ATS-SES-A1-1	2	54,233	NM	Copper	1	Set of	3/0	200	20	480	3	42,332	0.26%

C
–
FAULT CURRENT CALCULATION
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer CERTIFICATE OF REGISTRATION 50368 Michael A. Colonico Date Signed 07/07/20 ARIZONA, U.S.A.
Expires 12/31/21

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 8

COB PLAN TRACKING #
COB PERMIT #

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE								
CONDUIT			CONDUCTORS/CABLE					REMARKS
NO.	SIZE	STATUS	QTY	SIZE	FROM	TO	PURPOSE	
E-01	2.5"	NEW	4	#3/0 AWG	SES-A1 200A PANEL ALA DRAWOUT FUSE	ATS-SES-A1-1	POWER	UTILIZE EXISTING ALA FEEDER CONDUIT, BREAK CONDUIT AND REROUTE NEW CONDUIT TO ATS-SES-A1-1. SEE ONE-LINE DIAGRAM
			1	#6 AWG			GROUND	
E-02	2.5"	NEW	4	#3/0 AWG	SES-A1 200A PANEL ALB DRAWOUT FUSE	ATS-SES-A1-2	POWER	UTILIZE EXISTING ALA FEEDER CONDUIT, BREAK CONDUIT AND REROUTE NEW CONDUIT TO ATS-SES-A1-2. SEE ONE-LINE DIAGRAM
			1	#6 AWG			GROUND	
E-03	2.5"	NEW	4	#3/0 AWG	SES-A1 200A PANEL ALC DRAWOUT FUSE	ATS-SES-A1-3	POWER	UTILIZE EXISTING ALA FEEDER CONDUIT, BREAK CONDUIT AND REROUTE NEW CONDUIT TO ATS-SES-A1-3. SEE ONE-LINE DIAGRAM
			1	#6 AWG			GROUND	
E-04	2.5"	NEW	4	#3/0 AWG	SES-A1 200A PANEL ALD DRAWOUT FUSE	ATS-SES-A1-4	POWER	UTILIZE EXISTING ALA FEEDER CONDUIT, BREAK CONDUIT AND REROUTE NEW CONDUIT TO ATS-SES-A1-4. SEE ONE-LINE DIAGRAM
			1	#6 AWG			GROUND	
E-05	2.5"	NEW	4	#3/0 AWG	SES-A1 200A PANEL ALE DRAWOUT FUSE	ATS-SES-A1-5	POWER	UTILIZE EXISTING ALA FEEDER CONDUIT, BREAK CONDUIT AND REROUTE NEW CONDUIT TO ATS-SES-A1-5. SEE ONE-LINE DIAGRAM
			1	#6 AWG			GROUND	
E-06	2.5"	NEW	4	#3/0 AWG	ATS-SES-A1-1	PANEL ALA	POWER	CONDUIT TO BE RUN WITH E-01
			1	#6 AWG			GROUND	
E-07	2.5"	NEW	4	#3/0 AWG	ATS-SES-A1-2	PANEL ALB	POWER	CONDUIT TO BE RUN WITH E-02
			1	#6 AWG			GROUND	
E-08	2.5"	NEW	4	#3/0 AWG	ATS-SES-A1-3	PANEL ALC	POWER	CONDUIT TO BE RUN WITH E-03
			1	#6 AWG			GROUND	
E-09	1"	NEW	4	#3/0 AWG	ATS-SES-A1-4	PANEL ALD	POWER	CONDUIT TO BE RUN WITH E-04
			1	#6 AWG			GROUND	
E-10	1"	NEW	4	#3/0 AWG	ATS-SES-A1-5	PANEL ALE	POWER	CONDUIT TO BE RUN WITH E-05
			1	#6 AWG			GROUND	
E-11	2.5"	NEW	4	#3/0 AWG	EDP-SES-A1	ATS-SES-A1-1	POWER	SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR EDP-SES-A1
			1	#6 AWG			GROUND	
E-12	2.5"	NEW	4	#3/0 AWG	EDP-SES-A1	ATS-SES-A1-2	POWER	SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR EDP-SES-A1
			1	#6 AWG			GROUND	
E-13	2.5"	NEW	4	#3/0 AWG	EDP-SES-A1	ATS-SES-A1-3	POWER	SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR EDP-SES-A1
			1	#6 AWG			GROUND	
E-14	2.5"	NEW	4	#3/0 AWG	EDP-SES-A1	ATS-SES-A1-4	POWER	SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR EDP-SES-A1
			1	#6 AWG			GROUND	
E-15	2.5"	NEW	4	#3/0 AWG	EDP-SES-A1	ATS-SES-A1-5	POWER	SEE ONE-LINE DIAGRAM AND PANEL SCHEDULE FOR EDP-SES-A1
			1	#6 AWG			GROUND	
E-16A	2.5"	NEW	4	#3/0 AWG	GENERATOR	EDP-SES-A1	POWER	PARALLEL CONDUIT TO EDP-SES-A1
			1	#2/0 AWG			GROUND	
E-16B	2.5"	NEW	4	#3/0 AWG	GENERATOR	EDP-SES-A1	POWER	PARALLEL CONDUIT TO EDP-SES-A1
			1	#2/0 AWG			GROUND	
E-16C	2.5"	NEW	4	#3/0 AWG	GENERATOR	EDP-SES-A1	POWER	PARALLEL CONDUIT TO EDP-SES-A1
			1	#2/0 AWG			GROUND	
E-16D	2.5"	NEW	4	#3/0 AWG	GENERATOR	EDP-SES-A1	POWER	PARALLEL CONDUIT TO EDP-SES-A1
			1	#2/0 AWG			GROUND	
E-16E	2.5"	NEW	4	#3/0 AWG	GENERATOR	EDP-SES-A1	POWER	PARALLEL CONDUIT TO EDP-SES-A1
			1	#2/0 AWG			GROUND	
E-17	1"	NEW	4	#8 AWG	PANEL ALE	GENERATOR	POWER	GENERATOR ANCILLARY LOADS: PANEL ALE, CKT 39, 41
			1	#8 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		ATS-SES-A1-1	GENERATOR	CONTROLS	GENERATOR CONTROLS
C-2	1"	NEW	8-PR #16 AWG		ATS-SES-A1-2	GENERATOR	CONTROLS	GENERATOR CONTROLS
C-3	1"	NEW	8-PR #16 AWG		ATS-SES-A1-3	GENERATOR	CONTROLS	GENERATOR CONTROLS
C-4	1"	NEW	8-PR #16 AWG		ATS-SES-A1-4	GENERATOR	CONTROLS	GENERATOR CONTROLS
C-5	1"	NEW	8-PR #16 AWG		ATS-SES-A1-5	GENERATOR	CONTROLS	GENERATOR CONTROLS

A
–
CONDUIT AND CONDUCTOR SCHEDULE
COYOTE BRANCH (21699 W. YUMA ROAD)
SCALE:N.T.S

PANEL: EDP-SES-A1

VOLTAGE: 120/208V
PHASE, WIRES: 3ø, 4W
SCCR (AMPS): 22,000
SOURCE: STANDBY GENERATOR

PANEL BUS: 1000 AMPS
MAIN: MLO BREAKER

DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
PANEL ALA	17637	200/3	1	147			2			
	17186		3		143		4			
	16648		5			139	6			
PANEL ALB	14889	200/3	7	124			8			
	15282		9		127		10			
	14879		11			124	12			
PANEL ALC	19160	200/3	13	160			14			
	17565		15		146		16			
	19160		17			160	18			
PANEL ALD	14236	200/3	19	119			20			
	16284		21		136		22			
	16858		23			140	24			
PANEL ALE	21143	200/3	25	176			26			
	18548		27		155		28			
	21554		29			180	30			
			31	0			32			
			TOTALS	725.5	707.2	742.5	AMPS			

LOAD CALCULATIONS: SUBTOTAL (VA): 261029
TOTAL (VA): 261029 @ 208V, 3Ø = 725.1 AMPS

B
–
PANEL SCHEDULE EDP-SES-A1
COYOTE BRANCH (21699 W. YUMA ROAD)
SCALE:N.T.S

PANEL: "ALE"

VOLTAGE: 120/208
PHASE, WIRES: 3ø, 4W
SCCR (AMPS): 22,000
SOURCE: SES

PANEL BUS: 225 AMPS
MAIN: M.L.O. BREAKER

DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
RECEPTS-BREAK-REFRIGERATOR	800	20/1	1	7			2	20/1		SPARE
RECEPTS-BREAK-COUNTER	500	20/1	3		4		4	20/1		SPARE
RECEPTS-BREAK-COUNTER	500	20/1	5			4	6	20/1		SPARE
RECEPTS-BREAK-DISH/DISP	1200	20/1	7	10			8	20/1		SPARE
RECEPTS-BREAK-DISH/DISP	540	20/1	9		5		10	20/1		SPARE
RECEPTS-PROGRAM, HALL	720	20/1	11			31	12		2988	
RECEPTS-I.T. SERVICE	500	20/1	13	29			14	45/3	2988	RELOCATED HP-5T
RECEPTS-I.T. SERVICE	500	20/1	15		29		16		2988	
RECEPS-HALL, STORAGE	720	20/1	17			19	18	30/2	1560	I.T. SERVICE
RECEPS-PROGRAM ROOM	540	20/1	19	18			20		1560	
RECEPS-PROGRAM ROOM	540	20/1	21		18		22	30/2	1560	I.T. SERVICE
RECEPS-PROGRAM ROOM	500	20/1	23			17	24		1560	
RECEPS-PROGRAM ROOM	500	20/1	25	32			26		3360	
RECEPS-PROGRAM ROOM	500	20/1	27		32		28	50/3	3360	EXISTING HP-6.5T
RECEPS-PROGRAM ROOM	500	20/1	29			32	30		3360	
RECEPS-PROGRAM ROOM	500	20/1	31	32			32		3360	
RECEPS-PROGRAM ROOM	500	20/1	33		32		34	50/3	3360	EXISTING HP-6.5T
LIGHTING-PROGRAM ROOM	1586	20/1	35			41	36		3360	
LIGHTING-STORAGE,I.T., BREAK	1635	20/1	37	49			38		4200	
GENERATOR BLOCK HEATER	**240**	**20/1**	39		37		40	50/3	4200	EXISTING HP-6.5T
GENERATOR BATTERY CHARGER	**240**	**20/1**	41			37	42		4200	
			TOTALS	176.2	156.6	181.6	AMPS			

LOAD CALCULATIONS: SUBTOTAL (VA): 61725
+25% PER NEC (VA): 15431
TOTAL (VA): 77156 @ 208V, 3Ø = 214.4 AMPS

D
–
PANEL SCHEDULE: ALE
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SCHEDULES

ENGINEER INFORMATION
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COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

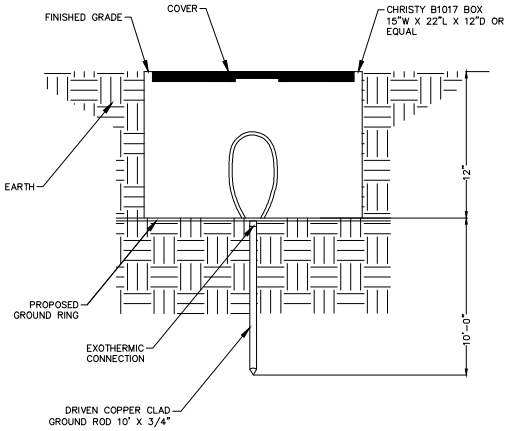
Registered Professional Engineer CERTIFICATE OF REGISTRATION 50368 Michael A. Colombo Date Signed 07/07/20 ARIZONA, U.S.A.

Expires 12/31/21

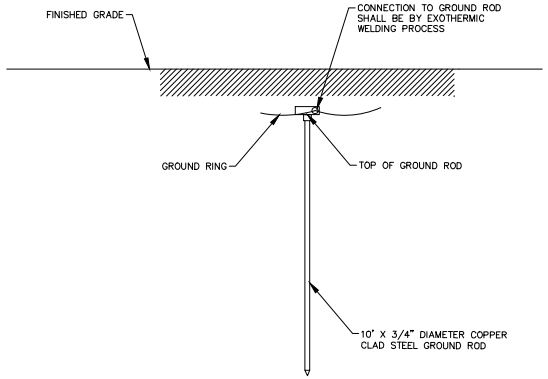
ORIGINAL PLAN DATE 07/07/2020
LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012
SHEET NUMBER 5 of 8

SUBMITTAL: FINAL
COB PLAN TRACKING #
COB PERMIT #

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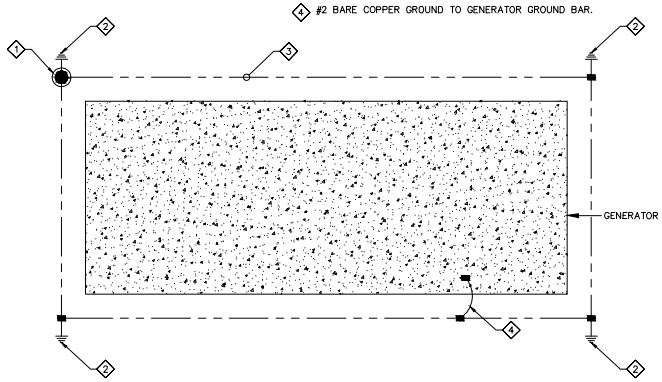
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



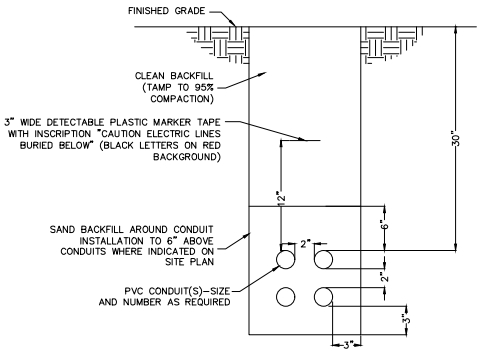
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



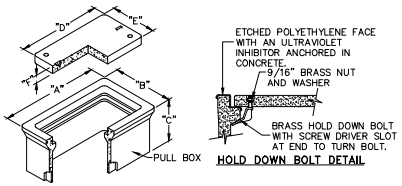
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



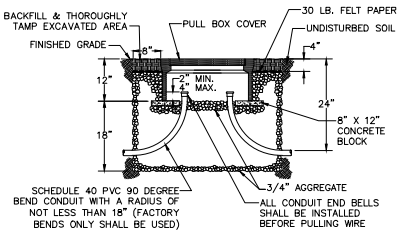
HOLD DOWN BOLT DETAIL



LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

LID 'A'

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL DETAILS

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SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

AS-BUILT SEAL

DESIGN SEAL
Registered Professional Engineer
CERTIFICATE NO.
50368
Michael A. Colombo
Not Valid Without Signature
ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 8

COB PLAN TRACKING #

COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
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(OUTSIDE MARICOPA COUNTY)

STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
- BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
- RISK CATEGORY II
- Iw 1.00
- STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
- EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
- DESIGN WIND PRESSURE . . . . . .15.63 psf (STRENGTH LEVEL)
- INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
- Ie 1.00
- SITE CLASS . . . . . .D
- S_s . . . . . 0.171g S_1 . . . . . .0.075g
- S_{ms} . . . . . 0.182g S_{m1} 0.121g
- SEISMIC DESIGN CATEGORY . . . . . .B
- DESIGN BASE SHEAR (C_s"W") 0.051W
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
- ALLOWABLE BEARING PRESSURE = 1500 PSF
- ACTIVE EARTH PRESSURE = 45 PCF
- AT-REST EARTH PRESSURE = 60 PCF
- PASSIVE EARTH PRESSURE = 100 PCF
- = 0.25 (W/OUT PASSIVE PRESSURE)
- MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

- MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 3000 PSI.
- REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

JOINT NOTES

CONCRETE:
SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. CONCRETE CONSTRUCTION (TABLE 1705.3)
B. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

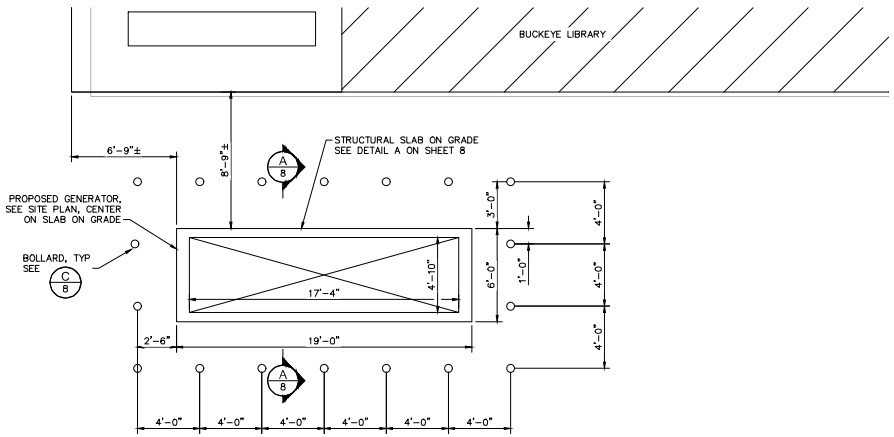
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



A – **PROPOSED GENERATOR LOCATION**
COYOTE BRANCH (21699 W. YUMA ROAD)
SCALE:1/4"=1'-0"

NORTH

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB WITH ENGINEER PRIOR TO CONSTRUCTION. SLAB ON GRADE SHALL BE 8'-9" FROM EXISTING BUILDING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

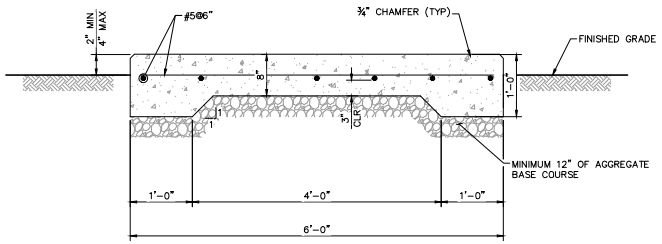
COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Date Signed 07/07/20 ARIZONA, U.S.A.

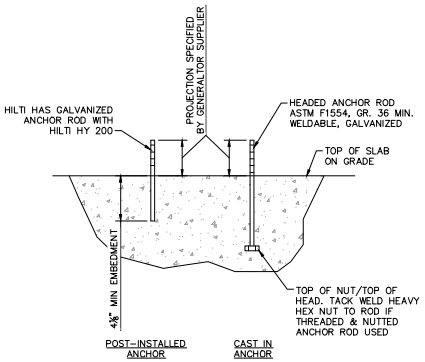
ORIGINAL PLAN DATE 07/07/2020
LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012
SHEET NUMBER 7 of 8

COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



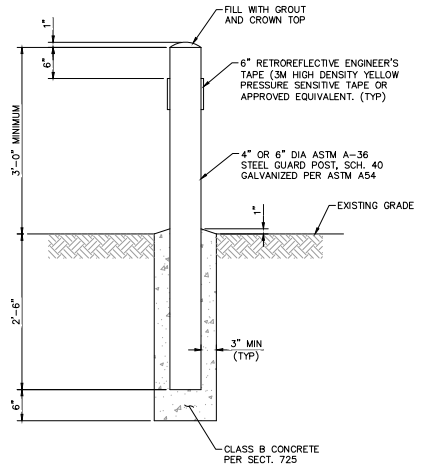
A
–
GENERATOR CONCRETE PAD
SCALE:1'=1'



B
–
TYP ANCHOR DETAIL
SCALE:NOT TO SCALE

NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.



C
–
BOLLARD
SCALE:1'=1'

REVISIONS:

1

2

3

PLAN NAME

STRUCTURAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL: Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Registered ARIZONA, U.S.A.
ORIGINAL PLAN DATE: 07/07/2020	LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012	SHEET NUMBER: 8 of 8

COB PLAN TRACKING #

COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

COYOTE BRANCH (21699 W. YUMA ROAD)

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: Coyote Branch Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - Coyote Branch*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustic Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 208in = 17.33\ ft$	Length of generator - 300 kW Diesel Generator Specification - see appendix.
$W_{gen} := 58in = 4.83\ ft$	Width of generator - 300 kW Diesel Generator Specification - see appendix.
$H_{gen} := 108in = 9\ ft$	Height of Generator - 300 kW Diesel Generator Specification - see appendix.
$L_{enc} := 208in = 17.33\ ft$	Length of Enclosure - 300 kW Diesel Generator Specification - see appendix..
$W_{enc} := 57.6in = 4.8\ ft$	Width of Enclosure - 300 kW Diesel Generator Specification - see appendix.
$H_{enc} := 148in = 12.33\ ft$	Height of Enclosure - 300 kW Diesel Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45pcf$	Active Soil Pressure
$p_{ar} := 60pcf$	At-Rest Soil Pressure
$p_p := 100pcf$	Passive Soil Pressure
$w_{soil} := 120pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.63psf$ — Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.9kip$ — Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 17.979kip$ — 300 kW Diesel Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.23 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.84 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 4.26 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 1.15 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 9.66 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 19ft$ — Length of pad

$W_{pad} := 6ft$ — Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 171 \cdot kip$ — Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 38.63 \cdot kip$ — Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

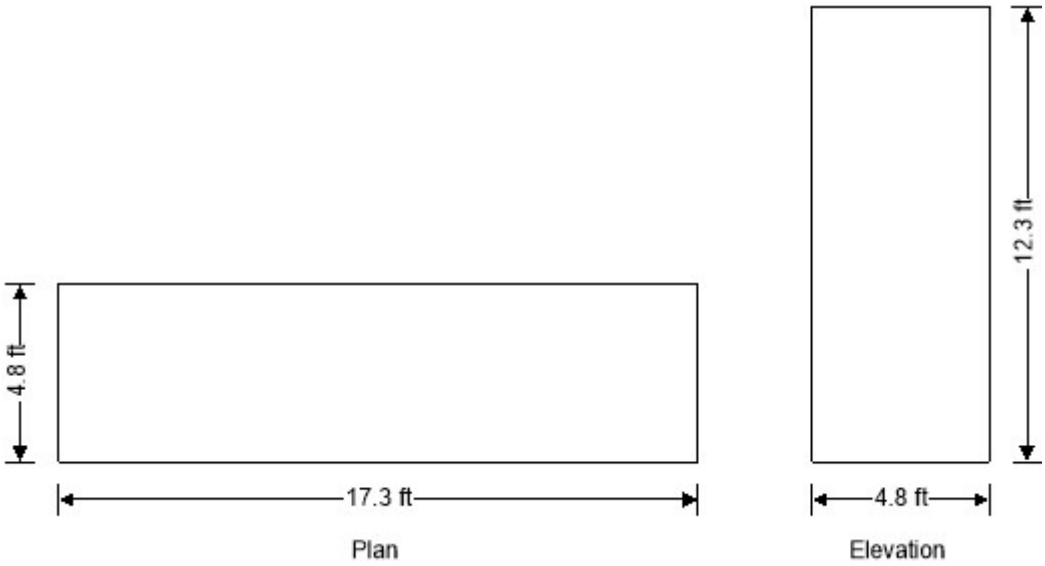
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **17.33** ft
Width of building	d = **4.80** ft
Height to eaves	H = **12.33** ft
Mean height	h = **12.33** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **1035** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.96**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)

z (ft)	K_z (Table 26.10-1)	q_z (psf)
12.33	0.85	18.17

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.17** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	12.33	-1.30	18.17	-23.35	83.18	-1.94

Total vertical net force $F_{w,v}$ = **-1.94** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-C_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.17	9.09	213.68	1.94
B	12.33	-0.50	18.17	-11.00	213.68	-2.35
C	12.33	-0.70	18.17	-14.08	59.18	-0.83
D	12.33	-0.70	18.17	-14.08	59.18	-0.83

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **213.68** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **3.42** kips

Leeward net force $F_l = F_{w,wB}$ = **-2.3** kips

Windward net force $F_w = F_{w,wA}$ = **1.9** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **4.3** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	12.33	-0.18	18.17	0.49	83.18	0.04

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.17	15.63	213.68	3.34

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
B	12.33	-0.50	18.17	-4.45	213.68	-0.95
C	12.33	-0.70	18.17	-7.54	59.18	-0.45
D	12.33	-0.70	18.17	-7.54	59.18	-0.45

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H =$ **213.68** ft^2

Projected vertical area of roof $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **3.42** kips

Leeward net force $F_l = F_{w,wB} =$ **-1.0** kips

Windward net force $F_w = F_{w,wA} =$ **3.3** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **4.3** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	12.33	-1.07	18.17	-19.79	29.59	-0.59
B (-ve)	12.33	-0.82	18.17	-15.87	29.59	-0.47
C (-ve)	12.33	-0.58	18.17	-12.30	24.00	-0.30

Total vertical net force $F_{w,v} =$ **-1.35** kips

Total horizontal net force $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.17	9.09	59.18	0.54
B	12.33	-0.22	18.17	-6.66	59.18	-0.39
C	12.33	-0.70	18.17	-14.08	213.68	-3.01
D	12.33	-0.70	18.17	-14.08	213.68	-3.01

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H =$ **59.18** ft^2

Projected vertical area of roof $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.95** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.4** kips

Windward net force $F_w = F_{w,wA} =$ **0.5** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.9** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	12.33	-0.18	18.17	0.49	29.59	0.01
B (+ve)	12.33	-0.18	18.17	0.49	29.59	0.01
C (+ve)	12.33	-0.18	18.17	0.49	24.00	0.01

Total vertical net force $F_{w,v}$ = **0.04** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	12.33	0.80	18.17	15.63	59.18	0.93
B	12.33	-0.22	18.17	-0.12	59.18	-0.01
C	12.33	-0.70	18.17	-7.54	213.68	-1.61
D	12.33	-0.70	18.17	-7.54	213.68	-1.61

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **59.18** ft^2

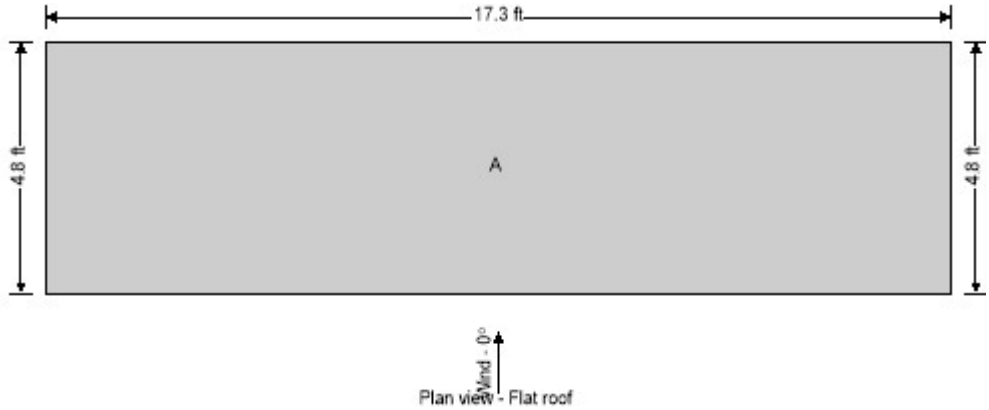
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

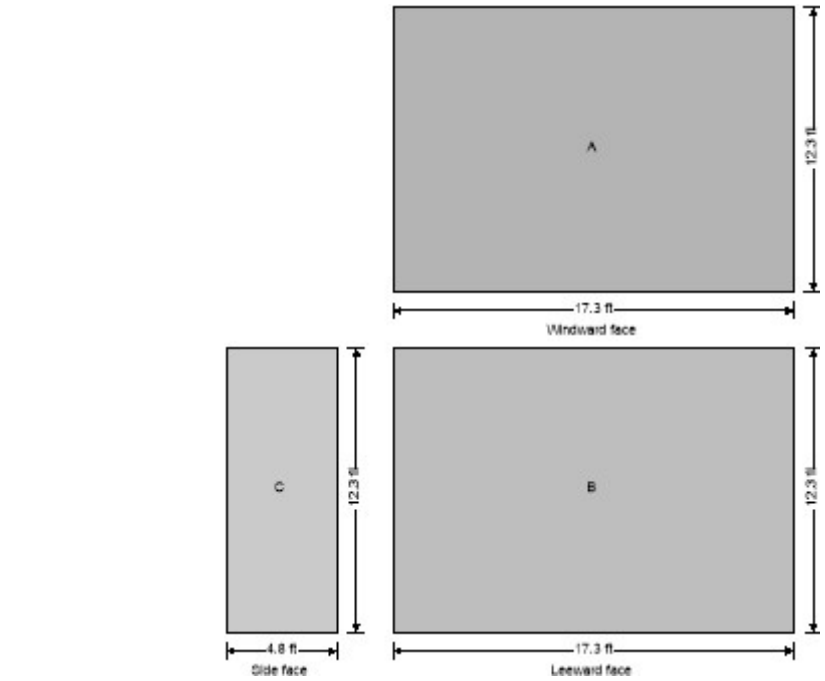
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.95** kips

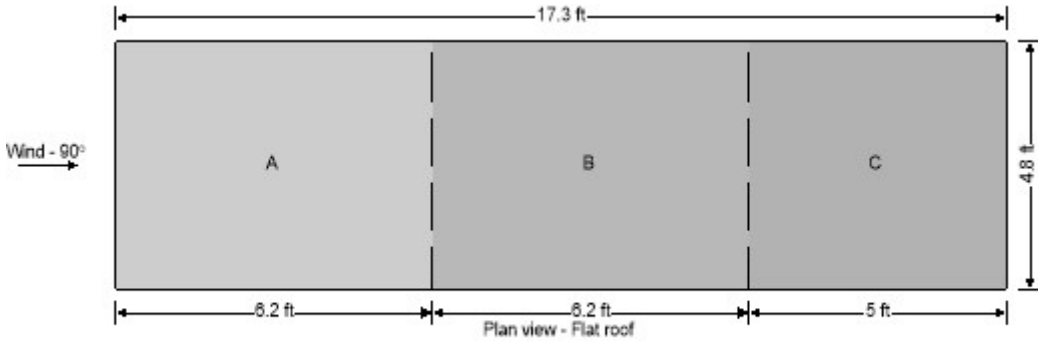
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

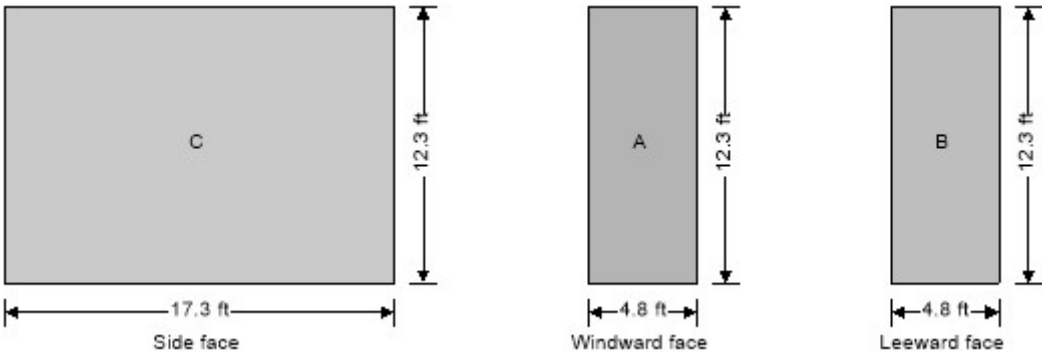
Windward net force $F_w = F_{w,wA}$ = **0.9** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.9** kips




A
12.3 ft
17.3 ft
Windward face
C
12.3 ft
B
12.3 ft
4.8 ft
Side face
17.3 ft
Leeward face


17.3 ft
Wind - 90°
A
B
C
4.8 ft
6.2 ft
6.2 ft
5 ft
Plan view - Flat roof


C
12.3 ft
17.3 ft
Side face
A
12.3 ft
4.8 ft
Windward face
B
12.3 ft
4.8 ft
Leeward face

1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.171**
at 1 sec period	S_1 = **0.075**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.274**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.180**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.182**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.120**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **12.33** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.209** sec
Building fundamental period (Sect 12.8.2)	T = T_a = **0.209** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0521**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.1641**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient C_s = **0.0521**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure W = **18.0** kips

Seismic response coefficient C_s = **0.0521**

Seismic base shear (Eq 12.8-1) $V = C_s \times W$ = **0.9** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Coyote Branch

CODE REFERENCES

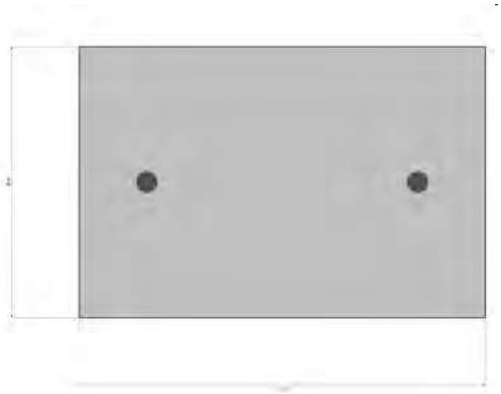
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-16

Material Properties

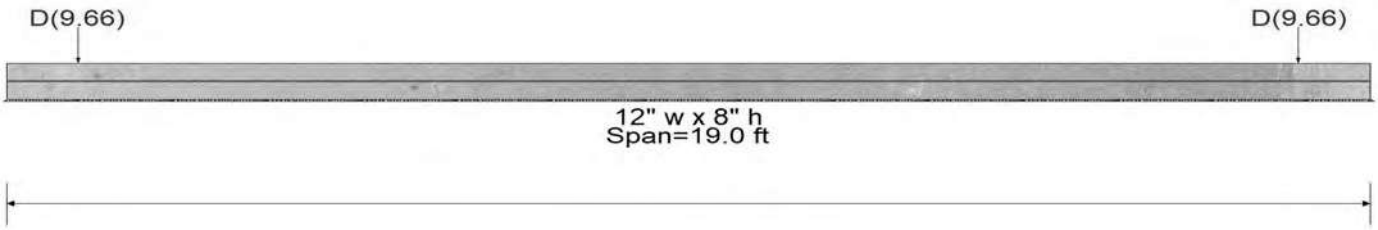
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1 =		0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination ASCE 7-16

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 4
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
2-#5 at 4.0 in from Top, from 0.0 to 19.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 9.660 k @ 1.0 ft
Point Load : D = 9.660 k @ 18.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	0.756 : 1	Maximum Deflection	
Section used for this span		Typical Section	Max Downward L+Lr+S Deflection	0.000 in
Mu : Applied		-7.159 k-ft	Max Upward L+Lr+S Deflection	0.000 in
Mn * Phi : Allowable		9.464 k-ft	Max Downward Total Deflection	0.327 in
Load Combination		D Only	Max Upward Total Deflection	-0.124 in
Location of maximum on span		4.694 ft		
Span # where maximum occurs		Span # 1		
Maximum Soil Pressure	=	4.709 ksf at 19.00 ft LdComb: D Only		
Allowable Soil Pressure	=	1.50 ksf EXCEEDED!		

Bearing pressures checked in Mathcad for full slab area

Shear Stirrup Requirements

Between 0.00 to 0.89 ft, PhiVc/2 < Vu <= PhiVc, Req'd Vs = Not Reqd 11.5.6.1, use stirrups spaced at 0.000 in
Between 1.12 to 1.34 ft, Vu > PhiVc, Req'd Vs = 0.1431, use stirrups spaced at 2.000 in
Between 1.56 to 17.21 ft, PhiVc/2 < Vu <= PhiVc, Req'd Vs = Not Reqd 11.5.6.1, use stirrups spaced at 0.000 in
Between 17.44 to 17.88 ft, Vu > PhiVc, Req'd Vs = 1.399, use stirrups spaced at 2.000 in
Between 18.11 to 18.55 ft, Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	18.106	1.39	9.46	0.15

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - Coyote Branch

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
D Only					
Span # 1	1	18.106	1.39	9.46	0.15

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.3270	19.000	Span 1	-0.1236	9.500

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	0.00	4.00	0.41	0.41	0.00	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.22	4.00	1.20	1.20	0.09	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.45	4.00	1.95	1.95	0.36	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.67	4.00	2.67	2.67	0.80	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	0.89	4.00	3.35	3.35	1.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.12	4.00	-5.66	5.66	1.01	1.00	4.91	Vu > PhiVc	0.7530	0.00	2.00
D Only	1	1.34	4.00	-5.05	5.05	0.26	1.00	4.91	Vu > PhiVc	0.1431	0.00	2.00
D Only	1	1.56	4.00	-4.48	4.48	1.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.79	4.00	-3.94	3.94	2.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.01	4.00	-3.44	3.44	3.27	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.24	4.00	-2.97	2.97	4.04	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.46	4.00	-2.54	2.54	4.70	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.68	4.00	-2.14	2.14	5.27	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.91	4.00	-1.77	1.77	5.75	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.13	4.00	-1.43	1.43	6.14	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.35	4.00	-1.12	1.12	6.46	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.58	4.00	-0.85	0.85	6.71	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.80	4.00	-0.60	0.60	6.90	0.69	4.55	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.02	4.00	-0.37	0.37	7.03	0.43	4.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.25	4.00	-0.18	0.18	7.12	0.20	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.47	4.00	-0.00	0.00	7.16	0.01	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.69	4.00	0.14	0.14	7.16	0.16	3.93	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.92	4.00	0.27	0.27	7.13	0.31	4.10	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.14	4.00	0.38	0.38	7.07	0.43	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.36	4.00	0.47	0.47	6.98	0.53	4.37	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.59	4.00	0.54	0.54	6.88	0.62	4.47	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.81	4.00	0.59	0.59	6.76	0.70	4.56	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.04	4.00	0.62	0.62	6.63	0.75	4.62	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.26	4.00	0.65	0.65	6.49	0.80	4.67	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.48	4.00	0.66	0.66	6.34	0.83	4.71	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.71	4.00	0.65	0.65	6.19	0.84	4.72	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.93	4.00	0.64	0.64	6.05	0.84	4.72	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.15	4.00	0.61	0.61	5.91	0.83	4.71	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.38	4.00	0.57	0.57	5.77	0.80	4.67	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.60	4.00	0.53	0.53	5.64	0.75	4.62	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.82	4.00	0.48	0.48	5.52	0.70	4.56	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.05	4.00	0.42	0.42	5.42	0.63	4.47	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.27	4.00	0.36	0.36	5.32	0.54	4.38	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.49	4.00	0.29	0.29	5.24	0.45	4.27	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.72	4.00	0.22	0.22	5.18	0.35	4.15	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.94	4.00	0.15	0.15	5.13	0.24	4.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.16	4.00	0.08	0.08	5.09	0.12	3.88	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.39	4.00	0.00	0.00	5.07	0.00	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.61	4.00	-0.08	0.08	5.07	0.12	3.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.84	4.00	-0.15	0.15	5.09	0.24	4.02	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.06	4.00	-0.22	0.22	5.13	0.35	4.15	Vu < PhiVc/2	Not Reqd	0.00	0

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - Coyote Branch

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu Actual	(k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Suggest
D Only	1	10.28	4.00	-0.29	0.29	5.18	0.45	4.28	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.51	4.00	-0.36	0.36	5.24	0.55	4.39	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.73	4.00	-0.42	0.42	5.32	0.64	4.49	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.95	4.00	-0.48	0.48	5.42	0.71	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.18	4.00	-0.53	0.53	5.52	0.77	4.64	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.40	4.00	-0.57	0.57	5.64	0.81	4.69	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.62	4.00	-0.61	0.61	5.77	0.85	4.73	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.85	4.00	-0.64	0.64	5.91	0.86	4.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.07	4.00	-0.65	0.65	6.05	0.86	4.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.29	4.00	-0.66	0.66	6.19	0.85	4.73	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.52	4.00	-0.65	0.65	6.34	0.82	4.69	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.74	4.00	-0.62	0.62	6.49	0.77	4.64	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.96	4.00	-0.59	0.59	6.63	0.71	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.19	4.00	-0.54	0.54	6.76	0.63	4.48	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.41	4.00	-0.47	0.47	6.88	0.54	4.38	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.64	4.00	-0.38	0.38	6.98	0.43	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.86	4.00	-0.27	0.27	7.07	0.31	4.10	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.08	4.00	-0.14	0.14	7.13	0.16	3.94	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.31	4.00	0.00	0.00	7.16	0.01	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.53	4.00	0.18	0.18	7.16	0.20	3.98	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.75	4.00	0.37	0.37	7.12	0.42	4.24	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	14.98	4.00	0.60	0.60	7.03	0.68	4.54	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.20	4.00	0.85	0.85	6.90	0.98	4.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.42	4.00	1.12	1.12	6.71	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.65	4.00	1.43	1.43	6.46	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	15.87	4.00	1.77	1.77	6.14	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.09	4.00	2.14	2.14	5.75	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	16.32	4.00	2.54	2.54	5.27	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.54	4.00	2.97	2.97	4.70	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.76	4.00	3.44	3.44	4.04	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	16.99	4.00	3.94	3.94	3.27	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	17.21	4.00	4.48	4.48	2.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	17.44	4.00	5.05	5.05	1.39	1.00	4.91	Vu > PhiVc	0.1431	0.00	2.00
D Only	1	17.66	4.00	5.66	5.66	0.26	1.00	4.91	Vu > PhiVc	0.7530	0.00	2.00
D Only	1	17.88	4.00	6.31	6.31	1.01	1.00	4.91	Vu > PhiVc	1.399	0.00	2.00
D Only	1	18.11	4.00	-2.67	2.67	1.39	1.00	4.91	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	18.33	4.00	-1.95	1.95	0.80	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	18.55	4.00	-1.20	1.20	0.36	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	18.78	4.00	-0.41	0.41	0.09	1.00	4.91	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

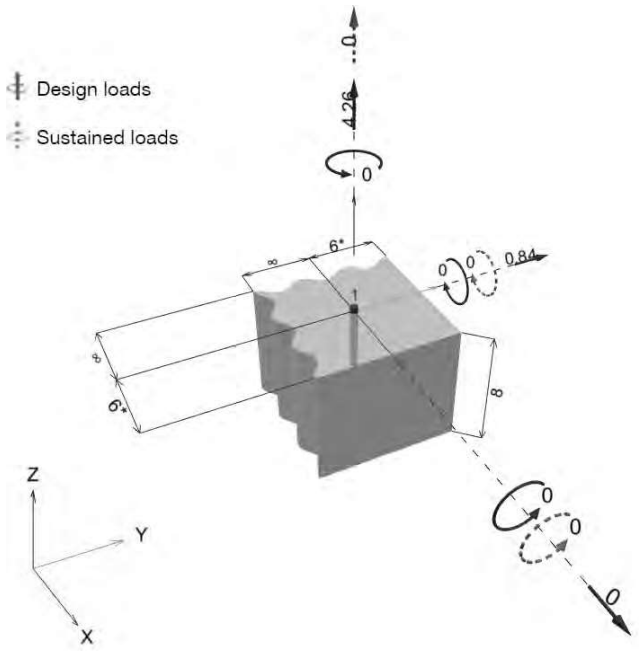
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 4.134 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2019 | 3/1/2020
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 4.260; V_x = 0.000; V_y = 0.840; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	99

2 Load case/Resulting anchor forces

Anchor reactions [kip]
Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	4.260	0.840	0.000	0.840

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	4.260	7.800	55	OK
Bond Strength**	4.260	4.636	92	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	4.260	4.874	88	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
$\phi N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	ϕN_{sa} [kip]	N_{ua} [kip]
12.000	0.650	7.800	4.260

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ — ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ — ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ — ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ — ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	4.134	6.000	1.000	1,100

c_{ac} [in.]	λ_a
8.162	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	7.132

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
7.132	0.650	4.636	4.260

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$		ACI 318-14 Eq. (17.4.2.1a)
$\phi N_{cb} \geq N_{ua}$		ACI 318-14 Table 17.3.1.1
A_{Nc}	see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)	
$A_{Nc0} = 9 h_{ef}^2$		ACI 318-14 Eq. (17.4.2.1c)
$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$		ACI 318-14 Eq. (17.4.2.5b)
$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$		ACI 318-14 Eq. (17.4.2.7b)
$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$		ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.134	6.000	1.000	8.162	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
148.64	153.36	0.991	1.000	7.809

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
7.499	0.650	4.874	4.260

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.840	4.320	20	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Bond Strength controls)**	0.840	9.984	9	OK
Concrete edge failure in direction y+**	0.840	2.989	29	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.840

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

4.2 Pryout Strength (Bond Strength controls)

$V_{cp} = k_{cp}\left[\left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}\right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

k_{cp}	$\alpha_{overhead}$	$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\tau_{k,c}$ [psi]
2	1.000	1,589	0.500	4.134	6.000	1,100

c_{ac} [in.]	λ_a
8.162	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	7.132

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
14.264	0.700	9.984	0.840

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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	4.000

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	6.039

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
4.270	0.700	2.989	0.840

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.919	0.281	5/3	99	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 4.134 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 5.384 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Coyote Branch	Date:	5/1/2020
Fastening point:			

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4. APPENDIX

4.1 WIND LOADS

Hazards by Location

Search Information

Address: 21699 W Yuma Rd, Buckeye, AZ 85326, USA

Coordinates: 33.4343439, -112.5171059

Elevation: 1035 ft

Timestamp: 2020-03-12T15:53:10.943Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	71 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Emergency Backup Generators Citywide 296
Contract No. 2021036
LightDay Solar, Inc.

this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

4.2 SEISMIC LOADS

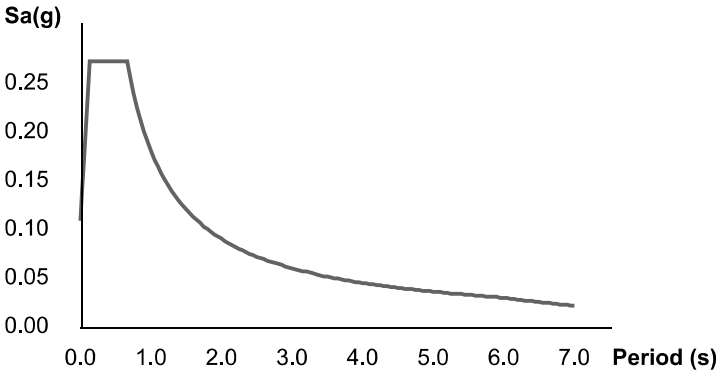
Hazards by Location

Search Information

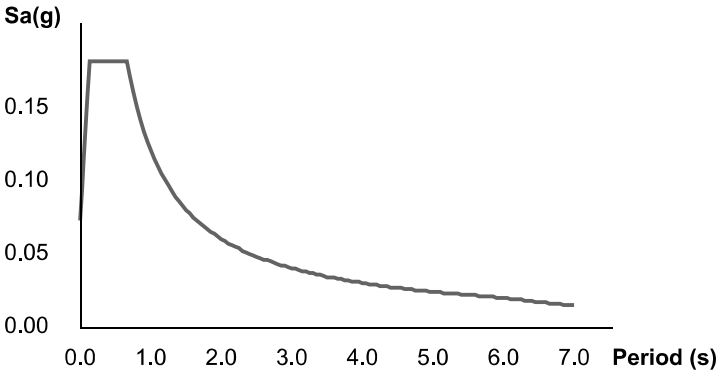
Address:	21699 W Yuma Rd, Buckeye, AZ 85326, USA
Coordinates:	33.4343439, -112.5171059
Elevation:	1035 ft
Timestamp:	2020-03-12T15:54:19.917Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.171	MCE_R ground motion (period=0.2s)
S_1	0.075	MCE_R ground motion (period=1.0s)
S_{MS}	0.273	Site-modified spectral acceleration value
S_{M1}	0.181	Site-modified spectral acceleration value
S_{DS}	0.182	Numeric seismic design value at 0.2s SA
S_{D1}	0.121	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.934	Coefficient of risk (0.2s)
CR_1	0.943	Coefficient of risk (1.0s)
PGA	0.075	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.12	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.171	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.183	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.075	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.08	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

While the information presented on this website is believed to be correct, ATC and its sponsors and contributors assume no responsibility or liability for its accuracy. The material presented in the report should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. ATC does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the report provided by this website. Users of the information from this website assume all liability arising from such use. Use of the output of this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

4.3 GENERATOR SPECIFICATIONS

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

Standby Power Rating
300 kW, 375 kVA, 60 Hz

Prime Power Rating*
270 kW, 338 kVA, 60 Hz

*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories

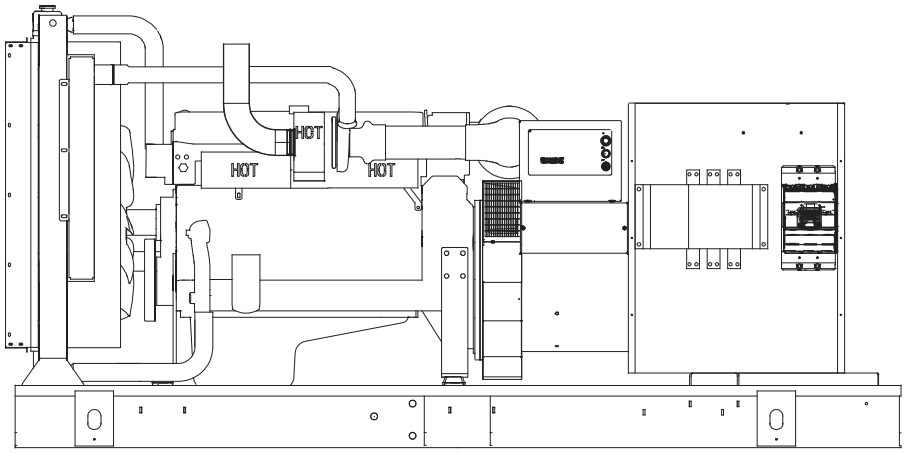


Image used for illustration purposes only

Codes and Standards

Generac products are designed to the following standards:

UL2200, UL508, UL142, UL489

NFPA 37, 70, 99, 110

NEC700, 701, 702, 708

ISO 3046, 7637, 8528, 9001

NEMA ICS10, MG1, 250, ICS6, AB1

ANSI C62.41

IBC 2009, CBC 2010, IBC 2012, ASCE 7-05, ASCE 7-10, ICC-ES AC-156 (2012)

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SD300 | 10.3L | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Heavy Duty Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil & Coolant
- Radiator Duct Adapter (Open Set Only)

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze
- 120 VAC Coolant Heater

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- GENprotect™
- 12 Leads (3-Phase, Non 600V)
- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Permanent Magnet Excitation
- Sealed Bearing
- Automated Manufacturing (Winding, Insertion, Lacing, Varnishing)
- Rotor Dynamically Spin Balanced
- Amortisseur Winding
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Only)

ENCLOSURE (if selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- Rhino Coat™ - Textured Polyester Powder Coat Paint

TANKS (if selected)

- UL 142
- Double Wall
- Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested (2 psi)
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- Rhino Coat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- 3 Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms & Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms & Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Oil Make-Up System
- ○ Oil Heater
- ○ Critical Exhaust Silencer

FUEL SYSTEM

- ○ Flexible Fuel Lines
- ○ Primary Fuel Filter

ELECTRICAL SYSTEM

- ○ 10A UL Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

GENERATOR SET

- ○ GenLink® Communications Software (English Only)
- ○ Extended Factory Testing
- ○ IBC Seismic Certification
- ○ 8 Position Load Center
- ○ 2 Year Extended Warranty
- ○ 5 Year Warranty
- ○ 5 Year Extended Warranty
- ○ 7 Year Extended Warranty
- ○ 10 Year Extended Warranty

ENCLOSURE

- ○ Standard Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating*
- ○ AC/DC Enclosure Lighting Kit
- ○ 12 VDC Enclosure Light Kit
- ○ 120 VAC Enclosure Light Kit

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Sender with Indication Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ Remote Communication - Modem
- ○ Remote Communication - Ethernet
- ○ 10A Run Relay
- ○ Ground Fault Indication and Protection Functions

TANKS (SIZE ON LAST PAGE)

- ○ Electric Fuel Level
- ○ Mechanical Fuel Level
- ○ 8” Fill Extension
- ○ 13” Fill Extension
- ○ 19” Fill Extension

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

- ○ Spare Inputs (x4) / Outputs (x4)
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing

ENCLOSURE

- ○ Motorized Dampers

TANKS

- ○ Overfill Protection Valve
- ○ UL2085 Tank
- ○ ULC S-601 Tank
- ○ Special Fuel Tanks
- ○ Vent Extensions

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition.

*Consult factory for availability

SD300 | 10.3L | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Iveco/FPT
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu. in)	10.3 (628.54)
Bore - mm (in)	125 (4.92)
Stroke - mm (in)	140 (5.51)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	4-Valve
Piston Type	Aluminum
Crankshaft Type	Dropped Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow
Crankcase Capacity - L (qts)	30 (31.68)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed (rpm)	2250
Fan Diameter - mm (in)	762 (30.0)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Inject Pump Make	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	Common Rail
Engine Type	Direct Injection
Fuel Supply Line - mm (in.)	12.7 (0.5) NPT
Fuel Return Line - mm (in.)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	24 VDC
Battery Charger Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520 mm Generac
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	< 50

Standard Excitation	Permanent Magnet Excitation
Bearings	Single Sealed Cartridge
Coupling	Direct, Flexible Disc
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SD300 | 10.3 | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

	Standby		Prime	
Three-Phase 120/208 VAC @0.8pf	300 kW	Amps: 1041	270 kW	Amps: 937
Three-Phase 120/240 VAC @0.8pf	300 kW	Amps: 902	270 kW	Amps: 812
Three-Phase 277/480 VAC @0.8pf	300 kW	Amps: 451	270 kW	Amps: 406
Three-Phase 346/600 VAC @0.8pf	300 kW	Amps: 361	270 kW	Amps: 325

STARTING CAPABILITIES (sKVA)

sKVA vs. Voltage Dip

480 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	350	383	575	767	958	1150	1342
Upsize 1	400	387	581	775	968	1162	1356
Upsize 2	500	457	686	914	1143	1371	1600

208/240 VAC							
Alternator	kW	10%	15%	20%	25%	30%	35%
Standard	350	280	410	535	640	770	900
Upsize 1	400	210	350	500	680	875	1100
Upsize 2	450	345	570	835	1100	1460	1710

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gal/hr (l/hr)
31 (117)

Diesel - gal/hr (l/hr)

Percent Load	Standby	Prime
25%	7.6 (28.7)	6.9 (26.1)
50%	12.6 (47.7)	11.6 (43.9)
75%	17.4 (65.9)	15.8 (59.8)
100%	22.1 (83.7)	19.9 (75.3)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby	Prime
Coolant Flow per Minute	gal/min (l/min)	95 (360)	95 (360)
Coolant System Capacity	gal (l)	16.6 (63)	16.6 (63)
Heat Rejection to Coolant	BTU/hr	814,783	733,673
Inlet Air	cfm (m^3/hr)	14,505 (411)	14,505 (411)
Maximum Radiator Backpressure	in H_2O	0.5	0.5

COMBUSTION AIR REQUIREMENTS

	Standby	Prime
Flow at Rated Power cfm (m^3/min)	850 (24.07)	765 (21.67)

ENGINE

		Standby	Prime
Rated Engine Speed	rpm	1800	1800
Horsepower at Rated kW**	hp	480	432
Piston Speed	ft/min	1654	1654
BMEP	psi	336	302

EXHAUST

		Standby	Prime
Exhaust Flow (Rated Output)	cfm (m^3/min)	2240 (63.4)	2016 (57.1)
Max. Backpressure (Post Silencer)	in Hg (Kpa)	1.5 (5.1)	1.5 (5.1)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C)	1020 (549)	918 (492)
Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)	101.6 (4)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

SPEC SHEET

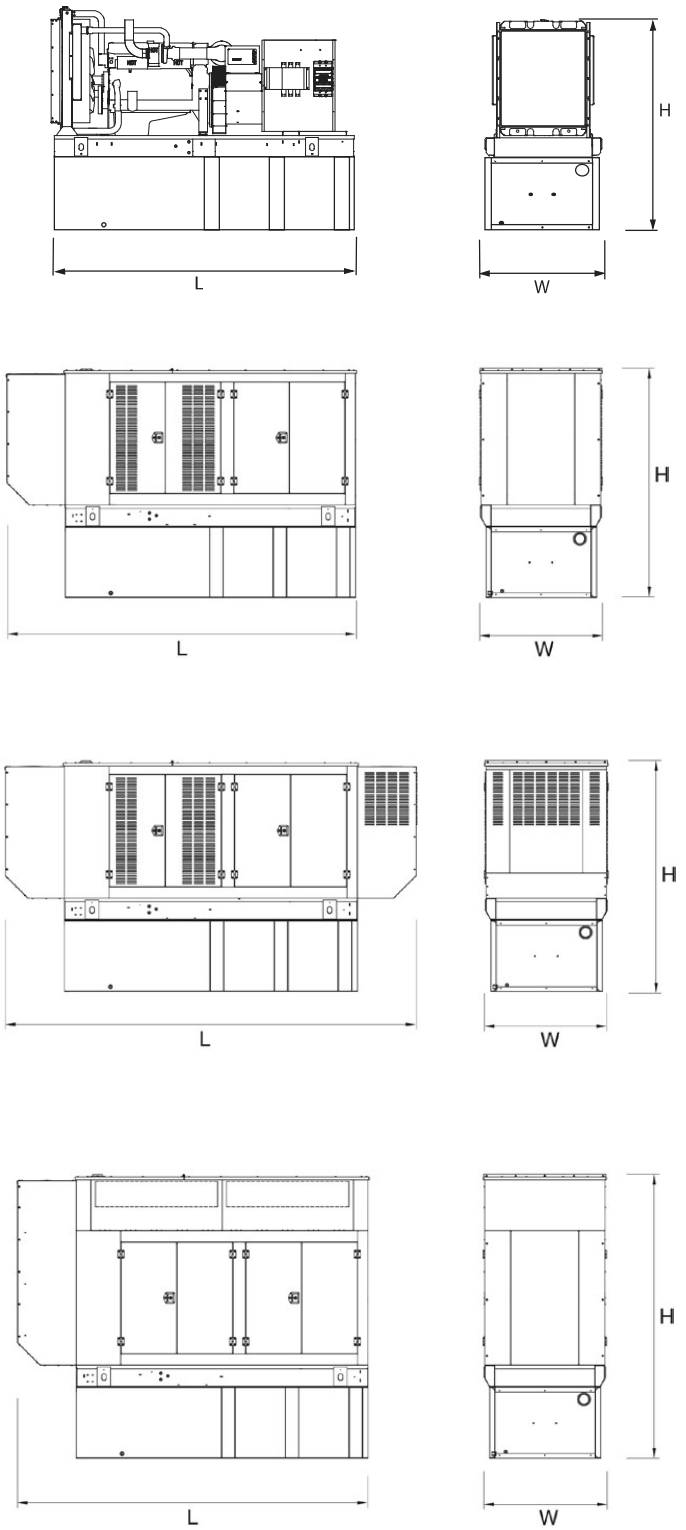
SD300 | 10.3L | 300 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

DIMENSIONS AND WEIGHTS*



OPEN SET (Includes Exhaust Flex)

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)
No Tank	-	136 (3454) x 58 (1473) x 68 (1727)	5816 (2638)
8	183 (693)	136 (3454) x 58 (1473) x 81 (2057)	6764 (3068)
20	438 (1659)	136 (3454) x 58 (1473) x 93 (2362)	7076 (3210)
31	693 (2624)	136 (3454) x 58 (1473) x 105 (2667)	7379 (3347)
43	946 (3518)	208 (5283) x 58 (1473) x 108 (2743)	8841 (4010)
60	1325 (5015)	278 (7061) x 58 (1473) x 108 (2743)	9856 (4471)

STANDARD ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	175 (4445) x 58 (1473) x 78 (1981)		
8	183 (693)	175 (4445) x 58 (1473) x 91 (2311)		
20	438 (1659)	175 (4445) x 58 (1473) x 103 (2616)	1295 (588)	501 (227)
31	693 (2624)	175 (4445) x 58 (1473) x 115 (2921)		
43	946 (3518)	208 (5283) x 58 (1473) x 118 (2997)		
60	1325 (5015)	278 (7061) x 58 (1473) x 118 (2997)		

LEVEL 1 ACOUSTIC ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	200 (5080) x 58 (1473) x 78 (1981)		
8	183 (693)	200 (5080) x 58 (1473) x 91 (2311)		
20	438 (1659)	200 (5080) x 58 (1473) x 103 (2616)	1470 (667)	935 (425)
31	693 (2624)	200 (5080) x 58 (1473) x 115 (2921)		
43	946 (3518)	234 (5944) x 58 (1473) x 118 (2997)		
60	1325 (5015)	304 (7722) x 58 (1473) x 118 (2997)		

LEVEL 2 ACOUSTIC ENCLOSURE

Run Time Hours	Usable Capacity Gal (L)	L x W x H in (mm)	Weight lbs (kg)	
			Steel	Aluminum
No Tank	-	180.6 (4588) x 57.6 (1463) x 107.2 (2724)		
8	183 (693)	180.6 (4588) x 57.6 (1463) x 120 (3048)		
20	438 (1659)	180.6 (4588) x 57.6 (1463) x 132 (3353)	2515 (1141)	1131 (514)
31	693 (2624)	180.6 (4588) x 57.6 (1463) x 144 (3658)		
43	946 (3518)	208 (5283) x 57.6 (1463) x 148(3759)		
60	1325 (5015)	278 (7061) x 57.6 (1463) x 146 (3708)		

(8841 lb set and tank) + (Diesel weight 7 lbs/gallon x 946 gallons) + (2515 lbs enclosure weight) = **17979 LBs total**

* All measurements are approximate and for estimation purposes only.

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

6 of 6

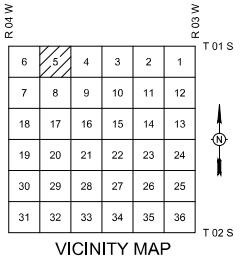
Emergency Backup Generators | Citywide

Contract No. 2021036

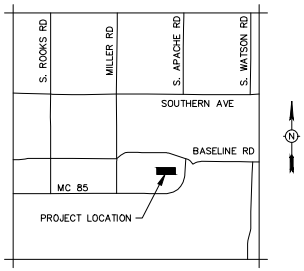
LightDay Solar, Inc.

SAIDE REC CENTER
STANDBY GENERATOR
1003 E EASON AVE
BUCKEYE, ARIZONA 85326

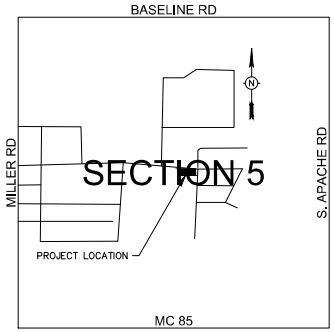
A PORTION OF THE NWSE OF SECTION 5, TOWNSHIP T01S, RANGE R03W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

SUMMARY OF BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL DETAILS
6	STRUCTURAL NOTES AND PLAN
7	STRUCTURAL DETAILS

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT: EG
DRAFTED: JN
CHECKED: MAC
FIELD SURVEY
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: SAIDE REC CENTER STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
SUBMITTAL: FINAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer — Certificate No. 50368 — Michael A. Colombo — State of ARIZONA, USA
Expires 12/31/21

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 1 of 7
COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

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(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL GENERAL NOTES

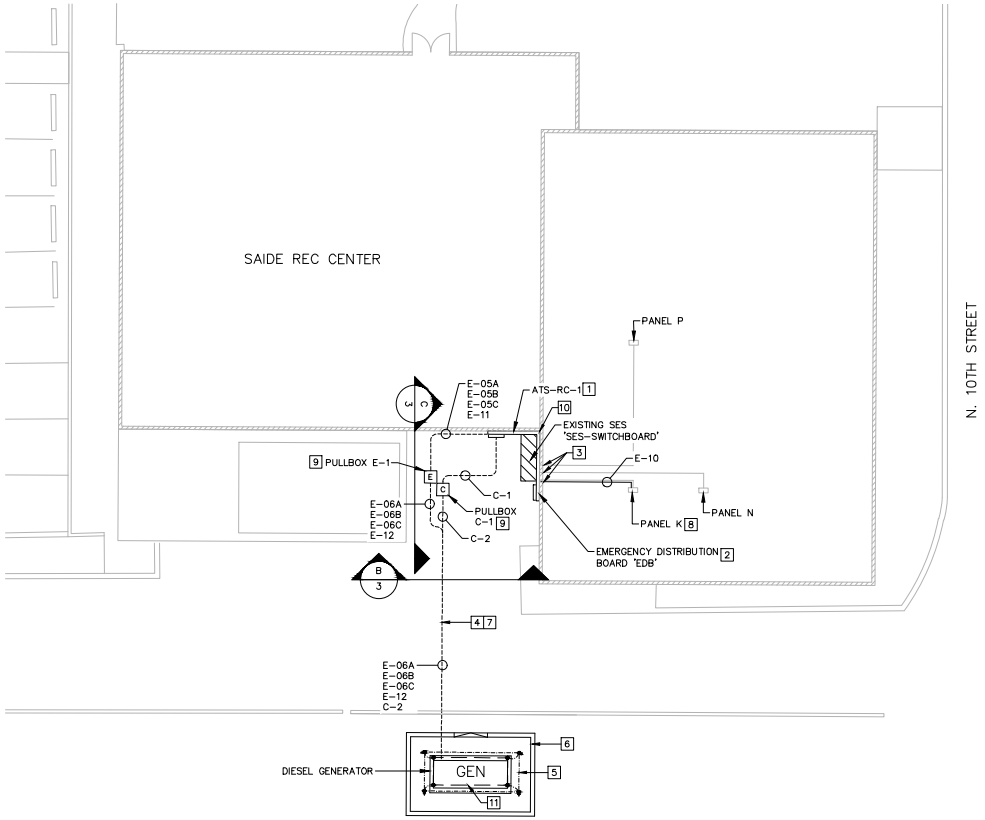
ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO. 50368
Michael A. Colpitts
Date Signed 07/07/20
ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	2 of 7

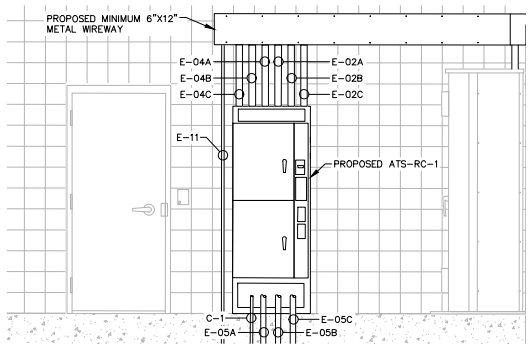
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COB PLAN TRACKING #
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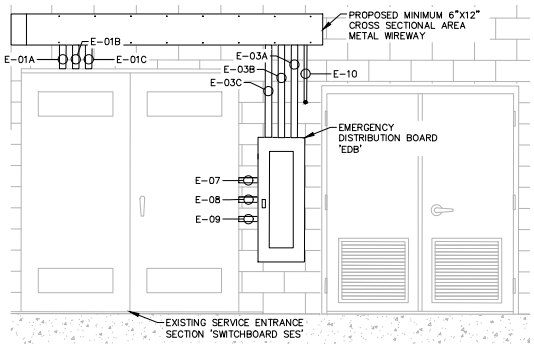
GENERATOR ADDITION SITE PLAN
SAIDE REC CENTER (1003 E. EASON)
SCALE:

GRAPHIC SCALE IN FEET
0 5 10 20

NORTH



ATS NORTH WALL
SAIDE REC CENTER (1003 E. EASON)
SCALE:NTS



SES EAST WALL
SAIDE REC CENTER (1003 E. EASON)
SCALE:NTS

CONSTRUCTION NOTES

1. MOUNT ATS ON 4" THICK HOUSEKEEPING PAD. SEE ONE-LINE DIAGRAM ON SHEET 4 FOR ATS EQUIPMENT AND CONNECTION DETAILS.
2. INSTALL NEW 600A 120/208V EMERGENCY DISTRIBUTION PANEL EDB. SEE ONE-LINE DIAGRAM AND PANELBOARD SUMMARY. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR INTERCONNECTION DETAILS.
3. INTERCEPT CONDUIT FROM SES TO PANELBOARD AND ROUTE NEW CONDUIT TO PROPOSED ATS. PROVIDE JUNCTION BOX, ELBOW, AND NECESSARY FITTINGS PER SPECIFICATIONS TO REROUTE NEW CONDCUTORS FROM THE EXISTING PANELBOARD TO THE PROPOSED ATS. SEE CONDUIT AND CONDUCTOR SCHEDULE FOR CONDUIT AND CONDUCTOR SIZE AND QUANTITIY.
4. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 6.
5. PROVIDE GROUND RING FOR TRANSFORMER PER SPECIFICATIONS. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 5.
6. GENERATOR STRUCTURAL DETAILS SHOWN ON STRUCTURAL PLAN. SEE SHEET 6-7.
7. SEE CONDUIT SCHEDULE ON SHEET 4 FOR CONDUIT AND INTERCONNECTION DETAILS.
8. EXISTING PANEL K TO POWER GENERATOR ANCILLARY LOADS. SEE ONE-LINE DIAGRAM, CONDUIT SCHEDULE, AND PANEL SCHEDULE ON SHEET 4.
9. #5 ELECTRICAL PULLBOX. DETAIL SHOWN ON DETAILS SHEET 5.
10. PROPOSED 6" BY 12" METAL WIREWAY. WIREWAY MUST HAVE A MINIMUM CROSS SECTIONAL AREA OF 72 SQUARE INCHES.
11. PROPOSED 215 KVA, 208/120V, 3P, 4W, NEMA 3R, DIESEL GENERATOR WITH 693 GALLON BELLY TANK AND LEVEL TWO ACOUSTIC ENCLOSURE.

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL SITE PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
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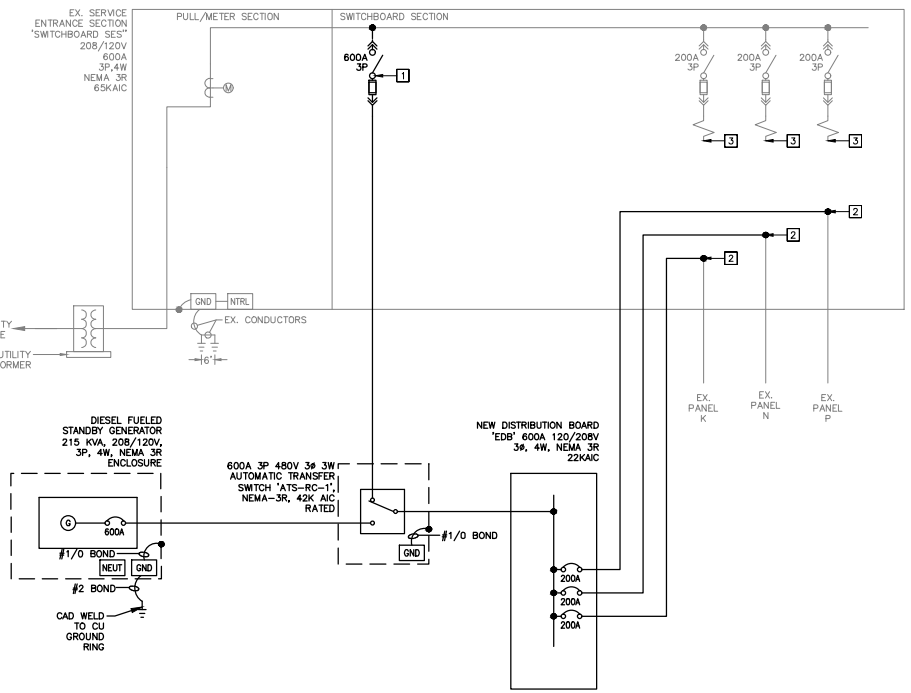
COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer CERTIFICATE NO. 50368 Michael A. Colombo Date Signed 07/07/20 ARIZONA, U.S.A.
Expires 12/31/21

SUBMITTAL: FINAL

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
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A — SCALE:NOT TO SCALE

ONE-LINE DIAGRAM

GENERATOR LOAD CALCULATION	
LOAD DESCRIPTION	AMPS
EXISTING LOADS	
PANEL K	160
PANEL N	160
PANEL P	160
TOTAL CALCULATED PEAK DEMAND (EXISTING)	480
TOTAL REMOVED LOAD	0
PROPOSED LOADS	
PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	4
TOTAL PROPOSED LOAD	4
FUTURE LOADS	0
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	484
PERCENT LOADED % (TOTAL LOAD/600A)	80.7%

*EXISTING SITE DEMAND REFERENCED FROM 'CITY OF BUCKEYE SUNDANCE CROSSINGS MUNICIPAL TENANT IMPROVEMENT 3-17-2014 AS-BUILT PLANS.

C — SCALE:NOT TO SCALE

GENERATOR LOAD SUMMARY

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE

CONDUIT NO.	CONDUIT SIZE	CONDUIT STATUS	CONDUCTORS/CABLE QTY	CONDUCTORS/CABLE SIZE	FROM	TO	PURPOSE	REMARKS
E-01A	2.5"	NEW	4	#3/0 AWG	NEW 600A 3P SES FUSE	WIREWAY	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-01B	2.5"	NEW	4	#3/0 AWG	NEW 600A 3P SES FUSE	WIREWAY	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-01C	2.5"	NEW	4	#3/0 AWG	NEW 600A 3P SES FUSE	WIREWAY	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-02A	2.5"	NEW	4	#3/0 AWG	WIREWAY	ATS-RC-1	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO ATS-RC-1 FOR A COMPLETE SYSTEM.
			1	#1 AWG			GROUND	
E-02B	2.5"	NEW	4	#3/0 AWG	WIREWAY	ATS-RC-1	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO ATS-RC-1 FOR A COMPLETE SYSTEM.
			1	#1 AWG			GROUND	
E-02C	2.5"	NEW	4	#3/0 AWG	WIREWAY	ATS-RC-1	POWER	PARALLEL SET TO ATS-RC-1. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO ATS-RC-1 FOR A COMPLETE SYSTEM.
			1	#1 AWG			GROUND	
E-03A	2.5"	NEW	4	#3/0 AWG	WIREWAY	EDB-SWITCHGEAR-SES	POWER	PARALLEL CONDUIT TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO EDB-SWITCHGEAR-SES FOR A COMPLETE SYSTEM
			1	#1 AWG			GROUND	
E-03B	2.5"	NEW	4	#3/0 AWG	WIREWAY	EDB-SWITCHGEAR-SES	POWER	PARALLEL CONDUIT TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO EDB-SWITCHGEAR-SES FOR A COMPLETE SYSTEM
			1	#1 AWG			GROUND	
E-03C	2.5"	NEW	4	#3/0 AWG	WIREWAY	EDB-SWITCHGEAR-SES	POWER	PARALLEL CONDUIT TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT AND ROUTE CONDUCTORS TO EDB-SWITCHGEAR-SES FOR A COMPLETE SYSTEM
			1	#1 AWG			GROUND	
E-04A	2.5"	NEW	4	#3/0 AWG	ATS-RC-1	WIREWAY	POWER	PARALLEL SET TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-04B	2.5"	NEW	4	#3/0 AWG	ATS-RC-1	WIREWAY	POWER	PARALLEL SET TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-04C	2.5"	NEW	4	#3/0 AWG	ATS-RC-1	WIREWAY	POWER	PARALLEL SET TO EDB-SWITCHGEAR-SES. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY.
			1	#1 AWG			GROUND	
E-05A	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-RC-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-05B	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-RC-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-05C	2.5"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-RC-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-06A	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-06B	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-06C	2.5"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	PARALLEL CONDUIT TO ATS-RC-1
			1	#1 AWG			GROUND	
E-07	2.5"	NEW	4	#3/0 AWG	EDB 200A BREAKER	PANEL K	POWER	ROUTE CONDUIT FROM PANEL 'EDB' TO EXISTING SES. MAKE CONNECTION TO EXISTING PANEL K FEEDER INSIDE SES.
			1	#6 AWG			GROUND	
E-08	2.5"	NEW	4	#3/0 AWG	EDB 200A BREAKER	PANEL N	POWER	ROUTE CONDUIT FROM PANEL 'EDB' TO EXISTING SES. MAKE CONNECTION TO EXISTING PANEL K FEEDER INSIDE SES.
			1	#6 AWG			GROUND	
E-09	2.5"	NEW	4	#3/0 AWG	EDB 200A BREAKER	PANEL P	POWER	ROUTE CONDUIT FROM PANEL 'EDB' TO EXISTING SES. MAKE CONNECTION TO EXISTING PANEL K FEEDER INSIDE SES.
			1	#6 AWG			GROUND	
E-10	1"	NEW	4	#8 AWG	PANEL K	WIREWAY	POWER	GENERATOR ANCILLARY LOADS. TRANSITION CONDUCTORS FROM CONDUIT TO WIREWAY. PANEL K, CKT 33 & 35
			1	#8 AWG			GROUND	
E-11	1"	NEW	4	#8 AWG	WIREWAY	PULLBOX E-1	POWER	GENERATOR ANCILLARY LOADS. TRANSITION CONDUCTORS FROM WIREWAY TO CONDUIT. PANEL K, CKT 33 & 35
			1	#8 AWG			GROUND	
E-12	1"	NEW	4	#8 AWG	PULLBOX E-1	GENERATOR	POWER	GENERATOR ANCILLARY LOADS. PANEL K, CKT 33 & 35
			1	#8 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		ATS-RC-1	PULLBOX C-1	POWER	GENERATOR CONTROLS
							GROUND	
C-2	1"	NEW	8-PR #16 AWG		PULLBOX C-1	GENERATOR CONTROL PANEL	POWER	GENERATOR CONTROLS
							GROUND	

B — SCALE:NOT TO SCALE

CONDUIT AND CONDUCTOR SCHEDULE

CONSTRUCTION NOTES

1. PROVIDE NEW 600A 277/480V 3P FUSED DISCONNECT IN EXISTING SES PANEL. PROVIDE NEW CONDUIT AND CONNECTION TO EMERGENCY DISTRIBUTION PANEL 'EDB'.
2. DISCONNECT LOAD SIDE OF CONDUIT COMING FROM EXISTING BREAKER. CONNECT EXISTING FEEDER TO NEW PANEL 'EDB'. ROUTE NEW CONDUIT INSIDE OF SES AND MAKE CONNECTION INSIDE SES. NOTE THE EXISTING EQUIPMENT SHOWN AS GREY. AND NEW EQUIPEMENT SHOWN AS BOLD FOR CLARITY.
3. EXISTING FUSED DISCONNECT TO REMAIN WITH EXISTING LOAD TO BE RELOCATED. RELABEL DISCONNECT AS SPARE.
4. PROVIDE NEW 20A/1P BREAKER IN EXISTING SPACE IN PANEL 'K'. MATCH EXISTING AIC RATING.

PANEL: K

VOLTAGE: 120/208 — PANEL BUS: 225 AMPS
PHASE, WIRES: 3ø, 4W — MAIN: MLO BREAKER
SCCR (AMPS): 22,000
SOURCE: SES SWITCHGEAR

	DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
	EXISTING LOAD		20/1	1	0			2	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	3		0		4	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	5			0	6	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	7	0			8	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	9		0		10	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	11			0	12	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	13	0			14	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	15		0		16	20/1		EXISTING LOAD
	EXISTING LOAD		50/2	17			0	18	20/1		EXISTING LOAD
				19	0			20	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	21		0		22	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	23			0	24	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	25	0			26	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	27		0		28	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	29			0	30	20/1		EXISTING LOAD
	EXISTING LOAD		20/1	31	0			32	20/1		EXISTING LOAD
4	GENERATOR BATTERY CHARGER	180	20/1	33		2		34	20/1		SPARE
4	GENERATOR BLOCK HEATER	180	20/1	35			2	36	20/1		SPARE
	SPACE			37	0			38	30/2		EXISTING LOAD
	SPACE			39		0		40			
	SPACE			41			0	42			SPACE
			TOTALS		0.0	1.5	1.5	AMPS			

LOAD CALCULATIONS: SUBTOTAL (VA): 360
+25% PER NEC (VA): 90
TOTAL (VA): 450 @ 208V, 3Ø = 1.3 AMPS

D — SCALE:NOT TO SCALE

PANEL K LOAD SUMMARY

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**% Vdrop
1	Utility Published Data	39066	39,066										39,066	
2	SES	1	39,066	NM	Copper	3	Set of	3/0	600	50	480	3	33,426	0.32%
3	ATS	2	33,426	NM	Copper	3	Set of	3/0	600	5	480	3	32,950	0.35%
4	EDP-SWITCHBAORD-SES	3	32,950	NM	Copper	3	Set of	3/0	600	20	480	3	31,175	0.48%

E — SCALE:NOT TO SCALE

FAULT CURRENT CALCULATION

CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

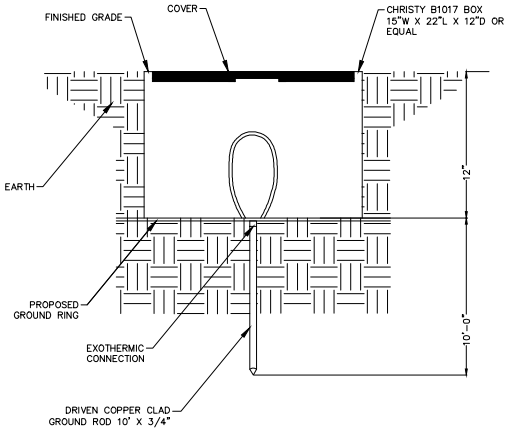
ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

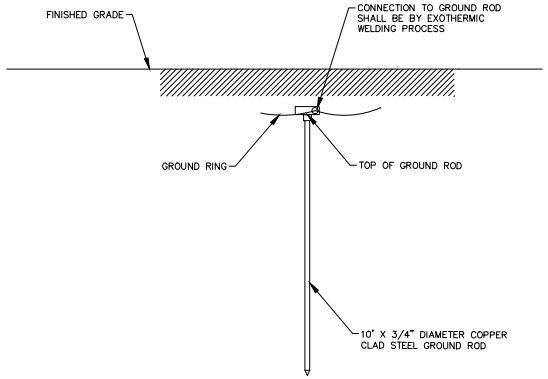
Registered Professional Engineer — CERTIFICATE NO. 50368 — Michael A. Colombo — State of ARIZONA, U.S.A. — Expires 12/31/21

SUBMITTAL: FINAL
COB PLAN TRACKING #
COB PERMIT #

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 7



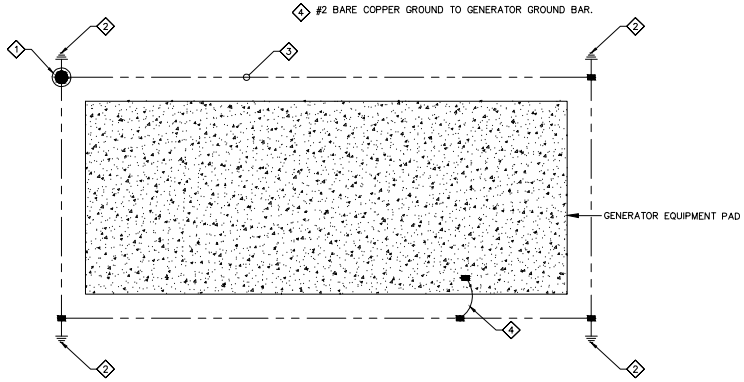
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



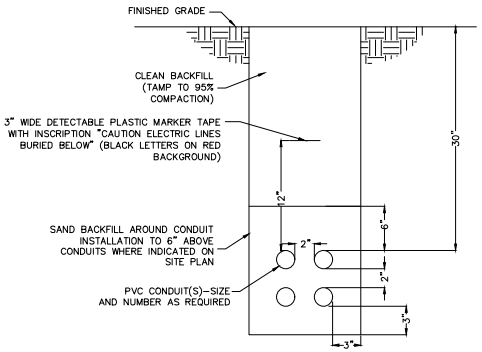
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



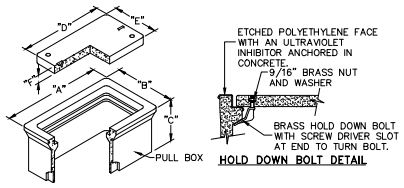
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



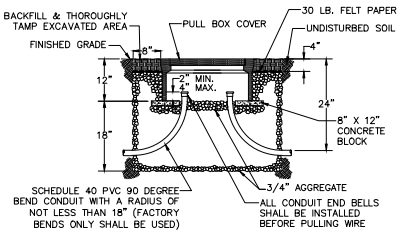
HOLD DOWN BOLT DETAIL



LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

LID 'A'

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer
CERTIFICATE NO.
50368
Michael A. Colombo
Date Signed 07/07/20
ARIZONA, U.S.A.
Expires 12/31/21

CALL TWO WORKING DAYS BEFORE YOU DIG
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1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	5 of 7

COB PLAN TRACKING #
COB PERMIT #

STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
- BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
- RISK CATEGORY II
- Iw 1.00
- STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
- EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
- DESIGN WIND PRESSURE . . . . . .15.72 psf (STRENGTH LEVEL)
- INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
- Ie 1.00
- SITE CLASS . . . . . .D
- S_s . . . . . 0.167g S_1 . . . . . .0.077g
- S_{ms} . . . . . 0.178g S_{m1} 0.123g
- SEISMIC DESIGN CATEGORY . . . . . .B
- DESIGN BASE SHEAR (C_s*W) 0.051W
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
- ALLOWABLE BEARING PRESSURE = 1500 PSF
- ACTIVE EARTH PRESSURE = 45 PCF
- AT-REST EARTH PRESSURE = 60 PCF
- PASSIVE EARTH PRESSURE = 100 PCF
- = 0.25 (W/OUT PASSIVE PRESSURE)
- MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

FOOTING BEARING DEPTH = 20" MIN.

FOR TOP OF FOOTING ELEVATIONS, SEE PERIMETER WALL PLAN THIS SHEET.

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

WALL BACKFILL MATERIAL, PLACEMENT AND COMPACTION SHOULD COMPLY IN FULL WITH THE PROJECT SPECIFICATIONS. COMPACTION OF EACH LIFT ADJACENT TO WALLS SHALL BE ACCOMPLISHED WITH HAND OPERATED TAMPERS OR OTHER LIGHTWEIGHT COMPACTORS. FLOODING OR JETTING IS PROHIBITED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 3000 PSI.
REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

MASONRY AND REINFORCING:

MASONRY: F'm = 1500 PSI; ASTM C90; MEDIUM WEIGHT; RUNNING BOND; STANDARD BLOCK

MORTAR: ASTM C270; TYPE S; CUBE STRENGTH = 1800 PSI

GROUT: ASTM C476, TYPE = COARSE; CUBE STRENGTH = 2000 PSI.

JOINT NOTES

CONCRETE:
FOOTINGS AND SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

MASONRY:
MASONRY WALL MAY BE CONTINUOUS WITH NO JOINTS.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

THE CONTRACT PERIMETER WALL AND SLAB DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO , BRACING, SHORING OF LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS. CONTRACTOR IS RESPONSIBLE FOR ALL O.S.H.A. REQUIREMENTS, NOTIFY ENGINEER OF RECORD OF ANY DISCREPANCIES AND/OR CONFLICTS.

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. STEEL CONSTRUCTION (SECTION 1705.2)
B. CONCRETE CONSTRUCTION (TABLE 1705.3)
C. MASONRY CONSTRUCTION (SECTION 1705.4)
D. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

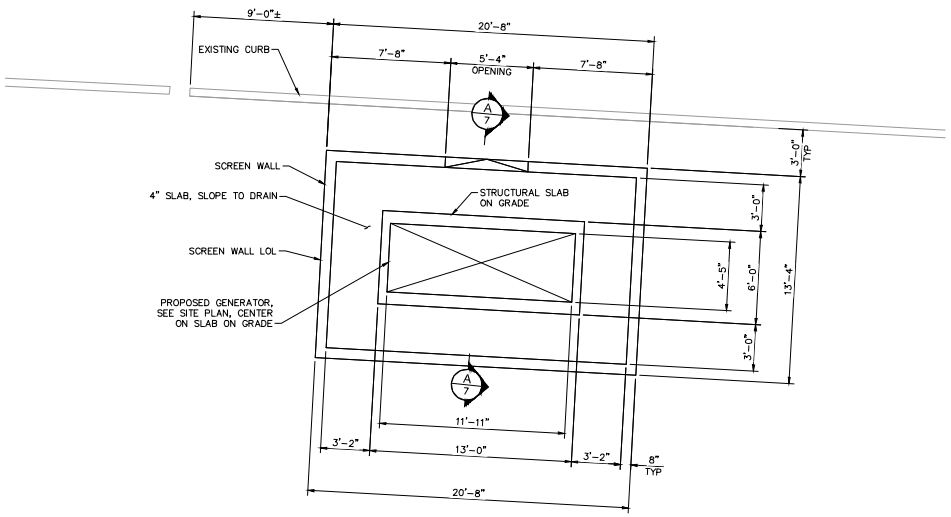
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ
GROUTED MASONRY	HILTI HY 270	HILTI KWIK BOLT 3
HOLLOWED MASONRY OR BRICK	HILTI HY 270 W/ APPROPRIATE TUBE SCREEN	HILTI HLC SLEEVE ANCHOR

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



A – **PROPOSED GENERATOR LOCATIONS SAIDE REC CENTER (1003 E. EASON)**
SCALE:1/4"=1'-0"

NORTH

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB AND ENCLOSURE WALL PRIOR TO CONSTRUCTION. ENCLOSURE WALL SHALL BE 3'-0" FROM THE BACK FACE OF CURB. NOTIFY ENGINEER OF ANY DISCREPANCIES.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

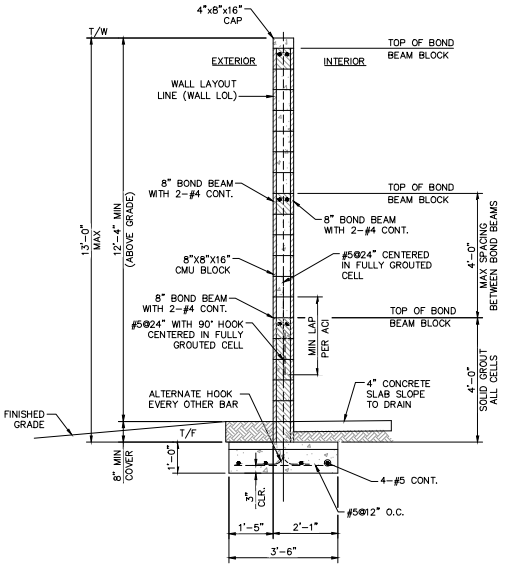
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COB PERMITTING APPROVED SEAL
COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Date Signed 07/07/20 ARIZONA, U.S.A.

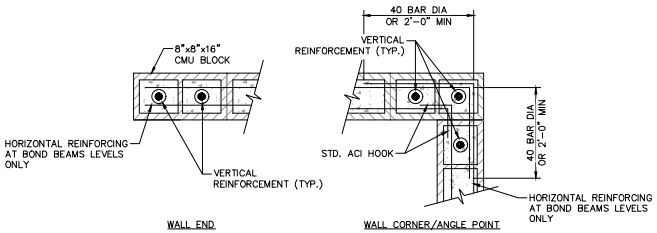
ORIGINAL PLAN DATE 07/07/2020
LATEST REVISION DATE 07/07/2020
PROJECT NUMBER 191342012
SHEET NUMBER 6 of 7

COB PLAN TRACKING #
COB PERMIT #

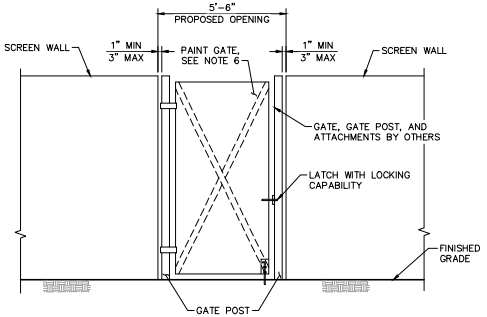
CALL TWO WORKING DAYS BEFORE YOU DIG
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1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)



1 — **WALL SECTION**
SCALE:1/2"=1'-0"



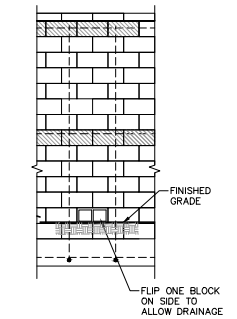
2 — **TYPICAL MASONRY DETAILS**
SCALE:NOT TO SCALE



3 — **GATE DETAIL**
SCALE:3/8"=1'-0"

GATE NOTES:

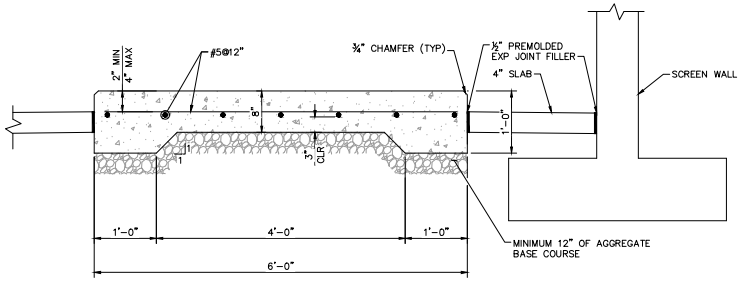
1. GATE DESIGN SHALL BE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION'S CODE REQUIREMENTS. THE GATE MANUFACTURER SHALL HAVE A LICENSED PROFESSIONAL ENGINEER SEAL AND SIGN THE GATE CALCULATIONS AND SHOP DRAWINGS.
2. LOAD COMBINATIONS USED IN GATE DESIGN SHALL BE IN ACCORDANCE WITH THE APPLICABLE BUILDING CODE.
3. GATE DEFLECTION IN THE VERTICAL DIRECTION SHALL NOT EXCEED ½".
4. IF GATE FOUNDATIONS ARE NECESSARY, SIZES AND LOCATIONS SHALL BE DESIGNATED BY THE GATE MANUFACTURER AND APPROVED BY THE ENGINEER OF RECORD BEFORE CONSTRUCTION.
5. CENTER GATE DOOR IN PROPOSED OPENING.
6. SUBMIT PAINT COLOR TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. GATE SHALL BE GRAY OR BLACK.
7. SUBMIT GATE SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED CIVIL ENGINEER IN THE STATE OF ARIZONA.
8. HOT DIP GALVANIZE STEEL GATE ELEMENTS ACCORDING TO ASTM A123/A123M.



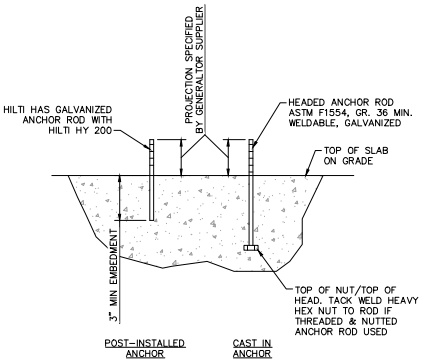
NOTE:

IF THE LOW POINT OF ENCLOSURE SLAB IS NOT AT OPENING, PROVIDE DRAINAGE BLOCK AS SHOWN IN DETAIL.

4 — **WALL DRAIN DETAIL**
SCALE:3/8"=1'-0"



A — **GENERATOR CONCRETE PAD**
SCALE:1'=1'



B — **TYP ANCHOR DETAIL**
SCALE:NOT TO SCALE

NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL DETAILS

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

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SUBMITTAL: FINAL

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07/07/2020	07/07/2020
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191342012	7 of 7

COB PLAN TRACKING #
COB PERMIT #

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

SAIDE REC CENTER (1003 E. EASON)

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: Saide Rec Center Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - Saide Rec Center*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustic Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 136in = 11.33\,ft$	Length of generator - 175 kW Diesel Generator Specification - see appendix.
$W_{gen} := 53in = 4.42\,ft$	Width of generator - 175 kW Diesel Generator Specification - see appendix.
$H_{gen} := 98in = 8.17\,ft$	Height of Generator - 175 kW Diesel Generator Specification - see appendix.
$L_{enc} := 143in = 11.92\,ft$	Length of Enclosure - 175 kW Diesel Generator Specification - see appendix..
$W_{enc} := 53in = 4.42\,ft$	Width of Enclosure - 175 kW Diesel Generator Specification - see appendix.
$H_{enc} := 133in = 11.08\,ft$	Height of Enclosure - 175 kW Diesel Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45pcf$	Active Soil Pressure
$p_{ar} := 60pcf$	At-Rest Soil Pressure
$p_p := 100pcf$	Passive Soil Pressure
$w_{soil} := 120pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.72psf$ — Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.6kip$ — Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 11.676kip$ — 175 kW Diesel Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.19 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.52 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 2.61 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 0.75 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 6.11 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 13ft$ — Length of pad

$W_{pad} := 6ft$ — Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 117 \cdot kip$ — Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 24.43 \cdot kip$ — Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

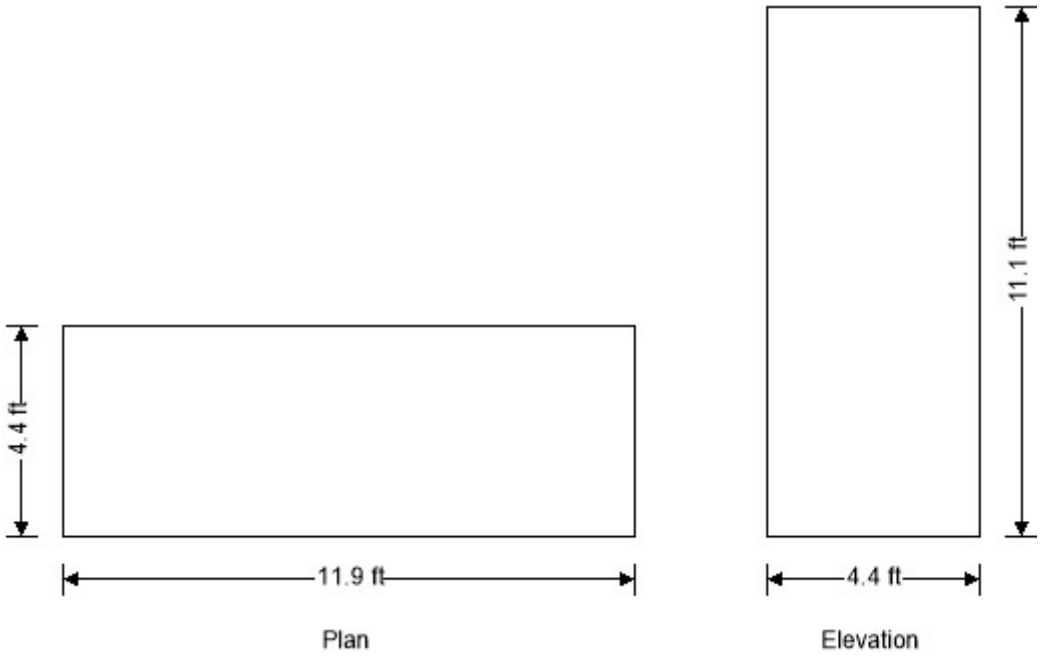
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **11.92** ft
Width of building	d = **4.42** ft
Height to eaves	H = **11.08** ft
Mean height	h = **11.08** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **876** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.97**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)
11.08	0.85	18.28

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.28** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	11.08	-1.30	18.28	-23.49	52.69	-1.24

Total vertical net force $F_{w,v}$ = **-1.24** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	11.08	0.80	18.28	9.14	132.07	1.21
B	11.08	-0.50	18.28	-11.06	132.07	-1.46
C	11.08	-0.70	18.28	-14.17	48.97	-0.69
D	11.08	-0.70	18.28	-14.17	48.97	-0.69

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **132.07** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **2.11** kips

Leeward net force $F_l = F_{w,wB}$ = **-1.5** kips

Windward net force $F_w = F_{w,wA}$ = **1.2** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **2.7** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	11.08	-0.18	18.28	0.49	52.69	0.03

Total vertical net force $F_{w,v}$ = **0.03** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	11.08	0.80	18.28	15.72	132.07	2.08
B	11.08	-0.50	18.28	-4.48	132.07	-0.59
C	11.08	-0.70	18.28	-7.59	48.97	-0.37
D	11.08	-0.70	18.28	-7.59	48.97	-0.37

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H =$ **132.07** ft^2

Projected vertical area of roof $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **2.11** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.6** kips

Windward net force $F_w = F_{w,wA} =$ **2.1** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **2.7** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	11.08	-1.24	18.28	-22.61	24.49	-0.55
B (-ve)	11.08	-0.73	18.28	-14.60	24.49	-0.36
C (-ve)	11.08	-0.67	18.28	-13.73	3.71	-0.05

Total vertical net force $F_{w,v} =$ **-0.96** kips

Total horizontal net force $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	11.08	0.80	18.28	9.14	48.97	0.45
B	11.08	-0.27	18.28	-7.41	48.97	-0.36
C	11.08	-0.70	18.28	-14.17	132.07	-1.87
D	11.08	-0.70	18.28	-14.17	132.07	-1.87

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H =$ **48.97** ft^2

Projected vertical area of roof $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.78** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.4** kips

Windward net force $F_w = F_{w,wA} =$ **0.4** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.8** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	11.08	-0.18	18.28	0.49	24.49	0.01
B (+ve)	11.08	-0.18	18.28	0.49	24.49	0.01
C (+ve)	11.08	-0.18	18.28	0.49	3.71	0.00

Total vertical net force $F_{w,v}$ = **0.03** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	11.08	0.80	18.28	15.72	48.97	0.77
B	11.08	-0.27	18.28	-0.83	48.97	-0.04
C	11.08	-0.70	18.28	-7.59	132.07	-1.00
D	11.08	-0.70	18.28	-7.59	132.07	-1.00

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **48.97** ft^2

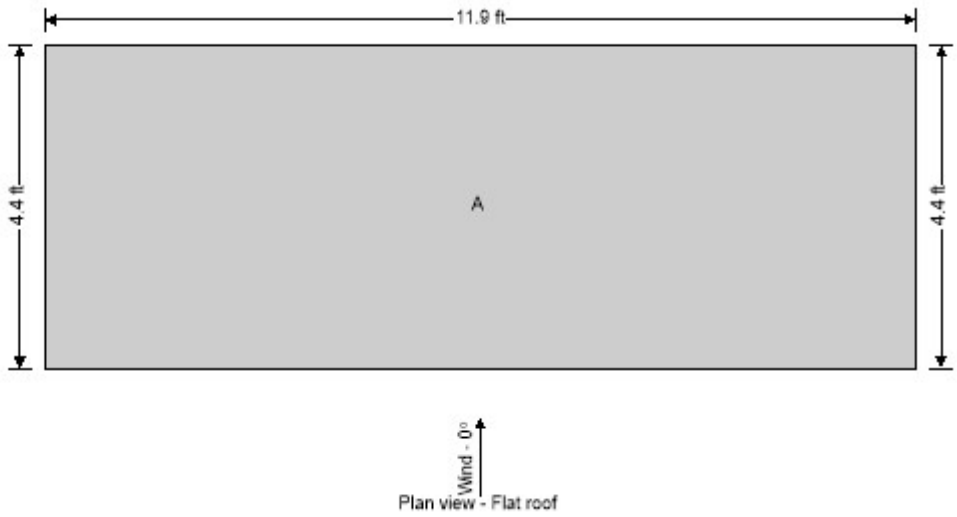
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

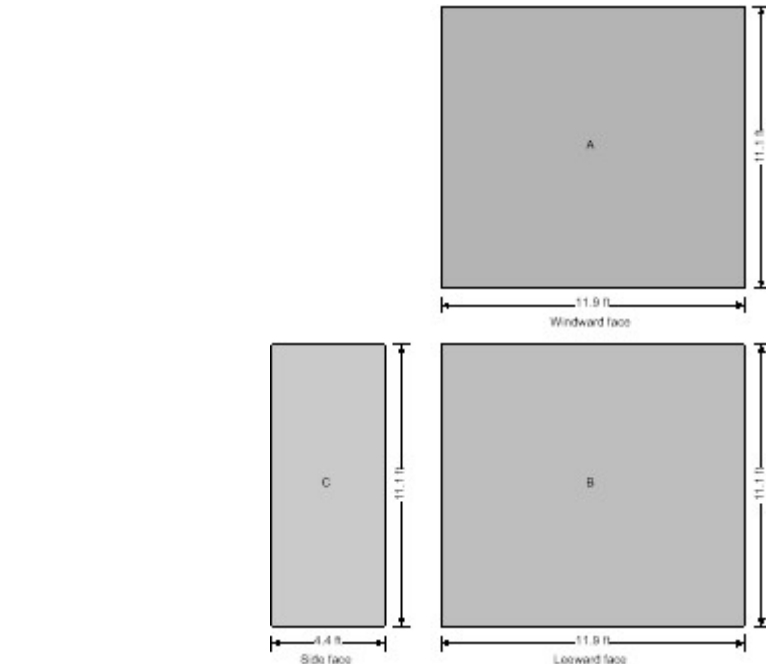
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.78** kips

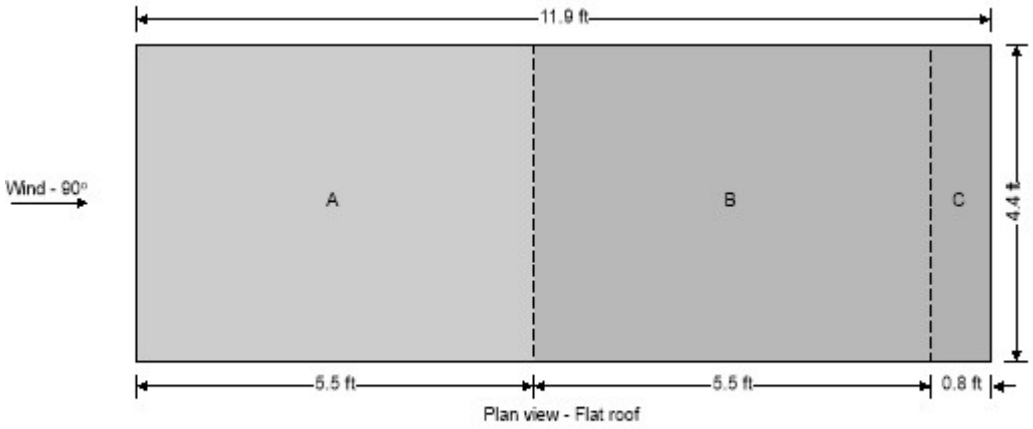
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

Windward net force $F_w = F_{w,wA}$ = **0.8** kips

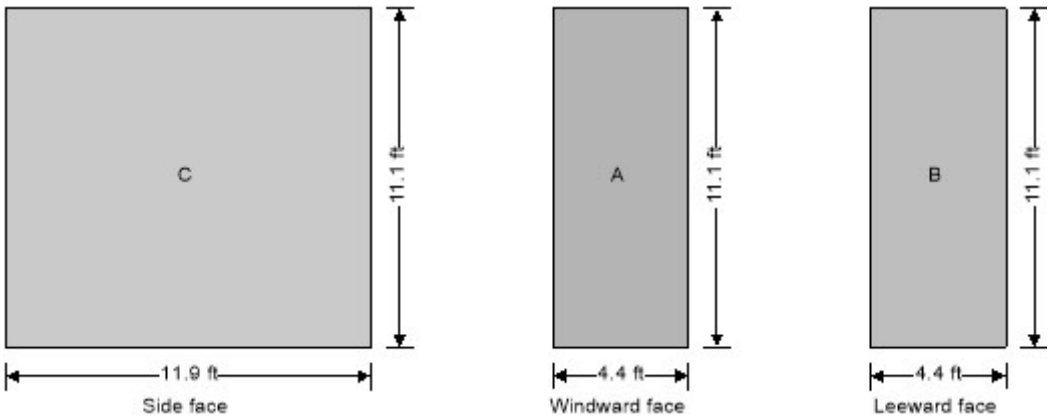
Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.8** kips







Plan view - Flat roof



1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.167**
at 1 sec period	S_1 = **0.077**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.267**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.185**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.178**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.123**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **11.08** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.192** sec
Building fundamental period (Sect 12.8.2)	$T = T_a$ = **0.192** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0509**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.1835**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient	C_s = **0.0509**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure	W = **11.7** kips
Seismic response coefficient	C_s = **0.0509**
Seismic base shear (Eq 12.8-1)	$V = C_s \times W$ = **0.6** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

Description : Typical Slab - Saide Rec Center

CODE REFERENCES

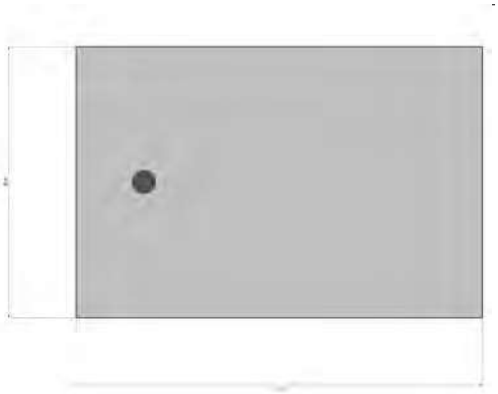
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-16

Material Properties

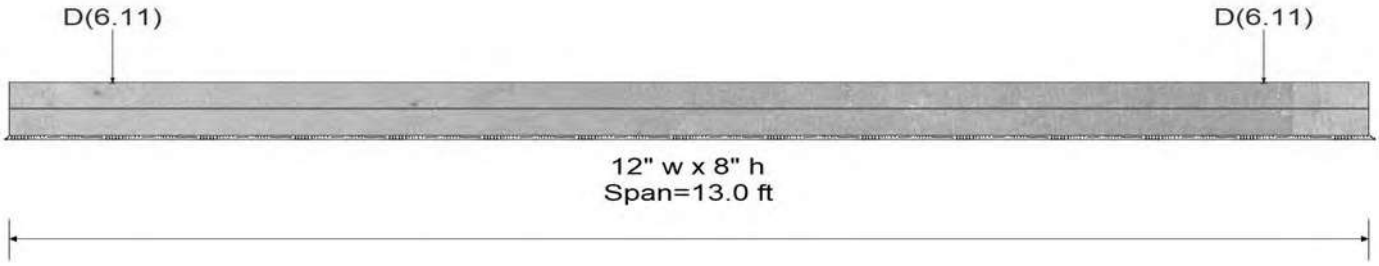
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1	=	0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination ASCE 7-16

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 4
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
1-#6 at 4.0 in from Top, from 0.0 to 13.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 6.110 k @ 1.0 ft
Point Load : D = 6.110 k @ 12.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	**0.982** : 1	Maximum Deflection	
Section used for this span		**Typical Section**	Max Downward L+Lr+S Deflection	0.000 in
Mu : Applied		-6.941 k-ft	Max Upward L+Lr+S Deflection	0.000 in
Mn * Phi : Allowable		7.066 k-ft	Max Downward Total Deflection	0.189 in
Load Combination		D Only	Max Upward Total Deflection	-0.021 in
Location of maximum on span		6.576 ft		
Span # where maximum occurs		Span # 1		

Bearing pressures checked in Mathcad for full slab area

Maximum Soil Pressure = **2.718** ksf at 13.00 ft LdComb: D Only
Allowable Soil Pressure = **1.50** ksf **EXCEEDED!**

Shear Stirrup Requirements

Entire Beam Span Length : Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	12.082	0.83	7.07	0.12
D Only					
Span # 1	1	12.082	0.83	7.07	0.12

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — **Licensee : KIMLEY-HORN & ASSOCIATES INC**

Description : Typical Slab - Saide Rec Center

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.1888	13.000	Span 1	-0.0214	6.500

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Suggest
D Only	1	0.00	4.00	0.16	0.16	0.00	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.15	4.00	0.47	0.47	0.02	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.31	4.00	0.77	0.77	0.10	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.46	4.00	1.06	1.06	0.21	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.61	4.00	1.34	1.34	0.38	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.76	4.00	1.61	1.61	0.58	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.92	4.00	1.87	1.87	0.83	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	1.07	4.00	-3.98	3.98	0.68	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.22	4.00	-3.74	3.74	0.07	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.38	4.00	-3.51	3.51	0.50	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.53	4.00	-3.28	3.28	1.03	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.68	4.00	-3.07	3.07	1.54	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.84	4.00	-2.87	2.87	2.01	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.99	4.00	-2.67	2.67	2.45	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.14	4.00	-2.49	2.49	2.85	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.29	4.00	-2.31	2.31	3.23	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	2.45	4.00	-2.14	2.14	3.59	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.60	4.00	-1.98	1.98	3.92	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.75	4.00	-1.83	1.83	4.22	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.91	4.00	-1.69	1.69	4.50	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.06	4.00	-1.56	1.56	4.76	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.21	4.00	-1.43	1.43	5.00	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.36	4.00	-1.31	1.31	5.22	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.52	4.00	-1.20	1.20	5.42	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.67	4.00	-1.10	1.10	5.60	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.82	4.00	-1.00	1.00	5.77	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.98	4.00	-0.91	0.91	5.92	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.13	4.00	-0.82	0.82	6.06	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.28	4.00	-0.74	0.74	6.18	0.96	4.54	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.44	4.00	-0.67	0.67	6.30	0.85	4.44	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.59	4.00	-0.60	0.60	6.40	0.74	4.36	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.74	4.00	-0.53	0.53	6.49	0.65	4.28	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.89	4.00	-0.47	0.47	6.57	0.57	4.22	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.05	4.00	-0.41	0.41	6.64	0.49	4.15	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.20	4.00	-0.36	0.36	6.71	0.42	4.10	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.35	4.00	-0.30	0.30	6.76	0.36	4.04	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.51	4.00	-0.26	0.26	6.81	0.30	3.99	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.66	4.00	-0.21	0.21	6.85	0.25	3.95	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.81	4.00	-0.17	0.17	6.88	0.19	3.91	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.96	4.00	-0.12	0.12	6.90	0.14	3.86	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.12	4.00	-0.08	0.08	6.92	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.27	4.00	-0.04	0.04	6.93	0.05	3.78	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.42	4.00	-0.00	0.00	6.94	0.00	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.58	4.00	0.04	0.04	6.94	0.05	3.78	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.73	4.00	0.08	0.08	6.93	0.09	3.82	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.88	4.00	0.12	0.12	6.92	0.14	3.86	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.04	4.00	0.17	0.17	6.90	0.19	3.90	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.19	4.00	0.21	0.21	6.88	0.24	3.95	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.34	4.00	0.26	0.26	6.85	0.30	3.99	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.48	4.00	0.30	0.30	6.81	0.36	4.04	Vu < PhiVc/2	Not Reqd	0.00	0.00

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Saide Rec Center

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Suggest
D Only	1	7.65	4.00	0.36	0.36	6.76	0.42	4.09	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.80	4.00	0.41	0.41	6.71	0.49	4.15	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.95	4.00	0.47	0.47	6.64	0.56	4.21	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.11	4.00	0.53	0.53	6.57	0.64	4.28	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.26	4.00	0.60	0.60	6.49	0.73	4.35	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.41	4.00	0.67	0.67	6.40	0.83	4.43	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.56	4.00	0.74	0.74	6.30	0.94	4.52	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.72	4.00	0.82	0.82	6.18	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.87	4.00	0.91	0.91	6.06	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.02	4.00	1.00	1.00	5.92	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.18	4.00	1.10	1.10	5.77	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.33	4.00	1.20	1.20	5.60	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.48	4.00	1.31	1.31	5.42	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.64	4.00	1.43	1.43	5.22	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.79	4.00	1.56	1.56	5.00	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.94	4.00	1.69	1.69	4.76	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.09	4.00	1.83	1.83	4.50	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.25	4.00	1.98	1.98	4.22	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.40	4.00	2.14	2.14	3.92	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.55	4.00	2.31	2.31	3.59	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	10.71	4.00	2.49	2.49	3.23	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	10.86	4.00	2.67	2.67	2.85	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.01	4.00	2.87	2.87	2.45	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.16	4.00	3.07	3.07	2.01	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.32	4.00	3.28	3.28	1.54	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.47	4.00	3.51	3.51	1.03	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.62	4.00	3.74	3.74	0.50	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.78	4.00	3.98	3.98	0.07	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	11.93	4.00	4.24	4.24	0.68	1.00	4.57	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	12.08	4.00	-1.61	1.61	0.83	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.24	4.00	-1.34	1.34	0.58	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.39	4.00	-1.06	1.06	0.38	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.54	4.00	-0.77	0.77	0.21	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.69	4.00	-0.47	0.47	0.10	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.85	4.00	-0.16	0.16	0.02	1.00	4.57	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

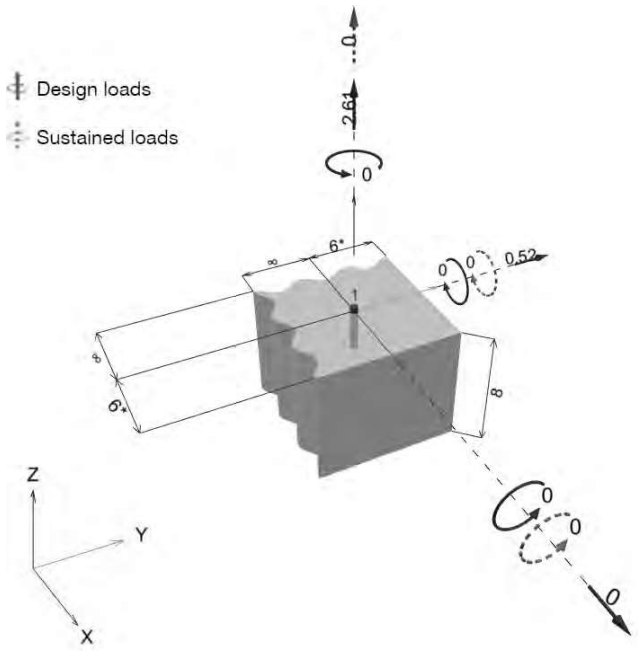
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 2.750 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2019 | 3/1/2020
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



Company:	Kimley-Horn and Associates, Inc	Page:	2
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 2.610; V_x = 0.000; V_y = 0.520; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	95

2 Load case/Resulting anchor forces

Anchor reactions [kip]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	2.610	0.520	0.000	0.520

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	2.610	7.800	34	OK
Bond Strength**	2.610	3.088	85	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	2.610	2.760	95	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Company:	Kimley-Horn and Associates, Inc	Page:	3
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
ϕ $N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	ϕ N_{sa} [kip]	N_{ua} [kip]
12.000	0.650	7.800	2.610

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Company:	Kimley-Horn and Associates, Inc	Page:	4
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	2.750	6.000	1.000	1,100

c_{ac} [in.]	λ_a
4.136	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	4.751

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
4.751	0.650	3.088	2.610

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
2.750	6.000	1.000	4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
4.246	0.650	2.760	2.610

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.520	4.320	13	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Concrete Breakout Strength controls)**	0.520	5.945	9	OK
Concrete edge failure in direction y+**	0.520	2.773	19	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.520

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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4.2 Pryout Strength (Concrete Breakout Strength controls)

$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ ACI 318-14 Eq. (17.4.2.2a)

Variables

k_{cp}	h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
2	2.750	6.000	1.000

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
8.493	0.700	5.945	0.520

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4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	2.750

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	5.603

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
3.962	0.700	2.773	0.520

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.946	0.187	1.000	95	OK

$\beta_{NV} = (\beta_N + \beta_V) / 1.2 <= 1$

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Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	Saide Rec Center	Date:	5/1/2020
Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 2.750 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 4.000 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

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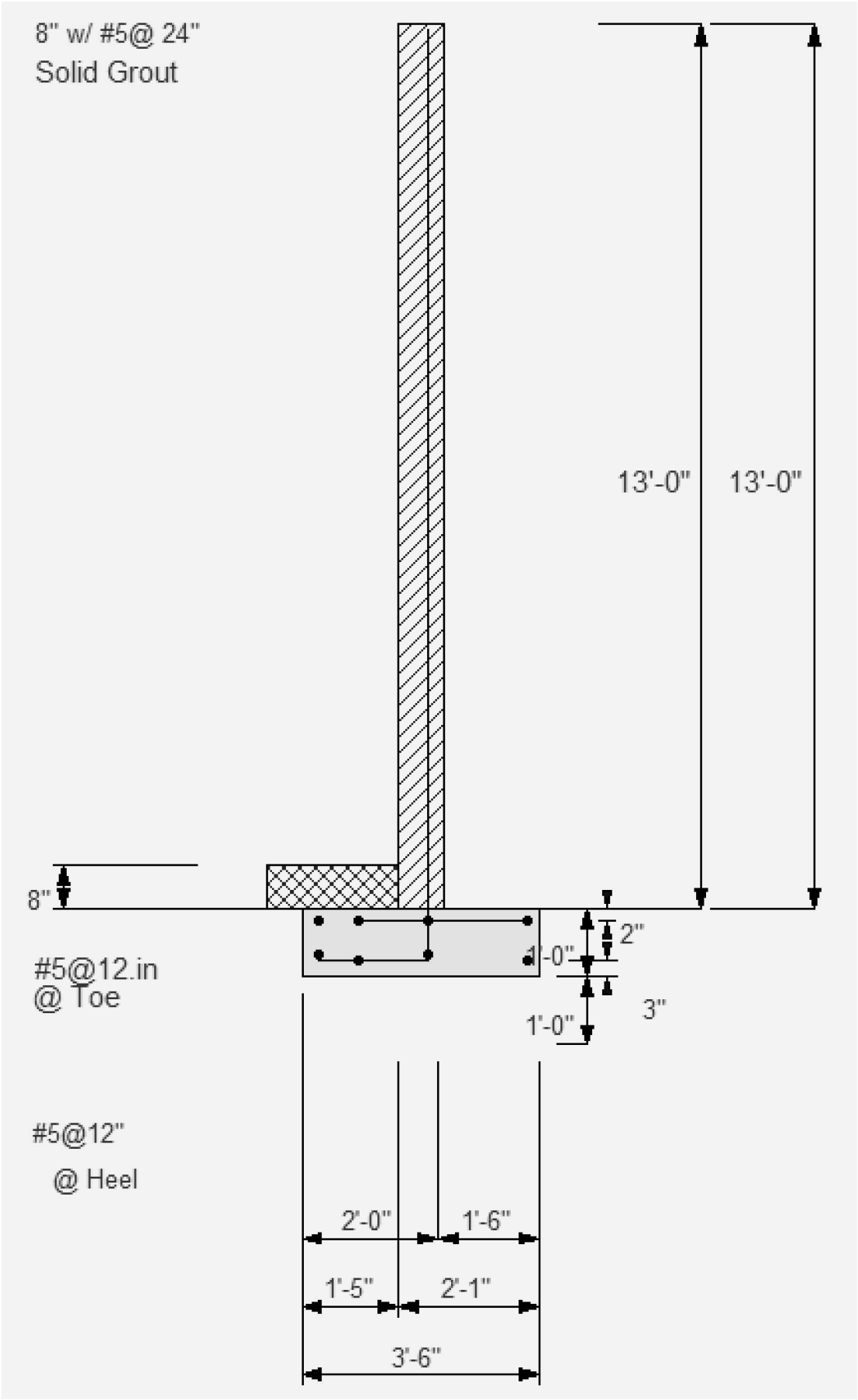
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4. SCREEN WALL DESIGN

DESIGN SUMMARY



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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Criteria



Retained Height	=	0.00 ft
Wall height above soil	=	13.00 ft
Slope Behind Wall	=	0.00
Height of Soil over Toe	=	8.00 in
Water height over heel	=	0.0 ft

Load Factors

Building Code	IBC 2018,ACI
Dead Load	1.200
Live Load	1.600
Earth, H	1.600
Wind, W	1.000
Seismic, E	1.000

Soil Data and Lateral Earth Pressure

Allow Soil Bearing	=	1,500.0 psf	Soil Density, Heel	=	100.00 pcf
Equivalent Fluid Pressure Method			Soil Density, Toe	=	0.00 pcf
Active Heel Pressure	=	45.0 psf/ft	Footing||Soil Friction	=	0.250
	=		Soil height to ignore for passive pressure	=	12.00 in
Passive Pressure	=	100.0 psf/ft			

Surcharge Loads

Surcharge Over Heel	=	0.0 psf	Surcharge Over Toe	=	0.0
Used To Resist Sliding & Overturning			Used for Sliding & Overturning		

Axial Load Applied to Stem

Axial Dead Load	=	0.0 lbs	Axial Load Eccentricity	=	0.0 in
Axial Live Load	=	0.0 lbs			

Lateral Load Applied to Stem

Lateral Load	=	0.0 #/ft
...Height to Top	=	0.00 ft
...Height to Bottom	=	0.00 ft
Load Type	=	Wind (W) (Service Level)

Wind on Exposed Stem

Wind on Exposed Stem (Service Level)	=	14.4 psf

Adjacent Footing Load

Adjacent Footing Load	=	0.0 lbs	Footing Type		Line Load
Footing Width	=	0.00 ft	Base Above/Below Soil		
Eccentricity	=	0.00 in	at Back of Wall	=	0.0 ft
Wall to Ftg CL Dist	=	0.00 ft	Poisson's Ratio	=	0.300

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Wall Design Summary

Stability Ratios

Overturning	=	2.01 OK
Sliding	=	3.39 OK

Soil Bearing

Total Bearing Load	=	1,617 lbs
...resultant ecc.	=	10.48 in
Soil Pressure @ Toe	=	1,229 psf OK
Soil Pressure @ Heel	=	0 psf OK
Allowable	=	1,500 psf
Soil Pressure Less Than Allowable		
ACI Factored @ Toe	=	1,720 psf
ACI Factored @ Heel	=	0 psf
Footing Shear @ Toe	=	11.5 psi OK
Footing Shear @ Heel	=	1.3 psi OK
Allowable	=	82.2 psi

Sliding

Resisting Forces

Vertical Forces	Force
Soil Over Heel (above water table, if any)	0.0 lbs
Soil Over Heel (below water table, if any)	0.0
Water Over Heel	0.0
Buoyant Force	0.0
Sloped Soil Over Heel	0.0
Surcharge Over Heel	0.0
Adjacent Footing Load	0.0
Axial Dead Load on Stem	0.0
Axial Live Load on Stem *	Omit
Soil Over Toe	0.0
Surcharge Over Toe	0.0
Stem Weight(s)	1,092.0
Earth @ Stem Transitions	0.0
Footing Weight	525.2
Key Weight	0.0
Vert. Component **	0.0
Total Vertical Loads	1,617.2 lbs

Sliding Forces

Lateral Forces	Force
Heel Active Pressure (above water table, if any)	22.5 lbs
Heel Active Pressure (below water table, if any)	0.0
Hydrostatic Force	0.0
* Heel Active Pressure	22.5
Surcharge over Heel	0.0
Adjacent Footing	0.0
Surcharge Over Toe	0.0
Load @ Stem Above Soil	187.2
Added Lateral Load	0.0
Seismic Load	0.0
Seismic-Self-weight	0.0
Lateral on Key	0.0
Totals =	209.7 lbs

*Includes water table effect

* Axial live load NOT included in total displayed , or used for overturning or sliding resistance, but is included for soil pressure calculations.

Sliding Calcs

Lateral Sliding Force	=		209.7 lbs
less 100% Passive Force	=	-	305.6 lbs
less 100% Friction Force	=	-	404.3 lbs
Added Force Req'd	=		0.0 lbs OK
....for 1.5 Stability	=		0.0 lbs OK

Vertical component of active lateral soil pressure IS NOT considered in the calculation of soil bearing pressures.

Overturning

Resisting Moments

Resisting Moments	Force		Distance		Moment
Soil Over Heel (above water table, if any)	0.0	lbs	2.79	ft	0.0 ft-#
Soil Over Heel (below water table, if any)	0.0				
Water Table	0.0				
Soil Over Heel	0.0		2.79		0.0
Sloped Soil Over Heel	0.0				
Surcharge Over Heel	0.0				
Adjacent Footing Load	0.0				
Axial Dead Load on Stem	0.0				
Axial Live Load on Stem *	0.0				
Soil Over Toe	0.0		0.71		
Surcharge Over Toe	0.0				
Stem Weight(s)	1,092.0		1.75		1,911.4
Earth @ Stem Transitions	0.0				
Footing Weight	525.2		1.75		919.3
Key Weight	0.0		2.00		
Vert. Component	0.0				
Total Vertical Loads	1,617.2	lbs			
Resisting Moment					**2,830.6** ft-#
Eccentricity					**10.5** in

* Axial live load NOT included in total displayed, or used for overturning or sliding resistance, but is included for soil pressure calculations.

Overturning

Overturning Moments

Overturning Moments	Force		Distance		Moment
Heel Active Pressure (above water table, if any)	22.5	lbs	0.33	ft	7.5 ft-#
Heel Active Pressure (below water table, if any)	0.0				
Hydrostatic Force	0.0				
Buoyant Force	0.0				
Surcharge over Heel	0.0				
Adjacent Footing	0.0				
Surcharge Over Toe	0.0				
Load @ Stem Above Soil	187.2		7.50		1,404.0
Added Lateral Load	0.0				
Seismic Load	0.0				
Seismic-Self-weight	0.0				
Totals =	209.7	lbs			
Overturning Moment					1,411.5 ft-#

Stem Design Summary

			Bottom
			Stem OK
Design Height Above Ftg	ft	=	0.00
Wall Material Above "Ht"		=	Masonry
Design Method		=	LRFD
Thickness		=	8.00
Rebar Size		=	# 5
Rebar Spacing		=	24.00
Rebar Placed at		=	Edge
Design Data			
fb/FB + fa/Fa		=	**0.356**
Total Force @ Section			
Service Level	lbs	=	
Strength Level	lbs	=	187.2
Moment....Actual			
Service Level	ft-#	=	
Strength Level	ft-#	=	1,216.8
Moment.....Allowable		=	3,411.6
Shear.....Actual			
Service Level	psi	=	
Strength Level	psi	=	2.0
Shear.....Allowable	psi	=	69.7
Anet	in2	=	91.50
Rebar Depth 'd'	in	=	5.25
Masonry Data			
f'm	psi	=	1,500
Fy	psi	=	60,000
Solid Grouting		=	Yes
Modular Ratio 'n'		=	21.48
Wall Weight	psf	=	84.0
Equiv. Solid Thick.	in	=	7.60
Masonry Block Type		=	Normal Weight
Masonry Design Method		=	LRFD
Concrete Data			
f'c	psi	=	
Fy	psi	=	

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Cantilevered Retaining Wall

Code: IBC 2018,ACI 318-14,TMS 402-16

Footing Data

Toe Width	=	1.42 ft	f'c	=	3,000	psi
Heel Width	=	2.08	Fy	=	60,000	psi
Total Footing Width	=	3.50 ft	Footing Concrete Density	=	150.00	pcf
Footing Thickness	=	12.00 in	Min. As %	=	0.0018	
Key Width	=	0.00 in	Rebar Cover @ Top	=	2.00	in
Key Depth	=	12.00 in	@ Bottom	=	3.00	in
Key Distance from Toe	=	2.00 ft				

Footing Design Results

		Toe	Heel	
Factored Pressure	=	1,720	0	psf
Mu' : Upward	=	17,003	216	ft-#
Mu' : Downward	=	3,869	2,680	ft-#
Mu: Design	=	327	-426	ft-#
Actual 1-Way Shear	=	11.46	1.31	psi
Allow 1-Way Shear	=	43.82	43.82	psi

Toe Reinforcing	=	# 5 @ 12.00 in
Heel Reinforcing	=	# 5 @ 12.00 in
Key Reinforcing	=	None Spec'd

Other Acceptable Sizes & Spacings

Toe: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Heel: Not req'd: Mu < phi*5*lambda*sqrt(f'c)*Sm

Key: No key defined

Min footing T&S reinf Area	0.91	in2
Min footing T&S reinf Area per fc	0.26	in2 /ft

If one layer of horizontal bars:	If two layers of horizontal bars:
#4@ 9.26 in	#4@ 18.52 in
#5@ 14.35 in	#5@ 28.70 in
#6@ 20.37 in	#6@ 40.74 in

Footing Torsion, Tu	=	0.00 ft-lbs
Footing Allow. Torsion, phi Tu	=	0.00 ft-lbs

If torsion exceeds allowable, provide supplemental design for footing torsion.

Tilt

Horizontal Deflection at Top of Wall due to settlement of soil

(Deflection due to wall bending not considered)

Soil Spring Reaction Modulus	250.0	pci
Horizontal Defl @ Top of Wall (approximate only)	0.127	in

The above calculation is not valid if the heel soil bearing pressure exceeds that of the toe, because the wall would then tend to rotate into the retained soil.

5. APPENDIX

5.1 WIND LOADS

Hazards by Location

Search Information

Address: 1003 E Eason Ave, Buckeye, AZ 85326, USA

Coordinates: 33.3728425, -112.5758664

Elevation: 876 ft

Timestamp: 2020-03-12T15:55:38.233Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	70 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.
355
1350

5.2 SEISMIC LOADS

Hazards by Location

Search Information

Address: 1003 E Eason Ave, Buckeye, AZ 85326, USA

Coordinates: 33.3728425, -112.5758664

Elevation: 876 ft

Timestamp: 2020-03-12T15:54:51.730Z

Hazard Type: Seismic

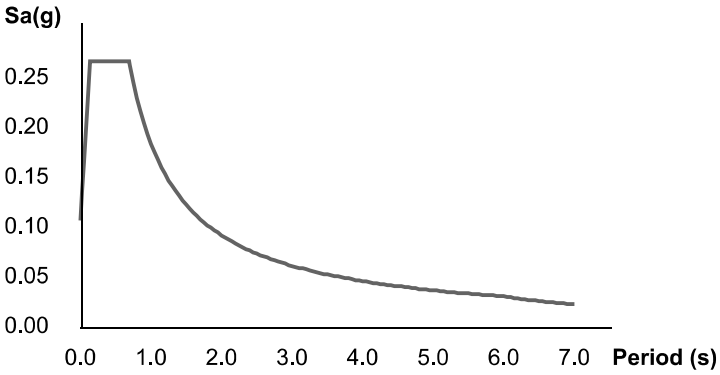
Reference Document: ASCE7-16

Risk Category: II

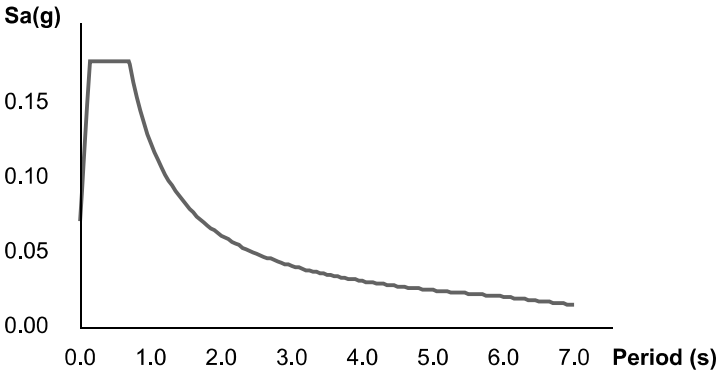
Site Class: D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.167	MCE_R ground motion (period=0.2s)
S_1	0.077	MCE_R ground motion (period=1.0s)
S_{MS}	0.267	Site-modified spectral acceleration value
S_{M1}	0.184	Site-modified spectral acceleration value
S_{DS}	0.178	Numeric seismic design value at 0.2s SA
S_{D1}	0.123	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.937	Coefficient of risk (0.2s)
CR_1	0.944	Coefficient of risk (1.0s)
PGA	0.073	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.117	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.167	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.178	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.077	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.081	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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5.3 GENERATOR SPECIFICATIONS

SD175 | 6.7L | 175 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

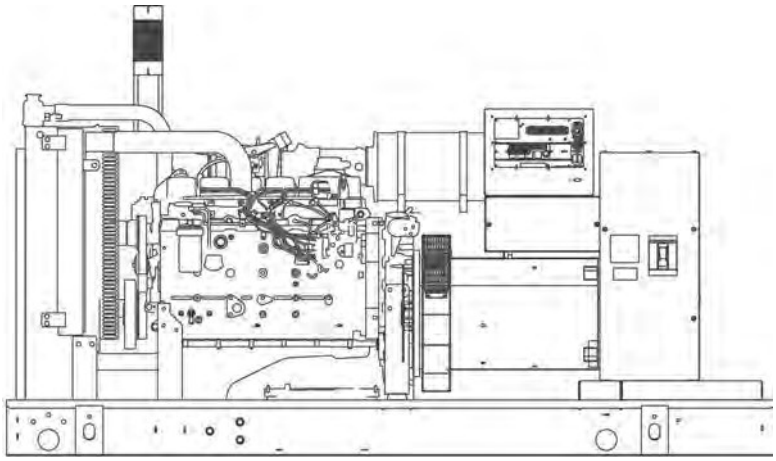
GENERAC | INDUSTRIAL POWER

STANDBY POWER RATING

175 kW, 219 kVA, 60 Hz

PRIME POWER RATING*

158 kW, 197 kVA, 60 Hz



*Built in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the U.S. or its Territories.

**Certain options or customization may not hold certification valid.

Image used for illustration purposes only

CODES AND STANDARDS

Generac products are designed to the following standards:

- UL2200, UL508, UL142, UL498
- NFPA70, 99, 110, 37
- NEC700, 701, 702, 708
- ISO9001, 8528, 3046, 7637, Pluses #2b, 4
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

POWERING AHEAD

For over 50 years, Generac has led the industry with innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac's gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial application under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

1 OF 6

SD175 | 6.7L | 175 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

General

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel flexible exhaust connection
- Critical Exhaust Silencer (enclosed only)
- Factory Filled Oil
- Radiator Duct Adapter (open set only)

Fuel System

- Fuel lockoff solenoid
- Primary fuel filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone resistant hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene glycol antifreeze
- 120 VAC Coolant Heater

Engine Electrical System

- Battery charging alternator
- Battery cables
- Battery tray
- Solenoid activated starter motor
- Rubber-booted engine electrical connections

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- 12 leads (3-phase, non 600 V)
- Class H insulation material
- Vented rotor
- 2/3 pitch
- Skewed stator
- Auxiliary voltage regulator power winding
- Amortisseur winding
- Brushless Excitation
- Sealed Bearings
- Automated manufacturing (winding, insertion, lacing, varnishing)
- Rotor dynamically spin balanced
- Full load capacity alternator
- Protective thermal switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of circuits - high/low voltage
- Separation of circuits - multiple breakers
- Silencer Heat Shield
- Wrapped Exhaust Piping
- Silencer housed in discharge hood (enclosed only)
- Standard Factory Testing
- 2 Year Limited Warranty (Standby rated Units)
- 1 Year Limited Warranty (Prime rated Units)
- Silencer mounted in the discharge hood (enclosed only)

ENCLOSURE (IF SELECTED)

- Rust-proof fasteners with nylon washers to protect finish
- High performance sound-absorbing material
- Gasketed doors
- Stamped air-intake louvers
- Air discharge hoods for radiator-upward pointing
- Stainless steel lift off door hinges
- Stainless steel lockable handles
- Rhino Coat™- Textured polyester powder coat

TANKS (IF SELECTED)

- UL 142
- Double wall
- Vents
- Sloped top
- Sloped bottom
- Factory pressure tested (2 psi)
- Rupture basin alarm
- Fuel level
- Check valve in supply and return lines
- Rhino Coat™- Textured polyester powder coat
- Stainless hardware

CONTROL SYSTEM



Control Panel

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- Low Fuel Pressure Indication
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance algorithm
- Sealed Boards
- Password parameter adjustment protection
- Single point ground
- 15 channel data logging
- 0.2 msec high speed data logging
- Alarm information automatically comes up on the display

Alarms

- Oil Pressure (Pre-programmable Low Pressure Shutdown)
- Coolant Temperature (Pre-programmed High Temp Shutdown)
- Coolant Level (Pre-programmed Low Level Shutdown)
- Low Fuel Pressure Alarm
- Engine Speed (Pre-programmed Over speed Shutdown)
- Battery Voltage Warning
- Alarms & warnings time and date stamped
- Alarms & warnings for transient and steady state conditions
- Snap shots of key operation parameters during alarms & warnings
- Alarms and warnings spelled out (no alarm codes)

SPEC SHEET

2 OF 6

SD175 | 6.7L | 175 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

General

- O Oil Heater
- O Industrial Exhaust Silencer

Fuel System

- O Flexible fuel lines
- O Primary fuel filter

Engine Electrical System

- O 10A UL battery charger
- O 2.5A UL battery charger
- O Battery Warmer

ALTERNATOR SYSTEM

- O Alternator Upsizing
- O Anti-Condensation Heater
- O Tropical coating
- O Permanent Magnet Excitation

CIRCUIT BREAKER OPTIONS

- O Main Line Circuit Breaker
- O 2nd Main Line Circuit Breaker
- O Shunt Trip and Auxiliary Contact
- O Electronic Trip Breaker

GENERATOR SET

- O Gen-Link Communications Software (English Only)
- O IBC Seismic Certification
- O 8 Position Load Center
- O 2 Year Extended Warranty
- O 5 Year Warranty
- O 5 Year Extended Warranty

ENCLOSURE

- O Weather Protected
- O Level 1 Sound Attenuation
- O Level 2 Sound Attenuation
- O Steel Enclosure
- O Aluminum Enclosure
- O 150 MPH Wind Kit
- O 12 VDC Enclosure Lighting Kit
- O 120 VAC Enclosure Lighting Kit
- O AC/DC Enclosure Lighting Kit
- O Door Alarm Switch

TANKS (Size on last page)

- O Electrical Fuel Level
- O Mechanical Fuel Level
- O 8" Fill Extension
- O 13" Fill Extension

CONTROL SYSTEM

- O 21-Light Remote Annunciator
- O Remote Relay Panel (8 or 16)
- O Oil Temperature Sender with Indication Alarm
- O Remote E-Stop (Break Glass-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Surface Mount)
- O Remote E-Stop (Red Mushroom-Type, Flush Mount)
- O Remote Communication - Modem
- O Remote Communication - Ethernet
- O 10A Run Relay
- O Ground Fault Indication and Protection Functions

ENGINEERED OPTIONS

ENGINE SYSTEM

- O Coolant heater ball valves
- O Block Heaters
- O Fluid containment pans

ALTERNATOR SYSTEM

- O 3rd Breaker Systems

CONTROL SYSTEM

- O Spare inputs (x4) / outputs (x4) - H Panel Only
- O Battery Disconnect Switch

GENERATOR SET

- O Special Testing

ENCLOSURE

- O Motorized Dampers
- O Door switched for intrusion alert
- O Enclosure ambient heaters

TANKS

- O Overfill Protection Valve
- O UL2085 Tank
- O ULC S-601 Tank
- O Stainless Steel Tank
- O Special Fuel Tanks (MIDEQ and FL DEP/DERM, etc.)
- O Vent Extensions

RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.

Prime - Applicable for supplying power to a varying load in lieu of utility for an unlimited amount of running time. A 10% overload capacity is available for 1 out of every 12 hours. The Prime Power option is only available on International applications. Power ratings in accordance with ISO 8528-1, Second Edition

SD175 | 6.7L | 175 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Generac
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emissions Data Sheet
Cylinder #	6
Type	In-Line
Displacement - L (cu In)	6.7 (406.86)
Bore - mm (in)	104 (4.09)
Stroke - mm (in)	128 (5.2)
Compression Ratio	16.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head Type	4 Valve
Piston Type	Alloy Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	+/- 0.25%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full Flow Cartridge
Crankcase Capacity - L (qts)	19.6 (20.7)

Cooling System

Cooling System Type	Closed Recovery
Water Pump	Belt Driven Centrifugal
Fan Type	Pusher
Fan Speed (rpm)	2538
Fan Diameter mm (in)	-
Coolant Heater Wattage	1500
Coolant Heater Standard Voltage	120 V /240 V

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specifications	ASTM
Fuel Filtering (microns)	5
Fuel Injection	Electronic
Fuel Pump Type	Engine Driven Gear
Injector Type	Electronic
Fuel Supply Line mm (in)	12.7 (0.5) NPT
Fuel Return Line mm (in)	12.7 (0.5) NPT

Engine Electrical System

System Voltage	12 VDC
Battery Charging Alternator	Std
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	520
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5%
Telephone Interference Factor (TIF)	<50

Standard Excitation	Permanent Magnet
Bearings	Single Seated Cartridge
Coupling	Direct, Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	3
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

SD175 | 6.7L | 175 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	175 kW	Amps: 729
Three-Phase 120/208 VAC @0.8pf	175 kW	Amps: 607
Three-Phase 120/240 VAC @0.8pf	175 kW	Amps: 526
Three-Phase 277/480 VAC @0.8pf	175 kW	Amps: 263
Three-Phase 346/600 VAC @0.8pf	175 kW	Amps: 210

STARTING CAPABILITIES (sKVA)

		sKVA vs. Voltage Dip											
		480 VAC						208/240 VAC					
Alternator	kW	10%	15%	20%	25%	30%	35%	10%	15%	20%	25%	30%	35%
Standard	200	187	280	373	467	560	653	140	210	280	350	420	490
Upsize 1	250	263	395	527	658	790	922	197	296	395	494	593	692
Upsize 2	300	303	454	605	757	908	1059	227	341	454	568	681	794

FUEL CONSUMPTION RATES*

Fuel Pump Lift - ft (m)
3 (1)
Total Fuel Pump Flow (Combustion + Return)
29.0 gal/hr

	Diesel - gal/hr (l/hr)
Percent Load	Standby
25%	3.9 (14.8)
50%	7.3 (27.6)
75%	10.5 (39.7)
100%	13.5 (51.1)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow per Minute	gal/min (l/min)	44.6 (168.8)
Coolant System Capacity	gal (L)	7.5 (28.4)
Heat Rejection to Coolant	BTU/hr	497,718
Inlet Air	cfm (m^3/hr)	7946 (13502)
Max. Operating Radiator Air Temp	F° (C°)	122 (50)
Max. Ambient Temperature (before derate)	F° (C°)	104 (40)
Maximum Radiator Backpressure	in H_2O	0.5

COMBUSTION AIR REQUIREMENTS

		Standby
Flow at Rated Power	cfm (m^3/min)	470 (13.31)

ENGINE

		Standby
Rated Engine Speed	rpm	1800
Horsepower at Rated kW**	hp	279
Piston Speed	ft/min (m/min)	1559 (475)
BMEP	psi	257

EXHAUST

		Standby
Exhaust Flow (Rated Output)	cfm (m^3/min)	1326 (37.55)
Max. Backpressure (Post Silencer)	inHg (Kpa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	1040 (560)
Exhaust Outlet Size (Open Set)	mm (in)	101.6 (4)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.

SPEC SHEET

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Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

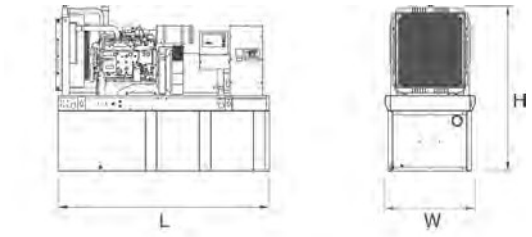
SD175 | 6.7L | 175 kW

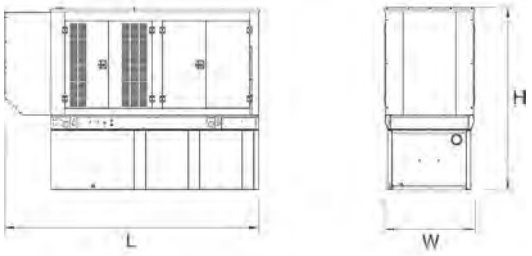
INDUSTRIAL DIESEL GENERATOR SET

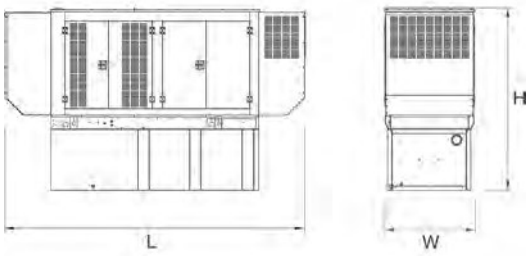
EPA Certified Stationary Emergency

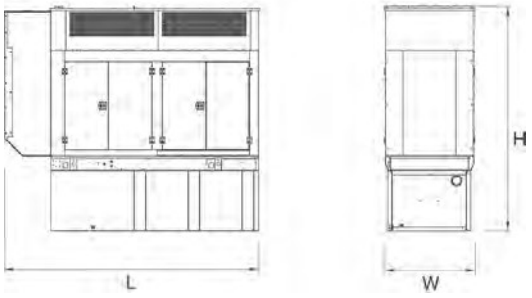
GENERAC | INDUSTRIAL POWER

DIMENSIONS AND WEIGHTS*









OPEN SET

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Tank & Open Set
NO TANK		117 (2972) x 50 (1270) x 57 (1448)	3980 (1805)
10	134 (507)	117 (2972) x 50 (1270) x 71 (1803)	4764 (2161)
24	322 (1219)	117 (2972) x 50 (1270) x 82 (2083)	5052 (2292)
38	510 (1930.6)	117 (2972) x 50 (1270) x 94 (2388)	5345 (2424)
51	693 (2623.3)	136 (3454) x 53 (1346) x 98 (2489)	5575 (2530)
70	946 (3581)	208 (5283) x 53 (1346) x 98 (2489)	7005 (3117)
98	1325 (5015.7)	278 (7061) x 53 (1346) x 96 (2438)	8020 (3638)

STANDARD ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	143 (3632) x 50 (1270) x 68 (1727)		
10	134 (507)	143 (3632) x 50 (1270) x 81 (2057)		
24	322 (1219)	143 (3632) x 50 (1270) x 93 (2362)		
38	510 (1930.6)	143 (3632) x 50 (1270) x 105 (2667)	850 (386)	280 (127)
51	693 (2623.3)	143 (3632) x 53 (1346) x 109 (2769)		
70	946 (3581)	208 (5283) x 53 (1346) x 109 (2769)		
98	1325 (5015.7)	278 (7061) x 53 (1346) x 107 (2718)		

LEVEL 1 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	168 (4267) x 50 (1270) x 68 (1727)		
10	134 (507)	168 (4267) x 50 (1270) x 81 (2057)		
24	322 (1219)	168 (4267) x 50 (1270) x 93 (2362)		
38	510 (1930.6)	168 (4267) x 50 (1270) x 105 (2667)	1050 (476)	347 (157)
51	693 (2623.3)	168 (4267) x 53 (1346) x 109 (2769)		
70	946 (3581)	234 (5944) x 53 (1346) x 109 (2769)		
98	1325 (5015.7)	304 (7722) x 53 (1346) x 107 (2718)		

LEVEL 2 ACOUSTIC ENCLOSURE

RUN TIME HOURS	USABLE CAPACITY GAL (L)	L x W x H in (mm)	WT lbs (kg) - Enclosure Only	
			Steel	Aluminum
NO TANK	-	143 (3632) x 50 (1270) x 92 (2337)		
10	134 (507)	143 (3632) x 50 (1270) x 105 (2667)		
24	322 (1219)	143 (3632) x 50 (1270) x 117 (2972)		
38	510 (1930.6)	143 (3632) x 50 (1270) x 129 (3278)	1250 (567)	413 (187)
51	693 (2623.3)	143 (3632) x 53 (1346) x 133 (3378)		
70	946 (3581)	208 (5283) x 53 (1346) x 133 (3378)		
98	1325 (5015.7)	278 (7061) x 53 (1346) x 131 (3327)		

*All measurements are approximate and for estimation purposes only. Sound dBA can be found on the sound data sheet. Enclosure Only weight is added to Tank & Open Set weight to determine total weight.

YOUR FACTORY RECOGNIZED GENERAC INDUSTRIAL DEALER

(5575 lb set and tank) + (Diesel weight 7 lbs/gallon x 693 gallons) + (1250lbs enclosure weight) = **11676 LBs total**

Specification characteristics may change without notice. Dimensions and weights are for preliminary purposes only. Please consult a Generac Power Systems Industrial Dealer for detailed installation drawings.

SPEC SHEET

6 OF 6

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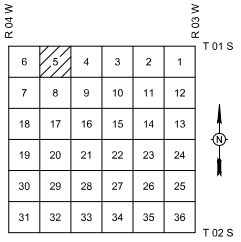
Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

1360

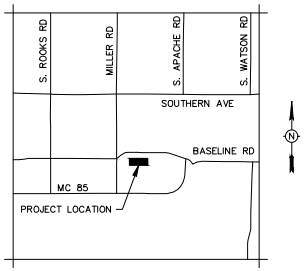
FLEET MANAGEMENT STANDBY GENERATOR

415 E. ARIZONA EASTERN BUCKEYE, ARIZONA 85326

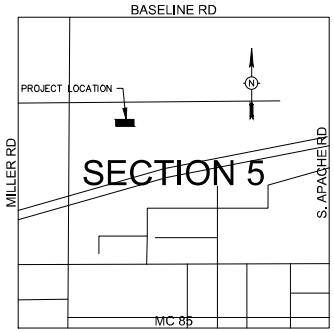
A PORTION OF THE NWNW OF SECTION 5, TOWNSHIP T01S, RANGE R03W OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE



OVERALL DEVELOPMENT
NOT TO SCALE

FEMA FLOOD ZONE INFORMATION

COMMUNITY NUMBER	PANEL # PANEL DATE	SUFFIX	DATE OF FIRM (INDEX DATE)	FIRM ZONE	BASE FLOOD ELEV. (IN AO ZONE, USE DEPTH)
ALL FLOOD ZONES ARE SHOWN IN THIS PLAN SET.					

GENERAL PERMITTING NOTES

1. ALL CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY OR IN EASEMENTS GRANTED FOR PUBLIC USE MUST CONFORM TO THE LATEST MARICOPA ASSOCIATION OF GOVERNMENTS (MAG) UNIFORM STANDARD SPECIFICATIONS AND UNIFORM STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION AS AMENDED BY THE LATEST VERSION OF THE CITY OF BUCKEYE DESIGN STANDARDS. IF THERE IS A CONFLICT, THE CITY OF BUCKEYE STANDARDS WILL GOVERN.
2. THE APPROVAL OF THE PLANS IS VALID FOR ONE (1) YEAR FROM THE DATE OF THE CITY ENGINEER'S SIGNATURE. IF AN ENCROACHMENT PERMIT FOR THE CONSTRUCTION HAS NOT BEEN ISSUED WITHIN ONE (1) YEAR, THE PLANS MUST BE RESUBMITTED TO THE CITY FOR REAPPROVAL.
3. A CITY OF BUCKEYE INSPECTOR WILL INSPECT ALL WORKS WITHIN THE CITY OF BUCKEYE RIGHTS-OF-WAY AND IN EASEMENTS. NOTIFY THE CITY 24 HOURS PRIOR TO THE INSPECTION BY CALLING (623) 349-6248.
4. CITY PERMITS ARE REQUIRED FOR ALL WORK IN PUBLIC RIGHTS-OF-WAY AND EASEMENTS GRANTED FOR PUBLIC PURPOSES. A CITY PERMIT WILL BE ISSUED BY THE CITY ONLY AFTER ALL FEES HAVE BEEN PAID AND THE PERMIT HAS AN APPROVED MARICOPA COUNTY ENVIRONMENTAL SERVICES DUST PERMIT AND AN APPROVED STORM WATER POLLUTION PREVENTION PLAN ATTACHED. THE SWPPP SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS.
5. COPIES OF ALL PERMITS AND MOST RECENT APPROVED PLANS MUST BE RETAINED ON-SITE AND BE AVAILABLE FOR INSPECTION AT ALL TIMES. FAILURE TO PRODUCE THE REQUIRED PERMITS AND PLANS WILL RESULT IN IMMEDIATE SUSPENSION OF ALL WORK UNTIL PROPER PERMIT DOCUMENTATION AND/OR PLANS ARE OBTAINED. ALL OF THESE REQUIREMENTS APPLY TO ONSITE GRADING AND IMPROVEMENT PLANS.

SUMMARY OF BUILDING CODES

2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL PLUMBING CODE
2017 NATIONAL ELECTRICAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2018 INTERNATIONAL ENERGY CONSERVATION CODE

ENGINEER

KIMLEY-HORN AND ASSOCIATES, INC.
MICHAEL COLOMBO
7740 N. 16TH STREET
SUITE 300 PHOENIX, AZ 85020
602-944-5500
MICHAEL.COLOMBO@KIMLEY-HORN.COM

SHEET INDEX

SHEET NUMBER	SHEET TITLE
1	COVER SHEET
2	ELECTRICAL GENERAL NOTES
3	ELECTRICAL SITE PLAN
4	ELECTRICAL ONE LINE DIAGRAM
5	ELECTRICAL DETAILS
6	STRUCTURAL NOTES AND PLAN
7	STRUCTURAL DETAILS

APPROVAL

DISCLAIMER:

THE CITY APPROVES THESE PLANS FOR CONCEPT ONLY AND ACCEPTS NO LIABILITY FOR ERRORS AND OMISSIONS.

BY: _____
CITY OF BUCKEYE ENGINEER — DATE

BY: _____
FLOOD CONTROL DISTRICT MARICOPA COUNTY — DATE

BY: _____
MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION — DATE

BY: _____
MARICOPA COUNTY ENVIRONMENTAL SERVICES DEPARTMENT — DATE

BY: _____
PRIVATE WATER — DATE

BY: _____
PRIVATE SEWER — DATE

BY: _____
ROOSEVELT IRRIGATION DISTRICT (RID) — DATE

BY: _____
BUCKEYE WATER CONSERVATION & DRAINAGE DISTRICT — DATE

(OTHER SIGNATURE LINES AS REQUIRED)

MANAGING ENGINEERING / SURVEYOR
PROJECT COORDINATOR
DESIGN LAYOUT: EG
DRAFTED: JN
CHECKED: MAC
FIELD SURVEY
DRAWING SCALES

PLAN TYPE: ELECTRICAL PLANS

ENGINEER INFORMATION: Kimley»Horn

PROJECT: FLEET MANAGEMENT STANDBY GENERATOR

COB PROJECT PLAN STICKER

REVISIONS:
1
2
3

COB PERMITTING APPROVED SEAL

COB ENGINEERING APPROVED SEAL

SUBMITTAL: FINAL

AS-BUILT SEAL

DESIGN SEAL

Registered Professional Engineer — Certificate No. 50368 — Michael A. Colombo — State of ARIZONA, U.S.A. — Expires 12/31/21

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

ORIGINAL PLAN DATE: 07/07/2020
LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012
SHEET NUMBER: 1 of 7

COB PLAN TRACKING #
COB PERMIT #

CITY OF BUCKEYE GENERAL CONSTRUCTION NOTES

1. CITY OF BUCKEYE BUILDING DEPARTMENT SHALL; HE NOTIFIED 24 HOURS IN ADVANCE OF ANY ON-SITE OR OFF SITE CONSTRUCTION. PHONE 623-349-6248 FOR THE HOTLINE. ALL OTHERS FAX THE INSPECTION REQUEST FORM TO 623-349-6221, OR USE THE WEB BASED PERMIT PORTHOLE ACCESS TO SCHEDULE AN INSPECTION (WWW_BUCKEYEAZ.GOV).
2. ALL WORK AND MATERIALS MUST CONFORM WITH THESE SPECIFICATIONS, THE CURRENT UNIFORM STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORKS CONSTRUCTION AS SPONSORED AND DISTRIBUTED BY THE MARICOPA ASSOCIATION OF GOVERNMENTS (M.A.G.) AND AS AMENDED BY THE CITY OF BUCKEYE (COB).
3. A PERMIT IS REQUIRED FROM THE COB FOR ALL CONSTRUCTION WITHIN THE RIGHTS-OF-WAY (ROW).
4. THE CONTRACTOR WILL EXPOSE ALL EXISTING UTILITY LINES BEING TIED IN TO VERIFY THEIR LOCATION.
5. THE CONTRACTOR WILL LOCATE, OR HAVE LOCATED, ALL EXISTING UNDERGROUND UTILITIES (ELECTRIC, TELEPHONE, PIPELINE, ETC.) AND STRUCTURES IN ADVANCE OF CONSTRUCTION AND WILL ELIMINATE ALL CONFLICTS PRIOR TO START OF CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE TO CALL BLUE STAKE PRIOR TO STARTING ANY CONSTRUCTION. NO WORK SHALL BEGIN UNTIL BLUE STAKE IS COMPLETED. BLUE STAKE TELEPHONE NUMBER 602-263-1 100 OR 1-800-STAKE-IT.
7. A PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO STARTING ANY WORK OR NEW PHASE OF WORK. THE CONTRACTOR, KEY SUB-CONTRACTORS, COB INSPECTOR AND REPRESENTATIVE OF THE CITY ENGINEER SHALL ATTEND THIS MEETING.
8. ANY WORK PERFORMED WITHOUT THE APPROVAL OF THE COB AND/OR ALL WORK AND MATERIAL NOT IN CONFORMANCE WITH THE SPECIFICATIONS IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
9. DISPOSAL OF EXCESS MATERIAL WITHOUT A PERMIT WITHIN THE COB LIMITS IS PROHIBITED. A USE PERMIT IS REQUIRED FOR DISPOSAL OR STOCKPILING OF MATERIALS WITHIN A RESIDENTIAL AREA. STOCKPILING OF EXCAVATED MATERIAL SHALL NOT EXCEED A HEIGHT OF 6 FEET ABOVE THE NATURAL GROUND ELEVATION. THE SLOPES ON ALL SIDES OF THE STOCKPILED EXCAVATED MATERIAL SHALL NOT EXCEED A 4: 1 RATIO OF LENGTH TO HEIGHT.
10. EXCAVATION CONTRACTORS MUST IDENTIFY LOCATION FOR DISPOSING OF EXCESS EXCAVATION MATERIAL ALONG WITH A LETTER FROM THE LAND OWNER, GIVING PERMISSION FOR DUMPING PRIOR TO STARTING ANY CONSTRUCTION.
11. TRAFFIC CONTROL SHALL BE PROVIDED AND MAINTAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE CITY OF PHOENIX BARRICADING MANUAL, MARICOPA COUNTY DEPARTMENT OF TRANSPORTATION, M.A.G. UNIFORM STANDARD DETAIL 401, AND COB REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO SUBMIT A TRAFFIC CONTROL PLAN AND BARRICADE PLAN TO THE COB FOR APPROVAL WHERE THE CONSTRUCTION OF THE NEW IMPROVEMENTS ARE ADJACENT TO OR CONNECTING TO ANY EXISTING ROADWAY OR PEDESTRIAN FACILITIES. THE TRAFFIC CONTROL PLAN AND BARRICADE PLAN SHALL BE APPROVED BEFORE A PERMIT FOR THE WORK WILL BC ISSUED. THE CONTRACTOR SHALL INSTALL APPROVED BARRICADING AND TRAFFIC CONTROL, AS APPROVED BY THE COB, BEFORE WORK CAN TAKE PLACE. ALL OVERNIGHT BARRICADES SHALL BE LIT AND FUNCTIONING.
12. A HAUL PLAN FOR MATERIAL IMPORT OR EXPORT SHALL BE REQUIRED FOR COB REVIEW AND APPROVAL PRIOR TO THE START OF HAULING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC. THIS WORK INCLUDES STREET SWEEPING, POWER BROOM AND WATER AS NEEDED OR DIRECTED BY THE COB.
13. ENVIRONMENTAL REQUIREMENTS
    A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL RELATED TO THE PROJECT CONSTRUCTION AND SHALL TAKE WHATEVER MEANS NECESSARY TO CONTROL ANY ABNORMAL CONDITIONS.
    B. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING PUBLIC STREETS, AND TAKE WHATEVER MEASURES ARE NECESSARY TO INSURE THAT ALL ROADS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES.
    C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY AND FINAL CLEAN-UP OPERATIONS OF ADJACENT, EXISTING PAVED STREETS USED BY CONSTRUCTION TRAFFIC.
    D. TEMPORARY DRAINAGE CONTROL MEASURES MAY BE REQUIRED DURING AND AFTER CONSTRUCTION UNTIL FINAL PROJECT BUILD-OUT IN ACCORDANCE WITH THE APPROVED PLANS AND IN ACCORDANCE WITH ANY ESTABLISHED OR REQUIRED BEST MANAGEMENT PRACTICES (BMP) AS PART OF THE NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT REQUIREMENTS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MEET ALL REQUIREMENTS.
    E. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL AIR QUALITY PERMITS.
    F. THE CONTRACTOR SHALL SUBMIT TO THE COB A COPY OF THEIR APPROVED COUNTY (AIR QUALITY) DUST CONTROL PLAN, EROSION CONTROL PLAN (SWPPP), AND PERMIT PRIOR TO THE START OF WORK.
14. STREET CUTS: APPLICATIONS FOR STREET CUT PERMITS MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO APPROVAL OF IMPROVEMENT PLANS. THE PAVEMENT REPLACEMENT SECTION FOR ALL LONGITUDINAL AND TRANSVERSE TRENCHES LOCATED IN AN EXISTING PAVED STREET SHALL BE CONSTRUCTED IN ACCORDANCE M.A.G. UNIFORM STANDARD DETAIL NO. 200 "I"-TOP, BACKFILL, PAVEMENT SURFACE REPLACEMENT, MODIFIED AS FOLLOWS: THE WIDTH OF THE REPLACED PAVEMENT SECTION EXTEND 1 FOOT BEYOND THE TRENCH SIDE EDGE LINE, ON EITHER SIDE OF THE TRENCH. THE DEPTH OF THE PERMANENT SURFACE REPLACEMENT SHALL BE A MINIMUM OF 3 INCHES OR MATCH THE EXISTING THICKNESS OF THE PAVEMENT, WHICHEVER IS GREATER. SAWCUT OR CONSTRUCTION JOINTS SHALL BE ADEQUATELY TACK OILED WITH A MINIMUM OF 95% COVERAGE. ASPHALT MATERIAL SHALL BE A COB APPROVED MIX DESIGN WITH COMPACTED LIFTS NO GREATER THAN 3 INCHES. SLURRY BACKFILLED OR OPEN TRENCHES IN EXISTING ROADWAYS MUST BE PROPERLY STEEL PLATED AND BARRICADED OVER NIGHT. STEEL PLATES TO BE MILLED FLUSH WITH ROADWAY SURFACE PER NOTE 24. "COLD MIX" TEMPORARY ASPHALT PATCHES MUST BE REPLACED AS SOON AS POSSIBLE AND CANNOT REMAIN FOR MORE THAN 5 DAYS TIME OR AS REQUIRED BY THE COB. DURING THE 5 DAY PERIOD THE CONTRACTOR IS REQUIRED TO MAINTAIN THE PATCH TO WITHIN MAG STD SPEC 321.5.3. ASPHALT IN PLACE FOR LESS THAN 5 YEARS SHALL BE MILLED AND OVERLAYED A MINIMUM OF 20 FEET PAST TRENCH WALLS, AND IN THE CASE OF MULTIPLE STREET CUTS, THE CONTINUOUS MILL AND OVERLAY SHALL EXTEND A MINIMUM OF 20-FEET PAST END OF THE FURTHEST TRENCH WALLS.
15. POTHOLING: NO POTHOLING SHALL BE DONE ON ANY STREET NEWER THAN 2 YEARS OLD. ALL POTHOLING IN EXISTING STREETS SHALL BE DONE USING WATER/AIR/VACUUM TYPE METHOD. POTHOLE SIZE SHALL BE LIMITED TO A 12 INCH BY 12 INCH SQUARE HOLE. REMOVAL MATERIAL CANNOT BE USED FOR BACK FILL. THE CONTRACTOR SHALL USE SLURRY PER MAG SEC. 728. PAVEMENT REPLACEMENT SHALL BE BY APPROVED HOT MIX ASPHALT ONLY. A 3 FOOT BY 3 FOOT PAVEMENT SLURRY SEAL SHALL BE APPLIED AFTER THE ASPHALT IS PLACED.
16. AN APPROVED, UP-TO-DATE SET OF PLANS AND A RIGHT-OF-WAY PERMIT SHALL BE MAINTAINED ON THE JOB SITE AT ALL TIMES WHILE WORK IS IN PROGRESS. IF THE PLANS AND PERMITS ARE NOT ON SITE, THE WORK SHALL BE STOPPED UNTIL THE APPROVED PLANS ARE PROVIDED. DEVIATION FROM THE PLANS SHALL NOT BE ALLOWED WITHOUT THE COB'S APPROVAL.
17. DAMAGE TO ANY AND ALL ITEMS CAUSED BY CONSTRUCTION OR CONSTRUCTION RELATED WORK SHALL BE REPLACED OR REPAIRED TO THE SAME OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
18. ALL PARCEL CONSTRUCTION ACCESS LOCATIONS ARE SUBJECT TO THE CITY ENGINEER'S APPROVAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER AND ADEQUATE ACCESS ROADS INSIDE AND THROUGHOUT THE PARCEL ALLOWING FOR INSPECTION ACCESSIBILITY. THIS INCLUDES GRADING, GRAVEL FILL AND/OR TRENCH PLATES AS REQUIRED.
19. THE CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE COB AND THE COB CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE COB.
20. THE COB SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES UTILIZED IN CONNECTION WITH THE WORK. THE COB WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS COMPLYING WITH MAG OR COB REQUIREMENTS.
21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING CERTIFIED AS-BUILT RECORD DOCUMENTS TO THE COB FOR REVIEW AND APPROVAL. NO FINAL ACCEPTANCE SHALL BE ISSUED UNTIL "AS-BUILT" PLANS CERTIFIED BY THE PROJECT ENGINEER/LAND SURVEYOR HAVE BEEN SUBMITTED AND ACCEPTED BY THE COB. FINAL CONSTRUCTION ACCEPTANCE OR THE RELEASE OF CERTIFICATE OF OCCUPANCIES SHALL NOT BE ISSUED UNTIL ALL AS-BUILT DRAWINGS AND OTHER REQUIRED DOCUMENTS PER THE COB'S FINAL PROJECT SUBMITTAL CHECKLIST, HAVE BEEN REVIEWED AND APPROVED BY THE CITY ENGINEER.
22. ARRANGEMENTS FOR CONSTRUCTION WATER CAN BE MADE BY CALLING THE WATER RESOURCE DEPARTMENT AT (623) 349-6800.
23. THE COB IS NOT RESPONSIBLE FOR LIABILITY ACCRUED DUE TO DELAYS AND/OR DAMAGES TO UTILITIES IN CONJUNCTION WITH THIS CONSTRUCTION. ALSO, THE CITY WILL NOT PARTICIPATE IN THE COST OF CONSTRUCTION OR RELOCATION OF UTILITIES.
24. ALL CONTRACTORS SHALL CONTRACT FOR TRASH PICKUP THROUGH A LICENSED CITY OF BUCKEYE SOLID WASTE HAULER (602-237-2078) AND DISPOSED OF AT THE SOUTHWEST REGIONAL LANDFILL IN BUCKEYE.
25. OPEN TRENCHES ACROSS DRIVEWAYS, STREETS AND CROSS-STREETS SHALL BE PLATED FOR OVERNIGHT, WEEKEND OR EXTENDED PERIODS, PER M.A.G. UNIFORM STANDARD DETAIL 211.
26. ALL ABC SHALL BE FROM AN ARIZONA DEPARTMENT OF TRANSPORTATION (ADOT) APPROVED SOURCE LIST.
27. LONGITUDINAL TRENCH BACKFILL IN EXISTING ARTERIAL, COLLECTOR, OR LOCAL ROADWAYS OR ADJACENT TO EXISTING ROADWAY (WHEN THE TRENCH EXCAVATION FALLS WITHIN 2 FEET OF EDGE OF PAVEMENT) SHALL REQUIRE 1/2 SACK CLSM PER MAG SPEC 728 FULL DEPTH OR ABC FULL DEPTH AS DIRECTED BY THE COB. ABC BACKFILL COMPACTION SHALL BE BY AN APPROVED MECHANICAL METHOD (NO WATER SETTLING) WITH BACKFILL MATERIAL LIFTS AS FOLLOWS:
    - 12 INCH LIFTS (LOOSE) TO BE USED IN THE TOP 4 FEET OF THE TRENCH
    - 24 INCH LIFTS (LOOSE) TO BE USED FROM 1 FOOT OVER THE PIPE TO 4 FEET FROM THE TOP OF THE TRENCH PER MAG SEC. 601.4.
28. ALL BACKFILL WITHIN OR ADJACENT TO EXISTING ROADWAYS SHALL BE MECHANICALLY COMPACTED.
29. TRANSVERSE TRENCH BACKFILL IN ALL EXISTING ROADWAYS SHALL REQUIRE 100% FULL DEPTH HALF SACK CLSM PER MAG SPEC 728.
30. ALL MATERIAL SUBMITTALS INCORPORATED IN THE PROJECT SHALL BE SUBMITTED AT OR BEFORE THE PRECONSTRUCTION MEETING FOR REVIEW AND APPROVAL BY THE CITY ENGINEER.

ELECTRICAL GENERAL CONSTRUCTION NOTES

1. ALL EQUIPMENT, MATERIALS AND WORK SHOWN ARE NEW UNLESS SPECIFICALLY NOTED AS EXISTING OR NOTED OTHERWISE ON OTHER SHEETS.
2. PROVIDE ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC. REQUIRED FOR A COMPLETE WORKING ELECTRICAL SYSTEM.
3. ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY AND LOCAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT STANDARDS, CODES AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UBC, UL, IEEE, AND UTILITY COMPANY STANDARDS.
4. OBTAIN WRITTEN APPROVAL FROM THE ENGINEER OF ALL SHOP DRAWINGS AND MANUFACTURERS DATA FOR PANEL BOARDS, TRANSFORMERS, WIRING DEVICES, ETC. BEFORE RELEASING ORDERED MATERIALS. SUBMITTAL DATA SHALL INDICATE THAT THE CONTRACTOR HAS REVIEWED THE INFORMATION THEREIN AND THAT THE PROPOSED EQUIPMENT WILL MEET THE PHYSICAL CONSTRAINTS AT THE JOB SITE. ANY SUBSTITUTIONS SHALL BE OF THE EQUIVALENT OR BETTER QUALITY THAN THE SPECIFIED COMPONENTS.
5. ALL WIRE SHALL BE STRANDED COPPER WITH XHHW-2 INSULATION OR APPROVED EQUAL.
6. ALL CONDUIT SHALL BE ROUTED UNDER FOOTINGS WHERE APPLICABLE. REFER TO STRUCTURAL DETAILS FOR MORE INFORMATION.
7. THE USE OF SERIES RATING OF UPSTREAM OR DOWNSTREAM CIRCUIT BREAKERS OR FUSES IS PROHIBITED. ONLY FULLY RATED SYSTEM COMPONENTS WILL BE ACCEPTED.
8. ALL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. ALL ELBOWS AND EXPOSED RISERS SHALL BE WRAPPED RIGID STEEL CONDUIT.
9. TYPE MC OR TYPE AC CABLE SHALL ONLY BE USED WITH THE SPECIFIC WRITTEN PERMISSION OF THE PROGRAM/PROJECT MANAGER. EMT TYPE CONDUIT WILL NOT BE ALLOWED.
10. ORDER AND/OR RELEASE ORDERED MATERIALS PROMPTLY AFTER SUBMITTAL APPROVAL. NO SUBSTITUTIONS OR ALTERNATE METHODS OF INSTALLATION WILL BE ACCEPTED FOR FAILURE TO ORDER MATERIALS IN A TIMELY FASHION.
11. PULL ROPES: PROVIDE 300 POUND PULL WIRE OR NYLON EQUIVALENT IN ALL INTERIOR EMPTY CONDUIT RUNS. PROVIDE 1/4" DIA NYLON PULL ROPE IN EACH EMPTY EXTERIOR CONDUIT OR DUCT.
12. ALL MULTIPLE POLE CIRCUITS SHALL BE PROVIDED WITH HANDLE TIES AS REQUIRED BY NEC.
13. CONDUIT/ CONDUCTOR RUNS SHOWN ARE DIAGRAMMATICAL ONLY. THE BEST FINAL CONDUIT ROUTING SHALL BE AS DETERMINED BY THE ELECTRICAL CONTRACTOR AT THE TIME OF CONSTRUCTION.
14. PRIOR TO PURCHASE OF ANY PANEL, PROTECTIVE DEVICES, SWITCH, STARTER, CONDUIT, WIRE, ETC., TO FEED ANY PIECE OF EQUIPMENT VERIFY THE VOLTAGE, PHASE, AND LOAD OF THAT ITEM IN THE FIELD AND/OR WITH THE PARTICULAR ENTITY INVOLVED IN THE FURNISHING THE ITEM SUCH THAT THE PROPER SIZE & RATING OF THE MATERIALS ARE PURCHASED. NO EXTRAS WILL BE ALLOWED FOR FAILURE TO COMPLY. THIS APPLIES TO ALL EQUIPMENT UNDER OTHER SECTIONS & BY THE OWNER.
15. DUE TO THE REQUIREMENTS TO INTERFACE WITH EXISTING FACILITIES AND UTILITIES. IT IS RECOMMENDED THAT THE CONTRACTOR VISIT THE SITE TO DETERMINE EXISTING CONDITIONS PRIOR TO SUBMITTING A JOC PROPOSAL.
16. PROVIDE ALL TRENCHING, EXCAVATION, BACK FILLING, SHORING. PUMPING, COMPACTION TEST ETC. THAT ARE REQUIRED FOR THE SCOPE OF ELECTRICAL WORK.
17. VERIFY THE EXACT LOCATION AND ELEVATION OF ALL ELECTRICAL EQUIPMENT PRIOR TO ROUGH-IN. FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURERS APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
18. ALL PANEL BOARDS, SWITCHES, MOTOR STARTERS AND SWITCHBOARD CIRCUIT BREAKERS SHALL HAVE ENGRAVED MICARTA NAMEPLATES.
19. ELECTRICAL CONTRACTOR SHALL GUARANTEE THE ELECTRICAL WORK TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE.
20. PROVIDE ALL PANEL BOARDS WITH TYPED DIRECTORIES INSTALLED UNDER A CLEAR PLASTIC COVER. SUBMIT DIRECTORY INFORMATION TO THE OWNER FOR APPROVAL PRIOR TO FINALIZATION.

LEGEND

—X—X—	EXISTING FENCE
—OH—	EXISTING OVERHEAD POWER LINE
	EXISTING CONDUIT, ABOVE GRADE
	EXISTING CONDUIT, BELOW GRADE
	PROPOSED RGS CONDUIT, ABOVE GRADE
	PROPOSED PVC SCH 40 CONDUIT, BELOW GRADE
E	PROPOSED ELECTRICAL PULL BOX
C	PROPOSED COMMUNICATIONS PULL BOX
J	PROPOSED JUNCTION BOX
	EXISTING LIGHT POLE
	EXISTING TREE
	BRANCH PANELBOARD/SWITCHBOARD
	DISTRIBUTION PANELBOARD/SWITCHBOARD
	AUTOMATIC TRANSFER SWITCH
GEN	PROPOSED GENERATOR SET ON NEW STRUCTURAL PAD. SEE STRUCTURAL DRAWINGS FOR PAD DETAILS.

ABBREVIATIONS

AFG	ABOVE FINISH GRADE
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
EX.	EXISTING
GEC	GROUNDING ELECTRODE CONDUCTOR
GND	GROUND
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IPC	INTERNATIONAL PLUMBING CODE
KCMIL	THOUSAND CIRCULAR MIL
MLO	MAIN LUG ONLY
NEC	NATIONAL ELECTRICAL CODE
NTS	NOT TO SCALE
PCP	PUMP CONTROL PANEL
RMC	RIGID METAL CONDUIT
RTU	REMOTE TERMINAL UNIT
SCCR	SHORT CIRCUIT CURRENT RATING
TYP.	TYPICAL
MH	MOUNT HEIGHT

CALL TWO WORKING DAYS BEFORE YOU DIG 602-263-1100 1-800-STAKE-IT (OUTSIDE MARICOPA COUNTY)

REVISIONS:
1
2
3

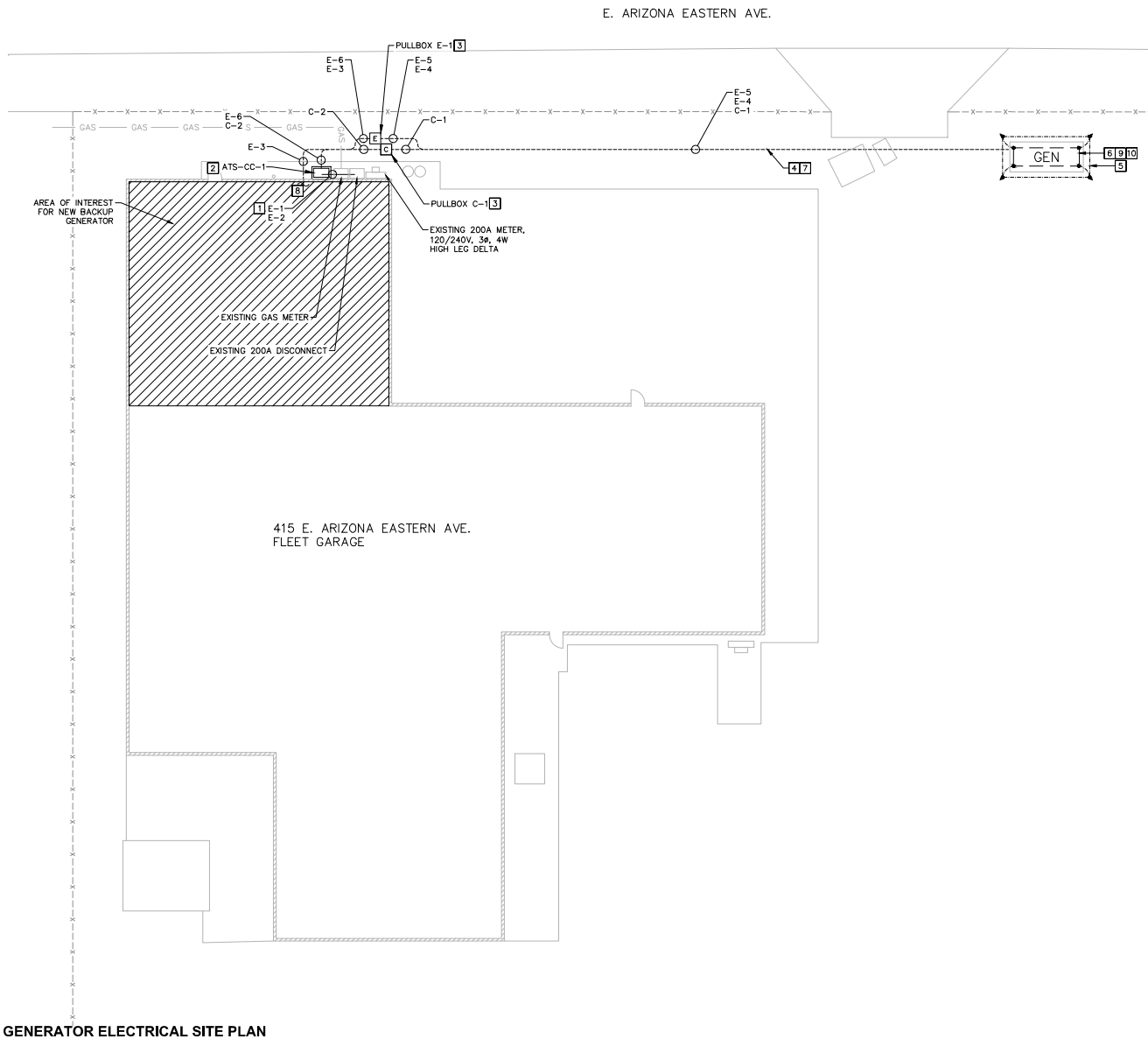
PLAN NAME
ELECTRICAL GENERAL NOTES

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL: Registered Professional Engineer, Certificate No. 50368, Michael A. Calpinto, Date Signed 07/07/20, Arizona, U.S.A., Expires 12/31/21
ORIGINAL PLAN DATE: 07/07/2020	LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012	SHEET NUMBER: 2 of 7

COB PLAN TRACKING #
COB PERMIT #



CONSTRUCTION NOTES

1. SEE SINGLE LINE DIAGRAM SHEET 4 FOR CONDUIT TIE-IN OF ATS-MY-1.
2. MOUNT ATS-MY-1 ON WALL AT 36" ABOVE GROUND. SEE ONE-LINE DIAGRAM FOR ATS-MY-1 INFORMATION.
3. #5 ELECTRICAL PULLBOX. DETAIL SHOWN ON SHEET 5.
4. UNDERGROUND TRENCH DETAIL SHOWN ON SHEET 5.
5. PROVIDE GROUND RING FOR TRANSFORMER PER SPECIFICATIONS. GROUND ROD AND TEST WELL CONNECTION DETAIL SHOWN ON SHEET 5.
6. GENERATOR STRUCTURAL DETAILS SHOWN ON STRUCTURAL PLANS. SEE SHEET 6 AND 7.
7. SEE CONDUIT SCHEDULE ON SHEET 4 FOR CONDUIT AND INTERCONNECTION DETAILS.
8. EXTEND CONDUIT TO PANEL A FOR GENERATOR ANCILLARY LOADS.
9. MOUNT GENERATOR 18" ABOVE FLOOD PLAIN. SET GENERATOR ON PAD OR TANK TO ACHIEVE ELEVATION. SEE STRUCTURAL PLANS.
10. PROPOSED 60 KW/75 KVA, 120/240V, 3P, 4W, NEMA 3R, HIGH LEG DELTA, DIESEL GENERATOR WITH 220 GALLON BELLY TANK.

GENERATOR ELECTRICAL SITE PLAN
FLEET (415 E. ARIZONA EASTERN)
A
SCALE:1"=20'

NORTH

CALL TWO WORKING DAYS BEFORE YOU DIG
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(OUTSIDE MARICOPA COUNTY)

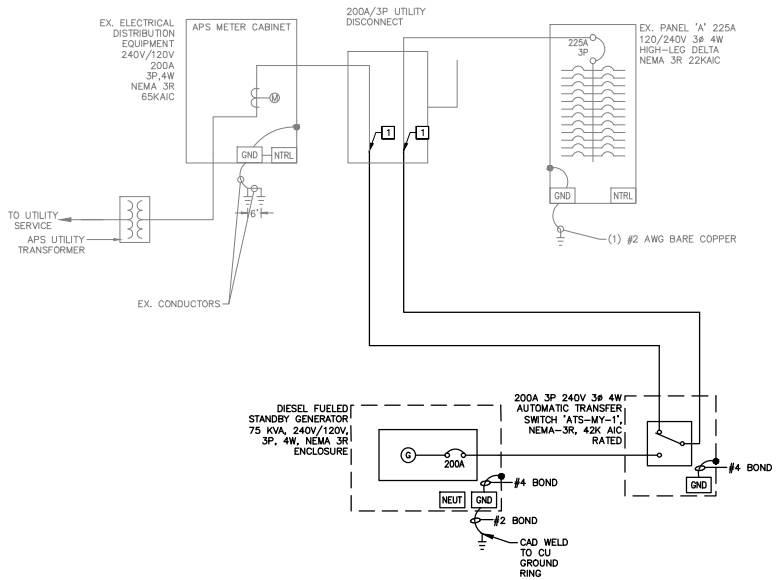
REVISIONS:
1
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PLAN NAME
ELECTRICAL SITE PLAN

ENGINEER INFORMATION
Kimley»Horn
7740 N. 16th STREET, SUITE 300, PHOENIX, AZ 85020
PHONE: 602-944-5500 FAX: 602-944-7423
WWW.KIMLEY-HORN.COM

COB PERMITTING APPROVED SEAL	COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL	DESIGN SEAL: Registered Professional Engineer, Certificate No. 50368, Michael A. Calpreso, Not Valid Without Signature, ARIZONA, USA, Expires 12/31/21
ORIGINAL PLAN DATE: 07/07/2020	LATEST REVISION DATE: 07/07/2020
PROJECT NUMBER: 191342012	SHEET NUMBER: 3 of 7

SUBMITTAL: FINAL
COB PLAN TRACKING #
COB PERMIT #



A — **PARTIAL ONELINE DIAGRAM**
SCALE:NOT TO SCALE

CONSTRUCTION NOTES

1. INTERCEPT FEEDERS BETWEEN THE UTILITY DISCONNECT AND PANEL A, DISCONNECT AND REROUTE THROUGH THE PROPOSED ATS. REFEED PANEL A AS REQUIRED. FIELD VERIFY.
2. PROVIDE NEW 20A/1P BREAKER IN EXISTING SPACE IN PANEL 'A'. MATCH EXISTING AIC RATING.

GENERATOR LOAD CALCULATION

LOAD DESCRIPTION	AMPS
EXISTING LOADS	
PANEL A	160
TOTAL CALCULATED PEAK DEMAND (EXISTING)	160
TOTAL REMOVED LOAD	0
PROPOSED LOADS	
PROPOSED LOAD (GENERATOR ANCILLARY LOADS)	9
TOTAL PROPOSED LOAD	9
FUTURE LOADS	0
TOTAL GEN LOAD (EXISTING-REMOVED+PROPOSED+FUTURE)	169
PERCENT LOADED % (TOTAL LOAD/200A)	84.5%

C — **GENERATOR LOAD SUMMARY**
SCALE:NOT TO SCALE

ELECTRICAL UPGRADES CONDUIT AND CABLE SCHEDULE

CONDUIT			CONDUCTORS/CABLE					REMARKS
NO.	SIZE	STATUS	QTY	SIZE	FROM	TO	PURPOSE	
E-1	2"	NEW	4	#3/0 AWG	200A 3P UTILITY DISCONNECT	ATS-MY-1	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#4 AWG			GROUND	
E-2	2"	NEW	4	#3/0 AWG	ATS-MY-1	200A 3P UTILITY DISCONNECT	POWER	DEMOLISH CONDUIT GUTTER ABOVE DISCONNECT. REROUTE NEW CONDUIT(S) PER CONDUIT SCHEDULE TO/FROM ATS-CC-1
			1	#4 AWG			GROUND	
E-3	1"	NEW	4	#8 AWG	PANEL B	PULLBOX E-1	POWER	GENERATOR ANCILLARY LOADS: PANEL A, CKT 19 & 21
			1	#8 AWG			GROUND	
E-4	1"	NEW	4	#8 AWG	PULLBOX E-1	GENERATOR	POWER	GENERATOR ANCILLARY LOADS: PANEL A, CKT 19 & 21
			1	#8 AWG			GROUND	
E-5	2"	NEW	4	#3/0 AWG	GENERATOR	PULLBOX E-1	POWER	CONDUIT TO ATS-MY-1
			1	#6 AWG			GROUND	
E-6	2"	NEW	4	#3/0 AWG	PULLBOX E-1	ATS-CC-1	POWER	CONDUIT TO ATS-MY-1
			1	#6 AWG			GROUND	
C-1	1"	NEW	8-PR #16 AWG		GENERATOR	PULLBOX C-1	CONTROLS	GENERATOR CONTROLS
C-2	1"	NEW	8-PR #16 AWG		PULLBOX C-1	ATS-MY-1	CONTROLS	GENERATOR CONTROLS

B — **CONDUIT AND CONDUCTOR SCHEDULE**
SCALE:NOT TO SCALE

PANEL: A

VOLTAGE: 120/240 PHASE, WIRES: 3ϕ, 4W SCCR (AMPS): 22,000 SOURCE: PANEL A
PANEL BUS: 225 AMPS MAIN: MLO BREAKER

	DESCRIPTION	VA	CB	CKT	A	B	C	CKT	CB	VA	DESCRIPTION
	EXISTING LOAD			1	0			2	20/1		
			20/3	3		0		4	20/1		EXISTING LOAD
				5			0	6	20/1		
	EXISTING LOAD			7	0			8	20/1		
			20/3	9		0		10	20/1		EXISTING LOAD
				11			0	12	20/1		SPACE
	EXISTING LOAD		20/1	13	0			14	20/1		
	EXISTING LOAD		20/2	15		0		16	20/1		EXISTING LOAD
				17			0	18	20/1		SPACE
2	GENERATOR BLOCK HEATER	1800	20/1	19	15			20	20/1		EXISTING LOAD
2	GENERATOR BATTERY CHARGER	1800	20/1	21		15		22	20/1		SPACE
	SPACE		20/1	23			0	24	20/1		EXISTING LOAD
			TOTALS		15.0	15.0	0.0	AMPS			

LOAD CALCULATIONS: SUBTOTAL (VA): 3600
+25% PER NEC (VA): 900
TOTAL (VA): 4500 @ 208V, 3Ø = 12.5 AMPS

D — **PANEL SCHEDULE**
SCALE:NOT TO SCALE

Point	Point Name	Source* Point	Source Amps	Conduit Type	Conductor Type	Wire Size/Quantity			Load (A)	Distance	Voltage	Phase	Isc	**% Vdrop
1	Utility Published Data	25625	25,625										25,625	
2	SES	1	25,625	NM	Copper	1	Set of	3/0	200	50	480	3	19,237	0.32%
3	ATS	2	19,237	NM	Copper	1	Set of	3/0	200	5	480	3	18,769	0.35%
4	EDPHA	3	18,769	NM	Copper	1	Set of	3/0	200	20	480	3	17,105	0.48%

E — **FAULT CURRENT CALCULATION**
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL ONE LINE DIAGRAM

ENGINEER INFORMATION
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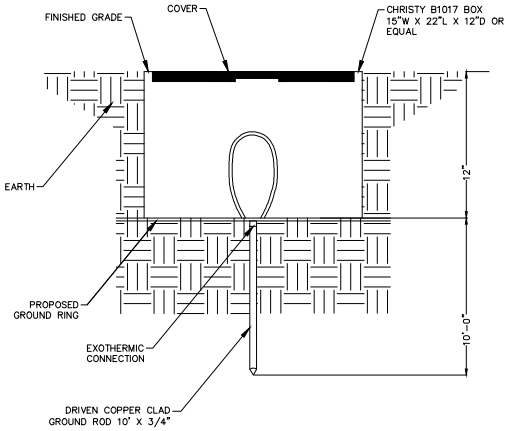
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COB ENGINEERING APPROVED SEAL
AS-BUILT SEAL
DESIGN SEAL
Registered Professional Engineer CERTIFICATE OF REGISTRATION 50368 Michael A. Colonico Registered Engineer ARIZONA, U.S.A.
Expires 12/31/21

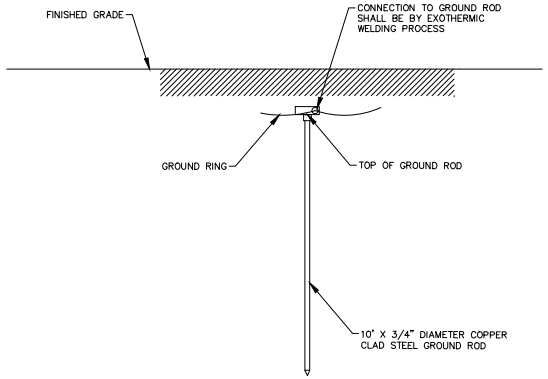
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ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	4 of 7

COB PLAN TRACKING #
COB PERMIT #



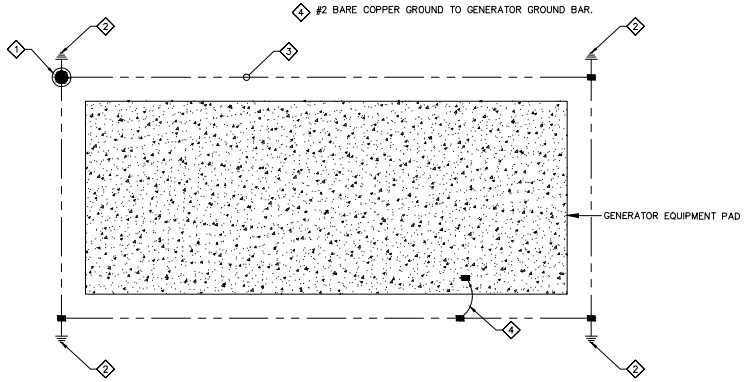
A — GROUNDING TEST WELL DETAIL
SCALE:N.T.S.



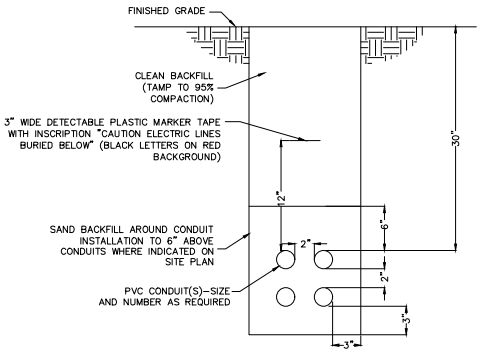
B — GROUND ROD DETAIL
SCALE:N.T.S.

GROUNDING NOTES

1. PROVIDE GROUND TEST POINT PER GROUDING TEST WELL DETAIL.
2. PROVIDE 10' X 3/4" COPPER CLAD GROUND ROD PER GROUND ROD DETAIL .
3. #2 BARE COPPER GROUND GRID BURIED AT 30" BELOW FINISHED GRADE.
4. #2 BARE COPPER GROUND TO GENERATOR GROUND BAR.



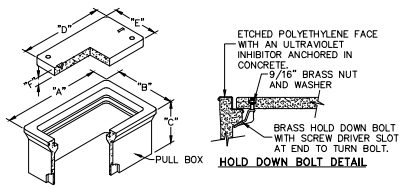
C — GENERATOR GROUNDING PLAN
SCALE:N.T.S.



ALL DIMENSIONS ARE
MINIMUM

NOTE:
1) THIS CONDUIT DUCT BANK DETAIL SHALL BE REFERENCED FOR ALL UNDER GROUND CONDUIT INSTALLATIONS.

D — TYPICAL UNDERGROUND CONDUIT INSTALLATION DETAIL
SCALE:NOT TO SCALE



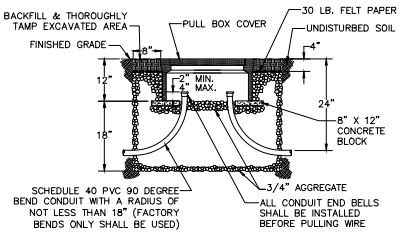
HOLD DOWN BOLT DETAIL



LID 'A' REINFORCED CONCRETE W/HOLD DOWN BOLTS

LID 'A'

DATA TABLE						
PULLBOX TYPE	PULLBOX LENGTH	PULLBOX WIDTH	PULLBOX HEIGHT	LID LENGTH	LID WIDTH	LID HEIGHT
	"A"	"B"	"C"	"D"	"E"	"F"
#3 1/2	19-3/4"	14-1/4"	12"	15-1/4"	10"	1-3/4"
#5	25-1/4"	15-3/4"	12"	20-5/8"	10-1/2"	2"
#7	34-3/4"	21-3/4"	12"	30-1/8"	17-5/8"	2"



GENERAL NOTES:

1. THE PULL BOX SHALL BE MADE OF A HIGH DENSITY REINFORCED CONCRETE MATERIAL WITH END & SIDE KNOCKOUTS, & NONSETTLING SHOULDERS TO MAINTAIN GRADE, MANUFACTURED WITH APPROXIMATE DIMENSIONS AS SHOWN.
2. STEEL REINFORCEMENT SHALL BE AS REGULARLY USED IN STANDARD PRODUCTS OF THE RESPECTIVE MANUFACTURER.
3. COVER LETTERING SHALL BE 1" LETTERS CAST IN STANDARD MARKINGS: "ELECTRIC" OR "HIGH VOLTAGE", AS REQUIRED.
4. THE PULL BOX SHALL HAVE AN ETCHED POLYETHYLENE FACE WITH AN ULTRAVIOLET INHIBITOR ANCHORED IN CONCRETE.

E — PULL BOX INSTALLATION DETAIL
SCALE:NOT TO SCALE

REVISIONS:
1
2
3

PLAN NAME
ELECTRICAL DETAILS

ENGINEER INFORMATION
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AS-BUILT SEAL
DESIGN SEAL

Registered Professional Engineer CERTIFICATE NO. 50368 Michael A. Colombo Date Signed 07/07/20 ARIZONA, U.S.A.
Expires 12/31/21

ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
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STRUCTURAL GENERAL NOTES

DESIGN SPECIFICATIONS

2018 INTERNATIONAL BUILDING CODE (IBC) WITH THE CITY OF BUCKEYE AMENDMENTS.

DESIGN LOADS

WIND LOADS: (PER ASCE 7-16)
- BASIC WIND SPEED = ULTIMATE DESIGN WIND SPEED . . . . . .101 MPH
- RISK CATEGORY II
- Iw 1.00
- STRUCTURE TYPE . . . . . .SOLID FREE-STANDING WALL
- EXPOSURE . . . . . ."C"

MAIN WIND FORCE RESISTING SYSTEM:
- DESIGN WIND PRESSURE . . . . . .15.71 psf (STRENGTH LEVEL)
- INTERNAL PRESSURE COEFFICIENT 0.00

EARTHQUAKE DESIGN DATA:
- Ie 1.00
- SITE CLASS . . . . . .D
- S_s . . . . . 0.167g S_1 . . . . . .0.077g
- S_{ms} . . . . . 0.178g S_M 0.123g
- SEISMIC DESIGN CATEGORY . . . . . .B
- DESIGN BASE SHEAR (C_s"W") 0.051W
- ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

EARTH LOADS:
- ALLOWABLE BEARING PRESSURE = 1500 PSF
- ACTIVE EARTH PRESSURE = 45 PCF
- AT-REST EARTH PRESSURE = 60 PCF
- PASSIVE EARTH PRESSURE = 100 PCF
- = 0.25 (W/OUT PASSIVE PRESSURE)
- MODULUS OF SUBGRADE REACTION = 100 PCI

FOUNDATIONS

ALL EXCAVATION SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL WITHIN THE FOOTING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. FLOODING WILL NOT BE PERMITTED.

SLAB ON GRADE SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON THE DRAWINGS. SLAB ON GRADE PREPARATION SHALL BE PREPARED AS STATED IN THE PROJECT SPECIFICATIONS. FOR SLAB-ON-GRADE, THE UPPER 12 INCHES OF SUBGRADE SOILS AND AGGREGATE SUBBASE SHOULD CONSIST OF IMPORTED LOW VOLUME CHANGE MATERIALS." EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE SPECIAL INSPECTOR PRIOR TO PLACING THE CONCRETE AND REINFORCING. THE CONTRACTOR SHALL NOTIFY THE SPECIAL INSPECTOR WHEN THE EXCAVATIONS ARE READY FOR INSPECTION. THE SPECIAL INSPECTOR SHALL SUBMIT A LETTER OF COMPLIANCE TO THE OWNER. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE SPECIAL INSPECTOR, FOOTING ELEVATIONS, OR FOOTING DESIGNS WILL BE ALTERED BY CHANGE ORDER.

CONCRETE REINFORCING

SEE MAG STANDARD SPECIFICATIONS SECTION 505 AND 725 CLASS A (TYPE II) CONCRETE.

- MINIMUM 28-DAY CONCRETE COMPRESSIVE STRENGTH, f'c = 3000 PSI.
- REINFORCING STEEL, ASTM A615 GRADE 60, fy = 60,000 PSI.

JOINT NOTES

CONCRETE:
SLAB ON GRADE MAY BE CONTINUOUS WITH NO JOINT.

DIMENSIONS

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS AND ELEVATIONS WITH THE CIVIL GRADING DRAWINGS PRIOR TO START OF CONSTRUCTION. RESOLVE ANY DISCREPANCY PRIOR TO START OF CONSTRUCTION.

GENERAL

WHERE REFERENCE IS MADE TO VARIOUS TEST STANDARDS FOR MATERIALS, SUCH STANDARDS SHALL BE THE LATEST EDITION AND/OR ADDENDUM.

NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT.

WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL STRUCTURAL NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENTS SHALL GOVERN.

ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL OF A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE OF ARIZONA.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PROVIDED PER 2018 INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17.

A. STEEL CONSTRUCTION (SECTION 1705.2)
B. CONCRETE CONSTRUCTION (TABLE 1705.3)
C. SOILS (TABLE 1705.6)

POST-INSTALLED ANCHORS

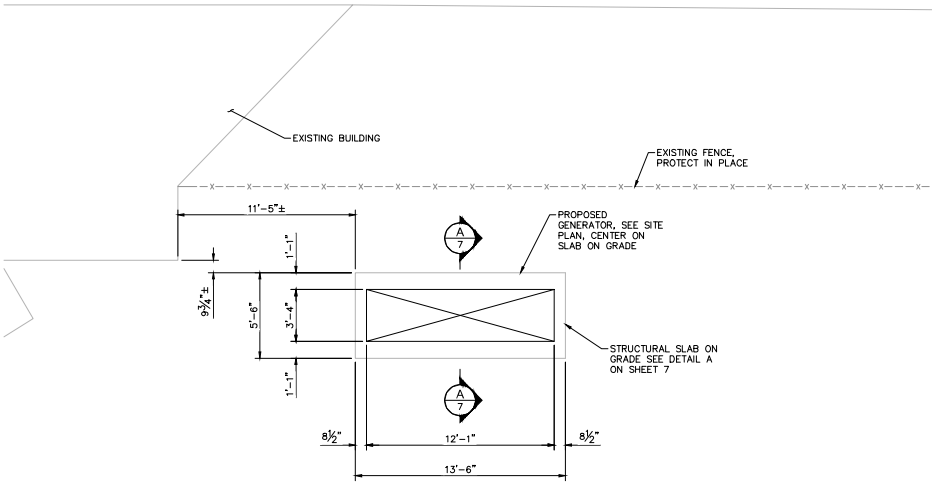
1. UNLESS NOTED OTHERWISE ON PLANS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

	ADHESIVE ANCHOR	MECHANICAL ANCHOR
SOLID CONCRETE	HILTI RE 500 V3 HILTI HY 200 SAFE SET SYSTEM	HILTI KWIK HUS EZ HILTI KWIK BOLT TZ

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.
3. INSTALL ANCHORS PER THE MANUFACTURER INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
4. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
5. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
6. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE REINFORCING BARS AWAY FROM THE LOCATIONS OF THE CONCRETE ANCHORS.

ABBREVIATIONS

ASTM.....AMERICAN SOCIETY FOR TESTING AND MATERIALS INTERNATIONAL
CLR.....CLEARANCE
CONT.....CONTINUOUS
MAX.....MAXIMUM
MIN.....MINIMUM
MPH.....MILES PER HOUR
O.C.....ON CENTER
PCF.....POUNDS PER CUBIC FOOT
PSF.....POUNDS PER SQUARE FOOT
PSI.....POUNDS PER SQUARE INCH
TYP.....TYPICAL
LOL.....LAYOUT LINE
T/F.....TOP OF FOUNDATION
T/W.....TOP OF WALL



A – **PROPOSED GENERATOR LOCATION FLEET (415 E. ARIZONA EASTERN)**
SCALE:1/4"=1'-0"

NORTH

NOTE:

CONTRACTOR SHALL VERIFY LOCATION OF SLAB WITH ENGINEER PRIOR TO CONSTRUCTION. SLAB ON GRADE SHALL BE 11'-5"± FROM EXISTING BUILDING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL NOTES AND PLAN

ENGINEER INFORMATION
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WWW.KIMLEY-HORN.COM

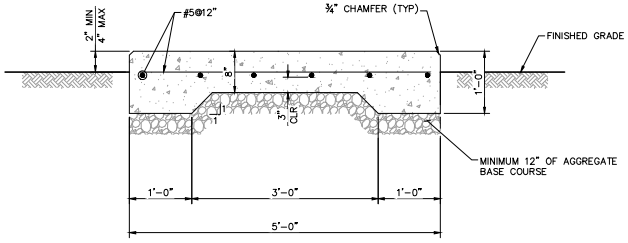
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Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Registered ARIZONA, U.S.A.

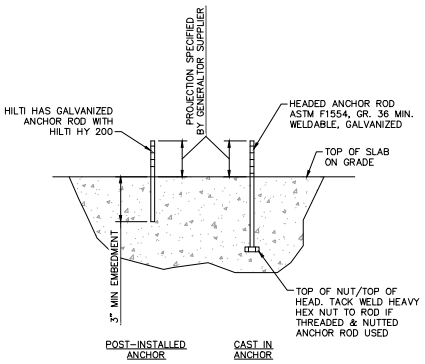
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ORIGINAL PLAN DATE	LATEST REVISION DATE
07/07/2020	07/07/2020
PROJECT NUMBER	SHEET NUMBER
191342012	6 of 7

COB PLAN TRACKING #
COB PERMIT #



A — GENERATOR CONCRETE PAD
SCALE:1"=1"



B — TYP ANCHOR DETAIL
SCALE:NOT TO SCALE

NOTES:

1. POST-INSTALLED ADHESIVE ANCHOR RODS ARE ACCEPTABLE IN LIEU OF CAST-IN HEADED ANCHOR RODS AT GENERATOR ANCHOR LOCATIONS.
2. POST-INSTALLED ADHESIVE ANCHOR RODS SHALL STRICTLY FOLLOW MANUFACTURER'S INSTRUCTIONS FOR HOLE SIZE, DRILLING OPERATIONS, PREPARATION, AND MATERIAL HANDLING.
3. SETTING TEMPLATES SHALL BE USED TO SUPPORT ANCHOR RODS DURING CONCRETE PLACEMENT.
4. ANCHOR RODS SHALL BE INSTALLED PLUMB TO FACILITATE THE WASHER AND NUT RESTING FLUSH ON THE BASE PLATE.
5. ALTERNATE POST-INSTALLED ANCHORAGE SYSTEM OF EQUAL PROPERTIES MAY BE USED IN LEIU OF DETAIL SHOWN UPON ENGINEERS APPROVAL.
6. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE.

REVISIONS:
1
2
3

PLAN NAME
STRUCTURAL DETAILS

ENGINEER INFORMATION
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WWW.KIMLEY-HORN.COM

SUBMITTAL: FINAL

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Registered Professional Engineer (Civil) CERTIFICATE NO. 60164 NATHAN MERRILL Registered 07/07/20 ARIZONA, U.S.A.

ORIGINAL PLAN DATE: 07/07/2020
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PROJECT NUMBER: 191342012
SHEET NUMBER: 7 of 7

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(OUTSIDE MARICOPA COUNTY)

FLEET (415 E. ARIZONA EASTERN)

City of Buckeye Emergency Generator Repair: Buckeye, AZ

STRUCTURAL CALCULATIONS FOR: Fleet Generator Pad

Prepared By:
Nathan Merrill, PE
Ph: 602-371-4573
Kimley-Horn and Associates, Inc.
7740 N. 16th St
Suite 300
Phoenix AZ, 85020



Date: May 2020

Kimley»Horn

Design References:

1. 2018 International Building Code

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1. DESIGN LOADS

Kimley»Horn

Project: ***Emergency Generator Repair - Fleet*** *Subject:* ***Generator Pad Load Summary***

Designed by: ***ALF*** *Date:* ***04/29/2020*** *Checked by:* *Date:*

Table of Contents
Defined Units

Assumptions

Assume Generator is supplying power to Risk Category II structures, therefore generator is RC II.

Assume Generator is anchored to concrete pad at the 4 corners of the acoustic generator pad, not acoustic enclosure.

Assume X direction aligns with generator length, and Y direction aligns with generator width.

Acoustic Enclosure dimensions used to calculate wind loads.

Generator Specifications

$L_{gen} := 110in = 9.17\,ft$	Length of generator - 100 kW Diesel Generator Specification - see appendix.
$W_{gen} := 40in = 3.33\,ft$	Width of generator - 100 kW Diesel Generator Specification - see appendix.
$H_{gen} := 89in = 7.42\,ft$	Height of Generator - 100 kW Diesel Generator Specification - see appendix.
$L_{enc} := 145in = 12.08\,ft$	Length of Enclosure - 100 kW Diesel Generator Specification - see appendix..
$W_{enc} := 40in = 3.33\,ft$	Width of Enclosure - 100 kW Diesel Generator Specification - see appendix.
$H_{enc} := 106in = 8.83\,ft$	Height of Enclosure - 100 kW Diesel Generator Specification - see appendix.
$n_{anchors} := 4$	Number of Anchors assumed.

Soils Information

Assume conservative values from IBC Section 1610 & 1806

$p_a := 45pcf$	Active Soil Pressure
$p_{ar} := 60pcf$	At-Rest Soil Pressure
$p_p := 100pcf$	Passive Soil Pressure
$w_{soil} := 120pcf$	Unit Weight of Soil
$\mu := 0.25$	Soil Sliding Friction Factor

Generator Loading

$q_{wind} := 15.78psf$ — Applied Wind pressure. Maximum Tedds Run - see Wind Loading Calculations

$V_{seismic} := 0.3kip$ — Seismic Base Shear - see Seismic Loading Calculations. Apply at mid height of equipment to calculate anchor reactions.

$Weight_{gen} := 6.686kip$ — 100 kW Diesel Generator Specification - see appendix.

$$X_{wind} := \frac{\left(q_{wind} \cdot W_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.12 \cdot kip$$

$$Y_{wind} := \frac{\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right)}{n_{anchors}} = 0.42 \cdot kip$$

$$Z_{wind} := \frac{\left[\frac{\left[\left(q_{wind} \cdot L_{enc} \cdot H_{enc}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 2.23 \cdot kip$$

Governing uplift- assumed wind is acting on Length of enclosure. Couple analyzed in Y direction for governing uplift - used for anchor design. Dead Load not added - conservative

$$Z_{seismic} := \frac{\left[\frac{\left[\left(V_{seismic}\right) \cdot \frac{H_{enc}}{2}\right]}{\left(\frac{W_{gen}}{2}\right)}\right]}{\frac{n_{anchors}}{2}} = 0.4 \cdot kip$$

Seismic uplift/compression - couple analyzed in Y direction for governing uplift

By inspection Wind Governs anchor and slab design.

$$Z_{strength} := \left(1.2 \cdot \frac{Weight_{gen}}{n_{anchors}}\right) + Z_{wind} = 4.24 \cdot kip$$

Vertical Shear transferred through anchor. Used for slab design

Bearing Check

Check governs over enercalc design - uses full slab area instead of 1 ft tributary width

$L_{pad} := 14ft$ — Length of pad

$W_{pad} := 5ft$ — Width of pad

Assumed bearing Capacity

$\sigma_{brg} := 1500psf$

$C_{brg} := \sigma_{brg} \cdot L_{pad} \cdot W_{pad} = 105 \cdot kip$ — Bearing Capacity

$D_{brg} := Z_{strength} \cdot n_{anchors} = 16.95 \cdot kip$ — Bearing Demand

$CH_{brg} := if\left(C_{brg} > D_{brg}, "OK", "NG"\right) = "OK"$

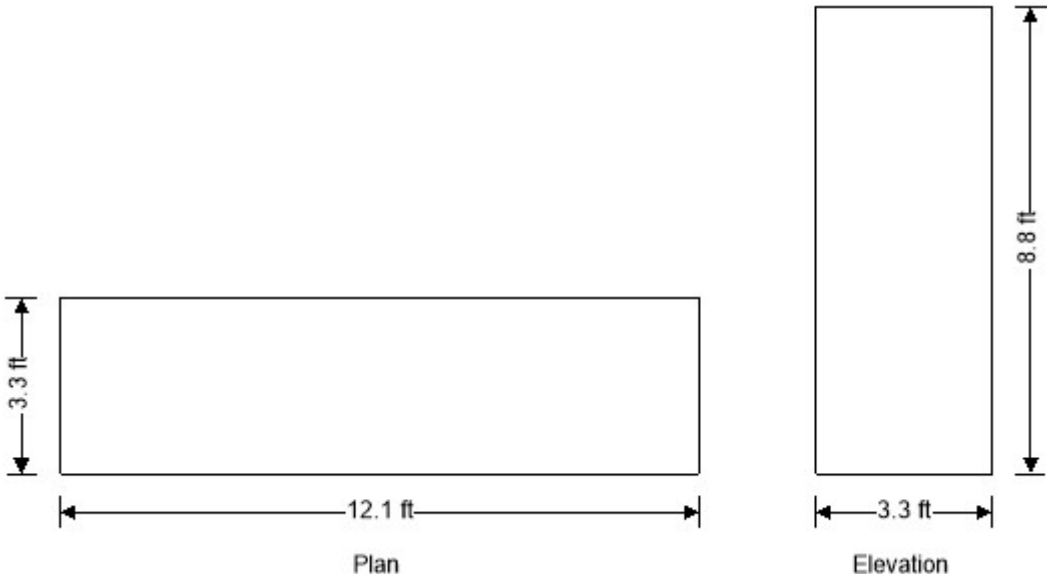
1.1 WIND LOADS

WIND LOADING

In accordance with ASCE7-16

Using the directional design method

Tedds calculation version 2.1.03



Building data

Type of roof	Flat
Length of building	b = **12.08** ft
Width of building	d = **3.33** ft
Height to eaves	H = **8.83** ft
Mean height	h = **8.83** ft

General wind load requirements

Basic wind speed	V = **101.0** mph
Risk category	II
Velocity pressure exponent coef (Table 26.6-1)	K_d = **0.85**
Ground elevation above sea level	z_{gl} = **885** ft
Ground elevation factor	$K_e = \exp(-0.0000362 \times z_{gl}/1ft)$ = **0.97**
Exposure category (cl 26.7.3)	C
Enclosure classification (cl.26.12)	Enclosed buildings
Internal pressure coef +ve (Table 26.13-1)	GC_{pi_p} = **0.18**
Internal pressure coef –ve (Table 26.13-1)	GC_{pi_n} = **-0.18**
Gust effect factor	G_f = **0.85**
Minimum design wind loading (cl.27.4.7)	p_{min_r} = **8** lb/ft^2

Topography

Topography factor not significant	K_{zt} = 1.0
Velocity pressure equation	$q = 0.00256 \times K_z \times K_{zt} \times K_d \times V^2 \times 1psf/mph^2$

Velocity pressures table

z (ft)	K_z (Table 26.10-1)	q_z (psf)
8.83	0.85	18.27

Peak velocity pressure for internal pressure

Peak velocity pressure – internal (as roof press.) q_i = **18.27** psf

Pressures and forces

Net pressure $p = q \times G_f \times C_{pe} - q_i \times GC_{pi}$

Net force $F_w = p \times A_{ref}$

Roof load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	8.83	-1.30	18.27	-23.48	40.23	-0.94

Total vertical net force $F_{w,v}$ = **-0.94** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 1 - Wind 0, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	8.83	0.80	18.27	9.14	106.67	0.97
B	8.83	-0.50	18.27	-11.06	106.67	-1.18
C	8.83	-0.70	18.27	-14.16	29.40	-0.42
D	8.83	-0.70	18.27	-14.16	29.40	-0.42

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H$ = **106.67** ft^2

Projected vertical area of roof $A_{vert_r_0}$ = **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0}$ = **1.71** kips

Leeward net force $F_l = F_{w,wB}$ = **-1.2** kips

Windward net force $F_w = F_{w,wA}$ = **1.0** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **2.2** kips

Roof load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	8.83	-0.18	18.27	0.49	40.23	0.02

Total vertical net force $F_{w,v}$ = **0.02** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 2 - Wind 0, GC_{pi} -0.18, $-0c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	8.83	0.80	18.27	15.71	106.67	1.68
B	8.83	-0.50	18.27	-4.48	106.67	-0.48
C	8.83	-0.70	18.27	-7.58	29.40	-0.22
D	8.83	-0.70	18.27	-7.58	29.40	-0.22

Overall loading

Projected vertical plan area of wall $A_{vert_w_0} = b \times H =$ **106.67** ft^2

Projected vertical area of roof $A_{vert_r_0} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_0} + p_{min_r} \times A_{vert_r_0} =$ **1.71** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.5** kips

Windward net force $F_w = F_{w,wA} =$ **1.7** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **2.2** kips

Roof load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (-ve)	8.83	-1.08	18.27	-20.14	14.70	-0.30
B (-ve)	8.83	-0.81	18.27	-15.83	14.70	-0.23
C (-ve)	8.83	-0.59	18.27	-12.49	10.82	-0.14

Total vertical net force $F_{w,v} =$ **-0.66** kips

Total horizontal net force $F_{w,h} =$ **0.00** kips

Walls load case 3 - Wind 90, GC_{pi} 0.18, $-c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	8.83	0.80	18.27	9.14	29.40	0.27
B	8.83	-0.22	18.27	-6.68	29.40	-0.20
C	8.83	-0.70	18.27	-14.16	106.67	-1.51
D	8.83	-0.70	18.27	-14.16	106.67	-1.51

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H =$ **29.40** ft^2

Projected vertical area of roof $A_{vert_r_90} =$ **0.00** ft^2

Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90} =$ **0.47** kips

Leeward net force $F_l = F_{w,wB} =$ **-0.2** kips

Windward net force $F_w = F_{w,wA} =$ **0.3** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min}) =$ **0.5** kips

Roof load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A (+ve)	8.83	-0.18	18.27	0.49	14.70	0.01
B (+ve)	8.83	-0.18	18.27	0.49	14.70	0.01
C (+ve)	8.83	-0.18	18.27	0.49	10.82	0.01

Total vertical net force $F_{w,v}$ = **0.02** kips

Total horizontal net force $F_{w,h}$ = **0.00** kips

Walls load case 4 - Wind 90, GC_{pi} -0.18, $+c_{pe}$

Zone	Ref. height (ft)	Ext pressure coefficient c_{pe}	Peak velocity pressure q_p (psf)	Net pressure p (psf)	Area A_{ref} (ft^2)	Net force F_w (kips)
A	8.83	0.80	18.27	15.71	29.40	0.46
B	8.83	-0.22	18.27	-0.11	29.40	0.00
C	8.83	-0.70	18.27	-7.58	106.67	-0.81
D	8.83	-0.70	18.27	-7.58	106.67	-0.81

Overall loading

Projected vertical plan area of wall $A_{vert_w_90} = d \times H$ = **29.40** ft^2

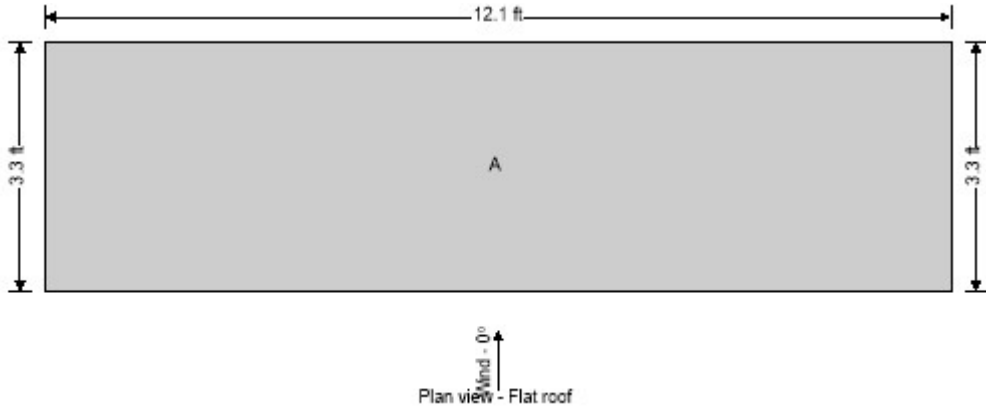
Projected vertical area of roof $A_{vert_r_90}$ = **0.00** ft^2

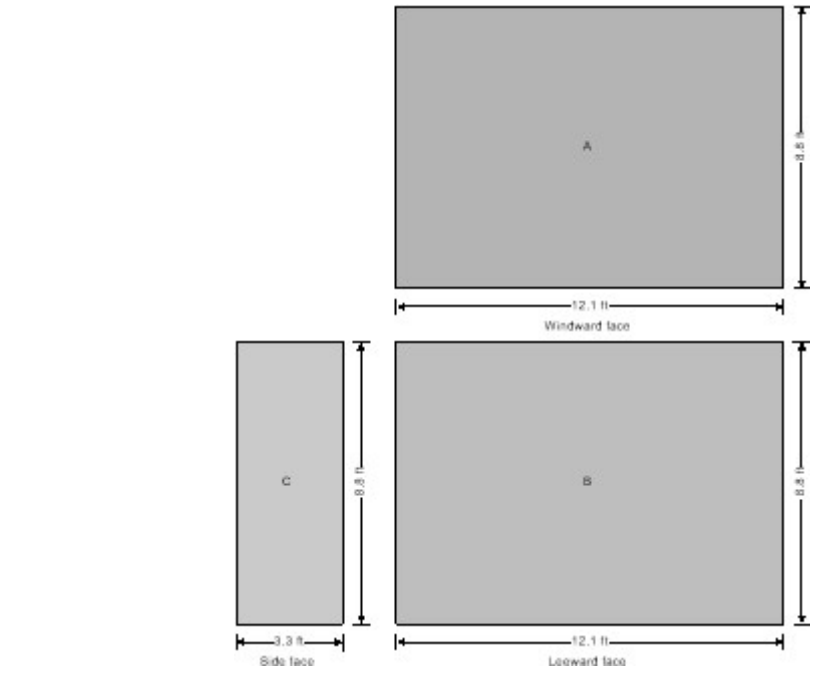
Minimum overall horizontal loading $F_{w,total_min} = p_{min_w} \times A_{vert_w_90} + p_{min_r} \times A_{vert_r_90}$ = **0.47** kips

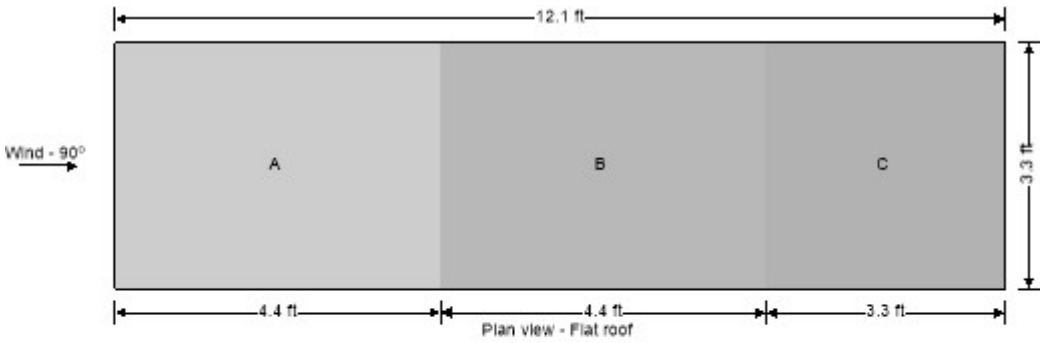
Leeward net force $F_l = F_{w,wB}$ = **0.0** kips

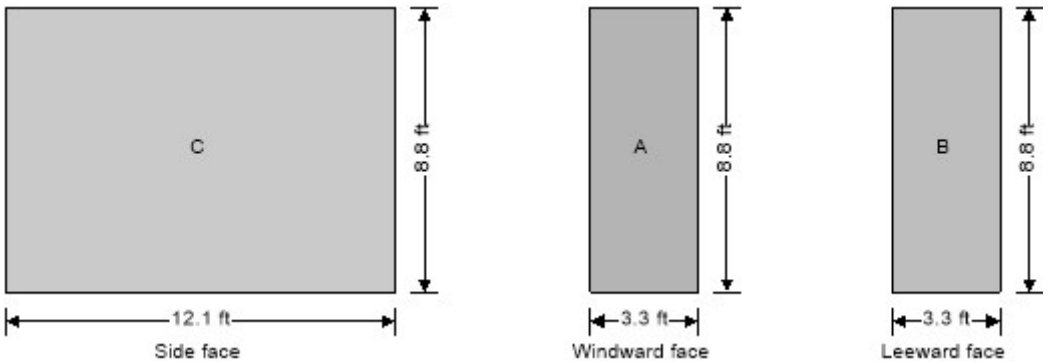
Windward net force $F_w = F_{w,wA}$ = **0.5** kips

Overall horizontal loading $F_{w,total} = \max(F_w - F_l + F_{w,h}, F_{w,total_min})$ = **0.5** kips




A
8.8 ft
12.1 ft
Windward face
C
8.8 ft
B
8.8 ft
3.3 ft
Side face
12.1 ft
Leeward face


12.1 ft
Wind - 90°
A
B
C
3.3 ft
4.4 ft
4.4 ft
3.3 ft
Plan view - Flat roof


C
8.8 ft
12.1 ft
Side face
A
8.8 ft
3.3 ft
Windward face
B
8.8 ft
3.3 ft
Leeward face

1.2 SEISMIC LOADS

SEISMIC FORCES (ASCE 7-16)

Tedds calculation version 3.1.00

Site parameters

Site class	D, Soil properties not known
Mapped acceleration parameters (Section 11.4.2)	
at short period	S_S = **0.167**
at 1 sec period	S_1 = **0.077**
Site coefficientat short period (Table 11.4-1)	F_a = **1.600**
at 1 sec period (Table 11.4-2)	F_v = **2.400**

Spectral response acceleration parameters

at short period (Eq. 11.4-1)	$S_{MS} = F_a \times S_S$ = **0.267**
at 1 sec period (Eq. 11.4-2)	$S_{M1} = F_v \times S_1$ = **0.185**

Design spectral acceleration parameters (Sect 11.4.4)

at short period (Eq. 11.4-3)	$S_{DS} = 2 / 3 \times S_{MS}$ = **0.178**
at 1 sec period (Eq. 11.4-4)	$S_{D1} = 2 / 3 \times S_{M1}$ = **0.123**

Seismic design category

Occupancy category (Table 1-1)	II
Seismic design category based on short period response acceleration (Table 11.6-1)	B
Seismic design category based on 1 sec period response acceleration (Table 11.6-2)	B
Seismic design category	B

Approximate fundamental period

Height above base to highest level of building	h_n = **8.83** ft
From Table 12.8-2:	
Structure type	Steel moment frame
Building period parameter C_t	C_t = **0.028**
Building period parameter x	x = **0.80**
Approximate fundamental period (Eq 12.8-7)	$T_a = C_t \times (h_n)^x \times 1\text{sec} / (1\text{ft})^x$= **0.160** sec
Building fundamental period (Sect 12.8.2)	$T = T_a$ = **0.160** sec
Long-period transition period	T_L = **6** sec

Seismic response coefficient

Seismic force-resisting system (Table 12.2-1)	C_MOMENT_RESISTING_FRAME_SYSTEMS 4. Steel ordinary moment frames
Response modification factor (Table 12.2-1)	R = **3.5**
Seismic importance factor (Table 1.5-2)	I_e = **1.000**
Seismic response coefficient (Sect 12.8.1.1)	
Calculated (Eq 12.8-3)	$C_{s_calc} = S_{DS} / (R / I_e)$ = **0.0509**
Maximum (Eq 12.8-3)	$C_{s_max} = S_{D1} / ((T / 1\text{ sec}) \times (R / I_e))$ = **0.2201**
Minimum (Eq 9.5.5.2.1-3)	$C_{s_min} = \max(0.044 \times S_{DS} \times I_e, 0.01)$ = **0.0100**

Seismic response coefficient	C_s = **0.0509**

Seismic base shear (Sect 12.8.1)

Effective seismic weight of the structure	W = **6.7** kips
Seismic response coefficient	C_s = **0.0509**
Seismic base shear (Eq 12.8-1)	$V = C_s \times W$ = **0.3** kips

2. SLAB ON GRADE DESIGN

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Fleet

CODE REFERENCES

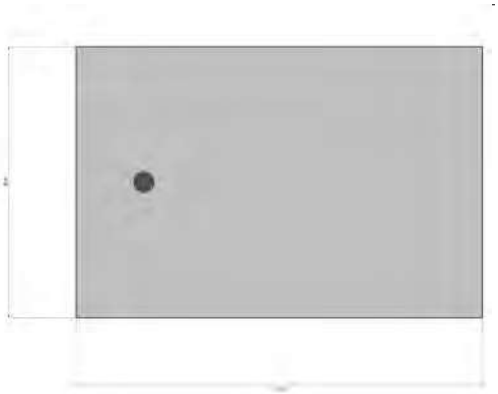
Calculations per ACI 318-14, IBC 2015, CBC 2016, ASCE 7-10
Load Combinations Used : ASCE 7-16

Material Properties

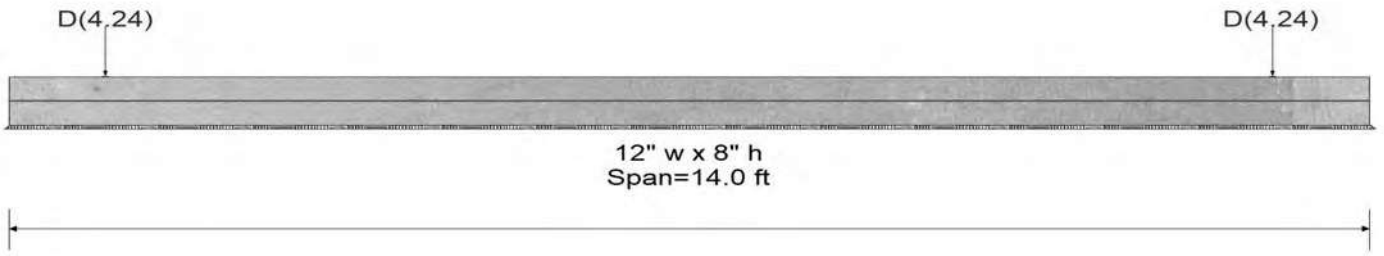
f'c	=	3.0 ksi	ϕ Phi Values	Flexure :	0.90
fr = f'c$^{1/2}$ * 7.50	=	410.792 psi		Shear :	0.750
ψ Density	=	145.0 pcf	β_1	=	0.850
λ Lt Wt Factor	=	1.0			
Elastic Modulus	=	3,122.0 ksi			

Soil Subgrade Modulus = 100.0 psi / (inch deflection)
Load Combination ASCE 7-16

fy - Main Rebar	=	60.0 ksi	Fy - Stirrups	=	40.0 ksi
E - Main Rebar	=	29,000.0 ksi	E - Stirrups	=	29,000.0 ksi
			Stirrup Bar Size #	=	# 4
			Number of Resisting Legs Per Stirrup		2



Beam is supported on an elastic foundation,



Cross Section & Reinforcing Details

Rectangular Section, Width = 12.0 in, Height = 8.0 in
Span #1 Reinforcing....
1-#5 at 4.0 in from Top, from 0.0 to 14.0 ft in this span

Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Point Load : D = 4.240 k @ 1.0 ft
Point Load : D = 4.240 k @ 13.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio	=	**0.871** : 1	Maximum Deflection	
Section used for this span		**Typical Section**	Max Downward L+Lr+S Deflection	0.000 in
Mu : Applied		-4.490 k-ft	Max Upward L+Lr+S Deflection	0.000 in
Mn * Phi : Allowable		5.156 k-ft	Max Downward Total Deflection	0.105 in
Load Combination		D Only	Max Upward Total Deflection	0.005 in
Location of maximum on span		7.082 ft		
Span # where maximum occurs		Span # 1		

Bearing pressures checked in Mathcad for full slab area

Maximum Soil Pressure	=	**1.508** ksf	at 0.00 ft	LdComb: D Only
Allowable Soil Pressure	=	**1.50** ksf	EXCEEDED!	

Shear Stirrup Requirements

Entire Beam Span Length : Vu < PhiVc/2, Req'd Vs = Not Reqd, use stirrups spaced at 0.000 in

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Location (ft) in Span	Bending Stress Results (k-ft) Mu : Max	Phi*Mnx	Stress Ratio
MAXimum Bending Envelope					
Span # 1	1	13.012	0.69	5.16	0.13
D Only					
Span # 1	1	13.012	0.69	5.16	0.13

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Fleet

Overall Maximum Deflections - Unfactored Loads

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
Span 1	1	0.1047	0.000		0.0000	0.000

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu Actual	(k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Suggest
D Only	1	0.00	4.00	0.12	0.12	0.00	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.16	4.00	0.36	0.36	0.02	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.33	4.00	0.59	0.59	0.08	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.49	4.00	0.82	0.82	0.18	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.66	4.00	1.03	1.03	0.31	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.82	4.00	1.24	1.24	0.48	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	0.99	4.00	1.44	1.44	0.69	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	1.15	4.00	-2.61	2.61	0.27	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.32	4.00	-2.43	2.43	0.16	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.48	4.00	-2.26	2.26	0.56	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	1.65	4.00	-2.09	2.09	0.93	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	1.81	4.00	-1.93	1.93	1.27	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	1.98	4.00	-1.78	1.78	1.59	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.14	4.00	-1.64	1.64	1.88	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.31	4.00	-1.51	1.51	2.15	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.47	4.00	-1.38	1.38	2.40	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.64	4.00	-1.26	1.26	2.63	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.80	4.00	-1.15	1.15	2.84	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	2.96	4.00	-1.05	1.05	3.03	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.13	4.00	-0.95	0.95	3.20	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.29	4.00	-0.86	0.86	3.36	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.46	4.00	-0.77	0.77	3.50	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.62	4.00	-0.70	0.70	3.62	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.79	4.00	-0.62	0.62	3.74	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	3.95	4.00	-0.56	0.56	3.84	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.12	4.00	-0.49	0.49	3.93	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.28	4.00	-0.44	0.44	4.01	0.87	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.45	4.00	-0.39	0.39	4.09	0.76	4.19	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.61	4.00	-0.34	0.34	4.15	0.66	4.13	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.78	4.00	-0.30	0.30	4.21	0.57	4.08	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	4.94	4.00	-0.26	0.26	4.26	0.49	4.03	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.11	4.00	-0.23	0.23	4.30	0.42	3.99	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.27	4.00	-0.19	0.19	4.34	0.36	3.95	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.44	4.00	-0.17	0.17	4.37	0.30	3.92	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.60	4.00	-0.14	0.14	4.39	0.26	3.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.76	4.00	-0.12	0.12	4.42	0.21	3.87	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	5.93	4.00	-0.10	0.10	4.44	0.17	3.85	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.09	4.00	-0.08	0.08	4.45	0.14	3.83	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.26	4.00	-0.06	0.06	4.47	0.11	3.81	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.42	4.00	-0.04	0.04	4.48	0.08	3.79	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.59	4.00	-0.03	0.03	4.48	0.05	3.78	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.75	4.00	-0.01	0.01	4.49	0.03	3.76	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	6.92	4.00	-0.00	0.00	4.49	0.00	3.75	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.08	4.00	0.01	0.01	4.49	0.03	3.76	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.25	4.00	0.03	0.03	4.49	0.05	3.78	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.41	4.00	0.04	0.04	4.48	0.08	3.79	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.58	4.00	0.06	0.06	4.48	0.11	3.81	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.74	4.00	0.08	0.08	4.47	0.14	3.83	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	7.91	4.00	0.10	0.10	4.45	0.17	3.85	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.07	4.00	0.12	0.12	4.44	0.21	3.87	Vu < PhiVc/2	Not Reqd	0.00	0.00

Beam on Elastic Foundation

File = K:\PHX_EL~1\1LUFRD~E\Design\SEV10W~K\B6UJPK~Y.EC6
ENERCALC, INC. 1983-2018, Build:10.18.1.31, Ver:10.18.1.31

Lic. # : KW-06008578 — Licensee : KIMLEY-HORN & ASSOCIATES INC

Description : Typical Slab - Fleet

Detailed Shear Information

Load Combination	Span Number	Distance (ft)	'd' (in)	Vu (k) Actual	Vu (k) Design	Mu (k-ft)	d*Vu/Mu	Phi*Vc (k)	Comment	Phi*Vs (k)	Spacing (in) Req'd	Spacing (in) Suggest
D Only	1	8.24	4.00	0.14	0.14	4.42	0.25	3.89	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.40	4.00	0.17	0.17	4.39	0.30	3.92	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.56	4.00	0.19	0.19	4.37	0.36	3.95	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.73	4.00	0.23	0.23	4.34	0.42	3.99	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	8.89	4.00	0.26	0.26	4.30	0.48	4.03	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.06	4.00	0.30	0.30	4.26	0.56	4.07	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.22	4.00	0.34	0.34	4.21	0.65	4.12	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.39	4.00	0.39	0.39	4.15	0.75	4.18	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.55	4.00	0.44	0.44	4.09	0.86	4.25	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.72	4.00	0.49	0.49	4.01	0.99	4.32	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	9.88	4.00	0.56	0.56	3.93	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.05	4.00	0.62	0.62	3.84	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.21	4.00	0.70	0.70	3.74	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.38	4.00	0.77	0.77	3.62	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.54	4.00	0.86	0.86	3.50	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.71	4.00	0.95	0.95	3.36	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	10.87	4.00	1.05	1.05	3.20	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.04	4.00	1.15	1.15	3.03	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.20	4.00	1.26	1.26	2.84	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.36	4.00	1.38	1.38	2.63	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.53	4.00	1.51	1.51	2.40	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.69	4.00	1.64	1.64	2.15	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	11.86	4.00	1.78	1.78	1.88	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.02	4.00	1.93	1.93	1.59	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.19	4.00	2.09	2.09	1.27	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	12.35	4.00	2.26	2.26	0.93	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	12.52	4.00	2.43	2.43	0.56	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	12.68	4.00	2.61	2.61	0.16	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	12.85	4.00	2.80	2.80	0.27	1.00	4.33	PhiVc/2 < Vu <=	Not Reqd 1	0.00	0.00
D Only	1	13.01	4.00	-1.24	1.24	0.69	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.18	4.00	-1.03	1.03	0.48	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.34	4.00	-0.82	0.82	0.31	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.51	4.00	-0.59	0.59	0.18	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.67	4.00	-0.36	0.36	0.08	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00
D Only	1	13.84	4.00	-0.12	0.12	0.02	1.00	4.33	Vu < PhiVc/2	Not Reqd	0.00	0.00

3. ANCHOR DESIGN

Company:	Kimley-Horn and Associates, Inc	Page:	1
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

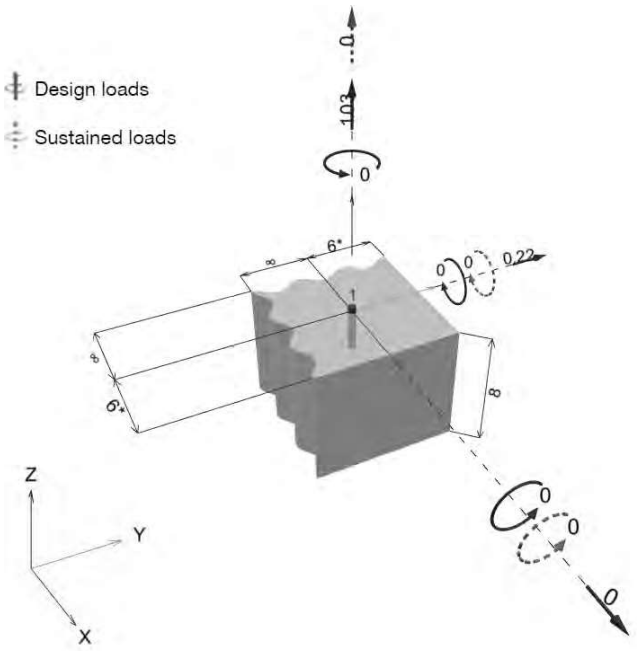
Specifier's comments:

1 Input data



Anchor type and diameter:	**HIT-HY 200 + Rebar A 615 Gr.40 #4**
Item number:	not available (element) / 2022793 HIT-HY 200-R (adhesive)
Effective embedment depth:	$h_{ef,opti}$ = 2.750 in. ($h_{ef,limit}$ = 6.750 in.)
Material:	ASTM A 615 GR.40
Evaluation Service Report:	ESR-3187
Issued I Valid:	4/1/2019 | 3/1/2020
Proof:	Design Method ACI 318-14 / Chem
Stand-off installation:	
Profile:	
Base material:	cracked concrete, 3000, f_c' = 3,000 psi; h = 8.000 in., Temp. short/long: 32/32 °F
Installation:	**hammer drilled hole, Installation condition: Dry**
Reinforcement:	tension: condition B, shear: condition B; no supplemental splitting reinforcement present edge reinforcement: none or < No. 4 bar

Geometry [in.] & Loading [kip, ft.kip]



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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

1.1 Design results

Case	Description	Forces [kip] / Moments [ft.kip]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 1.030; V_x = 0.000; V_y = 0.220; M_x = 0.00000; M_y = 0.00000; M_z = 0.00000; N_{sus} = 0.000; $M_{x,sus}$ = 0.00000; $M_{y,sus}$ = 0.00000;	no	38

2 Load case/Resulting anchor forces

Anchor reactions [kip]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	1.030	0.220	0.000	0.220

max. concrete compressive strain: - [‰]
max. concrete compressive stress: - [psi]
resulting tension force in (x/y)=(0.000/0.000): 0.000 [kip]
resulting compression force in (x/y)=(0.000/0.000): 0.000 [kip]

3 Tension load

	Load N_{ua} [kip]	Capacity ϕN_n [kip]	Utilization $\beta_N = N_{ua}/\phi N_n$	Status
Steel Strength*	1.030	7.800	14	OK
Bond Strength**	1.030	3.088	34	OK
Sustained Tension Load Bond Strength*	N/A	N/A	N/A	N/A
Concrete Breakout Failure**	1.030	2.760	38	OK

* highest loaded anchor **anchor group (anchors in tension)

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.1 Steel Strength

N_{sa} = ESR value	refer to ICC-ES ESR-3187
ϕ $N_{sa} \geq N_{ua}$	ACI 318-14 Table 17.3.1.1

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

N_{sa} [kip]
12.000

Results

N_{sa} [kip]	ϕ_{steel}	ϕ N_{sa} [kip]	N_{ua} [kip]
12.000	0.650	7.800	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.2 Bond Strength

$N_a = \left(\frac{A_{Na}}{A_{Na0}}\right) \psi_{ed,Na} \psi_{cp,Na} N_{ba}$ ACI 318-14 Eq. (17.4.5.1a)

$\phi N_a \geq N_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Na} see ACI 318-14, Section 17.4.5.1, Fig. R 17.4.5.1(b)

$A_{Na0} = (2 c_{Na})^2$ ACI 318-14 Eq. (17.4.5.1c)

$c_{Na} = 10 d_a \sqrt{\frac{\tau_{uncr}}{1100}}$ ACI 318-14 Eq. (17.4.5.1d)

$\psi_{ed,Na} = 0.7 + 0.3 \left(\frac{c_{a,min}}{c_{Na}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.4b)

$\psi_{cp,Na} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{c_{Na}}{c_{ac}}\right) \leq 1.0$ ACI 318-14 Eq. (17.4.5.5b)

$N_{ba} = \lambda_a \cdot \tau_{k,c} \cdot \pi \cdot d_a \cdot h_{ef}$ ACI 318-14 Eq. (17.4.5.2)

Variables

$\tau_{k,c,uncr}$ [psi]	d_a [in.]	h_{ef} [in.]	$c_{a,min}$ [in.]	$\alpha_{overhead}$	$\tau_{k,c}$ [psi]
1,589	0.500	2.750	6.000	1.000	1,100

c_{ac} [in.]	λ_a
4.136	1.000

Calculations

c_{Na} [in.]	A_{Na} [in.^{2}]	A_{Na0} [in.^{2}]	$\psi_{ed,Na}$
5.983	143.17	143.17	1.000

$\psi_{cp,Na}$	N_{ba} [kip]
1.000	4.751

Results

N_a [kip]	ϕ_{bond}	ϕN_a [kip]	N_{ua} [kip]
4.751	0.650	3.088	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

3.3 Concrete Breakout Failure

$N_{cb} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ — ACI 318-14 Eq. (17.4.2.1a)

$\phi N_{cb} \geq N_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ — ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ — ACI 318-14 Eq. (17.4.2.2a)

Variables

h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
2.750	6.000	1.000	4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

N_{cb} [kip]	$\phi_{concrete}$	ϕN_{cb} [kip]	N_{ua} [kip]
4.246	0.650	2.760	1.030

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4 Shear load

	Load V_{ua} [kip]	Capacity ϕV_n [kip]	Utilization $\beta_V = V_{ua}/\phi V_n$	Status
Steel Strength*	0.220	4.320	6	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength (Concrete Breakout Strength controls)**	0.220	5.945	4	OK
Concrete edge failure in direction y+**	0.220	2.773	8	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

V_{sa} = ESR value refer to ICC-ES ESR-3187
$\phi V_{steel} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.20	60,000

Calculations

V_{sa} [kip]
7.200

Results

V_{sa} [kip]	ϕ_{steel}	ϕV_{sa} [kip]	V_{ua} [kip]
7.200	0.600	4.320	0.220

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4.2 Pryout Strength (Concrete Breakout Strength controls)

$V_{cp} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-14 Eq. (17.5.3.1a)

$\phi V_{cp} \geq V_{ua}$ ACI 318-14 Table 17.3.1.1

A_{Nc} see ACI 318-14, Section 17.4.2.1, Fig. R 17.4.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-14 Eq. (17.4.2.1c)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.5b)

$\psi_{cp,N} = MAX\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-14 Eq. (17.4.2.7b)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ ACI 318-14 Eq. (17.4.2.2a)

Variables

k_{cp}	h_{ef} [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
2	2.750	6.000	1.000

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
4.136	17	1.000	3,000

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [kip]
68.06	68.06	1.000	1.000	4.246

Results

V_{cp} [kip]	$\phi_{concrete}$	ϕV_{cp} [kip]	V_{ua} [kip]
8.493	0.700	5.945	0.220

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Company:	Kimley-Horn and Associates, Inc	Page:	8
Address:	111 East Broadway, 600	Specifier:	J.Goodsell
Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

4.3 Concrete edge failure in direction y+

$V_{cb} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ed,V} \psi_{c,V} \psi_{h,V} \psi_{parallel,V} V_b$ — ACI 318-14 Eq. (17.5.2.1a)

$\phi V_{cb} \geq V_{ua}$ — ACI 318-14 Table 17.3.1.1

A_{Vc} see ACI 318-14, Section 17.5.2.1, Fig. R 17.5.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-14 Eq. (17.5.2.1c)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-14 Eq. (17.5.2.6b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-14 Eq. (17.5.2.8)

$V_b = \left(7\left(\frac{l_e}{d_a}\right)^{0.2}\sqrt{d_a}\right) \lambda_a \sqrt{f_c'} c_{a1}^{1.5}$ — ACI 318-14 Eq. (17.5.2.2a)

Variables

c_{a1} [in.]	c_{a2} [in.]	$\psi_{c,V}$	h_a [in.]	l_e [in.]
6.000	6.000	1.000	8.000	2.750

λ_a	d_a [in.]	f_c' [psi]	$\psi_{parallel,V}$
1.000	0.500	3,000	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [kip]
120.00	162.00	0.900	1.061	5.603

Results

V_{cb} [kip]	$\phi_{concrete}$	ϕV_{cb} [kip]	V_{ua} [kip]
3.962	0.700	2.773	0.220

5 Combined tension and shear loads

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.373	0.079	5/3	21	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- Design Strengths of adhesive anchor systems are influenced by the cleaning method. Refer to the INSTRUCTIONS FOR USE given in the Evaluation Service Report for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- Installation of Hilti adhesive anchor systems shall be performed by personnel trained to install Hilti adhesive anchors. Reference ACI 318-14, Section 17.8.1.

Fastening meets the design criteria!

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Phone I Fax:	(385) 420-0939 |	E-Mail:	jakegoodsell@kimley-horn.com
Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

7 Installation data

Anchor type and diameter: HIT-HY 200 + Rebar A 615 Gr.40 #4

Profile: -

Item number: not available (element) / 2022793 HIT-HY 200-R (adhesive)

Hole diameter in the fixture: -

Installation torque: -

Plate thickness (input): -

Hole diameter in the base material: 0.625 in.

Hole depth in the base material: 2.750 in.

Drilling method: Hammer drilled

Minimum thickness of the base material: 4.000 in.

Cleaning: Compressed air cleaning of the drilled hole according to instructions for use is required

#4 Rebar with Hilti HIT-HY 200 Safe Set System

7.1 Recommended accessories

Drilling	Cleaning	Setting
• Suitable Rotary Hammer • Properly sized drill bit	• Compressed air with required accessories to blow from the bottom of the hole • Proper diameter wire brush	• Dispenser including cassette and mixer • For deep installations, a piston plug is necessary • Torque wrench

Coordinates Anchor in.

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	0.000	0.000	-	6.000	-	6.000

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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Design:	City Fuel Yard	Date:	4/30/2020
Fastening point:			

8 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.

Input data and results must be checked for conformity with the existing conditions and for plausibility!
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4. APPENDIX

4.1 WIND LOADS

Hazards by Location

Search Information

Address: City fuel yard buckeye

Coordinates: 33.3703197, -112.5837766

Elevation: 869 ft

Timestamp: 2020-03-12T15:52:24.575Z

Hazard Type: Wind



ASCE 7-16

MRI 10-Year	70 mph
MRI 25-Year	77 mph
MRI 50-Year	82 mph
MRI 100-Year	87 mph
Risk Category I	95 mph
Risk Category II	101 mph
Risk Category III	108 mph
Risk Category IV	112 mph

ASCE 7-10

MRI 10-Year	76 mph
MRI 25-Year	84 mph
MRI 50-Year	90 mph
MRI 100-Year	96 mph
Risk Category I	105 mph
Risk Category II	115 mph
Risk Category III-IV	120 mph

ASCE 7-05

ASCE 7-05 Wind Speed	90 mph

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are interpolated from data provided in ASCE 7 and rounded up to the nearest whole integer. Per ASCE 7, islands and coastal areas outside the last contour should use the last wind speed contour of the coastal area – in some cases, this website will extrapolate past the last wind speed contour and therefore, provide a wind speed that is slightly higher. NOTE: For queries near wind-borne debris region boundaries, the resulting determination is sensitive to rounding which may affect whether or not it is considered to be within a wind-borne debris region.

Mountainous terrain, gorges, ocean promontories, and special wind regions shall be examined for unusual wind conditions.

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Emergency Backup Generators Citywide
405
Contract No. 20-1036
LightDay Solar, Inc.
1400

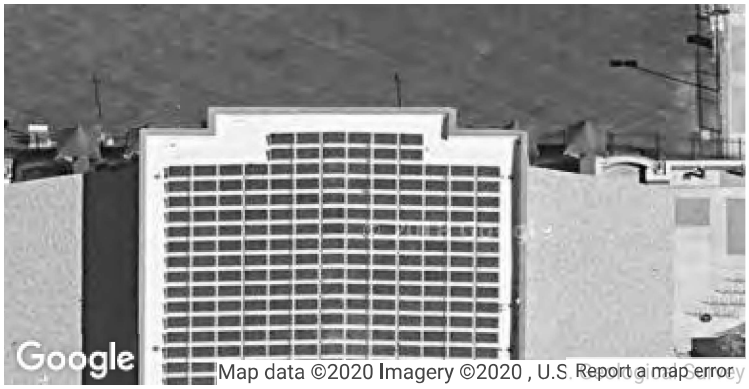
this website does not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the report.

4.2 SEISMIC LOADS

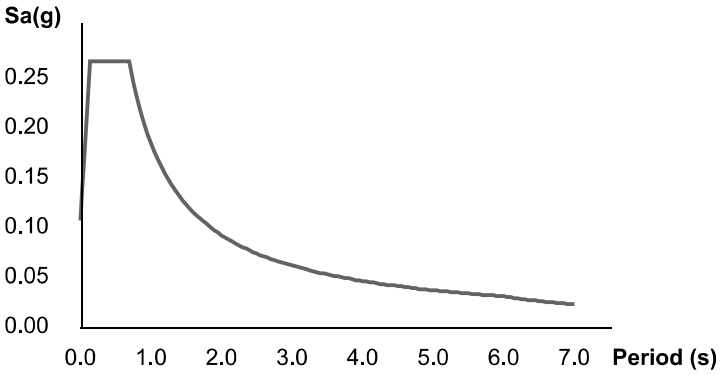
Hazards by Location

Search Information

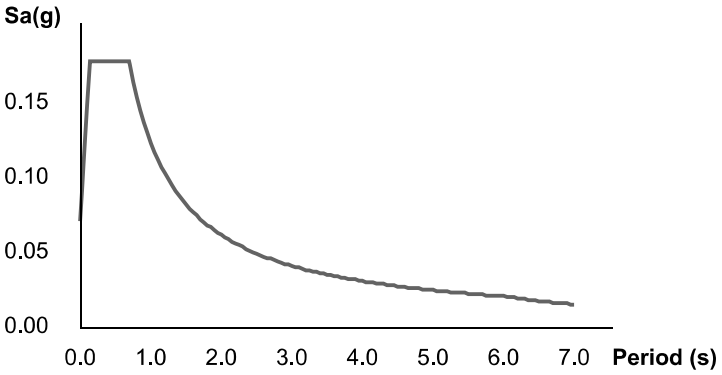
Address:	City fuel yard buckeye
Coordinates:	33.3703197, -112.5837766
Elevation:	869 ft
Timestamp:	2020-03-12T15:51:28.346Z
Hazard Type:	Seismic
Reference Document:	ASCE7-16
Risk Category:	II
Site Class:	D-default



MCER Horizontal Response Spectrum



Design Horizontal Response Spectrum



Basic Parameters

Name	Value	Description
S_S	0.167	MCE_R ground motion (period=0.2s)
S_1	0.077	MCE_R ground motion (period=1.0s)
S_{MS}	0.267	Site-modified spectral acceleration value
S_{M1}	0.185	Site-modified spectral acceleration value
S_{DS}	0.178	Numeric seismic design value at 0.2s SA
S_{D1}	0.123	Numeric seismic design value at 1.0s SA

Additional Information

Name	Value	Description
SDC	B	Seismic design category
F_a	1.6	Site amplification factor at 0.2s
F_v	2.4	Site amplification factor at 1.0s

CR_S	0.937	Coefficient of risk (0.2s)
CR_1	0.944	Coefficient of risk (1.0s)
PGA	0.073	MCE_G peak ground acceleration
F_{PGA}	1.6	Site amplification factor at PGA
PGA_M	0.117	Site modified peak ground acceleration
T_L	6	Long-period transition period (s)
SsRT	0.167	Probabilistic risk-targeted ground motion (0.2s)
SsUH	0.178	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
SsD	1.5	Factored deterministic acceleration value (0.2s)
S1RT	0.077	Probabilistic risk-targeted ground motion (1.0s)
S1UH	0.082	Factored uniform-hazard spectral acceleration (2% probability of exceedance in 50 years)
S1D	0.6	Factored deterministic acceleration value (1.0s)
PGAd	0.5	Factored deterministic acceleration value (PGA)

The results indicated here DO NOT reflect any state or local amendments to the values or any delineation lines made during the building code adoption process. Users should confirm any output obtained from this tool with the local Authority Having Jurisdiction before proceeding with design.

Disclaimer

Hazard loads are provided by the U.S. Geological Survey Seismic Design Web Services.

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4.3 GENERATOR SPECIFICATIONS

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

Standby Power Rating
30 kW, 38 kVA, 60 Hz

Prime Power Rating*
27 kW, 34 kVA, 60 Hz

ISO 9001:2008

USA ENGINEERED & BUILT*

*Assembled in the USA using domestic and foreign parts

*EPA Certified Prime ratings are not available in the US or its Territories

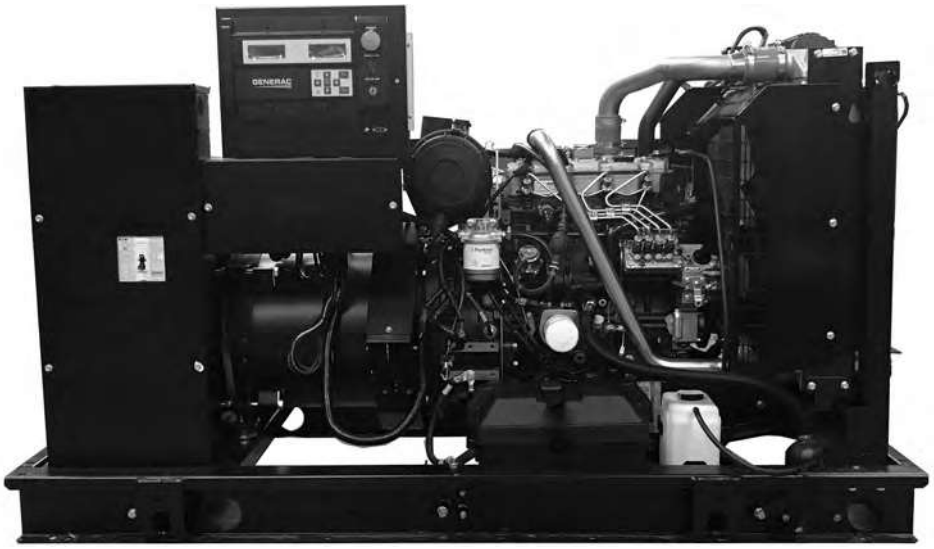


Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

- UL2200, UL508, UL489, UL142
- CSA C22.2
- BS5514 and DIN 6271
- SAE J1349
- NFPA 37, 70, 99, 110
- NEC700, 701, 702, 708
- ISO 3046, 7637, 8528, 9001
- NEMA ICS10, MG1, 250, ICS6, AB1
- ANSI C62.41

Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

SPEC SHEET

1 of 6

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

STANDARD FEATURES

ENGINE SYSTEM

- Oil Drain Extension
- Air Cleaner
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil and Coolant
- Radiator Duct Adapter (Open Set Only)
- Critical Silencer (Enclosed Unit Only)
- Engine Coolant Heater

Fuel System

- Fuel Lockoff Solenoid
- Primary Fuel Filter

Cooling System

- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- Radiator Drain Extension
- 50/50 Ethylene Glycol Antifreeze

Electrical System

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

ALTERNATOR SYSTEM

- UL2200 GENprotect™
- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Brushless Excitation
- Sealed Bearing
- Rotor Dynamically Spin Balanced
- Amortisseur Winding (3-Phase Only)
- Full Load Capacity Alternator
- Protective Thermal Switch

GENERATOR SET

- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Separation of Circuits - Multiple Breakers
- Wrapped Exhaust Piping
- Standard Factory Testing
- 2 Year Limited Warranty (Standby Rated Units)
- 1 Year Limited Warranty (Prime Rated Units)
- Silencer Mounted in the Discharge Hood (Enclosed Unit Only)

ENCLOSURE (If Selected)

- Rust-Proof Fasteners with Nylon Washers to Protect Finish
- High Performance Sound-Absorbing Material (Sound Attenuation Enclosures)
- Gasketed Doors
- Stamped Air-Intake Louvers
- Upward Facing Discharge Hoods (Radiator and Exhaust)
- Stainless Steel Lift Off Door Hinges
- Stainless Steel Lockable Handles
- RhinoCoat™ - Textured Polyester Powder Coat Paint

FUEL TANKS (If Selected)

- UL 142/ULC S601
- Double Wall
- Normal and Emergency Vents
- Sloped Top
- Sloped Bottom
- Factory Pressure Tested
- Rupture Basin Alarm
- Fuel Level
- Check Valve In Supply and Return Lines
- RhinoCoat™ - Textured Polyester Powder Coat Paint
- Stainless Steel Hardware

CONTROL SYSTEM



Digital H Control Panel- Dual 4x20 Display

Program Functions

- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable Logic Controller
- RS-232/485 Communications
- All Phase Sensing Digital Voltage Regulator
- 2-Wire Start Capability
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus® Protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 16 Channel Remote Trending
- 0.2 msec High Speed Remote Trending
- Alarm Information Automatically Annunciated on the Display

Full System Status Display

- Power Output (kW)
- Power Factor
- kW Hours, Total, and Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed
- Battery Voltage
- Frequency

Alarms and Warnings

- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Overspeed
- Battery Voltage
- Alarms and Warnings Time and Date Stamped
- Snap Shots of Key Operation Parameters During Alarms and Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

CONFIGURABLE OPTIONS

ENGINE SYSTEM

- ○ Oil Heater
- ○ Critical Silencer (Open Set Only)
- ○ Radiator Stone Guard
- ○ Level 1 Fan and Belt Guards (Open Set Only)

FUEL SYSTEM

- ○ NPT Flexible Fuel Line

ELECTRICAL SYSTEM

- ○ 10A UL Listed Battery Charger
- ○ Battery Warmer

ALTERNATOR SYSTEM

- ○ Alternator Upsizing
- ○ Anti-Condensation Heater
- ○ Tropical Coating
- ○ Permanent Magnet Excitation

GENERATOR SET

- ○ Extended Factory Testing
- ○ 8 Position Load Center
- ○ Pad Vibration Isolation

CIRCUIT BREAKER OPTIONS

- ○ Main Line Circuit Breaker
- ○ 2nd Main Line Circuit Breaker
- ○ Shunt Trip and Auxiliary Contact
- ○ Electronic Trip Breakers

ENCLOSURE

- ○ Weather Protected Enclosure
- ○ Level 1 Sound Attenuation
- ○ Level 2 Sound Attenuation
- ○ Level 2 Sound Attenuation with Motorized Dampers
- ○ Steel Enclosure
- ○ Aluminum Enclosure
- ○ Up to 200 MPH Wind Load Rating (Contact Factory for Availability)
- ○ AC/DC Enclosure Lighting Kit
- ○ Door Alarm Switch
- ○ Enclosure Heater
- ○ Damper Alarm Contacts

WARRANTY (Standby Gensets Only)

- ○ 2 Year Extended Limited Warranty
- ○ 5 Year Limited Warranty
- ○ 5 Year Extended Limited Warranty
- ○ 7 Year Extended Limited Warranty
- ○ 10 Year Extended Limited Warranty

CONTROL SYSTEM

- ○ NFPA 110 Compliant 21-Light Remote Annunciator
- ○ Remote Relay Assembly (8 or 16)
- ○ Oil Temperature Indication and Alarm
- ○ Remote E-Stop (Break Glass-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Surface Mount)
- ○ Remote E-Stop (Red Mushroom-Type, Flush Mount)
- ○ 100 dB Alarm Horn
- ○ Ground Fault Annunciation
- ○ 120V GFCI and 240V Outlets
- ○ Remote Communication - Modem
- ○ 10A Engine Run Relay

FUEL TANKS (Size On Last Page)

- ○ 8 in (203.2 mm) Fill Extension
- ○ 13 in (330.2 mm) Fill Extension
- ○ 19 in (482.6 mm) Fill Extension
- ○ Overfill Protection Valve
- ○ 5 Gallon Spill Box Return Hose
- ○ 5 Gallon Spill Box
- ○ Tank Risers
- ○ Fuel Level Switch and Alarm
- ○ 12' Vent System
- ○ Fire Rated Stainless Steel Fuel Hose

ENGINEERED OPTIONS

ENGINE SYSTEM

- ○ Coolant Heater Isolation Ball Valves
- ○ Fluid Containment Pan

CONTROL SYSTEM

- ○ Spare Inputs (x4) / Outputs (x4)
- ○ Battery Disconnect Switch

ALTERNATOR SYSTEM

- ○ 3rd Breaker System

GENERATOR SET

- ○ Special Testing

FUEL TANKS

- ○ UL2085 Tank
- ○ Stainless Steel Tanks
- ○ Special Fuel Tanks
- ○ Vent Extensions

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

APPLICATION AND ENGINEERING DATA

ENGINE SPECIFICATIONS

General

Make	Perkins
EPA Emissions Compliance	Stationary Emergency
EPA Emissions Reference	See Emission Data Sheet
Cylinder #	4
Type	In-Line
Displacement - in^3 (L)	135 (2.22)
Bore - in (mm)	3.3 (84)
Stroke - in (mm)	3.9 (100)
Compression Ratio	23.3:1
Intake Air Method	Turbocharged
Cylinder Head	Cast Iron
Piston Type	Aluminum
Crankshaft Type	Forged Steel

Engine Governing

Governor	Electronic Isochronous
Frequency Regulation (Steady State)	±0.5%

Lubrication System

Oil Pump Type	Gear
Oil Filter Type	Full-Flow
Crankcase Capacity - qt (L)	11.2 (10.6)

Cooling System

Cooling System Type	Closed Recovery
Water Pump Type	Pre-Lubed, Self Sealing
Fan Type	Pusher
Fan Speed - RPM	1,980
Fan Diameter - in (mm)	18 (457)

Fuel System

Fuel Type	Ultra Low Sulfur Diesel Fuel #2
Fuel Specifications	ASTM
Fuel Filtering (Microns)	5
Fuel Inject Pump	Distribution Injection Pump
Fuel Pump Type	Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Line - in (mm)	0.31 (7.9) ID
Fuel Return Line - in (mm)	0.2 (4.8) ID

Engine Electrical System

System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	See Battery Index 0161970SBY
Battery Voltage	12 VDC
Ground Polarity	Negative

ALTERNATOR SPECIFICATIONS

Standard Model	K0035124Y21
Poles	4
Field Type	Revolving
Insulation Class - Rotor	H
Insulation Class - Stator	H
Total Harmonic Distortion	<5% (3-Phase)
Telephone Interference Factor (TIF)	< 50
Standard Excitation	Brushless
Bearings	Single Sealed
Coupling	Direct via Flexible Disc
Load Capacity - Standby	100%
Prototype Short Circuit Test	Yes
Voltage Regulator Type	Digital
Number of Sensed Phases	All
Regulation Accuracy (Steady State)	±0.25%

SPEC SHEET

4 of 6

SD030 | 2.2L | 30 kW

INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

OPERATING DATA

POWER RATINGS

		Standby
Single-Phase 120/240 VAC @1.0pf	30 kW	Amps: 125
Three-Phase 120/208 VAC @0.8pf	30 kW	Amps: 104
Three-Phase 120/240 VAC @0.8pf	30 kW	Amps: 90
Three-Phase 277/480 VAC @0.8pf	30 kW	Amps: 45
Three-Phase 346/600 VAC @0.8pf	30 kW	Amps: 36

MOTOR STARTING CAPABILITIES (skVA)

skVA vs. Voltage Dip

277/480 VAC	30%	208/240 VAC	30%
K0035124Y21	61	K0035124Y21	46
K0040124Y21	76	K0040124Y21	58
K0050124Y21	98	K0050124Y21	75

FUEL CONSUMPTION RATES*

Fuel Pump Lift- ft (m)
3 (1)

Total Fuel Pump Flow (Combustion + Return) - gph (Lph)
16.6 (63)

Diesel - gph (Lph)

Percent Load	Standby
25%	1.0 (3.7)
50%	1.4 (5.2)
75%	2.0 (7.5)
100%	2.8 (10.5)

* Fuel supply installation must accommodate fuel consumption rates at 100% load.

COOLING

		Standby
Coolant Flow	gpm (Lpm)	14.9 (56.2)
Coolant System Capacity	gal (L)	2.5 (9.5)
Heat Rejection to Coolant	BTU/hr (kW)	128,638 (136)
Inlet Air	scfm (m^3/hr)	2,800 (4,757)
Maximum Operating Ambient Temperature	°F (°C)	122 (50)
Maximum Operating Ambient Temperature (Before Derate)	See Bulletin No. 0199280SSD	
Maximum Radiator Backpressure	in H_2O (kPa)	0.5 (0.12)

COMBUSTION AIR REQUIREMENTS

	Standby
Flow at Rated Power scfm (m^3/min)	88 (2.5)

ENGINE

		Standby
Rated Engine Speed	RPM	1,800
Horsepower at Rated kW**	hp	49
Piston Speed	ft/min (m/min)	1,181 (360)
BMEP	psi (kPa)	159 (1,096)

EXHAUST

		Standby
Exhaust Flow (Rated Output)	scfm (m^3/min)	296.6 (8.4)
Max. Allowable Backpressure (Post Turbocharger)	inHg (kPa)	1.5 (5.1)
Exhaust Temp (Rated Output)	°F (°C)	892 (478)

** Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.
Please contact a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528, and DIN6271 standards.
Standby - See Bulletin 0187500SSB
Prime - See Bulletin 0187510SSB

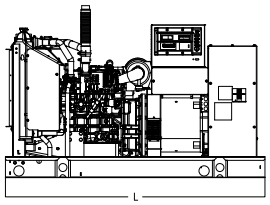
SD030 | 2.2L | 30 kW

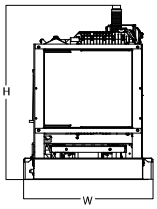
INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

GENERAC | INDUSTRIAL POWER

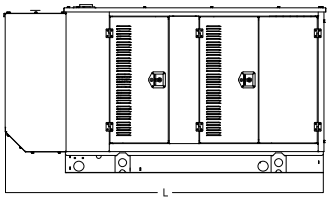
DIMENSIONS AND WEIGHTS*

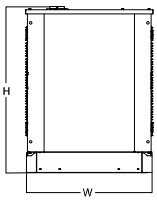




OPEN SET (Includes Exhaust Flex)

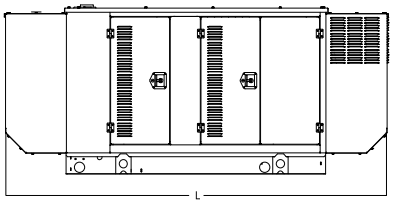
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)
No Tank	-	76.0 (1,930) x 37.4 (950) x 44.8 (1,138)	1,641 (745)
19	54 (204)	76.0 (1,930) x 37.4 (950) x 57.8 (1,468)	2,121 (963)
47	132 (501)	76.0 (1,930) x 37.4 (950) x 69.8 (1,773)	2,351 (1,067)
75	211 (799)	76.0 (1,930) x 37.4 (950) x 81.8 (2,078)	2,560 (1,162)
107	300 (1,136)	92.9 (2,360) x 37.4 (950) x 81.8 (2,078)	2,623 (1,190)

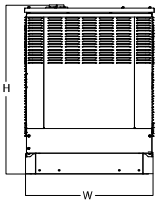




WEATHER PROTECTED ENCLOSURE

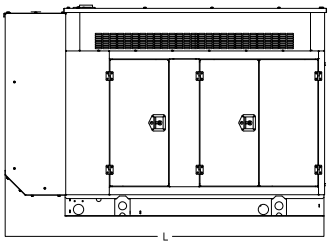
Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	372 (170)	241 (110)
19	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)		
47	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)		

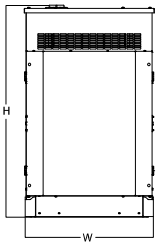




LEVEL 1 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	112.5 (2,857) x 38.0 (965) x 49.5 (1,258)	505 (230)	338 (154)
19	54 (204)	112.5 (2,857) x 38.0 (965) x 62.5 (1,582)		
47	132 (501)	112.5 (2,857) x 38.0 (965) x 74.5 (1,893)		
75	211 (799)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		
107	300 (1,136)	112.5 (2,857) x 38.0 (965) x 86.5 (2,198)		





LEVEL 2 ACOUSTIC ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg) Enclosure Only	
			Steel	Aluminum
No Tank	-	94.8 (2,407) x 38.0 (965) x 61.1 (1,551)	510 (232)	341 (155)
19	54 (204)	94.8 (2,407) x 38.0 (965) x 74.1 (1,881)		
47	132 (501)	94.8 (2,407) x 38.0 (965) x 86.1 (2,186)		
75	211 (799)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		
107	300 (1,136)	94.8 (2,407) x 38.0 (965) x 98.1 (2,491)		

(2351 lb set and tank) + (Diesel weight 7 lbs/gallon x 132 gallons) + (510 lbs enclosure weight) = **3785 LBs total**

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without noti installation drawings.

SPEC SHEET

6 of 6

Emergency Backup Generators Citywide
Contract No. 2021036
LightDay Solar, Inc.
© 2018 Generac Power Systems, Inc. All rights reserved. All specifications are subject to change without notice.

EXHIBIT C
Scope of Work

Scope of Work to include purchase and installation of Emergency Generators at six locations throughout the city. The work includes raceways, wire and cable, panel boards, generator transfer switchgear grounding and power system/arc flash analysis to make a complete working system, more particularly defined in Exhibit B, Plans & Specifications attached hereto.

EXHIBIT D
Bid Form

SECTION 300
BID FORMS

BID

IFB No.	2021036
Project Name:	Emergency Backup Generators Citywide
Due Date:	June 7, 2021, no later than 3:00 p.m., MST
Bid from:	Lightday Solar Inc. (Name of Firm)
To:	City of Buckeye

The following bid is made for construction services for the City of Buckeye, Arizona, in accordance with Construction Documents. The undersigned certifies that the Construction Documents, as well as the proposed construction site and conditions affecting the Work have been carefully examined; that the amount and nature of the Work to be done is thoroughly understood; and that at no time will misunderstanding of the drawings, specifications, or conditions to be overcome be pleaded.

The undersigned certifies that he or his firm is currently licensed under the provisions of ARS Sections 32-1151 and 32-1169. The undersigned further certifies that he or his firm has a privilege license pursuant to ARS Section 42-5005.

The undersigned has read Section 2, "Instructions to Bidders", paragraph "Sales and Use Tax" and understands that all sales and use taxes applicable to this project are included in all bid prices. The undersigned has read the Construction Contract between the City of Buckeye and Contractor, and will execute said agreement if awarded the Contract. Any exceptions to the terms and conditions have been stated in writing and submitted on a separate sheet with this bid. The undersigned understands that any exceptions taken to the Construction Contract that are not accepted and/or approved by the City may be a basis for rejection of the Bid as nonresponsive.

RECEIPT BY THE UNDERSIGNED OF THE FOLLOWING AMENDMENTS IS HEREBY ACKNOWLEDGED:

AMENDMENT NUMBER: 1	DATED: 05/18/2021
AMENDMENT NUMBER: 2	DATED: 05/19/2021
AMENDMENT NUMBER: 3	DATED: 05/24/2021
AMENDMENT NUMBER:	DATED:

BASE BID:

The undersigned proposes to complete all of the Work in accordance with said Construction Documents, plans, specification and all associated amendments for the sum of:
One Million, and two hundred ninety eight thousands, and five hundreds ninety two Dollars (no cent).
Amount shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.)

Item No.	Item Description	Unit	Quantity	Amount
1	Emergency backup Generator location: Fuel Yard – 23454 W. Hwy MC85 Buckeye, AZ 85326	1	EA	$ 72,275.00
2	Emergency backup Generator location: City Hall – 530 E. Monroe Avenue Buckeye, AZ 85326	1	EA	$ 254,469.00
3	Emergency backup Generator location: Community Center – 201 E. Centre Avenue Buckeye, AZ 85326	1	EA	$ 225,780.00
4	Emergency backup Generator location: Coyo te Branch Library – 21699 W. Yuma Road, #116 Buckeye, AZ 85326	1	EA	$ 289,115.00
5	Emergency backup Generator location: Dr. Saide Rec Center – 1003 E. Eason Avenue Buckeye, AZ 85326	1	EA	$ 221,746.00
6	Standby Generator location: Fleet Management Building – 415 E. Arizona Eastern Buckeye, AZ 85326	1	EA	$ 85,207.00
		SUB TOTAL		$ 1,148,592.00
	GENERAL CONDITIONS			
7	Owner's Contingency	LS	1	$150,000.00
		SUB TOTAL		$150,000.00
			TOTAL PROJECT COST	$ 1,298,592.00

Submitted by:	Lightday Solar Inc.
SIGNATURE:	Hyeonmoo Lee
NAME:	Hyeonmoo Lee
TITLE:	CEO
Principal Office:	
Address:	5861 S. Kyrene RD #9 Tempe, AZ 85283
Telephone:	480-921-3977
Facsimile:	480-921-3977

M Hyeonmoo Lee being duly sworn deposes and says that he/she is the CEO of Lightday Solar Inc Contractor(s), and that answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn before me this 7 day of June, 2021

Notary Public:

My Commission Expires: 11 day of December, 2024

ANGELICA VIGIL
Notary Public - Arizona
Maricopa County
Commission # 593247
My Commission Expires December 11, 2024

ATTACHMENT 1

SURETY BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, Lightday Solar, Inc.

(Contractor's Name)

as Principal, and The Ohio Casualty Insurance Company, as Surety, are hereby held and firmly bound into City of Buckeye as OWNER in the penal sum of 10% of Bid Amount for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, successors and assigns.

Signed this 7th day of June, 2021.

The Condition of the above obligation is such that whereas the Principal has submitted a certain BID, attached hereto and hereby made a part hereof to enter into a contract in writing, for IFB No. 2021036 – Emergency Backup Generators.

Now, therefore, if the obligee accepts the proposal of the principal and the principal enters into a contract with the obligee in accordance with the terms of the proposal and gives the bonds and certificates of insurance as specified in the standard specifications with good and sufficient surety for the faithful performance of the contract and for the prompt payment of labor and materials furnished in the prosecution of the contract, or in the event of the failure of the principal to enter into the contract and give the bonds and certificates of insurance, if the principal pays to the obligee the difference not to exceed the penalty of the bond between the amount specified in the proposal and such larger amount for which the obligee may in good faith contract with another party to perform the work covered by the proposal then this obligation is void. Otherwise it remains in full force and effect provided, however, that this bond is executed pursuant to the provisions of § 34-201, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of the section to the extent as if it were copied at length herein.

IN WITNESS WHEREOF, the Principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set forth above.

Lightday Solar, Inc. (L.S.)
(Principal)
By:

The Ohio Casualty Insurance Company
(Name of Surety)
By:
(Signature) Taylor J. Wilstead
Attorney-In-Fact

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8204921-969690**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alec Kleiner; Christopher D. Morrow; Taylor J. Wilstead

all of the city of Mesa state of AZ each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 25th day of February, 2021.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 25th day of February, 2021 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at King of Prussia, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 7th day of June, 2021.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

ATTACHMENT 3

CITY OF BUCKEYE, ARIZONA
CONTRACTOR'S QUALIFICATION STATEMENT

Name of Firm: Lightday Solar Inc.

Address: 5861 S. Kyrene Rd #9

City, State, Zip Code: Tempe, AZ 85283

Telephone No: 480-921-3977

Facsimile No: 480-921-3977

The undersigned certifies under oath the truth and correctness of all statements and of all answers to questions made hereinafter.

(1) How many years has your firm been in business as a general contractor? 13 years

(1.1) How many years has your firm been in business as a general contractor in the State of Arizona? 13 years

(2) How many years has your firm been in business under its present business name? 13 years

(3) List states and categories in which your firm is legally qualified to do business:

State	Category(ies)
Arizona	Master Electric
California	Master Electric
Texas	Master Electric

(4) List the percentage of work normally accomplished with your own forces: 90

(4.1) Will you need to expand your work force for this project? Yes

(4.2) Present number of personnel employed: 9

(5) Have you ever failed to complete any project awarded to your firm? If so, explain circumstances on separate sheet. (Check One) ☑ No

_____ Yes, See attached explanation

(5.1) Within the past five (5) years, has any officer or partner of your firm ever been an officer or partner of another firm that failed to complete any project awarded to it?

(Check one) ☑ No

_____ Yes, see attached explanation.

(6) On a separate sheet, List separately all construction projects greater than $300,000.00 awarded, in-progress, or completed in the past five (5) years by your firm. Include project, owner (address and telephone number), Design Professional, contract amount, percent complete, and scheduled completion date.

(7) On a separate sheet, list the construction experience and provide resumes of key individuals of your firm. Include the Project Manager, Superintendent, and Assistant Superintendent for this project; and identify their previous levels of responsibility for those projects listed in Paragraph 6.

(8) References: (Bank, Trade, and Professional) Provide name, address, and telephone number. List three.

1. Wells Fargo, 5120 S. Lakeshore Dr. Tempe, AZ 85282 85282
2. WESCO Distribution, Inc, 3425 E Van Buren St Ste 140 | Phoenix, AZ. 85008, 602-643-1516
3. Sun Engineering LLC, 600 W Hatcher Rd # 200, Phoenix, AZ 85021,(602) 997-6800

(9) Name of bonding company and name and phone number of agent.

Bonding Solutions (Company Name), Taylor Wilstead (Contact Name), (480) 835.6745 (Phone Number)

(10) Scheduling techniques to be employed by your firm to expedite construction.
Line of Balance Scheduling method is the best choice for this project.

(11) List your Arizona Contractor's License Number(s) and category.

AZ ROC# 251678 CATEGORY: CR-11

(12) List your DUNN or CAGE Number: 927883962

(13) Is your Firm qualified to participate in Federal Projects: YES: ☑ NO: _____

(14) Is your Firm familiar with requirements for Davis Bacon Payroll? YES: ☑ NO: _____

Name of Organization: Lightday Solar Inc.

(Check One) Corporation ☑ Partnership ___ Individual ___
Joint Venture ___ Other ___

Submitted by:
SIGNATURE: [signature]

NAME: Hyeonmoo Lee

TITLE: CEO

Principal Office:

Address: 5861 S. Kyrene RD #9
Tempe, AZ 85283

Telephone: 480-921-3977

Facsimile: 480-921-3977

Email: Sales @lightdaysolar.com

M Hyeonmoo Lee being duly sworn deposes and says that he/she is the CEO of Lightday Solar Inc Contractor(s), and that answers to the foregoing questions and all statements therein contained are true and correct.

Subscribed and sworn before me this 7 day of June, 2021

Notary Public: [signature]

My Commission Expires: 11 day of December, 2024

ANGELICA VIGIL
Notary Public - Arizona
Maricopa County
Commission # 593247
My Commission Expires December 11, 2024

List of Contruction over $300,000							
Project No.	Project Name	Project Manager	Buyer	Descriptions	Location	Date	Duration
1	Installation of Solar PV Systems	Hyeonmoo Lee	State of Arizona	Installation of Solar PV Systems in Various Building owned by State of Arizona	State-Wide	Feb, 2021	Current
2	Installation of 22kW Battery Chargering Stations and Ballards	Hyeonmoo Lee	City of Phoenix	Installation of 22kW Battery Charging Stations and Ballards in Sky Habor Airport.	Phoenix, AZ	Sep, 2019	8 Months
3	Installation of LED Lighting Fxitures in Multi Buildings in National Guard Airforce	Hyeonmoo Lee	Department of Emergency and Millitary Affairs	Installation of LED Lighing Fixtures and its Control System in 3 Buildings in 162nd Airforce in Tucson, AZ	Tucson, AZ	Jan, 2019	3 Months

List of Contruction over $300,000						
Project No.	Buyer's Address	Buyer's Phone #	Percent Complete	Contract Amount	Scheduled Completion Date	Design Professional
1	Dept of Administration, General Service Division, 100N. 15th Ave, Suite 103, Phoenix, AZ 85007	(602) 542-1718	Not yet assigned projects	N/A	Dec-22	Sun Engineering
2	City of Phoenix, Department of Aviation, 500 S. 24th St, Phoenix, AZ 85034	602-273-3488	100	$628,772.42	Apr, 2020	City of Phoenix
3	Department of Emergency and Millitary Affairs,5645 E, Mcdowell Rd, Phoenix, AZ 85008	602-267-2763	100	$497,035.00	Mar, 2019	DEMA

Construction Experiences

Project Name	Project Manager	Buyer	Descriptions	Location	Date	Duration
Installation of Solar PV Systems	Hyeonmoo Lee	State of Arizona	Installation of Solar PV Systems in various building owned by State of Arizona	Stage Wide	Feb, 2021	Current
Electrical Upgrade	Hyeonmoo Lee	Department of Emergency and Millitary Affairs	Electrical upgrades in Training Center	Marana, AZ	May, 2021	Current
Installation of a Video Suveillance Camera System in Hospitals	Hyeonmoo Lee	Navajo Nation	Installation of Digital Videon Surveillance System in Pinion Health Center	Pinion, AZ	Nov, 2019	1 Month
Installation of 22kW Battery Charging Stations and Ballards	Hyeonmoo Lee	City of Phoenix	Installation of 22kW Battery Charging Stations and Ballards in Sky Habor Airport.	Phoenix, AZ	Sep, 2019	7 Months
Electrical Upgrade	Hyeonmoo Lee	Navajo Nation	Retrofit of Existing Light Fixtures to LED and Diagonosis and repair of electri issues	Chiney, AZ	Nov, 2019	1 week
Installation of LED Lighting Fxitures in Multi Building in National Guard Airforce	Hyeonmoo Lee	Department of Emergency and Millitary Affairs	Installation of LED lighing fixtures and its control system in 3 buildings in 162nd airforce in Tucson, AZ	Tucson, AZ	Jan, 2019	3 Months

Construction Experiences						
Mutiple SES Upgrades	Hyeonmoo Lee	UMOM New Day Centers, Inc.	Removal of Existing SES and Panelboards and installation of New SES and panelboards	Phoenix, AZ	Jun, 2018	2 Months
LED lighting Upgrades in 5 Grocery Building	Hyeonmoo Lee	Los Altos	LED lighting retrofit	Phoenix, AZ	Dec, 2017	2 Months
LED lighting Upgrades in 2 Grocery Building	Hyeonmoo Lee	Los Altos	LED lighting retrofit	Phoenix, AZ	Apr, 2017	1 Month
400kW Solar PV Carport	Hyeonmoo Lee	Grant Inn	Installation of 400kW Solar PV system on Carport structure and on the flat roof.	Tucson, AZ	Dec, 2012	4 Months

Hyeonmoo Lee

5861 S. Kyrene Rd. STE 9, Tempe, AZ 85283
Sales@lightdaysolar.com
(480) 921-3977

Professional Summary

10 years of experience in Solar PV Systems, Off-Grid Battery Solar PV System, Lighting Retrofit, Energy Consultant, Energy Audit, UPS, LED Lighting Retrofit, Electrical Preventive Maintenance, CCTV, Electrical Preventive Maintenance, Commercial Electrical Works. Commercial & Residential SES Installation, Upgrade & Replacement

Skill

eQUEST 3-65 Analysis, Energy Pro6, Solar PV System Design, Electrical Contractor, Word, Excel, Lighting Design. Lighting Power Management, PowerPoint, Adobe Photoshop, Adobe Illustrator, Sketchup 3D.

Work Experience

CEO and Founder 2008 - Current
LightDay Solar Inc. - Tempe, AZ
Developed residential and commercial construction documents for high end solar construction throughout Arizona. Completed over 2 MW of solar PV system layouts, design, and electrical engineering. Commercial LED Lighting Installation and Retrofit, Battery Backup System Installation, Residential EV Charger Installation, APS, SRP Trade Allies.

President and Founder 2006-2009
First DVR Security System
Accomplishments: Successfully integrate CCTV surveillance into business entities

President and Founder 2000-2006
GeneTech Bio Sciences, Inc., AZ
I established GeneTech Biosciences LLC, that provides custom oligonucleotide synthesis, gene synthesis, and DNA sequencing services.

Postdoctoral Scientist 1998-2000
Department of Plant Biology, Arizona State University, Tempe, AZ.

Postdoctoral Scientist 1997-1998
Department of Molecular Genetics and Cell Biology, The University of Chicago, Chicago, IL

Postdoctoral Scientist, 1996-1997
Department of Plant Biology, Arizona State University, Tempe, AZ

Graduate Research Associate, 1991-1995
Arizona State University, Tempe, AZ.

Education

Ph.D. Department of Molecular and Cellular Biology, Arizona State University, Tempe, AZ	1996
Master of Science, University of Kansas	1992
Certificaton for SEIA	2009
Certification From OutBack Power in NABCEP PV Installation	2014
Certification from Edison in 2013 Nonresidential Standards Essentials for Energy Consultants	2016
Certification from Edision in Beginning EnergyPro 6 Nonresidential.	2016
Certification for Tesla home charging station Installation	2017
Certification for Fronius authorized service provider	2016

ATTACHMENT 2

SUBCONTRACTOR LIST FORM

This attachment to the Bid Form must be submitted in a sealed envelope along with the Bid Form. Each envelope shall bear the name of the Contractor making the submittal with identification of contents contained therein. The Contractor must list below the names of all qualified subcontractors or suppliers he will employ for the various portions of the Work indicated. It is the responsibility of the General Contractor to ascertain that all subcontractors for this project meet the requirements of applicable state statutes. The Contractor may list himself to perform one or more of the listed categories of work for which he has any requisite state licenses when required. In this case, all personnel performing such work at the site shall be carried on his own payroll. If equipment is leased with operators, the operators need not be carried on the Contractor's payroll. List only a single name for each listing. List names only for base bid as per your bid. Lists submitted by unsuccessful bidders will be returned unopened if requested.

DIVISION	SUBCONTRACTOR	LICENSE NUMBER	D&B NUMBER
Block Wall & Gate	3 D Masonry LLC	#250270	851581068
Concrete Pad	Mass AZ Inc.	#323156	
Natural Gas Piping	RP Gas Piping LLC	#232274, 261487	

Respectfully Submitted,

Lightday Solar Inc.

(Name of Firm)

SOLICITATION ADDENDUM
IFB NO. 2021036
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6173

ADDENDUM NO. 1

NOTE: Attach to Original Invitation for Bid. However, if Bid has already been returned, complete this Addendum and return for attachment to your Bid by **3:00 pm, June 7, 2021.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Pat Glasmann, Contracting Officer
Construction and Contracting
pglasmann@buckeyeaz.gov

SOLICITATION: IFB #2021036 – Emergency Backup Generators Citywide
Bid Due Date and Time: **June 7, 2021 no later than 3:00 pm local time**
Last Day for Questions: **May 27, 2021 no later than 3:00 pm local time**

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Addendum by returning the attached Solicitation Addendum Acknowledgement Page with the Bid.

Q1. The generator spec states the equipment is to be "Blue Star Power Systems, Inc." or prior approved equal. Normally, the specifications will include a prior approval request form for the bidder to use to submit an alternate, but these specs lack such a form. Will one be provided?

A1. A form will not be required, just make the requested equipment substitution by email. We will confirm the manufacture is acceptable/not acceptable. This substitution information acceptable/not acceptable will be provided to all bidders.

Q2. The generator spec states the equipment is to be "Blue Star Power Systems, Inc." or prior approved equal. Is The Kohler System approved as an equal?

A2. As long as the proposed substitution (Kohler) meets or exceed the specified Blue Star product, the Kohler generator and supporting system is acceptable to the City. The contractor will be responsible to coordinate the system details during construction as well as provided appropriate foundation/generator pad.

Q3. The generator spec states the equipment is to be “Blue Star Power Systems, Inc.” or prior approved equal. Is The Cummins Power Generation System approved as an equal?

A3. As long as the proposed substitution (Cummins) meets or exceed the specified Blue Star product, the Cummins generator and supporting system is acceptable to the City. The contractor will be responsible to coordinate the system details during construction as well as provided appropriate foundation/generator pad.

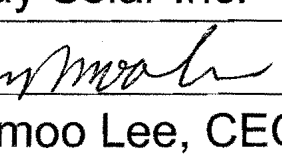
PLEASE ACKNOWLEDGE YOUR FIRM’S RECEIPT OF THIS ADDENDUM BY SIGNING THE ATTACHED SOLICITATION ADDENDUM ACKNOWLEDGEMENT.

SOLICITATION ADDENDUM ACKNOWLEDGEMENT

IFB #2021036
ADDENDUM NO. 1
ADDENDUM ISSUE DATE: May 18, 2021

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Lightday Solar Inc.

Authorized Signature: 

Print Name and Title: Hyeonmoo Lee, CEO

Date: 06/60/2021

Address: 5861 S. Kyrene Rd #9

City, State, Zip Code: Tempe, AZ 85283

Telephone Number: 480-921-3977

Email Address: 480-921-3977

SOLICITATION ADDENDUM
IFB NO. 2021036
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6173

ADDENDUM NO. 2

NOTE: Attach to Original Invitation for Bid. However, if Bid has already been returned, complete this Addendum and return for attachment to your Bid by **3:00 pm, June 7, 2021.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Pat Glasmann, Contracting Officer
Construction and Contracting
pglasmann@buckeyeaz.gov

SOLICITATION: IFB #2021036 – Emergency Backup Generators Citywide
Bid Due Date and Time: **June 7, 2021 no later than 3:00 pm local time**
Last Day for Questions: **May 27, 2021 no later than 3:00 pm local time**

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Addendum by returning the attached Solicitation Addendum Acknowledgement Page with the Bid.

Q1. Does the ATS need to be the breaker style or is the standard contactor style sized per the drawings acceptable? Does the ATS's need to be closed transition (not very common) or is typical open transition acceptable?

A1. The standard contractor style sized per the drawings is acceptable. An open transition is acceptable.

Q2. Some of the work (concrete, saw cutting, landscaping, etc.) might be best performed with a General Contractor. Are we allowed to bid the project where the Electrical Contractor would function as the General Contractor? Can we qualify our bid to identify our concerns?

A2. The Invitation for Bid (IFB) reads "The undersigned understands that any exceptions taken to the Construction Contract that are not accepted and/or approved by the City may be a basis for rejection of the Bid as nonresponsive." Although the City may reject the bid because of the exceptions, it is the City's intent to award the contract in the best interest of the City.

Yes, the Electrical Contractor is encouraged to provide a bid as the Prime Contract.
Yes, please identify any areas of concern with your bid.

PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS ADDENDUM BY SIGNING THE ATTACHED SOLICITATION ADDENDUM ACKNOWLEDGEMENT.

SOLICITATION ADDENDUM ACKNOWLEDGEMENT

IFB #2021036
ADDENDUM NO. 2
ADDENDUM ISSUE DATE: May 19, 2021

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Lightday Solar Inc.

Authorized Signature: 

Print Name and Title: Hyeonmoo Lee, CEO

Date: 06/60/2021

Address: 5861 S. Kyrene Rd #9

City, State, Zip Code: Tempe, AZ 85283

Telephone Number: 480-921-3977

Email Address: 480-921-3977

SOLICITATION ADDENDUM
IFB NO. 2021036
CITY OF BUCKEYE
CONSTRUCTION & CONTRACTING DIVISION
623.349.6173

ADDENDUM NO. 3

NOTE: Attach to Original Invitation for Bid. However, if Bid has already been returned, complete this Addendum and return for attachment to your Bid by **3:00 pm, June 7, 2021.**

City of Buckeye
530 East Monroe Avenue
Buckeye, Arizona 85326
Attn: Pat Glasmann, Contracting Officer
Construction and Contracting
pglasmann@buckeyeaz.gov

SOLICITATION: IFB #2021036 – Emergency Backup Generators Citywide
Bid Due Date and Time: **June 7, 2021 no later than 3:00 pm local time**
Last Day for Questions: **May 27, 2021 no later than 3:00 pm local time**

NOTICE TO CONTRACTORS:
This Addendum forms a part of the Contract and clarifies, corrects, or modifies the original Invitation for Bid documents prepared by the City of Buckeye.

The balance of the specifications and instructions remain the same. Bidders must acknowledge receipt and acceptance of this Addendum by returning the attached Solicitation Addendum Acknowledgement Page with the Bid.

Q1. Project drawings do not show coordinates, dimensions to construct work. Can you clarify lay out? Please provide dimensions from existing structures, curb gutter or provide a baseline coordinate for construction staking.

A1. For bid purposes, the drawings are to be scaled for the dimensions. Any field layout dimension discrepancies will be clarified after approval of final product submittals.

Q2. In your specification: Section III Generator and Components
Part 3A Coyote Branch Library, Sub Part B, page71- It states that the generator voltage should be 277/480. However, the drawing states 120/208V. Please confirm voltage.

A2. Voltage to be 120/208V.

Q3. Part 4A Fleet Management Generator, Sub Part A page71 - It states that the generator kWe should be 100kWe. However, the drawing states 75kVA. Please confirm rating.

A3. Generator to be 75kVA.

Q4. Part 3, City Fuel Yard, Sub Part A, page72 It states that the generator kWe should be 30kWe. However, the drawing states 30kVA. Please confirm rating.

A4. Generator to be 30kVA.

Q5. In your specifications (page 66 Section 2-C) it states that certified output manufacture be Blue Star Power Systems. However, in your field study it states GENERAC specific. Can you please clarify?

A5. Either manufacturer that meets specifications is acceptable.

Q6. In your specifications (page 84 Section 2.05) it states that GENERAC Blue Star series switch. Can you please clarify if GENERAC or Blue Star accepted?

A6. Either manufacturer, or another substituted, but equal manufacturer that meets the specifications is acceptable.

Q7. In your specification (page 81 Section 2.01) it states that that the "automatic transfer switch shall be breaker based, two breaker type…" Will contactor based automatic transfer switches be accepted?

A7. Contractor type based ATS's will be accepted.

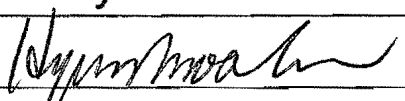
PLEASE ACKNOWLEDGE YOUR FIRM'S RECEIPT OF THIS ADDENDUM BY SIGNING THE ATTACHED SOLICITATION ADDENDUM ACKNOWLEDGEMENT.

SOLICITATION ADDENDUM ACKNOWLEDGEMENT

IFB #2021036
ADDENDUM NO. 3
ADDENDUM ISSUE DATE: May 24, 2021

Bidder certifies that Bidder has read, understands, and will fully and faithfully comply with this Invitation to Bid, its attachments and any referenced documents. Bidder also certifies that this offer was independently developed without consultation with any of the other Bidders or potential Bidders.

Name of Company: Lightday Solar Inc.

Authorized Signature: 

Print Name and Title: Hyeohmoo Lee, CEO

Date: 06/60/2021

Address: 5861 S. Kyrene Rd #9

City, State, Zip Code: Tempe, AZ 85283

Telephone Number: 480-921-3977

Email Address: 480-921-3977

EXHIBIT E
Payment and Performance Bonds

PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT:

_____
Name of CONTRACTOR

_____
Address of CONTRACTOR

a _____, hereinafter called PRINCIPAL and
(*Corporation), (Partnership) or (Individual)*

_____
Name of SURETY

_____
Address of SURETY

hereinafter called SURETY, are held and firmly bound unto

City of Buckeye
Name of OWNER

530 East Monroe Avenue, Buckeye, AZ 85326
Address of OWNER

hereinafter called OWNER, in the total aggregate penal sum of _____ _____ Dollars ($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that, whereas the PRINCIPAL entered into a certain contract with the OWNER, DATED THE _____day of _____ , 20__, a copy of which is hereto attached and made a part of the construction contract for _____.

NOW, THEREFORE, the condition of this obligation is such, that if the principal faithfully performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of the contract during the original term of the contract and any extension of the contract, with or without notice to the surety, and during the life of any guaranty required under the contract, and also performs and fulfills all of the undertakings, covenants, terms, conditions and agreements of all duly authorized modifications of the contract that may hereafter be made, notice of which modifications to the surety being hereby waived, the above obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, to the extent as if it were copied at length in this Contract.

The prevailing party in a suit on this bond shall recover as part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this _____ day of _____ _____, 20__.

PRINCIPAL'S ATTEST: _____
PRINCIPAL

By: _____
Attorney-in-Fact

(SEAL) Address: _____

_____
Witness as to PRINCIPAL

_____
Address

SURETY'S ATTEST: _____

By: _____

Address: _____

(SEAL)

_____
Witness as to SURETY

_____
Address

***PLEASE NOTE**:*

1. *Date of BOND must not be prior to date of CONTRACT.*
2. *If CONTRACTOR is partnership, all partners should execute BOND.*
3. *Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.*
4. *Use of this form as an instrument of SURETY for this project is not mandatory. Use of other forms normally deemed acceptable in the State wherein the project is located may be allowed.*

PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS THAT:

_____

Name of CONTRACTOR

_____

Address of CONTRACTOR

a _____, hereinafter called PRINCIPAL and
(Corporation), (Partnership) or (Individual)

_____

Name of SURETY

_____

Address of SURETY

hereinafter called SURETY, are held and firmly bound unto

City of Buckeye

Name of OWNER

530 East Monroe Avenue, Buckeye, AZ 85326

Address of OWNER

hereinafter called OWNER, in the total aggregate penal sum of _____
Dollars ($_____)
in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that, whereas the PRINCIPAL entered into a certain contract with the OWNER, DATED THE _____day of _____ , 20__, a copy of which is hereto attached and made a part of the construction contract for _____.

NOW, THEREFORE, the condition of this obligation is such, that if the principal promptly pays all monies due to all persons supplying labor or materials to the principal or the principal's subcontractors in the prosecution of the work provided for in the contract, this obligation is void. Otherwise it remains in full force and effect.

PROVIDED, HOWEVER, that this bond is executed pursuant to the provisions of title 34, chapter 2, article 2, Arizona Revised Statutes, and all liabilities on this bond shall be determined in accordance with the provisions, conditions and limitations of title 34, chapter 2, article 2, Arizona Revised Statutes, to the same extent as if they were copied at length in this Contract.

The prevailing party in a suit on this bond shall recover as a part of the judgment reasonable attorney fees that may be fixed by a judge of the court.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which shall be deemed an original, this _____ day of _____, 20__.

PRINCIPAL'S ATTEST:

PRINCIPAL

By: _____

Attorney-in-Fact

(SEAL) Address: _____

SURETY'S ATTEST: _____

SURETY

By: _____

Attorney-in-Fact

(SEAL) Address: _____

***PLEASE NOTE**:*

1. *Date of BOND must not be prior to date of CONTRACT.*
2. *If CONTRACTOR is partnership, all partners should execute BOND.*
3. *Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the project is located.*
4. *Use of this form as an instrument of SURETY for this project is not mandatory. Use of other forms normally deemed acceptable in the State wherein the project is located may be allowed.*

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.G. Design Services for the Durango Street, Miller Road to 249th Avenue Roadway and Intersection Improvement Project.
DATE PREPARED: 02/24/22	**DISTRICT NO.:** 2
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Change Order No. 1 to Task Order No. 9 of the On-Call Consulting for Engineering and Architectural Services Contract (No. 2016-020-014) between the City of Buckeye and Stanley Consultants, Inc., to add additional design services for a Durango Street Roundabout within the scope of the design of overall improvements to Durango Street from Miller Road to Yuma Road; and authorizing the Mayor to execute and deliver said Change Order on behalf of the City.

RELEVANT GOALS:
GOAL 2: Enhanced Economic Well-Being and Vitality

ADDITIONAL RELEVANT GOALS:
GOAL 4: Adequate, Well-Maintained and Well-Planned Public Infrastructure

SUMMARY

PROJECT DESCRIPTION:
As part of the Capital Improvement Program, additional design services for the Durango Street, Miller Road to 249th Avenue Roadway and Intersection Improvement Project will consist of revising the location of the roundabout to minimize the right-of-way impacts to the existing parcels on the south side of Durango Street. Included are revisions to the following: entry and exit geometric design, geometric layout of eastbound, westbound and southbound approach legs, the new splitter island/slip lane design, roundabout intersection geometric design, vertical profile design, intersection staking and revisions to the access road location and design. Modifications of the original concept include modifying pavement marking, pedestrian activated beacons, roadway lighting, sidewalk plan, modifying offsite and onsite drainage plan and modifying the right-of-way plan in an amount not to exceed $129,408.00. The original Task Order was executed on October 20,2020 in the amount of $437,858.62. The revised Task Order contract value with this Change Order is $567,266.62.

BENEFITS:
Improved will impact future growth and changes that benefit safety and efficiency for City of Buckeye roadways.

FUTURE ACTION:
After completion of the design construction documents, Construction and Contracting will issue a bid for the construction of the improvements.

FINANCIAL IMPACT STATEMENT:
This project is budgeted as part of the Capital Improvement Program. Munis Project Ledger CIP 2020014.

CURRENT FISCAL YEAR TOTAL COST:
$129,408.00

BUDGETED:
Yes

FISCAL YEAR:
FY2022

FUND/DEPARTMENT:
50213170-543073 (CIP 2020014)

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:
2016-020-014 Stanley FE 3.7.17.pdf
CO 1 FE 2016 020 014 EXT.pdf
CO 2 FE 2016 020 014 EXT.pdf
CO3 with Rate Sheet.pdf
CO 4 FE 2-16-21 Stanley.pdf
CO #1 to TO#9 signed by Chris and firm.pdf
MAP.pdf
TO9.pdf

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
ENGINEERING AND ARCHITECTURAL SERVICES
CATEGORY 2: WATER & WASTEWATER
CATEGORY 4: ROADWAY & TRANSPORTATION

Stanley Consultants
Contract No: 2016-020-014

THIS CONTRACT, ("Contract") is entered into by and between the CITY OF BUCKEYE, an Arizona municipal corporation, hereafter called ("CITY") and Stanley Consultants an Arizona corporation hereafter called "CONSULTANT".

RECITALS

The CITY OF BUCKEYE, Arizona, is authorized and empowered by the City Code to execute contracts

NOW, THEREFORE, in consideration of the premises and the mutual promises herein contained, The City and Consultant agree as follows:

This Contract shall be in full force and effect only when it has been approved as required by the City Code and executed by the duly authorized City officials.

1.0 SCOPE OF SERVICES

The City desires to obtain Professional Architectural and Engineering services for City-wide Improvement projects. In accordance with the contract documents, a specific scope of services and fee proposal shall be negotiated for each project and be executed by individual Task Orders. Services provided by the Consultant under this agreement shall be performed in a manner consistent with that degree of care and skills ordinarily exercised by members of the same profession currently practicing under similar conditions.

The Consultant shall perform all services within the cost and time frames defined in executed Task Orders, and comply in all respect, as described herein for the consideration stipulated, and in compliance with applicable Federal, State and City Codes. Services at the City's request may include, in general, but are not limited to the following:

1. CATEGORY 2: Water/Wastewater – May include but not limited to projects related to the Following:

- Water and wastewater treatment plants
- Sanitary sewer lift stations and odor control
- Treated effluent pumping systems and effluent line systems

- Water and wastewater system modeling studies
- Pumping and storage systems
- Water transmission and distribution systems
- Wastewater collection systems
- Electrical and mechanical design specific to Water and Wastewater facilities
- Groundwater Wells (permitting, design, rehab), hydrologic investigations, and groundwater modeling studies
- Utility security services in the areas of critical infrastructure studies, security vulnerability assessments, emergency response, hazard impact analysis, risk reduction studies, and building and security design services
- Review of water and wastewater system studies, master planning, and design drawings for new development projects
- Construction administration, Inspection, oversight of construction activities, start-up and commissioning, training, and project close-out documents (e.g.-Record Drawings, O&M manuals, etc.).

1.2 CATEGORY 4: Roadway/Transportation –May include but not limited to projects related to the Following:

- Full street/roadway improvements; including new medians, street lights, traffic signals, striping and signage, landscaping, and other associated street improvements
- Pavement management
- Right of way acquisition and easement development
- Surveying services; construction staking, legal descriptions, as-built surveying, and topographic surveys
- Street lighting/ pedestrian lighting, ITS facilities
- Transportation Planning
- Construction administration and oversight of construction activities

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

2.0 FEES AND PAYMENTS

2.1 REGISTRATION REQUIREMENT IN VENDOR SELF SERVICE (VSS)

In order to do business with the City, register at https://selfservice.buckeyeaz.gov/MSS Please be aware vendors that do not register and verify their information, including uploading a W-9 form to

their profile, may experience delays in processing of invoices and will not be able to do business with the City.

2.2 FEE SCHEDULE

Consultant shall be paid according to the schedule set forth in Exhibit A. Each "Task Order" over One Hundred Thousand Dollars ($100,000.00) shall be subject to City Council Approval.

2.3 PAYMENT APPROVAL

The time spent for each task shall be recorded and submitted to the Contract Administrator. Consultant shall maintain all books, papers, documents, accounting records and other evidence pertaining to time billed and to costs incurred and make such materials available at all reasonable times during the contract period.

Monthly payments shall be made to the Consultant on the basis of a progress report prepared and submitted by the Consultant for work completed through the last day of the preceding calendar month. Each task shall be subject to review and approval by the Contract Administrator to determine acceptable percentage of completion.

The Contract Administrator reserves the exclusive right to determine the amount of work performed and payment due the Consultant on a monthly basis.

All charges must be approved by the Contract Administrator prior to payment.

3.0 GENERAL TERMS AND CONDITIONS

3.1 CONTRACT ADMINISTRATOR

The Contract Administrator for the City shall be the Purchasing Agent, in the Construction and Contracting Division or designee. The Contract Administrator shall oversee the performance of this Contract; assist the Consultant in contacting members associated with the project, audit billings, and approve payments.

The Consultant shall submit all reports and special requests through the Contract Administrator.

3.2 TERM OF CONTRACT

The Contract initial term is established for a term commencing on the date of execution and ending March, 2018, with yearly Contract Extensions, unless otherwise terminated by either party, for four (4) additional one-year terms. Consultant shall provide services under the contract for specific project assignments with a Task Order issued no later than the final day of the effective Contract terms.

3.3 TERMINATION OF CONTRACT

The City has the right to terminate this Contract or abandon any portion of a Task Order, which has not been performed by the Consultant.

Termination for Convenience: City and Consultant reserve the right to terminate this contract or any part hereof for its sole convenience with thirty (30) days written notice. In the event of such termination, Consultant shall immediately stop all work hereunder, and shall immediately cause any of its suppliers and SubConsultants to cease such work. As compensation in full for services performed to the date of such termination, the Consultant shall receive a fee for the percentage of services actually completed. This fee shall be in the amount to be mutually agreed upon by the Consultant and the City, based on the agreed Scope of Work and the value to the City of the services completed. If there is no mutual agreement, the Contract Administrator shall determine the percentage of completion of each task detailed in the Scope of Work and the Consultant's compensation shall be based upon such determination. The City shall make this final payment within sixty (60) days after the Consultant has delivered the last of the partially completed items. Consultant shall not be paid for any work done after receipt of the notice of termination, or for any costs incurred by Consultant's suppliers or SubConsultants, which Consultant could reasonably have avoided.

Termination for Cause: City may also terminate this contract or any part hereof with seven (7) days written notice for cause in the event of any default by the Consultant, or if the Consultant fails to comply with any of the material terms and conditions of this contract. By way of example and not limitation, unsatisfactory performance as judged by the Contract Administrator and failure to provide City, upon written request, with adequate assurances of future performance shall all be causes allowing City to terminate this contract for cause. In the event of termination for cause, CITY shall not be liable to Consultant for any amount after the issuance of written notice, and Consultant shall be liable to City for any and all damages sustained by reason of the default that gave rise to the termination.

In the event Consultant is in violation of any Federal, State, County or City law, regulation or ordinance, the City may terminate this contract immediately upon giving written notice to the Consultant.

In the event the City shall terminate this Contract or any part of the services as herein provided, the City shall notify the Consultant in writing, and immediately upon receiving such written notice, the Consultant shall discontinue advancing the work under this Contract and/or awarded Task Order.

Upon such termination or abandonment, the Consultant shall deliver to the City all drawings, special provisions, field survey notes, reports, and estimates, entirely or partially completed, in any format, including but not limited to written or electronic media, together with all unused materials supplied by the City.

The Consultant shall appraise the work it has completed and submit its appraisal to the City for evaluation.

If through any cause, the Consultant shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the Consultant shall violate any of the covenants, agreements, or stipulations of this Contract, the City may withhold any payments to the Consultant for the purpose of setoff until such time as the exact amount of damages due the City from the Consultant is determined.

3.4 FUNDS APPROPRIATION

If the City Council does not appropriate funds to continue this Contract and pay for charges hereunder, the City may terminate this Contract at the end of the current fiscal period, or at the time that funds are no longer available to meet the City's payment obligations hereunder. The City agrees to give written notice of termination to the Consultant at least thirty (30) days prior to any termination for a lack of funds and will pay to the Consultant all approved charges incurred prior to Consultant's receipt of such notice, subject to the availability of funds therefore.

3.5 AUDIT

The City may audit all of the Consultant's records, calculations, and working documents pertaining to this work at a mutually agreeable time and place.

Consultant's records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by the City to substantiate charges and claims related to this contract shall be open to inspection and subject to audit and/or reproduction by City's authorized representative to the extent necessary to permit evaluation and verification of cost of the work, and any invoices, change orders, payments or claims submitted by the Consultant or any of his payees pursuant to the execution of the contract. The City's authorized representative shall be afforded access, at reasonable times and places, to all of the Consultant's Records and personnel pursuant to the provisions of this article throughout the term of this contract and for a period of three years after last or final payment.

Consultant shall require all SubConsultants, to comply with the provisions of this article by insertion of the requirements hereof in a written contract agreement between Consultant and payee. Such requirements will also apply to any and all SubConsultants.

If an audit in accordance with this article, discloses overcharges, of any nature, by the Consultant to the City in excess of five percent (5%) of the total contract billings, the actual cost of the City's audit shall be reimbursed to the City by the Consultant.

Any adjustments and/or payments, which must be made as a result of any, such audit or inspection of the Consultant's invoices and/or records, shall be made within a reasonable amount of time (not to exceed 60 days) from presentation of CITY's findings to Consultant.

3.6 OWNERSHIP OF PROJECT DOCUMENTS

All documents, including but not limited to, field notes, design notes, tracings, data compilations, studies, and reports in any format, including but not limited to, written or electronic media, which are prepared in the performance of this Contract will become and are the property of City.

3.7 COMPLETENESS AND ACCURACY

The Consultant shall be responsible for the accuracy of its work, including but not limited to, survey work, reports, supporting data, and drawings, sketches, etc. prepared or compiled pursuant to this Contract and shall correct, at its expense, all negligent errors or omissions therein which may be disclosed. The cost necessary to correct those errors attributable to the engineering errors shall be chargeable to the Consultant. Additional Scope(s) of work which may be added to the Task Order shall not be considered the responsibility of the Consultant unless the need for same was created solely by any negligent error, omission, or negligent act of the Consultant and does not result in betterment to the City. The fact that the City has accepted or approved the Consultant's work shall in no way relieve the Consultant of any of its responsibilities.

3.8 ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Contract, or on account of any breach or default hereof, the prevailing shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, which shall be deemed to have accrued from the commencement of such action.

3.9 SUCCESSORS AND ASSIGNS

This Contract shall extend to and be binding upon the Consultant, its successors and assigns, including any individual, company, partnership, or other entity with or into which the Consultant shall merge, consolidate, or be liquidated, or any person, corporation, partnership, or other entity to which the Consultant shall sell its assets.

3.10 ASSIGNMENT

Services covered by this Contract shall not be assigned or subcontracted in whole or in part without the prior written consent of the Contract Administrator.

3.11 SUBCONSULTANTS

During the performance of the Contract, the Consultant may engage such additional SubConsultants as may be required for the timely completion of this Contract. The addition of any SubConsultants shall be subject to the prior approval of the City.

In the event of subcontracting, the sole responsibility for fulfillment of all terms and conditions of this Contract rests with the Consultant.

3.12 ALTERATIONS OR ADDITIONS TO SCOPE OF SERVICES

The total scope of Services to be performed in accordance with this Contract will be identified in each Task Order. Services, which are not included in this Contract, will be considered Additional Services. The Consultant shall not perform these Additional Services without written authorization in the form of an approved Change Order from the City.

3.13 MODIFICATIONS

Any amendment, modification or variation from the terms of this Contract shall be in writing and shall be effective only after approval of all parties signing the original Contract.

3.14 CONFLICT OF INTEREST

This Contract is subject to cancellation pursuant to the provisions of A.R.S. 38-511.

3.15 FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

3.16 TAXES

The fee listed in this Contract includes any and all taxes applicable to the activities hereunder. The City shall have no obligation to pay additional amounts for taxes of any type.

3.17 ADVERTISING

No advertising or publicity concerning the City using the Consultant's services shall be undertaken without prior written approval of such advertising or public City by the Contract Administrator.

3.18 COUNTERPARTS

This Contract may be executed in one or more counterparts, and each executed duplicate counterpart of this Contract shall be deemed to possess the full force and effect of the original.

3.19 ENTIRE AGREEMENT

This Contract constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein.

3.20 ARIZONA LAW

This Contract shall be governed and interpreted according to the laws of the State of Arizona.

3.21 EQUAL EMPLOYMENT OPPORTUNITY

The Consultant shall comply with Executive Order No. 11245, entitled "Equal Employment Opportunity", as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60).

3.22 NOTICES

All notices or demands required to be given, pursuant to the terms of this Contract, shall be given to the other party in writing, delivered by hand or registered or certified mail, at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

On behalf of the Consultant:

Stanley Consultants
Attn: Steven A. Jimenez, Project Principal
1661 E. Camelback Rd.
Suite 400
Phoenix, AZ 85016
Phone: 602 333 2324
Email: jimenezsteve@stanleygroup.com

On behalf of the CITY:

Tammy Vogel, Contract Administrator
530 East Monroe Ave.
Buckeye, AZ 85326
P: (623) 349-6175
Tvogel@buckeyeaz.gov

With a copy to:

Gust Rosenfeld, P.L.C.
One E. Washington, Suite 1600
Phoenix, AZ 85004-2553
Attention: Scott Ruby
P: (602) 257-7432

F :(602) 254-4878

Notices shall be deemed received on date delivered if delivered by hand and on the delivery date indicated on receipt if delivered by certified or registered mail.

3.23 INDEPENDENT CONSULTANT

The services Consultant provides under the terms of this Contract to the City are that of an Independent Consultant, not an employee, or agent of the City. The City will report the value paid for these services each year to the Internal Revenue Service (I.R.S.) using Form 1099.

City shall not withhold income tax as a deduction from contractual payments. As a result of this, Consultant may be subject to I.R.S. provisions for payment of estimated income tax. Consultant is responsible for consulting the local I.R.S. office for current information on estimated tax requirements.

3.24 INDEMNIFICATION

To the fullest extent permitted by law, the Consultant shall indemnify and hold harmless the City and each council member, officer, employee or agent thereof (the City and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims"), insofar as such Claims (or actions in respect thereof) are caused by the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Consultant, its officers, employees, agents, or any tier of SubConsultant in the performance of this Contract. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this Section.

3.25 E-VERIFY REQUIREMENTS

To the extent applicable under Arizona Revised Statues § 41-4401, the Consultant and its Subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and their compliance with the E-verify requirements under ARIZ. Revised Statues. § 23-214(A). The Consultant or Subconsultant's breach of the above-mentioned warranty shall be deemed a material breach of the Contract and may result in the termination of the Contract by the City of Buckeye. The City of Buckeye retains the legal right to randomly inspect the papers and records of the Consultant or Subconsultant employee who work on the Contract to ensure that the Consultant and its Subconsultants are complying with the above-mentioned warranty.

The Consultant and its SubConsultants warrant keeping the papers and records open for random inspection during normal business hours by the City. The Consultant and its SubConsultants shall cooperate with City's random inspections including granting the City's entry rights onto its property to

perform the random inspections and waiving their respective rights to keep such papers and records confidential.

3.26 SCRUTINIZED BUSINESS OPERATIONS

Pursuant to Arizona Revised Statues §§ 35-391.06 and 35-393.06, the Consultant certifies that it does not have a scrutinized business operation in Sudan or Iran. For the purpose of this Section the term "scrutinized business operations" shall have the meanings set forth in ARIZ. Revised Statues § 35-391 or and 35-393, as applicable. If the City determines that the Consultant submitted a false Certification, the City may impose remedies as provided by law including terminating this Contract.

3.27 COMPLIANCE WITH LAWS

In performing any work required hereunder, Consultant shall comply with all applicable laws, ordinances, and codes of Federal, State and local governments, in effect during this Contract.

3.28 COOPERATIVE PURCHASING

Specific eligible political subdivisions and nonprofit educational or public health institutions ("Eligible Procurement Unit(s) ") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All Cooperative procurements under this Agreement shall be transacted solely between the requesting of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

4.0 INSURANCE

A Standard Accord Certificate of Insurance is acceptable provided it is contains the additional language and deleted language as required in this contract. Failure to provide a Certificate of Insurance with the appropriate verbiage as required by this contract will result in rejection of the Certificate and delay contract execution.

Additionally, Certificates of Insurance submitted without referencing a Contract number will be subject to rejection and returned or discarded.

4.1 Insurance Representations and Requirements

4.1.1 General: Consultant agrees to comply with all City ordinances and state and federal laws and

regulations.

Without limiting any obligations or liabilities of Consultant, Consultant shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona (admitted insurer) with an AM Best, Inc. rating of A or above or an equivalent qualified unlicensed insurer by the State of Arizona (non-admitted insurer) with policies and forms satisfactory to City of Buckeye. Failure to maintain insurance as specified may result in termination of this Contract at City of Buckeye's option.

No Representation of Coverage Adequacy: By requiring insurance herein, City of Buckeye does not represent that coverage and limits will be adequate to protect Consultant. City of Buckeye reserves the right to review any and all of the insurance policies and/or endorsements cited in this Contract but have no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements set forth in this agreement or failure to identify any insurance deficiency shall not relieve Consultant from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

4.1.3 Additional Insured: All insurance coverage and self-insured retention or deductible portions, except Workers Compensation insurance and Professional Liability insurance if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this contract, City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insured as specified under the respective coverage sections of this agreement.

4.1.4 Coverage Term: All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of subject contract is satisfactorily performed, completed and formally accepted by the City of Buckeye, unless specified otherwise in this Contract.

4.1.5 Primary Insurance: Consultant's insurance shall be primary insurance as respects performance of subject contract and in the protection of City of Buckeye as an Additional Insured.

4.1.6 Claims Made: In the event any insurance policies required by this Contract are written on a "claims made" basis, coverage shall extend, either by keeping coverage in force or purchasing an extended reporting option, for three (3) years past completion and acceptance of the work or services evidenced by submission of annual Certificates of Insurance citing applicable coverage is in force and contains the provisions as required herein for the three year period.

4.1.7 Waiver: All policies, except Professional Liability insurance, shall contain a waiver of rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officials, directors, officers, and employees for any claims arising out of the work or services of Consultant. Consultant shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

4.1.8 Policy Deductibles and or Self Insured Retentions: The policies set forth in these requirements may provide coverage, which contain deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to City of Buckeye. Consultant shall be solely responsible for any such deductible or self-insured retention amount. CITY OF BUCKEYE, at its option and cost, may require Consultant to secure payment of such deductible or self-insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

4.1.9 Use of SubConsultants: If any work under this agreement is subcontracted in any way, Consultant shall execute written agreement with SubConsultant containing the same Indemnification Clause and Insurance Requirements set forth herein protecting City of Buckeye and Consultant. Consultant shall be responsible for executing the agreement with SubConsultant and obtaining Certificates of Insurance verifying the insurance requirements.

4.1.10 Evidence of Insurance: Prior to commencing any work or services under this Contract, Consultant shall furnish City of Buckeye with Certificate(s) of Insurance, or formal endorsements as required by this Contract, issued by Consultant's insurer(s) as evidence that policies are placed with acceptable Insurers as specified herein and provide the required coverage(s), conditions, and limits of coverage specified in this Contract and that such coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, City of Buckeye shall reasonably rely upon the Certificate of Insurance as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this agreement. Such certificates shall identify the Contract work number and be sent to the designated City of Buckeye- Contract Administrator. If any of the above cited policies expire during the life of this Contract, it shall be Consultant's responsibility to forward renewal Certificates within ten (10) days after the renewal date containing all the aforementioned insurance provisions. Certificates shall specifically cite the following provisions:

1. City of Buckeye, its agents, representatives, officers, directors, officials and employees is an Additional Insured as follows:

A) Commercial General Liability - Under ISO Form CG 20 10 11 85 or equivalent.
b) Auto Liability- under ISO Form CA 20 48 or equivalent.
c) Excess Liability- Follow Form to underlying insurance.

2. Consultant's insurance shall be primary insurance as respects performance of subject contract.

3. All policies, except Professional Liability, waive rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by Consultant under this contract.

4. Certificate shall cite a 30 day advance notice cancellation provision. If ACORD Certificate of Insurance form used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or

representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

4.2 Required Coverage

4.2.1 Commercial General Liability: Consultant shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit.

The policy shall cover liability arising from premises, operations, and independent Consultants, products-completed operations, personal injury and advertising injury. Coverage under the policy will be at least as broad as Insurance Services Office, Inc. policy form CG 00 010 93 or equivalent thereof, including but not limited to, separation of insureds clause. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Commercial General Liability Additional Insured Endorsement form CG 20 10 11 85, or equivalent, which shall read "Who is an Insured (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you." If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.2 Professional Liability: If the Contract is the subject of any professional services or work, or if Consultant engages in any professional services or work adjunct or residual to performing the work under this Contract, Consultant shall maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone for whose acts, mistakes, errors and omissions Consultant is legally liable, with liability insurance limit of $1,000,000 each claim and $2,000,000 all claims. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and Consultant shall be required to submit Certificates of Insurance evidencing proper coverage is in effect as required above.

4.2.3 Vehicle Liability: Consultant shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each occurrence on Consultant's owned, hired, and non-owned vehicles assigned to or used in the performance of the Consultant's work or services under this Contract. Coverage will be at least as broad as Insurance Services Office, Inc. coverage code "1" "any auto" policy form CA 00 01 12 93 or equivalent thereof. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.4 Worker's Compensation Insurance: Consultant shall maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of work or services under this Contract and shall also maintain Employers Liability Insurance of not less than $500,000 for each accident, $500,000 disease for each employee and $1,000,000 disease policy limit.

Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $2,000,000 per occurrence combined limit Bodily Injury and Property

Damage, that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

5.0 SOFTWARE LICENSES

As to all software licenses provided to the City as part of Consultant's obligations under this Contract, the following provisions apply:

5.1 SOURCE CODE AVAILABILITY

Consultant shall furnish City, without charge, a single copy of the Source Code for the Software immediately upon the occurrence of any of the following:

1. Consultant becomes insolvent; or

2. Consultant ceases to conduct business; or

3. Consultant makes a general assignment for the benefit of creditors; or

4. A petition is filed in Bankruptcy by or against Consultant.

5.1.1 Use of the Source Code shall be subject to the same restrictions as to which the Software itself is subject.

5.1.2 City shall have the right to modify Source Code in any manner it deems appropriate, provided that the Source Code as modified shall remain subject to the restrictions set forth in immediately above.

5.2 PROPRIETARY PROTECTION

5.2.1 City acknowledges that to the extent Consultant advises the City that the Software is confidential information or is a trade secret property of the Consultant, the Software is thereby disclosed on a confidential basis under this Contract and is to be used only pursuant to the terms and conditions set

forth herein.

5.2.2 Consultant shall not use or disclose any knowledge, data or proprietary information relating to CITY obtained in any manner whatsoever.

5.2.3 To the extent permitted by Arizona Law, the parties agree, both during the term of this Contract and for a period of seven (7) years after termination of this Contract and of all licenses granted hereunder, to hold each other's confidential information in confidence. The parties agree, unless required by government regulations or order of court, not to make each other's confidential information available in any form to any third party or to use each other's confidential information for any purposes other than the implementation of this Contract provided, however, that if Consultant's confidential information is requested to be divulged under the provisions of the Arizona Public Records Act, A.R.S., Title 39, Consultant shall reimburse to City the full cost of City's refusal to release the information, including costs of litigation, City's attorney fees, fines, penalties or assessments of opposing party's attorney fees. Each party agrees to take all reasonable steps to ensure that confidential information is not disclosed or distributed by its employees or agents in violation of the provisions of this Contract.

5.3 NON-INFRINGEMENT

Consultant warrants that the Software provided hereunder does not and will not infringe upon or violate any patent, copyright, trade secret or other proprietary or property right of any person or entity. In the event of a claim against City asserting or involving such an allegation, Consultant will defend, at Consultant's expense, and will indemnify City and hold City harmless against any loss, cost, expense (including attorney fees) or liability arising out of such claim, whether or not such claim is successful. In the event an injunction or order should be obtained against use of the Software by reason of the allegations, or if in Consultant's opinion the Software is likely to become the subject of such a claim of infringement, Consultant will, at its option and its expense: (I) procure for the City the right to continue using the Software; or (ii) replace or modify the same so that it becomes non-infringing (such modification or replacement shall be functionally equivalent to the original); or (iii) if neither (i) nor (ii) is practicable, repurchase the Software on a depreciated basis utilizing a straight line five (5) year period, commencing on the date of acceptance.

5.4 THIRD PARTY LICENSE

Consultant shall sublicense to City any and all third party Software required in the execution of this Contract. City reserves the right to accept or reject third party license terms. If the City rejects the terms of a third party license, it shall be Consultant's responsibility to negotiate acceptable terms or to supply Software from another source with terms acceptable to City. City's acceptance of the third party license terms shall not be unreasonably withheld.

6.0 SEVERABILITY AND AUTHORITY

6.1 SEVERABILITY

If any term or provision of this Contract shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this Contract shall remain in full force and effect and such term or provision shall be deemed to be deleted.

6.2 AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this Contract, and that the person signing on behalf of each party has been properly authorized and empowered to enter this Contract. Each party further acknowledges that it has read, understands, and agrees to be bound by the terms and conditions of this Contract.

6.3 ISRAEL COMPLIANCE

Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

[Signature page follows]

Contract No: 2016-020-014

IN WITNESS WHEREOF, the City of Buckeye by its Mayor and City Clerk has hereunto subscribed their names this 7th day of March, 2017.

CITY OF BUCKEYE

Jackie A. Meck, Mayor

ATTEST:

Lucinda Aja, City Clerk

RECOMMENDED:

Christopher A. Williams, Manager
Construction and Procurement

APPROVED AS TO FORM:

Scott Ruby
City Attorney

CONSULTANT:

BY: _____

CONSULTANT SIGNATURE

ITS: Project Principal

EXHIBIT A
GENERAL SCOPE OF SERVICES

GENERAL SCOPE OF SERVICES REQUIREMENTS AND STANDARDS

Consultant's services involving design, construction administration and inspection services shall include, but are not limited to, the following general requirements and standards, unless otherwise provided for in the individual scope of services incorporated as a part of the project assignment Notice(s) to Proceed released under this Contract.

DESIGN SERVICES –GENERAL PROJECTS

The Consultant shall prepare plans, specifications, cost estimates and special provisions according to direction and standards of the City. All work shall be performed within the City of Buckeye.

A. General Project Administration

1. The Consultant shall attend project meetings as necessary to maintain the project budget and schedule; chair periodic regular meetings as requested by the City, set agendas and prepare and distribute meeting minutes. Meetings under basic services include:

A) Meetings with City staff and Management.
B) Meetings required obtaining a permit.
C) Meetings with internal oversight committees.

1. The Consultant shall coordinate with private, public and City utilities regarding standard utility issues and incorporate pertinent information in the plans.

2. The Consultant shall be responsible for submission and retrieval of all required Contract documents to the various reviewing agencies required under the project.

3. The Consultant shall prepare and maintain a project schedule after meeting with the project manager to determine appropriate submittal deadlines and to coordinate project submissions.

4. When applicable, the Consultant shall be responsible for obtaining or assisting the City in obtaining all federal, state, county, local and utility permits and approvals required for the project. As the project progresses, the Consultant shall timely furnish to the City copies of all communications between the Consultant and the respective agency or department related to the Contract and all approvals and permits for the projects.

5. If requested, the Consultant shall prepare necessary exhibits and make a presentation as deemed necessary by the Project Manager.

6. The Consultant shall avoid specification of construction materials known to be hazardous or potentially hazardous, including asbestos, lead or any derivative thereof, unless specifically approved in writing by the City.

7. The Consultant shall submit a written monthly "Design and Progress Report" to the City during the entire period of design.

B. 30% Plans Phase

1. The Consultant shall consult with City staff to ascertain information needed to meet the requirements of the project and shall confirm such requirements in writing and/or by sketch to the City.

2. The Consultant shall be responsible for establishing a pre-design meeting for design reviews with the City a minimum of two weeks prior to completion of schematic design. The Consultant will submit Three (3) copies of the preliminary site plan to the City at the time the request for a meeting is made.

3. The Consultant shall prepare a schedule for City approval of all required submittals for City review(s) based upon information from the pre-design meeting and current City published review times.

4. The Consultant shall prepare preliminary design studies leading to a recommended solution together with a general description of the project and shall, at no further expense to the City, submit three (3) sets of same to the City with written construction, cost estimates. The Consultant shall present these studies and estimates to the City for review, comments and approval.

5. The 30% Plans Phase will be considered completed when the City has approved the preliminary design plans and the construction cost estimate for the submitted plans is within the project construction budget.

C. 60% Plan Phase

1. After the 30% plans and construction cost estimate are approved in writing by the City, the Consultant shall prepare the 60% plans documents. These documents will consist of preliminary plans, elevations, other drawings, and specifications to fix and illustrate the size and character of the entire project including the kinds of materials; type of structure; mechanical, electrical, computer and telecommunications systems; and such other work as may be appropriate.

2. The Consultant shall design the project so that the construction shall conform to the requirements of Title 34, Arizona Revised Statutes regulating public buildings and improvements, as well as other applicable statutes and regulations.

3. Toward the end of the 60% Plans Phase, the Consultant shall hold a plan coordination meeting between the Consultant and the Subconsultants to review and address coordination and integration of the plans provided by the various disciplines. The Consultant shall invite the Project Manager to attend this meeting.

4. After completion of the 60% Plans Phase, the Consultant shall, at no further expense to the City, deliver three (3) sets of the 60% drawings and plans, three (3) sets of the specifications, and three (3) sets of the detailed project cost estimates. The Consultant shall present all documents to the City for review, comment, and approval. If requested by the City, Consultant shall provide other design support documentation (i.e., structural, irrigation or earthwork calculations).

5. The 60% Plans Phase will be considered complete once the City has approved the submitted design development plans, agrees that the construction cost estimate is within the established project budget, and agrees that the Consultant is meeting the submittal dates for City documents as identified in the 30% Plans Phase schedule.

D. 90% Final Plans Phase

1. After the 60% plans and construction cost estimate have been approved in writing by the City, the Consultant shall prepare final, permit-ready construction drawings, plans, and specifications.

2. The consultant shall prepare its drawings in AutoCAD format compatible with the City (or other department as specified in the project assignment notice to proceed) CADD technology using City layering standards. The drawing format will be a 24" x 34" sheet size unless otherwise authorized in writing by the City. The City shall provide the City's Boilerplate and Supplemental General Conditions sections for the project specifications. No changes, deletions, or additions to these sections shall be made by the Consultant without approval by the City before inclusion in the final specifications. Final bid specifications shall be prepared in an 8-1/2" x 11" size format, single-spaced, single-sided and unbound. The Consultant shall coordinate the special provisions of the bid package to be compatible with the City's Boilerplate and Supplemental General Conditions.

3. During the preparation of construction documents, the Consultant shall inform the City in writing of any adjustments to previous construction cost estimates indicated by changes in scope, requirements, or market conditions.

4. The Consultant shall comply with all applicable federal, state, and local laws and codes in effect at the time the drawings, plans and specifications are approved by the City. The Consultant shall notify the City of any code changes that occur during the life of this Design Contract that will impact the project.

5. No later than ten calendar days prior the first advertisement date for the project bid, the Consultant shall ensure that the plans prepared by the utility companies have been incorporated into the final plans set.

6. Toward the end of the 60% plans phase, the Consultant shall hold a plan coordination meeting between the Consultant and the Subconsultants to review and address coordination and integration of the plans provided by the various disciplines. The Consultant shall invite the project manager to attend this meeting.

7. Upon completion of construction plans, specifications and Contract documents, the Consultant shall provide, at no expense to the City, three (3) sets of all design calculations, including structural, mechanical, electrical and plumbing, and three (3) complete sets each of construction drawings, plans specifications and Contract documents for review and approval by the appropriate City agencies. These documents must be sealed and signed by the appropriate responsible party.

8. With the submission of the construction plans, specifications and Contract documents, the Consultant shall submit three (3) copies of a detailed project cost estimate.

9. The Consultant shall coordinate the building permit process and assist in filing the required documents to secure approval of all governmental authorities having jurisdiction over the design of the project. All original filing and approval fees shall be paid by the City or reimbursed to the Consultant if paid by Consultant.

10. The Consultant shall incorporate all corrections received from the reviewing entities into the final bid set of Contract documents. If required, the Consultant shall resubmit the revised plans to Project Manager for approval. Also, if required by the project manager, the Consultant shall submit a revised cost estimate reflecting the modification made for this final submittal.

11. Upon approval by the City of complete drawings, plans, and specifications, the Consultant shall deliver to the City the final original copy of the final specifications. These documents shall be sealed and signed by the appropriate responsible party.

12. The Final Design Phase will be considered complete when the City has approved the final submitted plans and specifications, agrees that the cost estimate is within the established project budget, and agrees that the plans are permit-ready.

E. Bid Phase

1. No later than eighteen calendar days prior to the first advertisement date of the project bid, the Consultant shall prepare and submit a detailed construction cost estimate of the project. This cost estimate for the base bid shall be prepared in sufficient detail to identify all trades required for the project, as well as estimated cost for those trades. The cost estimate should follow the Construction Specification Institute divisions. The Consultant shall not furnish the estimate to any one other that the City.

2. The Consultant may attend and prepare meeting minutes for the pre-bid conference, any other

related meetings, and prepare all necessary addenda related to documents originated by the Consultant in a format approved by the City. The City will be responsible for distributing all addenda.

3. The Consultant shall be responsible for responding to questions regarding the plans and specifications. Consultant shall receive, review and approve/disapprove request for substitutions, and incorporate these substitution requests into the addenda as required.

4· The Consultant shall submit their final design plans including all design addenda on an electronic medium immediately useable and compatible with City of Buckeye "City CADD" technology. The resulting image produced on the viewing screen shall include all title blocks, borders, details and notes that are visible on full-size originals or blue lines. The CADD files should be accessible for reading and plotting. One copy of the final specifications including all addenda shall be submitted in print and on a computer disc compatible with City work processing standards.

Copies of documents that may be relied upon by the City are limited to the printed copies (also known as hard copies) that are signed and sealed by the Consultant. Files in electronic media format of text, data, graphics, or of other types that are furnished by the Consultant to the City are only for the convenience of the City. Any conclusion or information obtained or derived from such electronic files will be at the City's sole risk.

Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the party delivering the electronic files. The Consultant shall not be responsible to maintain documents stored in electronic media format after acceptance by the City.

5. The Bid Phase will be considered completed when the project construction bid has been awarded by the City Council and final construction documents have been received on electronic media.

E. GENERAL CONSTRUCTION ADMINISTRATION AND INSPECTION SERVICES

1. Consultant may perform Construction Administration and Inspection services on the project assignments released under this Contract according to the direction and standards of the City.

2. The Consultant may attend the pre-construction conference which will be arranged and called for by the City; be prepared to respond to questions; and prepare a "Record of Preconstruction Conference" which will be distributed to all attendees. Consultant will attend project meetings as necessary to maintain the project budget and schedule; chair periodic regular meetings on site and any additional meetings as requested by the City; set agendas and prepare and distribute minutes.

3. If required, Consultant shall furnish the services of a competent inspector during the progress of construction. The Consultant shall coordinate the inspection, facilitate the work in general, and

perform miscellaneous inspection work as required to assure that the work is constructed in accordance with the Contract documents and accepted standards of the construction industry. The Consultant shall not have the direct control of the individual workmen and their work. The direct control shall be solely the responsibility of the Consultant (referred to as "Consultant"), to the extent provided by the Contract between the City and the Consultant.

4. If required, Consultant shall provide Construction Administration and Inspection as required for substantial compliance with the Contract documents. Consultant will keep the City informed of the progress of the work, endeavor to guard the City against defects and deficiencies in the work of the Consultant, and shall reject or stop work, as appropriate, failing to conform to the Contract documents. The Consultant or Consultant's authorized representative shall keep adequate project records and field reports of work during construction.

5. If required, Consultant shall make recommendations to the City on matters relating to the interpretation of the Contract documents.

6. If required, Consultant shall review the Consultant's submittal schedule which will list all submissions required by Contract documents.

7. If required, Consultant shall establish a submittal control sheet to monitor the timeliness of Consultant submissions, and review and make recommendations to the City relating to the execution and progress of the project.

8. If required, Consultant shall provide the necessary survey controls for the Consultant's guidance and verify the correctness of the work as it progresses.

9. If required, Consultant shall review and monitor schedules; and review and approve or take other appropriate action on samples, shop and setting drawings; coordinate testing, review and make recommendations on reports from testing laboratory(ies), and other submissions for conformance with the design concept of the project and for compliance with the information given by the Contract documents.

10. If required, Consultant shall monitor and log Consultant correspondence and provide the City with all documents, reports and correspondence pertaining to the project.

11. If required, all construction testing shall be done under the supervision of the Consultant.

12. If required, Consultant shall submit reports of the job site visit which will summarize the activities at the time of the visit and progress made since the last visit. These reports will be submitted to the City bi-weekly.

13. If required, Consultant shall make construction monthly progress reports to the City covering the general progress of the project and describing any problems or factors contributing to delay and

recommending solutions or resolutions where appropriate.

14. If required, Consultant shall review and make recommendations to the City on all claims of the Consultant for extra work not covered in the Contract documents, and the recommendations shall be jointly reviewed by the Consultant and the City for final decisions. The Consultant will prepare construction change orders for approved extra work and time extensions not covered in the Contract documents brought about by Consultant(s) claims.

15. For all changes, additions or deletions requested by the City, the Consultant will obtain all information required and present Consultant's recommendations. The City will either approve or deny the recommendation.

16. If required, Consultant will verify the amount owed to the Consultant and will sign and issue an "Estimate for Payment," in such amount. This "Estimate for Payment" will constitute a representation to the City that the work has progressed to the point indicated. By issuing an "Estimate for Payment," Consultant will also represent to the City that, to the best of Consultant's knowledge, information, and belief, based on what Consultant inspections and observations have reveals, the quality of the work is in substantial accordance with the Contract documents.

17. If required, Consultant will attend joint inspections with the City to determine the dates of substantial and final completion and so inform the City Engineer in writing, when completed. After acceptance of the project by the City, Consultant will promptly issue a final "Estimate for Payment," with two completed and signed copies.

F. The Consultant may be required to perform any of the following if defined in an issued Task Order as follows:

1. Conduct final close-out inspections(s), prepare a project punch list including the owner's concerns, and verify that the items indicated on the list are corrected prior to final acceptance.

2. Verify that all documentation required of the Consultant per the construction contract has been submitted and is acceptable to the City.

3. Review, assemble and provide all warranties, files, operating manuals, logs and other closeout paperwork as described in the project specifications at the completion of the project.

4. Verify that all correspondence, shop drawings, directives, and RFI's, are delivered to the City.

5. Review and approved all lien waivers prior to the final payment to the Consultant.

6. Prepare and turn over to the City "Project record" conditions. These Records shall be signed and certified as accurate by the Consultant.

7. Verify that additional construction materials are delivered to the City by the Consultant.

8. Evaluate the Consultant's performance.

G. The Consultant shall furnish the City a letter recommending acceptance of the work, however, the City shall retain the right to determine when, and if, the construction work appears to be accomplished in accordance with the drawings, plans and specifications. In this respect, the construction work may be inspected at any time by the City or an authorized representative(s).

EXHIBIT B:
RATE SCHEDULE AND CONSULTANT SUBMITTAL

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

CITY OF BUCKEYE ENGINEERING ON CALL 2016-020-014
CATEGORY 2: WATER & WASTEWATER and CATEGORY 4: ROADWAY & TRANSPORTATION
RATE SHEET

Project Principal	269.92 Hourly Billable Rate
Senior Project Manager	245.66 Hourly Billable Rate
Project Manager	215.33 Hourly Billable Rate
Senior Project Engineer	215.33 Hourly Billable Rate
Project Engineer	160.74 Hourly Billable Rate
Senior Engineer	200.17 Hourly Billable Rate
Design Engineer	160.74 Hourly Billable Rate
Electrical Engineer	160.74 Hourly Billable Rate
E/I&C Supervisor	148.61 Hourly Billable Rate
Senior Designer	154.67 Hourly Billable Rate
Designer	127.38 Hourly Billable Rate
Senior CADD Tech	127.38 Hourly Billable Rate
CADD Tech	97.05 Hourly Billable Rate
Senior Cost Estimator	172.87 Hourly Billable Rate
Cost Estimator	124.35 Hourly Billable Rate
Senior Registered Land Surveyor	163.77 Hourly Billable Rate
Registered Land Surveyor	142.54 Hourly Billable Rate
Survey Party Chief	115.25 Hourly Billable Rate
Survey Tech	106.15 Hourly Billable Rate
Senior Resident Engineer	227.46 Hourly Billable Rate
Senior Construction Manager	197.13 Hourly Billable Rate
Resident Engineer	172.87 Hourly Billable Rate
Resident Project Representative	139.51 Hourly Billable Rate
Senior Inspector	115.25 Hourly Billable Rate
Inspector	103.12 Hourly Billable Rate
Construction Observer	94.02 Hourly Billable Rate
Project Coordinator	90.98 Hourly Billable Rate
Administrative	72.79 Hourly Billable Rate
Vehicle Mileage	IRS Allowable Rate

1661 East Camelback Road, Suite 400 • Phoenix, AZ 85016 • phone 602.333.2200 • fax 602.333.2333
www.stanleyconsultants.com

CHANGE ORDER #1

CITY OF BUCKEYE
ON-CALL CONTRACT #2016-020-014
CONTRACT EXTENSION

THIS CONTRACT, made and entered into on the 8th day of March, 2018, by and between the City of Buckeye, an Arizona municipal corporation (the "City"), and Stanley Consultants, an Arizona corporation, hereafter called (the "Contractor").

3.2 TERM OF CONTRACT
In accordance with "Section 3," "General Terms and Conditions" of the Contract. The contract term is being extended for an additional year commencing on March 8, 2018 through March 7, 2019.

All other terms and conditions of the original contract remain in full force and effect.

IN WITNESS WHEREOF, the City of Buckeye by its Manager of Construction and Contracting has hereunto subscribed his name.

CITY OF BUCKEYE:

Christopher A. Williams
Manager, Construction and Contracting

CONTRACTOR:
STANLEY CONSULTANTS

BY: Steve Gjinema

Title: Project Principal

CHANGE ORDER #2

CITY OF BUCKEYE
ON-CALL CONTRACT #2016-020-014
CONTRACT EXTENSION

THIS CONTRACT, made and entered into on the 8th day of March, 2018, by and between the City of Buckeye, an Arizona municipal corporation (the "City"), and Stanley Consultants, an Arizona corporation, hereafter called (the "Consultant").

3.2 TERM OF CONTRACT
In accordance with "Section 3," "General Terms and Conditions" of the Contract. The contract term is being extended for an additional year commencing on March 8, 2019 through March 7, 2020.

3.13 MODIFICATIONS
In accordance with "Section 3, Paragraph 3.13 "Modifications". The 2019 revised price sheet Shall replace the original price sheet and become effective upon execution of Change Order #2.

All other terms and conditions of the original contract remain in full force and effect.

IN WITNESS WHEREOF, the City of Buckeye by its Manager of Construction and Contracting has hereunto subscribed his name.

CITY OF BUCKEYE:

Christopher A. Williams
Manager, Construction and Contracting

CONTRACTOR:
STANLEY CONSULTANTS

BY: _____

Title: Project Principal

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services · Worldwide

Requested Rate Changes for Change Order 2 Contract Extension for March 8, 2019-March 7, 2020

CITY OF BUCKEYE ENGINEERING ON CALL 2016-020-014

CATEGORY 2: WATER & WASTEWATER and CATEGORY 4: ROADWAY & TRANSPORTATION

RATE SHEET

Project Principal	278.00 Hourly Billable Rate
Senior Project Manager	253.00 Hourly Billable Rate
Project Manager	222.00 Hourly Billable Rate
Senior Project Engineer	222.00 Hourly Billable Rate
Project Engineer	166.00 Hourly Billable Rate
Senior Engineer	206.00 Hourly Billable Rate
Design Engineer	166.00 Hourly Billable Rate
Electrical Engineer	166.00 Hourly Billable Rate
E/I&C Supervisor	153.00 Hourly Billable Rate
Senior Designer	159.00 Hourly Billable Rate
Designer	131.00 Hourly Billable Rate
Senior CADD Tech	131.00 Hourly Billable Rate
CADD Tech	100.00 Hourly Billable Rate
Senior Cost Estimator	178.00 Hourly Billable Rate
Cost Estimator	128.00 Hourly Billable Rate
Senior Registered Land Surveyor	169.00 Hourly Billable Rate
Registered Land Surveyor	147.00 Hourly Billable Rate
Survey Party Chief	119.00 Hourly Billable Rate
Survey Tech	109.00 Hourly Billable Rate
Senior Resident Engineer	234.00 Hourly Billable Rate
Senior Construction Manager	203.00 Hourly Billable Rate
Resident Engineer	178.00 Hourly Billable Rate
Resident Project Representative	144.00 Hourly Billable Rate
Senior Inspector	119.00 Hourly Billable Rate
Inspector	106.00 Hourly Billable Rate
Construction Observer	97.00 Hourly Billable Rate
Project Coordinator	93.00 Hourly Billable Rate
Administrative	75.00 Hourly Billable Rate
Vehicle Mileage	IRS Allowable Rate

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www.stanleyconsultants.com

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/27/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Arthur J. Gallagher Risk Management Services, Inc. 104 West 2nd Street Muscatine IA 52761	CONTACT NAME: Cheryl Harless PHONE (A/C, No, Ext): 563-316-3415 FAX (A/C, No): 563-263-6667 E-MAIL ADDRESS: cheryl_harless@ajg.com
INSURED Stanley Consultants, Inc. 1661 East Camelback Road #400 Phoenix AZ 85016	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Charter Oak Fire Insurance Company 25615 INSURER B : Phoenix Insurance Company 25623 INSURER C : Travelers Property Casualty Insurance Co 36161 INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** 465550215 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY [ ] CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC OTHER:	Y	Y	P-630-4885B479-COF	1/1/2019	1/1/2020	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 1,000,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
B	AUTOMOBILE LIABILITY X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY	Y	Y	P-810-4843A850-COF-18	1/1/2019	1/1/2020	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $ $
C	X UMBRELLA LIAB X OCCUR EXCESS LIAB [ ] CLAIMS-MADE [ ] DED X RETENTION $ 10,000			ZUP-15T69985-19-NF	1/1/2019	1/1/2020	EACH OCCURRENCE AGGREGATE	$ 20,000,000 $ 20,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	Y	UB-8J736329	1/1/2019	1/1/2020	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

All SCI assignments associated with Certificate Holder's On-Call Engineering/Architecture Consulting Services Master #2016-020-014.
City of Buckeye, its agents, representatives, officers, directors, officials and employees are Additional Insureds as respects general liability and auto policies, pursuant to and subject to the policy's terms, definitions, conditions and exclusions. The insurance provided in the general liability and auto policies is primary and any other insurance shall be excess only, and not contributing. Waiver of Subrogation applies to City of Buckeye, its agents, representatives, officers, directors, officials and employees, as respects general liability, auto, and workers compensation policies, pursuant to and subject to the policy's terms, definitions, conditions and exclusions. 30 day cancellation notice applies.

CERTIFICATE HOLDER

City of Buckeye
Attn: Tammy Vogel, Contract Administrator
530 East Monroe Avenue
Buckeye AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BUSINESS AUTO EXTENSION ENDORSEMENT

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to the Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

A. **BROAD FORM NAMED INSURED**

B. **BLANKET ADDITIONAL INSURED**

C. **EMPLOYEE HIRED AUTO**

D. **EMPLOYEES AS INSURED**

E. **SUPPLEMENTARY PAYMENTS – INCREASED LIMITS**

F. **HIRED AUTO – LIMITED WORLDWIDE COVERAGE – INDEMNITY BASIS**

G. **WAIVER OF DEDUCTIBLE – GLASS**

H. **HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT**

I. **PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT**

J. **PERSONAL EFFECTS**

K. **AIRBAGS**

L. **NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS**

M. **BLANKET WAIVER OF SUBROGATION**

N. **UNINTENTIONAL ERRORS OR OMISSIONS**

PROVISIONS

A. BROAD FORM NAMED INSURED

The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – LIABILITY COVERAGE:**

Any organization you newly acquire or form during the policy period over which you maintain 50% or more ownership interest and that is not separately insured for Business Auto Coverage. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier.

B. BLANKET ADDITIONAL INSURED

The following is added to Paragraph **c.** in **A.1., Who Is An Insured**, of **SECTION II – LIABILITY COVERAGE:**

This includes any person or organization who you are required under a written contract or agreement between you and that person or organization, that is signed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to name as an additional insured for Liability Coverage, but only for damages to which this insurance applies and only to the extent of that person's or organization's liability for the conduct of another "insured".

C. EMPLOYEE HIRED AUTO

1. The following is added to Paragraph **A.1., Who Is An Insured**, of **SECTION II – LIABILITY COVERAGE:**

   An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in that "employee's" name, with your permission, while performing duties related to the conduct of your business.

2. The following replaces Paragraph **b.** in **B.5., Other Insurance**, of **SECTION IV – BUSINESS AUTO CONDITIONS:**

   b. For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

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territories and possessions, Puerto Rico and Canada.

You agree to maintain all required or compulsory insurance in any such country up to the minimum limits required by local law. Your failure to comply with compulsory insurance requirements will not invalidate the coverage afforded by this policy, but we will only be liable to the same extent we would have been liable had you complied with the compulsory insurance requirements.

(4) It is understood that we are not an admitted or authorized insurer outside the United States of America, its territories and possessions, Puerto Rico and Canada. We assume no responsibility for the furnishing of certificates of insurance, or for compliance in any way with the laws of other countries relating to insurance.

G. WAIVER OF DEDUCTIBLE – GLASS

The following is added to Paragraph **D., Deductible**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

No deductible for a covered "auto" will apply to glass damage if the glass is repaired rather than replaced.

H. HIRED AUTO PHYSICAL DAMAGE – LOSS OF USE – INCREASED LIMIT

The following replaces the last sentence of Paragraph **A.4.b., Loss Of Use Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

However, the most we will pay for any expenses for loss of use is $65 per day, to a maximum of $750 for any one "accident".

I. PHYSICAL DAMAGE – TRANSPORTATION EXPENSES – INCREASED LIMIT

The following replaces the first sentence in Paragraph **A.4.a., Transportation Expenses**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

We will pay up to $50 per day to a maximum of $1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto" of the private passenger type.

J. PERSONAL EFFECTS

The following is added to Paragraph **A.4., Coverage Extensions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

Personal Effects

We will pay up to $400 for "loss" to wearing apparel and other personal effects which are:

(1) Owned by an "insured"; and

(2) In or on your covered "auto".

This coverage applies only in the event of a total theft of your covered "auto".

No deductibles apply to this Personal Effects coverage.

K. AIRBAGS

The following is added to Paragraph **B.3., Exclusions**, of **SECTION III – PHYSICAL DAMAGE COVERAGE:**

Exclusion **3.a.** does not apply to "loss" to one or more airbags in a covered "auto" you own that inflate due to a cause other than a cause of "loss" set forth in Paragraphs **A.1.b.** and **A.1.c.**, but only:

a. If that "auto" is a covered "auto" for Comprehensive Coverage under this policy;

b. The airbags are not covered under any warranty; and

c. The airbags were not intentionally inflated.

We will pay up to a maximum of $1,000 for any one "loss".

L. NOTICE AND KNOWLEDGE OF ACCIDENT OR LOSS

The following is added to Paragraph **A.2.a.**, of **SECTION IV – BUSINESS AUTO CONDITIONS:**

Your duty to give us or our authorized representative prompt notice of the "accident" or "loss" applies only when the "accident" or "loss" is known to:

(a) You (if you are an individual);

(b) A partner (if you are a partnership);

(c) A member (if you are a limited liability company);

(d) An executive officer, director or insurance manager (if you are a corporation or other organization); or

(e) Any "employee" authorized by you to give notice of the "accident" or "loss".

M. BLANKET WAIVER OF SUBROGATION

The following replaces Paragraph **A.5., Transfer Of Rights Of Recovery Against Others To Us**, of **SECTION IV – BUSINESS AUTO CONDITIONS:**

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5. Transfer Of Rights Of Recovery Against Others To Us

We waive any right of recovery we may have against any person or organization to the extent required of you by a written contract signed and executed prior to any "accident" or "loss", provided that the "accident" or "loss" arises out of operations contemplated by such contract. The waiver applies only to the person or organization designated in such contract.

N. UNINTENTIONAL ERRORS OR OMISSIONS

The following is added to Paragraph **B.2., Concealment, Misrepresentation, Or Fraud**, of **SECTION IV – BUSINESS AUTO CONDITIONS:**

The unintentional omission of, or unintentional error in, any information given by you shall not prejudice your rights under this insurance. However this provision does not affect our right to collect additional premium or exercise our right of cancellation or non-renewal.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – PRIMARY AND NON-CONTRIBUTORY WITH OTHER INSURANCE

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

PROVISIONS

1. The following is added to Paragraph **A.1.c., Who Is An Insured**, of **SECTION II – LIABILITY COVERAGE**:

   This includes any person or organization who you are required under a written contract or agreement between you and that person or organization, that is signed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, to name as an additional insured for Liability Coverage, but only for damages to which this insurance applies and only to the extent of that person's or organization's liability for the conduct of another "insured".

2. The following is added to Paragraph **B.5., Other Insurance** of **SECTION IV – BUSINESS AUTO CONDITIONS**:

   Regardless of the provisions of paragraph **a.** and paragraph **d.** of this part **5. Other Insurance,** this insurance is primary to and non-contributory with applicable other insurance under which an additional insured person or organization is the first named insured when the written contract or agreement between you and that person or organization, that is signed by you before the "bodily injury" or "property damage" occurs and that is in effect during the policy period, requires this insurance to be primary and non-contributory.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BLANKET ADDITIONAL INSURED – WRITTEN CONTRACTS (ARCHITECTS, ENGINEERS AND SURVEYORS)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

1. The following is added to **SECTION II – WHO IS AN INSURED**:

   Any person or organization that you agree in a "written contract requiring insurance" to include as an additional insured on this Coverage Part, but:

   a. Only with respect to liability for "bodily injury", "property damage" or "personal injury"; and

   b. If, and only to the extent that, the injury or damage is caused by acts or omissions of you or your subcontractor in the performance of "your work" to which the "written contract requiring insurance" applies. The person or organization does not qualify as an additional insured with respect to the independent acts or omissions of such person or organization.

   The insurance provided to such additional insured is limited as follows:

   c. In the event that the Limits of Insurance of this Coverage Part shown in the Declarations exceed the limits of liability required by the "written contract requiring insurance", the insurance provided to the additional insured shall be limited to the limits of liability required by that "written contract requiring insurance". This endorsement shall not increase the limits of insurance described in Section III – Limits Of Insurance.

   d. This insurance does not apply to the rendering of or failure to render any "professional services" or construction management errors or omissions.

   e. This insurance does not apply to "bodily injury" or "property damage" caused by "your work" and included in the "products-completed operations hazard" unless the "written contract requiring insurance" specifically requires you to provide such coverage for that additional insured, and then the insurance provided to the additional insured applies only to such "bodily injury" or "property damage" that occurs before the end of the period of time for which the "written contract requiring insurance" requires you to provide such coverage or the end of the policy period, whichever is earlier.

2. The following is added to Paragraph **4.a.** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   The insurance provided to the additional insured is excess over any valid and collectible "other insurance", whether primary, excess, contingent or on any other basis, that is available to the additional insured for a loss we cover. However, if you specifically agree in the "written contract requiring insurance" that this insurance provided to the additional insured under this Coverage Part must apply on a primary basis or a primary and non-contributory basis, this insurance is primary to "other insurance" available to the additional insured which covers that person or organization as a named insured for such loss, and we will not share with that "other insurance". But this insurance provided to the additional insured still is excess over any valid and collectible "other insurance", whether primary, excess, contingent or on any other basis, that is available to the additional insured when that person or organization is an additional insured under any "other insurance".

3. The following is added to **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

   Duties Of An Additional Insured

   As a condition of coverage provided to the additional insured:

   a. The additional insured must give us written notice as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, such notice should include:

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i. How, when and where the "occurrence" or offense took place;

ii. The names and addresses of any injured persons and witnesses; and

iii. The nature and location of any injury or damage arising out of the "occurrence" or offense.

b. If a claim is made or "suit" is brought against the additional insured, the additional insured must:

i. Immediately record the specifics of the claim or "suit" and the date received; and

ii. Notify us as soon as practicable.

The additional insured must see to it that we receive written notice of the claim or "suit" as soon as practicable.

c. The additional insured must immediately send us copies of all legal papers received in connection with the claim or "suit", cooperate with us in the investigation or settlement of the claim or defense against the "suit", and otherwise comply with all policy conditions.

d. The additional insured must tender the defense and indemnity of any claim or "suit" to any provider of other insurance which would cover the additional insured for a loss we cover. However, this condition does not affect whether this insurance provided to the additional insured is primary to that other insurance available to the additional insured which covers that person or organization as a named insured.

4. The following is added to the **DEFINITIONS** Section:

"Written contract requiring insurance" means that part of any written contract or agreement under which you are required to include a person or organization as an additional insured on this Coverage Part, provided that the "bodily injury" and "property damage" occurs and the "personal injury" is caused by an offense committed:

a. After the signing and execution of the contract or agreement by you;

b. While that part of the contract or agreement is in effect; and

c. Before the end of the policy period.

City of Buckeye, its agents, representatives, officers, directors, officials and employees

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ARCHITECTS, ENGINEERS AND SURVEYORS INDUSTRY*EDGE*℠ ENDORSEMENT

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

GENERAL DESCRIPTION OF COVERAGE – This endorsement broadens coverage. However, coverage for any injury, damage or medical expenses described in any of the provisions of this endorsement may be excluded or limited by another endorsement to this Coverage Part, and these coverage broadening provisions do not apply to the extent that coverage is excluded or limited by such an endorsement. The following listing is a general coverage description only. Limitations and exclusions may apply to these coverages. Read all the provisions of this endorsement and the rest of your policy carefully to determine rights, duties, and what is and is not covered.

- **A.** Broadened Named Insured
- **B.** Incidental Medical Malpractice
- **C.** Reasonable Force – Bodily Injury Or Property Damage
- **D.** Non-Owned Watercraft – Increased To Up To 75 feet
- **E.** Aircraft Chartered With Pilot
- **F.** Extension Of Coverage – Damage To Premises Rented To You
- **G.** Personal Injury – Assumed by Contract
- **H.** Increased Supplementary Payments
- **I.** Additional Insured – Owner, Manager Or Lessor Of Premises
- **J.** Additional Insured – Lessor Of Leased Equipment
- **K.** Additional Insured – State Or Political Subdivisions – Permits Relating To Premises
- **L.** Additional Insured – State Or Political Subdivisions – Permits Relating To Operations
- **M.** Who Is An Insured – Newly Acquired Or Formed Organizations
- **N.** Injury To Co-Employees And Co-Volunteer Workers
- **O.** Medical Payments Limit
- **P.** Knowledge And Notice Of Occurrence Or Offense
- **Q.** Other Insurance Condition
- **R.** Unintentional Omission
- **S.** Waiver Of Transfer Of Rights Of Recovery Against Others To Us When Required By Contract
- **T.** Amended Bodily Injury Definition
- **U.** Amended Insured Contract Definition – Railroad Easement
- **V.** Additional Definition – Written Contract Requiring Insurance

PROVISIONS

A. BROADENED NAMED INSURED – UNNAMED SUBSIDIARIES

The Named Insured in Item **1.** of the Declarations is amended as follows:

The person or organization named in Item **1.** of the Declarations and any organization, other than a partnership, joint venture, limited liability company or trust, of which you are the sole owner or in which you maintain the majority ownership interest on the effective date of the policy. However, coverage for any such additional organization will cease as of the date, if any, during the policy period, that you no longer are the sole owner of, or maintain the majority ownership interest in, such organization.

B. INCIDENTAL MEDICAL MALPRACTICE

1. The following is added to the definition of "occurrence" in the **DEFINITIONS** Section:

   Unless you are in the business or occupation of providing professional health care services, "occurrence" also means an act or omission

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Suit of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS:**

Notice of an "occurrence" or of an offense which may result in a claim must be given as soon as practicable after knowledge of the "occurrence" or offense has been reported to you, one of your "executive officers" (if you are a corporation), one of your partners who is an individual (if you are a partnership), one of your managers (if you are a limited liability company), one of your trustees who is an individual (if you are a trust), or an "employee" (such as an insurance, loss control or risk manager or administrator) designated by you to give such notice.

Knowledge by any other "employee" of an "occurrence" or offense does not imply that you also have such knowledge.

Notice of an "occurrence" or of an offense which may result in a claim will be deemed to be given as soon as practicable to us if it is given in good faith as soon as practicable to your workers' compensation, accident, or health insurer. This applies only if you subsequently give notice of the "occurrence" or offense to us as soon as practicable after you, one of your "executive officers" (if you are a corporation), one of your partners who is an individual (if you are a partnership), one of your managers (if you are a limited liability company), one of your trustees who is an individual (if you are a trust), or an "employee" (such as an insurance, loss control or risk manager or administrator) designated by you to give such notice discovers that the "occurrence" or offense may involve this policy.

Q. OTHER INSURANCE CONDITION

1. The following replaces Paragraph **4., Other Insurance** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS:**

4. Other Insurance

If valid and collectible "other insurance" is available to the insured for a loss we cover under Coverages **A** or **B** of this Coverage Part, our obligations are limited as follows:

a. Primary Insurance

This insurance is primary except when **b.** below applies. If this insurance is primary, our obligations are not affected unless any of the "other insurance" is also primary. Then, we will share with all that "other insurance" by the method described in **c.** below.

b. Excess Insurance

This insurance is excess over any of the "other insurance", whether primary, excess, contingent or on any other basis:

(1) That is Fire, Extended Coverage, Builder's Risk, Installation Risk, or similar coverage for "your work";

(2) That is Fire insurance for premises rented to you or temporarily occupied by you with permission of the owner;

(3) That is insurance purchased by you to cover your liability as a tenant for "property damage" to premises rented to you or temporarily occupied by you with permission of the owner; or

(4) If the loss arises out of the maintenance or use of aircraft, "autos", or watercraft to the extent not subject to Exclusion **g.** of Section **I** – Coverage **A** – Bodily Injury And Property Damage Liability; or

(5) That is available to the insured when the insured is an additional insured under any other policy, including any umbrella or excess policy.

When this insurance is excess, we will have no duty under Coverages **A** or **B** to defend the insured against any "suit" if any provider of "other insurance" has a duty to defend the insured against that "suit". If no provider of "other insurance" defends, we will undertake to do so, but we will be entitled to the insured's rights against all those providers of "other insurance".

When this insurance is excess over "other insurance", we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

(1) The total amount that all such "other insurance" would pay for the loss in the absence of this insurance; and

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(2) The total of all deductible and self-insured amounts under that "other insurance".

We will share the remaining loss, if any, with any "other insurance" that is not described in this Excess Insurance provision.

c. **Method Of Sharing**

If all of the "other insurance" permits contribution by equal shares, we will follow this method also. Under this approach each provider of insurance contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the "other insurance" does not permit contribution by equal shares, we will contribute by limits. Under this method, the share of each provider of insurance is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all providers of insurance.

2. The following definition is added to **SECTION V – DEFINITIONS**:

"Other insurance":

a. Means insurance, or the funding of losses, that is provided by, through or on behalf of:

(1) Another insurance company;

(2) Us or any of our affiliated insurance companies, except when the Non cumulation of Each Occurrence Limit section of Paragraph **5.** of **LIMITS OF INSURANCE** (Section III) or the Non cumulation of Personal and Advertising Injury limit sections of Paragraph **4.** of **LIMITS OF INSURANCE** (Section III) applies;

(3) Any risk retention group;

(4) Any self-insurance method or program, other than any funded by you and over which this Coverage Part applies; or

(5) Any similar risk transfer or risk management method.

b. Does not include umbrella insurance, or excess insurance, that you bought specifically to apply in excess of the Limits of Insurance shown on the Declarations of this Coverage Part.

R. UNINTENTIONAL OMISSION

1. The following is added to Paragraph **6. Representations** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

The unintentional omission of, or unintentional error in, any information provided by you which we relied upon in issuing this policy shall not prejudice your rights under this insurance.

2. This Provision **R.** does not affect our right to collect additional premium or to exercise our right of cancellation or nonrenewal in accordance with applicable insurance laws or regulations.

S. WAIVER OF TRANSFER OF RIGHTS OF RECOVERY AGAINST OTHERS TO US WHEN REQUIRED BY CONTRACT

The following is added to Paragraph **8. Transfer of Rights of Recovery Against Others to Us** of **SECTION IV – COMMERCIAL GENERAL LIABILITY CONDITIONS**:

We waive any rights of recovery we may have against any person or organization because of payments we make for "bodily injury", "property damage", "personal injury" or "advertising injury" arising out of:

1. Premises owned by you, temporarily occupied by you with permission of the owner, or leased or rented to you;
2. Ongoing operations performed by you, or on your behalf, under a contract or agreement with that person or organization;
3. "Your work"; or
4. "Your products".

We waive these rights only where you have agreed to do so as part of a "written contract requiring insurance" entered into by you before, and in effect when, the "bodily injury" or "property damage" occurs, or the "personal injury" offense or "advertising injury" offense is committed.

T. AMENDED BODILY INJURY DEFINITION

The following replaces the definition of "bodily injury" in the **DEFINITIONS** Section:

"Bodily injury" means bodily injury, mental anguish, mental injury, shock, fright, disability, humiliation, sickness or disease sustained by a per-

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POLICY NUMBER: P-630-4885B479-COF , P-810-4843A850-COF-18 ISSUE DATE: 01. 01. 19
ZUP-15T69985-19-NF

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

DESIGNATED ENTITY – EARLIER NOTICE OF CANCELLATION/NONRENEWAL PROVIDED BY US

This endorsement modifies insurance provided under the following:
ALL COVERAGE PARTS INCLUDED IN THIS POLICY

SCHEDULE

CANCELLATION:	**Number of Days Notice:**	30
WHEN WE DO NOT RENEW (Nonrenewal):	**Number of Days Notice:**	30

NAME: City of Buckeye

ADDRESS: Attn: Tammy Vogel, Contract Administrator
530 East Monroe Avenue
Buckeye, AZ 85326

A. For any statutorily permitted reason other than nonpayment of premium, the number of days required for notice of cancellation, as provided in the CONDITIONS Section of this insurance, or as amended by any applicable state cancellation endorsement applicable to this insurance, is increased to the number of days shown in the SCHEDULE above.

B. For any statutorily permitted reason other than nonpayment of premium, the number of days required for notice of When We Do Not Renew (Nonrenewal), as provided in the CONDITIONS Section of this insurance, or as amended by any applicable state When We Do Not Renew (Nonrenewal) endorsement applicable to this insurance, is increased to the number of days shown in the SCHEDULE above.

C. We will mail notice of cancellation or nonrenewal or material limitation of those coverage forms to the person or organization shown in the schedule above. We will mail the notice at least the Number of Days indicated above before the effective date to our action.

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TRAVELERS

WORKERS COMPENSATION AND EMPLOYERS LIABILITY POLICY
ENDORSEMENT WC 99 06 11 (A)

POLICY NUMBER: UB-8J736329

NOTICE OF CANCELLATION

Except for non-payment of premium by you, we agree that no cancellation or limitation of this policy shall become effective until the number of day's written notice specified in item 2 of the Schedule has been mailed to you and to the person or organization designated in item 1 of the Schedule at the address indicated.

SCHEDULE

1. Name: City of Buckeye

   Address: Attn: Tammy Vogel, Contract Administrator
   530 East Monroe Avenue
   Buckeye, AZ 85326

2. Number of Days Written Notice: Additional Days 30

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective Policy No. Endorsement No.

Insured Premium $

Insurance Company Countersigned by _____

DATE OF ISSUE: - - ST ASSIGN:

TRAVELERS

WORKERS COMPENSATION
AND
EMPLOYERS LIABILITY POLICY

ENDORSEMENT WC 00 03 13 (00) -

POLICY NUMBER: UB-8J736329

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

This agreement shall not operate directly or indirectly to benefit any one not named in the Schedule.

SCHEDULE

DESIGNATED PERSON:

DESIGNATED ORGANIZATION:

City of Buckeye, its agents, representatives, officers, directors, officials and employees

DATE OF ISSUE: - - ST ASSIGN:

CERTIFICATE OF LIABILITY INSURANCE

10/5/2019 | DATE (MM/DD/YYYY) 9/21/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	Lockton Companies 444 W. 47th Street, Suite 900 Kansas City MO 64112-1906 (816) 960-9000
CONTACT NAME:	
PHONE (A/C, No, Ext):	FAX (A/C, No):
E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Continental Casualty Company	20443
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED 1386364
STANLEY CONSULTANTS, INC.
1661 EAST CAMELBACK ROAD, SUITE 400
PHOENIX AZ 85016

COVERAGES **CERTIFICATE NUMBER:** 14640274 **REVISION NUMBER:** XXXXXXX

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$ XXXXXXX
							MED EXP (Any one person)	$ XXXXXXX
							PERSONAL & ADV INJURY	$ XXXXXXX
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$ XXXXXXX
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$ XXXXXXX
	OTHER:							$
	AUTOMOBILE LIABILITY			NOT APPLICABLE			COMBINED SINGLE LIMIT (Ea accident)	$ XXXXXXX
	ANY AUTO						BODILY INJURY (Per person)	$ XXXXXXX
	OWNED AUTOS ONLY / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$ XXXXXXX
	HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$ XXXXXXX
								$
	UMBRELLA LIAB OCCUR			NOT APPLICABLE			EACH OCCURRENCE	$ XXXXXXX
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$ XXXXXXX
	DED RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N			NOT APPLICABLE			PER STATUTE / OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? N/A (Mandatory in NH)						E.L. EACH ACCIDENT	$ XXXXXXX
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$ XXXXXXX
							E.L. DISEASE - POLICY LIMIT	$ XXXXXXX
A	PROFESSIONAL LIABILITY	N	N	AEH008220975	10/5/2018	10/5/2019	$1,000,000 PER CLAIM & $2,000,000 IN THE AGGREGATE	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: ALL SCI ASSIGNMENTS ASSOCIATED WITH CERTIFICATE HOLDER'S ON-CALL ENGINEERING/ARCHITECTURE CONSULTING SERVICES MASTER #2016-020-014.

CERTIFICATE HOLDER

14640274

CITY OF BUCKEYE
TAMMY VOGEL, CONTRACT ADMINISTRATOR
530 EAST MONROE AVENUE
BUCKEYE AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Lauren M Agnello

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CHANGE ORDER #3

CITY OF BUCKEYE
ON-CALL CONTRACT #2016-020-014
CONTRACT EXTENSION

THIS CONTRACT, made and entered into on the 7th day of March, 2017, by and between the City of Buckeye, an Arizona municipal corporation (the "City"), and Stanley Consultants, an Arizona corporation, hereafter called (the "Consultant").

3.2 TERM OF CONTRACT
In accordance with "Section 3," "General Terms and Conditions" of the Contract. The contract term is being extended for an additional year commencing on March 7, 2020 through March 6, 2021. The original contract execution date was March 07, 2017 and the year and day have been updated to reflect the change accordingly.

3.13 MODIFICATIONS
In accordance with "Section 3, Paragraph 3.13 "Modifications". The Consultant has updated the Price sheet for all positions and it is attached as Exhibit A. The 2020/2021 price sheet shall replace the Original price sheet and become effective upon Execution of Change Order 3.

3.26 Scrutinized Business Operations- Delete this paragraph in its entirety.

6.3 Israel Compliance- Change to read: Pursuant to Arizona Revised Statute 35-393.01, Contractor Certifies that it is not currently engaged in, and agrees for the duration of the Contract to not Engage, a boycott of Israel, or any entity that does business in Israel or any territories controlled By Israel.

All other terms and conditions of the original contract remain in full force and effect.

IN WITNESS WHEREOF, the City of Buckeye by its Manager of Construction and Contracting has hereunto subscribed his name.

CITY OF BUCKEYE:

CA Williams

Christopher A. Williams
Manager, Construction and Contracting

CONTRACTOR:
Stanley Consultants

BY: Steven A Jimenez

Title: Project Principal

EXHIBIT A

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

Requested Rate Changes for Change Order #3 Contract Extension for March 8, 2020 - March 7, 2021

CITY OF BUCKEYE ENGINEERING ON CALL 2016-020-014

CATEGORY 2: WATER & WASTEWATER and CATEGORY 4: ROADWAY & TRANSPORTATION

RATE SHEET

Project Principal	284.00 Hourly Billable Rate
Senior Project Manager	258.00 Hourly Billable Rate
Project Manager	226.00 Hourly Billable Rate
Senior Project Engineer	226.00 Hourly Billable Rate
Project Engineer	169.00 Hourly Billable Rate
Senior Engineer	210.00 Hourly Billable Rate
Design Engineer	169.00 Hourly Billable Rate
Electrical Engineer	169.00 Hourly Billable Rate
E/I&C Supervisor	156.00 Hourly Billable Rate
Senior Designer	162.00 Hourly Billable Rate
Designer	134.00 Hourly Billable Rate
Senior CADD Tech	134.00 Hourly Billable Rate
CADD Tech	102.00 Hourly Billable Rate
Senior Cost Estimator	182.00 Hourly Billable Rate
Cost Estimator	131.00 Hourly Billable Rate
Senior Registered Land Surveyor	172.00 Hourly Billable Rate
Registered Land Surveyor	150.00 Hourly Billable Rate
Survey Party Chief	121.00 Hourly Billable Rate
Survey Tech	111.00 Hourly Billable Rate
Senior Resident Engineer	239.00 Hourly Billable Rate
Senior Construction Manager	207.00 Hourly Billable Rate
Resident Engineer	182.00 Hourly Billable Rate
Resident Project Representative	147.00 Hourly Billable Rate
Senior Inspector	121.00 Hourly Billable Rate
Inspector	108.00 Hourly Billable Rate
Construction Observer	99.00 Hourly Billable Rate
Project Coordinator	95.00 Hourly Billable Rate
Administrative	77.00 Hourly Billable Rate
Vehicle Mileage	IRS Allowable Rate

1661 East Camelback Road, Suite 400 • Phoenix, AZ 85016 • phone 602.333.2200 • fax 602.333.2333
www.stanleyconsultants.com

Change order 3 with rate sheet

Final Audit Report 2020-03-16

Created:	2020-03-12
By:	Purchasing Buckeye (purchasing@buckeyeaz.gov)
Status:	Signed
Transaction ID:	CBJCHBCAABAAj3Ub_--frF3uVlri2hwLJLia3m9aQXgT

"Change order 3 with rate sheet" History

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CHANGE ORDER #4

CITY OF BUCKEYE
ON-CALL CONTRACT #2016-020-014
CONTRACT EXTENSION

THIS CONTRACT, made and entered into on the 7th day of March, 2017, by and between the City of Buckeye, an Arizona municipal corporation (the "City"), and Stanley Consultants, an Arizona corporation, hereafter called (the "Consultant").

3.2 TERM OF CONTRACT
In accordance with "Section 3," "General Terms and Conditions" of the Contract. The contract term is being extended for an additional year commencing on March 7, 2021 through March 6, 2022. The original contract execution date was March 07, 2017 and the year and day have been updated to reflect the change accordingly.

3.13 MODIFICATIONS
In accordance with "Section 3, Paragraph 3.13 "Modifications". The Consultant has updated the Price sheet for all positions and it is attached as Exhibit A. The 2021/2022 price sheet shall replace the original price sheet and become effective upon execution of Change Order 4.

All other terms and conditions of the original contract remain in full force and effect.

IN WITNESS WHEREOF, the City of Buckeye by its Manager of Construction and Contracting has hereunto subscribed his name.

CITY OF BUCKEYE:

CA Williams
_____
Christopher A. Williams
Manager, Construction and Contracting

CONTRACTOR:
Stanley Consultants

Steven A Jimenez
_____
Title: Project Principal

EXHIBIT A

Stanley Consultants INC.

A Stanley Group Company
Engineering, Environmental and Construction Services - Worldwide

Requested Rate Changes for Change Order #4 Contract Extension for March 7, 2021 - March 6, 2022

CITY OF BUCKEYE ENGINEERING ON CALL 2016-020-014

CATEGORY 2: WATER & WASTEWATER and CATEGORY 4: ROADWAY & TRANSPORTATION

RATE SHEET

Project Principal	292.00 Hourly Billable Rate
Senior Project Manager	266.00 Hourly Billable Rate
Project Manager	233.00 Hourly Billable Rate
Senior Project Engineer	233.00 Hourly Billable Rate
Project Engineer	174.00 Hourly Billable Rate
Senior Engineer	216.00 Hourly Billable Rate
Design Engineer	174.00 Hourly Billable Rate
Electrical Engineer	174.00 Hourly Billable Rate
E/I&C Supervisor	161.00 Hourly Billable Rate
Senior Designer	167.00 Hourly Billable Rate
Designer	138.00 Hourly Billable Rate
Senior CADD Tech	138.00 Hourly Billable Rate
CADD Tech	105.00 Hourly Billable Rate
Senior Cost Estimator	187.00 Hourly Billable Rate
Cost Estimator	135.00 Hourly Billable Rate
Senior Registered Land Surveyor	177.00 Hourly Billable Rate
Registered Land Surveyor	155.00 Hourly Billable Rate
Survey Party Chief	125.00 Hourly Billable Rate
Survey Tech	114.00 Hourly Billable Rate
Senior Resident Engineer	246.00 Hourly Billable Rate
Senior Construction Manager	213.00 Hourly Billable Rate
Resident Engineer	187.00 Hourly Billable Rate
Resident Project Representative	151.00 Hourly Billable Rate
Senior Inspector	125.00 Hourly Billable Rate
Inspector	111.00 Hourly Billable Rate
Construction Observer	102.00 Hourly Billable Rate
Project Coordinator	98.00 Hourly Billable Rate
Administrative	79.00 Hourly Billable Rate
Vehicle Mileage	IRS Allowable Rate

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www.stanleyconsultants.com

CO 4 Stanley

Final Audit Report 2021-02-16

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2021-02-16 - 10:16:28 PM GMT- IP address: 104.47.64.254

Document e-signed by CA Williams (cwilliams@buckeyeaz.gov)
Signature Date: 2021-02-16 - 10:16:47 PM GMT - Time Source: server- IP address: 174.78.95.30

Agreement completed.
2021-02-16 - 10:16:47 PM GMT

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
ENGINEERING AND ARCHITECTURAL SERVICES

STANLEY CONSULTANTS, INC.
CONTRACT #2016-020-014
Change Order #1 to Task Order #9

In accordance with the On-Call Engineering and Architectural Services Contract between the City of Buckeye (the "City") and Stanley Consultants, Inc. ("Consultant"), dated March 7, 2017, and Task Order #9 dated October 20, 2020, the following changes apply:

ARTICLE 1
SCOPE OF SERVICES

1. Additional Design Services for the Durango Street Roundabout, in an amount not to exceed **$129,408.00** pursuant to Exhibit A.
2. The Contract Term has been extended to December 1, 2022.

Total cost for this Change Order shall not exceed **$129,408.00,** and shall be added to the Contract amount.

The beginning Contract amount is **$437,858.62.** This Change Order shall increase the Contract amount from **$437,858.62** to **$567,266.62.**

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

[Signature Page to Follow]

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names _____.

CITY:
THE CITY OF BUCKEYE, ARIZONA
an Arizona municipal corporation

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction and Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONSULTANT:
STANLEY CONSULTANTS, INC.

Steven A Jimenez
_____
Steve Jimenez, Principal

Adobe Sign Transaction Number: CBJCHBCAABAA-LGNOrPTUoicPnavFjliQYqert2GHEnh

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
ENGINEERING AND ARCHITECTURAL SERVICES

STANLEY CONSULTANTS, INC.
CONTRACT #2016-020-014
Change Order #1 to Task Order #9

EXHIBIT A

SCOPE OF WORK

STANLEYCONSULTANTS, Inc
1661 East Camelback Road ❯ Suite 400 ❯ Phoenix, AZ 85016
602.333.2200 ❯ stanleyconsultants.com

October 6, 2021

Mr. Steve Riley
City of Buckeye
Project Manager
530 E. Monroe Avenue
Buckeye, AZ 85326

Subject: On-Call Contract No. 2016-020-014
Task Order No. 9
Durango Street Final Design
Contract Modification No. 1

Dear Mr. Riley:

Enclosed is the information requested from the Stanley Consultants project team in order to execute a contract modification for additional design services for the Durango Street, Miller Road to 249th Avenue Roadway and Intersection Improvement project.

If you have any questions or would like additional information, please call me at (602) 333-2324 or Natalie Carrick at (602) 333-2245.

Sincerely,

STANLEY CONSULTANTS, INC.

Steven A Jimenez

Steve Jimenez, P.E.
Project Principal

City of Buckeye
Durango Street (Miller Road to 249th Avenue)
Roadway and Intersection Improvements
October 2021

Contract Modification 1
Scope of Services

Purpose – describes needs, objectives and tasks.

The purpose of this contract modification is to revise the location of the roundabout to minimize the right-of-way impacts to the existing parcels on the south side of Durango Street.

Additional services will include revisions to entry and exit geometric design, revisions to geometric layout of eastbound, westbound, and southbound approach legs, revisions to the new splitter island/slip lane design (not previously scoped), revisions to the roundabout intersection geometric design, revisions to the vertical profile design, revisions to the intersection staking design, and revisions to the access road location and design. Modifications of the original concept will be required, including modifying pavement marking, pedestrian activated beacons, roadway lighting, sidewalk plan, modifying offsite and onsite drainage plan, modifying the right-of-way plan.

Revisions for the new concept will shift the center of the Durango Street and 249th Avenue roundabout approximately 25 – 40 feet northeasterly. As a result of the revisions, additional right-of-way will be required from APN 504-63-001G (Wetzel Paul A). The revisions will eliminate new right-of-way required from APN 504-63-138 (Buckeye), APN 504-63-044 (Ogden) and APN 504-63-049 (Lugo). Additionally, as a part of this change of scope services, Stanley will evaluate alternatives to reduce the required right-of-way from county parcels along the south side of Durango Street. Alternatives may include changing the required City of Buckeye typical section, reducing median width, overlapping the new pedestrian paths into existing public utility easement, and adjusting the drainage concept.

Deliverables for the additional work will be provided with the Durango Street Final Design project which is currently at the 60% design status. A 60% resubmittal will be provided including revisions to the roundabout circle. The next submittal is anticipated for late 2021/early 2022.

This contract modification will also include additional hours required for changes to the drainage design, additional 3-Dimensional corridor modeling and earthwork, and required changes to construction plans, estimate and specifications as result of the concept change. Additional hours are provided for schedule extension, additional required meetings and coordination.

Scope of Services include:

Additional Design Services for the Durango Street Roundabout revision will include the following:

- Updating existing design files to include the new roundabout intersection concept including:
  - Updating roadway geometry, curb & gutter edges, center median edges, and pavement edges
  - Updating vertical roadway profiles including eastbound, westbound, and southbound approaches
  - Updating roundabout intersection geometry plan
  - Updating roundabout intersection vertical profile and staking plans
  - Updating roadway/intersection model and updating the proposed surface
  - Updating sidewalk and curb ramp design
  - Updating drainage plan, onsite and offsite
  - Updating drainage culvert profiles
  - Updating Final Drainage Report
  - Updating pavement marking and traffic control design
  - Updating new right-of-way
  - Updating photometric analysis

- Revisions to the following plans
  - Proposed Right-of-Way Exhibit
  - Typical Sections – 2 sheets
  - Roadway Plan Sheets – 4 sheets
  - Roundabout Geometry Plan – 4 Sheets
  - Roundabout Geometry Data Sheets – 3 Sheets
  - Roundabout Staking Sheets – 2 Sheets
  - Drainage Sheets (Culverts, Storm Drains, Basins) – 6 Sheets
  - Pavement Marking – 4 Sheets
  - Signal Plans (RRFB) – 2 Sheets
  - Lighting – 2 Sheets

- Additional plan sheets
  - Additional plan sheets are not anticipated

Mead & Hunt will provide the following:

- Horizontal Design Review
  - Review roundabout horizontal geometrics based on ultimate circle location, alignment of approaches, and intersection geometry
  - Review roundabout functionality of fast path, vision angles, vehicle overlap and phi angles
  - Review accommodation of design turning movements

Refer to attached scope of work from Mead & Hunt for additional details.

Schedule:

It's assumed that the additional services contract will be executed by the end of October 2021. A minimum of four weeks will be required to make changes to the concept and update the design files. The client has requested a "check in meeting" / "over the shoulder" review meeting to be scheduled once the concept has been updated. It is anticipated that this meeting will be scheduled in early December. A minimum of 4 weeks will be required to update 60% construction documents, update construction quantities and specifications, and complete interdisciplinary internal project quality control checks. It's anticipated that the 60% resubmittal will be complete in January 2021.

[END]

Firm:	Stanley Consultants 3133 E Camelback Road, Suite 100 Phoenix, Arizona 85016	Contract Name:	Durango Street Final Design
		Contract No.:	2016-020-014
Phone:	(602) 333-2200		
FAX:	(602) 333-2333		

DERIVATION OF COST PROPOSAL - SUMMARY
(Round Figures to the nearest $1.00)
Estimated Direct Labor

Classification	Estimated Person-Hours	Loaded Hourly Rate	Costs
Project Principal	0	$ 284.00	$ -
Project Manager	30	$ 226.00	$ 6,780.00
Senior Engineer	69	$ 210.00	$ 14,490.00
Design Engineer	234	$ 169.00	$ 39,546.00
Designer	397	$ 134.00	$ 53,198.00
Senior CADD Tech	56	$ 134.00	$ 7,504.00
Total	786		$ 121,518.00

Total Estimated Labor $ 121,518.00

Estimated Direct Expenses
(Listed by Item at Estimated Actual Cost -- No Mark-up)

Direct Expenses

Total Estimated Expenses $ -

Estimated Outside Services and Consultants
(Listed by Firm or Name at Estimated Cost -- No Mark-up)

Firm	**Method of Compensation**	**Cost**
Mead and Hunt	T&M	$ 7,890.00

Total Estimated Outside Services $ 7,890.00

TOTAL NOT TO EXCEED COST $ 129,408.00

Total Not to Exceed Cost **$ 129,408.00**

Steven A Jimenez
Signature

10/06/2021
Date

City of Buckeye									
Durango Street/249th Avenue Final Design									
Contract Modification #1 Cost Proposal									
6-Oct-21									
TASK	Project Manager	Senior Engineer	Design Engineer	Designer	Senior CADD Tech	TOTAL LABOR HOURS	TOTAL STANLEY LABOR FEE	MEAD & HUNT FEE	TOTAL FEE
LABOR RATE	$226.00	$210.00	$169.00	$134.00	$134.00				
1. PROJECT MANAGEMENT, COORDINATION & QA/QC									
Additional project coordination, meetings, agendas, emails, calls	8		4			12	$ 2,484		**$ 2,484**
Check-in Meeting / Over the shoulder Review (Includes time to prepare graphics and meeting materials)	4	4	4			12	$ 2,420		**$ 2,420**
2. RIGHT-OF-WAY BASE MAPS, LEGAL EXHIBITS & DESCRIPTIONS									
Update existing right-of-way base map	2		4	8		14	$ 2,200		**$ 2,200**
3. UTILITY COORDINATION									
Additional Utility Coordinaton (emails, meetings, plan review, base file updates)	4		12			16	$ 2,932		**$ 2,932**
4. SEWER DESIGN									
Revised design required for moving sewer connections, incorperating new proposed surface, review of proposed wheel path alignment			4	18		22	$ 3,088		**$ 3,088**
5. ROADWAY PLANS									
Updating roadway geometry and edges	1		18	20		39	$ 5,948		**$ 5,948**
Updaing vertical profiles, including eastbound, westbound and southbound approaches		8	8	24		40	$ 6,248		**$ 6,248**
Updating roadway/intersection vertical profiles		4	16	20		40	$ 6,224		**$ 6,224**
Typical Section Sheets		8		16		24	$ 3,824		**$ 3,824**
Revisions to Roadway Plan Sheets		14	32	34		80	$ 12,904		**$ 12,904**
Revisions to Roundabout Geometry Plan Sheets		8	18	34		60	$ 9,278		**$ 9,278**
Revisions to Roundabout Geometry Data Sheets			8	12		20	$ 2,960		**$ 2,960**
Revisions to Roundabout Staking Tables			4	16		20	$ 2,820		**$ 2,820**
Updating Roadway/Intersection Modeling and Proposed Surface			25	25		50	$ 7,575		**$ 7,575**
Updating Sidewalk & Curb Ramp Design	1		12	18		31	$ 4,666		**$ 4,666**
Updating Access Road Design, Entrances, Driveway Design	1		12	16		29	$ 4,398		**$ 4,398**
Roundabout Geometrics Review and Verification						0	$ -	$ 7,890	**$ 7,890**
Quantity Take-off for 60%			4	8		12	$ 1,748		**$ 1,748**
6. DRAINAGE									
Drainage Coordination w/City		3	2			5	$ 968		**$ 968**
Onsite Pavement Hydrologic Analysis		2	4	8		14	$ 2,168		**$ 2,168**
Onsite Pavement & Culvert Hydraulic Analysis		2	8	10		20	$ 3,112		**$ 3,112**
Drainage Plan (Drainage info depicted on Roadway Plans)		1	2	6	8	17	$ 2,424		**$ 2,424**
Storm Drain Profiles (4 profiles, 2 sheets)		2	6	8	6	22	$ 3,310		**$ 3,310**
Culvert P & P Sheets (5 culverts, 3 sheets)		2	6	10	6	24	$ 3,578		**$ 3,578**
Drainage Details (3 graded basins, 2 level spreaders, energy dissipator, handrail, 6 sheets)		3	1	12	6	22	$ 3,211		**$ 3,211**
Drainage Report (Draft Final & Final)		2	4	6		12	$ 1,900		**$ 1,900**
Address Comments Drainage Report & Coord w/City		2	4	6		12	$ 1,900		**$ 1,900**
Drainage Quantities and Cost Estimate		2	2	6		10	$ 1,562		**$ 1,562**
Special Provisions & Specifications			2	2		4	$ 606		**$ 606**
7. Signing and Pavement Marking Plans									
Signing and Pavement Marking Sheets	2			10	18	30	$ 4,204		**$ 4,204**
Quantity Take-off for 60%	1			12		13	$ 1,834		**$ 1,834**
8. Signal Plans									
Ped Activated RRFB plan sheet	2			6		8	$ 1,256		**$ 1,256**
Ped Activated RRFB equipment schedule	2			6		8	$ 1,256		**$ 1,256**
8. Lighting Plans									
Photometric Analysis		2	6			8	$ 1,434		**$ 1,434**
Street Lighting Plan Sheets	1			12	12	25	$ 3,442		**$ 3,442**
Quantity Take-off for 60%	1		2	8		11	$ 1,636		**$ 1,636**
TOTAL	**30**	**69**	**234**	**397**	**56**	**786**	**$ 121,518**	**$ 7,890**	**$ 129,408**

Mead & Hunt

Contract Amendment

10/4/2021

Ms. Natalie Carrick, PE	Project Name: Durango Street and Yuma Street
STANLEY CONSULTANTS, INC	Project Location: City of Buckeye, Arizona
1661 East Camelback Road, Suite 400	Project number: 4410900-191295.01
Phoenix, AZ 85016	Mead & Hunt Manager: Troy Pankratz

Subject: Amendment No. 2

Dear Ms. Natalie Carrick, PE:

The above-referenced PROJECT requires an Amendment. The work in this Amendment is in addition to the Scope of Services stated in the original contract between the CLIENT (STANLEY CONSULTANTS, INC) and the CONSULTANT (Mead & Hunt, Inc.) dated 8/6/2019.

The CLIENT agrees that the CONSULTANT shall provide professional consulting services for the PROJECT as set forth in this Amendment and the CLIENT shall provide payment for those services as provided for in this Amendment.

A detailed description of our understanding of the Amended PROJECT Scope of Services, Schedule, and Compensation is provided below.

Reason for Amendment

We have previously provided design review services to assist in the development of the roundabout layout for DCR plans. Various roundabout layouts have been developed and reviewed by the City of Buckeye. The City has provided direction to revise the location of the roundabout to minimize impacts to properties along the southern side of the intersection. Stanley Consultants has requested that Mead

& Hunt provide additional services to accommodate the City's direction on this next phase of the project.

Amended Scope of Services

The Scope of Services for the PROJECT is amended to include the following:

1) Horizontal Design

The scope of this task will be to develop the horizontal geometry of the roundabout intersection and is expected to include the following:

- Prepare roundabout horizontal geometrics based on composition of circle location, alignment of approaches, and intersection geometry.
- Check roundabout functionality of fast paths, vision angles, vehicle path overlap, and phi angles.
- Check accommodation of design vehicle turning movements through the roundabout.
- Submit CAD file of horizontal geometry for plan sheet development by others.

Amended Schedule

Mead & Hunt proposes the following revised dates to complete the work for this PROJECT:

Item	Completion Date
Horizontal Design	3 weeks from receiving the required design information

Amended Compensation

Form of compensation for work in this Amendment will be in accordance with the *Terms and Conditions* of the existing CONTRACT. STANLEY CONSULTANTS, INC will pay Mead & Hunt an increase of $7,890.00 for the work performed under this Amendment. This Amendment results in a revised contract amount of ~~$ 26,269.00~~ $15,807.00 for the total PROJECT.

Authorization for Amendment

The Amended Scope of Services, Schedule, and Compensation stated in this amendment are valid for a period of thirty (30) days from date of submission. If authorization to proceed is not received during this period, this amendment may be reviewed and modified by Mead & Hunt.

Signatures of authorized representatives of STANLEY CONSULTANTS, INC and Mead & Hunt shall amend the existing Agreement (original CONTRACT and all previous amendments, if applicable) between the two parties, and receipt of one signed copy shall be considered authorization to proceed with the work described in this Amendment. All services will be performed in accordance with the *Terms and Conditions* of the original CONTRACT and amendment, if applicable. If a signed copy of this Authorization is not received by Mead & Hunt, Inc. within seven (7) days from the date of issuance, Mead & Hunt, Inc. may stop work on the above services.

Respectfully submitted,

MEAD & HUNT, Inc.



Troy Pankratz, PE

Attachments

Accepted by:	STANLEY CONSULTANTS, INC	Approved by:	MEAD & HUNT, INC.
By:		By:	
Name:		Name:	Scott Hasburgh
Title:		Title:	Department Manager
	The above person is authorized to sign for Client and bind the Client to the terms hereof.		*The above person is an authorized signer for Mead & Hunt, Inc.*
Date:		Date	

Mead&Hunt

PROJECT ID: **City of Buckeye, Durango/Yuma - Contract Mod #2**

CLASS Avg. Hourly Wage TASK		Senior Engineer $189.00		Technician II $120.00		Clerical $81.00		Total Direct Labor	
		Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars
Horizontal Design		32	$6,048.00	8	$960.00			46	$7,890.00
TOTALS		**32**	**$6,048.00**	**8**	**$960.00**			**46**	**$7,890.00**

MEAD & HUNT, Inc.
Standard Billing Rate Schedule
Effective January 1, 2021

Standard Billing Rates

Clerical	$81.00 / hour
Technical Editor	$116.00 / hour
Senior Editor	$189.00 / hour
Registered Land Surveyor	$148.00 / hour
Accounting, Administrative Assistant	$104.00 / hour
Technician I, Technical Writer	$104.00 / hour
Technician II, Surveyor - Instrument Person	$120.00 / hour
Technician III	$138.00 / hour
Technician IV	$154.00 / hour
Senior Technician	$164.00 / hour
Engineer I, Scientist I, Architect I, Interior Designer I, Planner I	$133.00 / hour
Engineer II, Scientist II, Architect II, Interior Designer II, Planner II	$151.00 / hour
Engineer III, Scientist III, Architect III, Interior Designer III, Planner III	$170.00 / hour
Senior Engineer, Senior Scientist, Senior Architect, Senior Interior Designer, Senior Planner, Senior Economist	$189.00 / hour
Project Engineer, Project Scientist, Project Architect, Project Interior Designer, Project Planner	$209.00 / hour
Senior Project Engineer, Senior Project Scientist, Senior Project Architect, Senior Project Interior Designer, Senior Project Planner	$241.00 / hour
Senior Associate	$269.00 / hour
Principal	$293.00 / hour
Senior Client/Project Manager	$293.00 / hour

Expenses

Geographic Information or GPS Systems	$100.00 / day
Total Station Survey Equipment	$110.00 / day
Charges for other equipment may appear in a proposal	
Out-Of-Pocket Direct Job Expenses	cost plus 15%
Such as reproductions, sub-consultants / contractors, etc.	

Travel Expense

Company or Personal Car Mileage	IRS rate / mile
Air and Surface Transportation	cost plus 15%
Lodging and Sustenance	cost plus 15%

Billing & Payment

Travel time is charged for work required to be performed out-of-office. A minimum of two hours will be billed for any work out-of-office.

Invoicing is on a monthly basis for work performed. Payment for services is due within 30 days from the date of the invoice. An interest charge of 1.5% per month is made on the unpaid balance starting 30 days after the date of invoice.

This schedule of billing rates is effective January 1, 2021, and will remain in effect until December 31, 2021, unless unforeseen increases in operational costs are encountered. We reserve the right to change rates to reflect such increases.

CO #1 to TO #9 - Durango Street Final Design - Stanley

Final Audit Report 2022-02-09

Created:	2022-02-09
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Document e-signed by CA Williams (cwilliams@buckeyeaz.gov)
Signature Date: 2022-02-09 - 4:58:28 PM GMT - Time Source: server- IP address: 174.78.95.30

Agreement completed.
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10
W YUMA RD
S MILLER RD
S 249TH AVE
W DURANGO ST
N

CITY OF BUCKEYE
ON-CALL CONTRACT NO. 2016-020-014
ENGINEERING AND ARCHITECTURAL SERVICES
CATEGORY 2: WATER & WASTEWATER
CATEGORY 4: ROADWAY AND TRANSPORTATION
STANLEY CONSULTANTS

TASK ORDER No. 9

In accordance with the Services Agreement between the City of Buckeye, an Arizona municipal corporation (City) and STANLEY CONSULTANTS (Consultant), dated March 7, 2017, the Consultant will perform the following Scope of Services as detailed in Article 1, subject and pursuant to the terms and conditions of the On-Call Contract for Engineering and Architectural Services.

ARTICLE 1
SCOPE OF WORK

Consultant shall prepare final design construction documents for the improvements to Durango Street from Miller Road to Yuma Road as further described in Exhibit A.

ARTICLE 2
SCHEDULE OF COMPLETION OF SERVICES

The Consultant shall commence work immediately upon issuance of this Task Order and complete the services and deliverables within **Two Hundred Twelve (212) calendar days,** or unless terminated as otherwise provided pursuant to the terms and conditions of this Agreement.

ARTICLE 3
FEE BREAKDOWN

The total cost to complete the project under this Task Order as identified in Article 1 for services as set forth in Exhibit A, is an amount not to exceed **Four Hundred and Thirty Seven Thousand Eight Hundred and Fifty Eight Dollars and Sixty-Two Cents ($437,858.62)**, as set forth in Exhibit A, attached hereto.

This Task Order No. 9 is subject to the terms and requirements of the Consultant Contract and may be cancelled pursuant to the provisions of Arizona Revised Statutes Section 38-511. If

there is a discrepancy between the terms and conditions of the Contract and Scope of Work in Exhibit A, the Contract supersedes the Scope of Work.

THEREFORE, the City of Buckeye by its Mayor and City Clerk have hereunto subscribed their names this October 20, 2020.

CITY:
THE CITY OF BUCKEYE, ARIZONA
An Arizona Municipal corporation

By: _____
Jackie A. Meck, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

CA Williams
_____
Christopher A. Williams, Manager
Construction & Contracting

APPROVED AS TO FORM:

Shiela B. Schmidt
_____
City Attorney

CONTRACTOR:
STANLEY CONSULTANTS

Steven A Jimenez
_____
Steve Jimenez
Principal Transportation Engineer, Project Principal

EXHIBIT A
CONSULTANT PROPOSAL

STANLEYCONSULTANTS, Inc
1661 East Camelback Road ❯ Suite 400 ❯ Phoenix, AZ 85016
602.333.2200 ❯ stanleyconsultants.com

September 28, 2020

Steve Riley
Project Manager
City of Buckeye
530 E. Monroe Avenue
Buckeye, Arizona 85326

RE: Durango Street Final Design

Dear Mr. Riley:

Attached for your review are the revised Scope of Work and Derivation of Cost/Labor Hour Estimate for preparing final design construction documents for the improvements to Durango Street from Miller Road to Yuma Road. Natalie Carrick will be Stanley's Project Manager. If questions arise or if additional information is needed, please contact Natalie at (602) 333-2245 or at carricknatalie@stanleygroup.com.

Sincerely,

Steven A Jimenez

Steve Jimenez, PE
Project Principal
Stanley Consultants, Inc.

cc: Natalie Carrick

Attachments: Scope of Work
Derivation of Cost/Labor Hour Estimate

City of Buckeye
Durango Street (Miller Road to 249th Avenue)
Roadway and Intersection Improvements
September 2020

Scope of Services

I. Purpose – describes needs, objectives and tasks.

This roadway improvement project within the City of Buckeye will improve Durango Street, from Miller Road to 249th Avenue and 249th Avenue from Durango Street to approximately 450 feet north of Durango Street to its ultimate roadway section, including completely reconstructing the intersection of Durango Street and 249th Avenue. Additional improvements on Durango Street east of 249th Avenue and on 249th Avenue to tie into existing are included and will be designed considering the ultimate section to minimize rework in the future. Improvements described in this scope of work will improve connectivity from Miller Road to Watson Road, facilitate growth in the area and fulfill development agreements between the city and adjacent landowners to further promote development of this part of the City of Buckeye. The City of Buckeye and Stanley Consultants completed a detailed study of the project area in June 2020. The study is titled ***"Final Design Concept Report Durango Street, Miller Road to Yuma Road"*** and was approved on June 24, 2020. The study will be referred to as the Durango Street DCR moving forward. The project delivery method is the traditional design, bid, build.

Improvement for this project include the following:

- Complete reconstruction and widening of Durango Street from Miller Road to 249th Avenue to COB Major Collector cross section (4-lanes with a raised center median);
- Reconstruction of the Durango Street and Yuma Road intersection from a stop-controlled intersection to a three-way multilane roundabout intersection;
- Complete reconstruction and widening of 249th Avenue for approximately 450 feet north of Durango Street to COB Major Collector Cross section; This project will rename the Yuma Road north-south alignment to 249th Avenue.
- Construction of a two-lane frontage road to serve several residential home sites and the City well site along south side of Durango Street.
- Design of the sewer line for the length of the paving improvements, from Miller Road to east end on Durango Street, and 249th Avenue north to the end of the permanent pavement.

Engineering services for the **Durango Street (Miller Road to 249th Avenue) Roadway Improvement Project** include final design and preparation of construction drawings for bidding and construction. Additional services anticipated include supplemental survey, preparation of right-of-way exhibits and legal descriptions, traffic signal, signing and pavement markings, lighting, ITS infrastructure, and offsite and onsite drainage design.

In conjunction with the proposed improvements the following impacts are anticipated:

- Right-of-way acquisitions for Major Collector cross section and 40-foot temporary

construction easements to be completed by others.

- Utility conflicts along Durango Street including: utility poles, attached electric lines, attached communication lines, attached electrical equipment, conduit pedestals and additional conflicts identified during utility coordination. Utility removals/relocation requirements will be determined during prior rights and coordination tasks. Stanley will review utility relocation plans developed by the utility company; Stanley will incorporate relocation plans into final design documents. Electrical lines attached on wooden utility poles along Durango Street are anticipated to be 12 kV. Irrigation conflicts are not anticipated.

II. Project Deliverables:

Design

- Design/Construction Documents – for roadway improvements, intersection improvements, traffic signal improvement, ITS and lighting Improvements, and drainage and sewer improvements. Design will include the following submittals:
  - Initial Submittal (Preliminary)
    - Preliminary Utility Plans
    - Proposed R/W and easements
    - Drainage Report (Final)
    - Utility Coordination including Clearance Letters
  - 60% Submittal (Preliminary)
    - Proposed Utility Plans
    - Sewer design letter of amendment to the Miller Road Sewer Report
  - 95% Submittal (Preliminary)
  - Final 100% Submittal (Plans, Specifications, Estimate, and Bidding Schedule)

III. Project Team

Stanley Consultants

- Project Principal – Steve Jimenez, PE, RLS
- Quality Control Manager – Matt Dasen, PE
- Project Design Manager – Natalie Carrick, PE
- Lead Roadway Engineer – Ever Sanchez, PE
- Lead Traffic Engineer – Natalie Carrick, PE
- Lead Drainage Engineer – Chris D'Arcangelis, PE
- Supplemental Survey – Gene Harrison, RLS

Subconsultants

- Roundabout Evaluation – Mead and Hunt – Troy Pankratz, PE
- Utility Designation and Potholes – Safe Site Utility Services – Nicole Story

Assumptions/Exclusions

- Right-of-Way Acquisition Services, title reports, and property appraisals are not included in this scope of work.
- Environmental studies and landscape/irrigation design are not included in this scope of work.
- Post design services are not included in this scope of work. Post design services will be completed under a separate scope of work including bid assistance, answering RFI's, conducting submittal reviews, and preparing as-built drawings.
- Electronic CADD files and PDF files of deliverables will be provided City of Buckeye and other parties as requested by the City.
- Storm Water Pollution Prevention Plans are not included in the scope of work. It shall be the contractor's responsibility to obtain the NOI from DEQ.
- Subsurface geotechnical investigations are not included in this scope of work.

IV. Project Design Schedule

Preliminary and Final Design Schedule – 18 months. See attached detailed project schedule.

Preliminary Anticipated Schedule

The anticipated project schedule is as follows:

- October 2020: Consultant NTP
- Late May 2021: Initial Submittal
- Mid-August 2021 – Final R/W Exhibits and Legal Descriptions
- October 2021 – Utility Relocation Designs
- December 2021 – 60% Submittal
- February 2022 – 95% Submittal
- Late March 2022 – Final 100% PS&E Submittal
- April 2022 – Bid Advertisement

V. Detailed Fee Breakdown:

1. Project Management, Coordination, Meetings and QA/QC

Stanley will conduct meetings/workshops with City staff to discuss specific technical aspects of preliminary and final design; report on the progress of preliminary (60%, 95%) and final design; and discuss issues that may affect Project results.

Meetings/Workshops

Meetings or Workshops services will consist of the following:

a. One kickoff meeting with City and Stanley Consultants main team staff at the City of Buckeye (or online meeting as required).
b. Two field meetings with City and Project Team (one at project kick-off and one following 60% submittal to look at potential conflicts identified in the plans).

c. Four progress meetings with City staff at the City of Buckeye held every other month (or online as required).
d. Two Design review meetings (in conjunction with a progress meeting when possible) following 60% and 90% submittal.
e. Stanley Consultants will prepare or develop supporting meeting graphics to facilitate meeting discussions.
f. Stanley Consultants will prepare and distribute an agenda and meeting minutes for each meeting.
g. Stanley Consultants Project Manager will provide bi-weekly email status updates to the City of Buckeye Project Manager.

Project Administration/Coordination

Project Administration and Coordination services will include the following:

a. Design Project Manager and administrative staff will set up the project documents, including invoicing reports, progress reports, properly organize and file project documents in the project file.
b. Design Project Manager will monitor project budgets, subconsultants, communicate potential issues, including allowances, change orders or overruns.
c. Design Project Manager will coordinate the internal submittal production according to City of Buckeye Standards.
d. Design Project Manager will coordinate with the City PM in order to provide informational updates the City's Engineering division on schedule and anticipated dates of project submittals including a two-week advance notice.
e. Design Project Manager will coordinate with all affected utilities within the project limits. Refer to Section 4 – Utility Design and Coordination for more detail.

Quality Assurance/ Quality Control

Quality Assurance and Quality Control services will include the following:

a. Stanley Consultants quality control and quality assurance program will be followed for the preparation of calculations, reports and plans through established checking and back-checking procedures.
b. Stanley Consultants will fill out the submittal checklist provided by the City Project Manager and sign prior to each project submittal per the City process.

2. Survey and Mapping

Background

AeroTech Mapping performed the work associated with the base mapping for the project area during the study phase of this project. Base mapping datum and aerial topography datum will be used for this project. Survey control (horizontal and vertical) was established during the study phase of this project, however this project will provide the project survey control base map to be used during construction.

Survey/Mapping

Survey and Mapping services will include the following:

a. Provide survey control (horizontal and vertical) based on existing base mapping. This includes preparing a survey control base map drawing for sealed by a Registered Land Surveyor in the design plans set (1 sheet).
b. Provide detailed topographic survey of existing features.

Detailed Topographic Survey

Topographic survey will include the following:

- Property corners for required property agreements
- Complete review of the topographic survey provided by AeroTech including identifying above ground features like utility manholes, valves, telco boxes, cabinets and identifying any omitted features.
- Updating basefiles with standard above ground feature symbology.
- Detailed ground survey at tie in locations, turnout locations, existing and proposed drainage crossings, and at 50-foot cross section intervals (proposed right-of-way to proposed right-of-way) throughout the project. Tie in locations will be survey 600′ beyond anticipated project limits.
- Compete ground survey at Miller Road and Durango Street Intersection.
- Complete ground survey at the proposed Durango Street and 249th Avenue roundabout intersection.

3. Right-of-Way Base Maps

Stanley will provide the following Right-of-Way services:

a. Review and confirm existing right-of-way base map(s) and recorded documents from the City of Buckeye and Maricopa County Assessor.
    - Recorded documents may include the following: property plats, maps of dedications, legal descriptions and/or exhibits. The City of Buckeye shall provide title reports for properties requiring right-of-way and easement acquisition.
    - Title reports are required to prepare right-of-way base file for final design.
b. Update existing right-of-way CADD drawings to be used throughout final design.
    - Right-of-way file will be used as the basis for plans., legal descriptions and exhibits for new right-of-way acquisition activities.
c. Provide up-to-date right-of-way coordination spreadsheet including existing parcel owner information and anticipated right-of-way acquisitions.
d. Provide right-of-way exhibits including existing parcel information and proposed new right-of-way requirements.
e. Legal descriptions for proposed new right-of-way requirements will be developed.
f. Stanley will provide exhibits with underlying aerial exhibits for the City to use when communicating and making offers to property owners. A maximum of sixteen (16) parcels are anticipated.

City of Buckeye will perform appraisals and acquisition of the needed easements and right-of-way.

4. Utility Design and Coordination

Utility Designation
Safe Site Utility Services will provide subsurface utility investigation and designation. Refer to the attached detailed scope of services provided by Safe Site Utility Services.

Utility Coordination

Utility Coordination services will include the following:

a. Obtain, review and confirm utility maps from AT&T, ADOT, APS, Cox Communications, City of Buckeye Utilities, CenturyLink and Sprint. Review and confirm above ground utility features within in project limits using surface features.
b. Update base files based on coordination with utility stakeholders and City of Buckeye. Base file will include approximate location for existing utilities.
c. Conduct four (4) utility coordination meetings.
    - Two (2) meetings will follow the Initial submittal and 60% submittal.
    - Two (2) meeting will be held with APS to discuss existing utility conflicts, identify removals/relocations and coordinate project schedule.
d. Stanley Consultants will collect prior-rights documentation.
    - Utility easement information will be collected with the right of way information.
    - City of Buckeye will be responsible for evaluating the validity of prior-rights claims.
e. Stanley Consultants will coordinate potential relocations with conflicting utilities, including review relocation plans and schedule to ensure relocations fit within project limits and construction schedule.
f. Potholes for utility designs are included as an allowance in this scope of work.

Utility Design

Utility Design services will include:

a. Stanley Consultants will extend the existing Durango Street sewer approximately 1,450 linear feet west of Miller Road along Durango Street and Yuma Road, provide domestic sewer service connections for approximately 8 existing and future users along Durango Street. City of Buckeye should provide any developer plans needed for design.
b. Stanley Consultants will coordinate to determine existing sewer main elevations.
c. Service connections will be designed using City of Buckeye Wastewater Design Standards and Standard Details.

d. Stanley Consultants will complete approval to construct approval from the MCESD.
e. Stanley Consultants will prepare a sewer design letter of amendment to the Miller Road Sewer Report.
f. Potholes for utility designs are included as an allowance in this scope of work.

5. Roadway Construction Plans

Roadway Design services will include the following:

a. Durango Street Widening
    - Improvements will follow recommendations provided in the Durango Street DCR including four travel lanes and a raised median.
    - The Durango Street DCR identified existing APS utility poles that will need to be relocated, buried or removed.
b. Durango Street and Miller Road Intersection Partial Reconstruction
    - Improvements will include widening the east leg of the intersection to include additional width for an auxiliary right-turn and dual left-turn lane, and new ADA compliant pedestrian ramps on the northeast and southeast corners. Improvement limits will include partial reconstruction of the intersection.
    - AutoTurn analyses will be completed to verify dual left turns at the intersection provide a minimum of 10 feet separation.
    - In the interim, until such time that Miller Road is widened to provide additional lanes in the southbound direction, the westbound approach will be striped with a single left turn lane.
    - Existing striping on the west leg of the intersection will be evaluated to ensure proper lane alignment with the east leg of the intersection.
c. Durango Street and 249th Multilane Roundabout
    - Intersection improvements will follow recommendation provided in the Durango Street DCR. Improvements will realign the existing approaches to intersect in a three-leg roundabout approximately 120 feet northeast of the existing intersection including new ADA compliant pedestrian ramps for all legs of the roundabout.
    - The proposed intersection includes both two-lane and single-lane channelized entries designed to accommodate known and forecasted traffic patterns. The predominate movement for vehicular traffic at this intersection is eastbound to northbound and southbound to westbound.
    - Horizontal Design Review – Mead and Hunt will review the horizontal geometry of the roundabout (refer to attached scope of work from Mead & Hunt).
d. Durango Street Access/Frontage Road
    - The access/frontage road begins near the east property line of property 501-63-043 and ends near the east property line of property 504-63-045.
    - Access to residential properties south of the intersection will be provided with a two-way paved access/frontage road. The access road includes 20-foot width with 2-foot wide ribbon curb.

- There are five driveways along the planned access road. Driveways will be reconstructed as needed to tie in with improvements.

e. 249th Avenue
   - Improvements will generally follow recommendations provided in the Durango Street DCR; however complete improvements will end approximately 450 feet north of the Durango Street roundabout.
   - Improvements will widen the new 249th Avenue alignment to include four-lanes, two-way traffic will be separated with a raised median to the northern property limit of parcel 504-63-007X and taper back to existing to the north.
   - The existing north-south Yuma alignment will be renamed to 249th Avenue.
     - Stanley to provide signing concept to the City for review.
     - New/revised addressing for businesses impacted by street name change shall be completed by the City and is not included in this scope of work.

f. Side streets / driveways
   - 250th Avenue access will be maintained, and six new access locations will be provided according to the Access Management Exhibit provided by the City of Buckeye. The existing access location to parcel 504-22-015A will be maintained as a right-in-right-out.
   - A new driveway is anticipated for the new access/frontage road south of Durango.
   - Side streets and driveways will be designed to tie-in to new improvements.

g. Roadway Modeling
   - A roadway model will be developed to determine cut and fill limits, as well as earthwork quantities.

h. Offsite Drainage
   - Offsite flows generally approach Durango Street and Yuma Road from the north and flow south. This project will maintain historical drainage patterns, detention basins will be provided in locations of existing storage and culvert crossings will be provided to convey flows across Durango Street and 249th Avenue. The roadway profile will be elevated at culvert crossings.

i. Cross sections – Cross section at 50-foot intervals will be provided with the final submittal.

j. Refer to Section 7 for Drainage Design scope of work related to half street drainage for undeveloped properties within the project limits.

6. Geotechnical

Ethos Engineering, LLC. provided the geotechnical investigation and recommendations within the Durango Street DCR, approved on June 24, 2020. Proposed improvements for this project will follow preliminary recommendations provided by Francisco J. Garza, P.E., Senior Geotechnical Engineer on October 15, 2019.

Recommendations include:

- Remove and replace interim pavement within project limits
- Durango Street, West of 249th Avenue: 6″ AC, 12″ ABC
- Durango Street, East of 249th Avenue: 6″ AC, 10″ ABC
- 249th Avenue, North of Durango Street: 6″ AC, 12″ ABC

No additional geotechnical investigation will be provided as part of this scope of work.

7. Drainage Design

The drainage design includes the following tasks and deliverables:

- Review Adjacent Development & ADOT Miller Rd TI Reports: Stanley will review data and reports for adjacent developments and for the recent improvements associated with the ADOT Miller Road traffic interchange. A review of the existing hydrology and hydraulics will be made from these documents.
- Drainage Coordination w/City: Coordination with the City of Buckeye staff for drainage related items will be maintained throughout the project via phone and/or e-mails on a regular basis.
- Field Reconnaissance: Conduct field reconnaissance to confirm contributing areas, flow paths, roughness coefficients and to review current land use and general topography. The field recon will be conducted by the project drainage engineer.
- Verify Offsite Hydrologic Analysis: Stanley will verify hydrologic analysis previously completed for adjacent developments and utilize the existing hydrologic information found in design and drainage reports and other sources as the basis for design.
- Verify Offsite Hydraulic Analysis: Stanley will verify hydraulic analysis for previously completed adjacent developments for use in design for this project.
- Onsite Pavement Hydrologic Analysis: Pavement hydrologic analysis will be performed to design onsite systems including inlets and pipes using StormCadd and conform to the requirements of the City of Buckeye. The Rational Method will be employed to estimate discharges to roadway inlets.
- Onsite Pavement & Culvert Hydraulic Analysis: Pavement hydraulic analysis will be performed to design onsite systems including inlets and pipes using StormCadd and conform to the requirements of the City of Buckeye.
- Drainage Report (Draft Final & Final): Stanley will prepare a Draft Final and Final Drainage Report in accordance with City of Buckeye standards. The drainage reports will be prepared to document design criteria and engineering methodologies used for the hydrologic and hydraulic analyses and include a narrative with summary. It will contain vicinity and project maps, the results of the hydrologic and hydraulic analyses, provide supporting calculations,

references, and supporting sketches.

- Address Comments Drainage Report & Coordination with City: Stanley will address comments and provide responses on the Draft Final Drainage Report and incorporate those revisions in the Final Drainage Report. Coordination with the City for resolution of the comments will be conducted by teleconference.

8. Signing and Pavement Marking

Stanley Consultants will provide the following Signing and Pavement Marking services:

a. Stanley's Traffic group will provide 60%, 95% and Final construction documents including plans, specifications and engineer's construction cost estimates.
b. Design will follow the City of Buckeye current policies and the latest version of the MUTCD.
c. Construction sequencing and maintenance of traffic requirements will be discussed with the City of Buckeye and incorporated into the project specifications. The contractor shall be responsible for construction sequencing, providing traffic control plans and permit coordination.
d. Signing and pavement marking improvements will include curb and gutter edge striping, lane dimensions, sidewalk and ramp striping, callouts for new striping and signs, callouts for removal striping and signs.
e. The anticipated signing and pavement striping limits are:
    - Durango Street, Miller Road intersection through the roundabout intersection of 249th Avenue and past the east leg of Durango Street.
    - Access Road south of Durango Street.

9. Traffic Signal Designs

Stanley Consultants will provide the following Traffic Signal design services:

a. Stanley's Traffic group will provide 60%, 95% and Final construction documents including plans, specifications and engineer's construction cost estimates.
b. Design will follow the City of Buckeye current policies and the latest version of the MUTCD.
c. Traffic signal improvements at the Miller Road and Durango Street intersection will include removal of all signal poles in conflict with the new roadway. It is anticipated that one Type A pole is in conflict and will require modifications.
d. Pedestrian activated rapid rectangular flashing beacons (RRFB) will be installed at the Durango Street and 249th Avenue roundabout for crosswalks crossing the west leg and north leg of the roundabout.

10. Lighting and ITS

Stanley Consultants will provide the following street lighting and ITS services:

a. Stanley Consultants will provide street lighting improvement and ITS conduit

plans within the project limits.

b. The lighting will be designed in accordance with the recommended lighting criteria set forth in the section 7-2 of the City of Buckeye Engineering Design Standards. Photometric calculations will be performed using AGi 32 lighting software for LED luminaires.
c. The lighting design will use the City of Buckeye standard light poles and mounting heights.
d. The lighting design will require coordination with APS for new service connections and to ensure the newly installed poles are not in conflict with the existing overhead utility poles and utility lines.
e. The ITS conduit will be designed in accordance with section 6-6 of the City of Buckeye Engineering Design Standards. Conduit will be installed on the north side of Durango Street and on the west side of 249th Avenue within the project limits.

11. Technical Specifications and Engineer's Estimate of Probable Construction Cost

Technical Specifications

Stanley Consultants will provide the following services:

a. Stanley will prepare and provide technical specifications in accordance with the Maricopa Association of Governments (MAG) Standard Specifications and City of Buckeye guidance.
    - A Draft Technical Specifications and Special Provisions including major spec items will be provided at 60% design submittal
    - Final Technical Specifications will be provided with the 95% submittal.

Engineer's Estimate of Probable Construction Cost

Stanley Consultants will provide the following services:

a. Stanley will provide an Engineer's Estimate of Probable Construction Cost at each submittal (60%, and Final).

12. Stakeholder and Public Meetings

Two Stanley team members will attend one public meeting. Public notice and meeting facilitation are not included in this scope of work.

Stanley will prepare up to 3 (24" x 36") exhibits for a public meeting following 60% design submittal.

13. Allowances

Final Design: ($23,000)

Allowance can be use at the discretion of the City of Buckeye. The number of potholes required for the project will be determined during final design and confirmed with the City of Buckeye Project Manager. The scope of work includes the preparation of legal descriptions and right of way exhibits for a maximum of 16 parcels. If additional legal descriptions and right-of-way exhibits are required, Stanley Consultants will coordinate with and receive approval from the City of Buckeye Project Manager to utilize the allowance to complete the additional work.

14. Construction Drawing Deliverables

Construction drawings will follow City of Buckeye Engineering Design Standards and guidelines. Plans will be developed at 60%, 95%, and Final.

Roadway construction drawings will be prepared at 1″ = 40 scale (full size) and includes the following sheets:

- Cover sheet (1 sheet)
- General Notes and Legend Sheets (2 sheets)
- Key Map (1 sheet)
- Typical Sections (2 sheets)
- Geometric Sheets (2 sheets)
- Durango Street Paving Plan and Profile (2 sheets)
- 249th Avenue Paving Plan and Profile (1 sheet)
- 250th Avenue Tie-in Detail (1 Sheet)
- Durango Street and 249th Avenue Roundabout Intersection (1 sheet)
- Durango St. & 249th Ave Roundabout Staking Sheets (Plan & Data Tables (10 sheets)
- Access Road Detail Sheet (1 sheets)
- Roadway Detail Sheets (2 sheets)
- Driveway Profile Sheets (2 sheets)

Drainage Construction Drawings will include the following sheets:

- Storm Drain Profiles (4 profiles, 2 sheets)
  - Four (4) closed storm drain systems will be designed and shown on (2) profile sheets.
- Culvert Plan & Profile Sheets (5 culverts, 3 sheets)
  - There will be 3 culvert plan and profile sheets completed that includes the limits of channel grading will be prepared for the 60%, 95% and Final PSE submittals.
- Drainage Details (3 graded basins, 2 level spreaders, 3 temporary basis, energy dissipator, handrail, 6 sheets)
  - Drainage details for this project include three (3) graded area basins, two (2) level spreaders which will be detailed with geometrically along with horizontal and vertical layout information, and three (3) temporary basis along 249th Avenue north of the roundabout. A detail for a riprap energy

dissipator for culverts and a handrail detail will also be completed.

Signing and Pavement Marking Construction Drawings will include the following:

- Signing general notes, legend, and details (1 sheet).
- Pavement markings general notes, legend, and details (1 sheet).
- Signing and pavement marking obliteration plan (40-scale, 4 sheets)
- Signing and pavement marking plan (40-scale, 4 sheets).
- Sign summary sheets (3 sheets)

Traffic Signal Construction Drawings will include the following:

- Traffic Signal Cover, general notes, legend, and details (2 sheets).
- Miller Road/Durango Street Traffic signal layout (20-scale, 1 sheet).
- Miller Road/Durango Street Pole and conductor schedule (1 sheet).
- Durango Street/249th Avenue Ped Activated RRFB layout (1 sheet).
- Durango Street/249th Avenue Ped Activated RRFB Pole and conductor schedule (1 sheet).

Lighting and ITS Construction Drawings will include the following:

- Lighting general notes and legend (1 sheet).
- Lighting and ITS plans (40-scale, 4 sheets).
- Lighting details for any special installation or light pole details (1 sheets)

Plans will comply with City of Buckeye "Design Standards – Section 1-2 Plan Submittal Requirements." City of Buckeye and MAG Standard Details will be used.

Mead & Hunt will prepare a Roundabout Documentation Package verifying the design requirements including horizontal geometry, fastest paths, design vehicle movements, and sight distance envelopes. (Refer to attached scope of work provided by Mead & Hunt)

[END]

Firm: Stanley Consultants
1661 E Camelback Road, Suite 400
Phoenix, Arizona 85016
Phone: (602) 333-2200
FAX: (602) 333-2333

Contract Name: Durango Street Final Design
Contract No.: 2016-020-014

DERIVATION OF COST PROPOSAL - SUMMARY
(Round Figures to the nearest $1.00)
Estimated Direct Labor

Classification	Estimated Person-Hours	Loaded Hourly Rate	Costs
Project Principal	2	$ 284.00	$ 568.00
Project Manager	135	$ 226.00	$ 30,510.00
Senior Engineer	288	$ 210.00	$ 60,480.00
Design Engineer	584	$ 169.00	$ 98,696.00
Designer	1033	$ 134.00	$ 138,422.00
Senior CADD Tech	348	$ 134.00	$ 46,632.00
Senior Registered Land Surveyor	32	$ 172.00	$ 5,504.00
Survey Party Chief	36	$ 121.00	$ 4,356.00
Survey Tech	116	$ 111.00	$ 12,876.00
Administrative	12	$ 77.00	$ 924.00
Total	2,586		$ 398,968.00

Total Estimated Labor $ 398,968.00

Estimated Direct Expenses
(Listed by Item at Estimated Actual Cost -- No Mark-up)

Direct Expenses $ 2,403.68

Total Estimated Expenses $ 2,403.68

Estimated Outside Services and Consultants
(Listed by Firm or Name at Estimated Cost -- No Mark-up)

Firm	**Method of Compensation**	**Cost**
Mead & Hunt		$ 7,917.00
Safe Site		$ 5,570.00

Total Estimated Outside Services $ 13,487.00

TOTAL NOT TO EXCEED COST $ 414,858.68
Project Allowance $ 23,000.00
Total Not to Exceed Cost w/Allowance $ 437,858.68

Steven A Jimenez
Signature

9/28/2020
Date

City of Buckeye

Durango Street/249th Avenue Final Design

Cost Proposal

17-Sep-20

TASK	Project Principal	Project Manager	Senior Engineer	Design Engineer	Designer	Senior CADD Tech	Senior Registered Land Surveyor	Survey Party Chief	Survey Tech	Administrative	TOTAL LABOR HOURS	TOTAL STANLEY LABOR FEE	MEAD & HUNT FEE	TIERRA RIGHT OF WAY FEE	ETHOS ENGINEERING FEE	SAFE SITE FEE	STANLEY DIRECT COSTS	TOTAL FEE
LABOR RATE	$ 284.00	$ 226.00	$ 210.00	$ 169.00	$ 134.00	$ 134.00	$ 172.00	$ 121.00	$ 111.00	$ 77.00								
1. PROJECT MANAGEMENT, COORDINATION & QA/QC																		
1.1 Kickoff Meeting (virtual meeting)		2	6	2							10	$ 2,050						$ 2,050
1.2 Field Meetings (2 Meetings)		6	12								18	$ 3,876	$ -		$ -		$ 84	$ 3,960
1.2 Conducting and Attending Progress Meetings (4 Meetings)		16	16	16							48	$ 9,680					$ 186	$ 9,866
1.3 Comment Review Meetings (2 Meetings)		8	8	8							24	$ 4,840	$ -		$ -		$ 93	$ 4,933
1.4 Preparing meeting agendas and minutes		8		16	16						40	$ 6,656	$ -		$ -		$ -	$ 6,656
1.5 Overall Project management, coordination and invoicing	2	12								8	22	$ 3,896	$ -		$ -		$ -	$ 3,896
											0							
2. SURVEYS AND MAPPING																		
2.1 Survey control sheet					8		4	4	16		32	$ 4,020	$ -		$ -		$ -	$ 4,020
2.3 Detailed topographic survey					24		4	32	16		76	$ 9,552	$ -		$ -		$ -	$ 9,552
2.4 Review and update aerial basefiles					16		8		4		28	$ 3,964						$ 3,964
3. RIGHT-OF-WAY BASE MAPS, LEGAL EXHIBITS & DESCRIPTIONS																		
3.1 Update existing right-of-way base map		8		16	24						48	$ 7,728	$ -		$ -		$ -	$ 7,728
3.2 ROW Exhibits and Legal Descriptions (16 parcels)							16		80		96	$ 11,632						$ 11,632
4. UTILITY COORDINATION																		
4.1 2-D Utility designation and Base Mapping		2	6	16							24	$ 4,416				$ 5,570		$ 9,986
4.2 Update existing utility base map from utility coordination		2	4	8							14	$ 2,644						$ 2,644
4.3 Utility Prior Rights Documentation Request & Review		2		4							6	$ 1,128						$ 1,128
4.4 Review and Coordination Utility Relocation Plans		2	4	16							22	$ 3,996						$ 3,996
4.5 Prepare utility clearance letters			2	4	10						16	$ 2,436						$ 2,436
4.6 Utility Coordination Preparation & Meeting (3 Meetings @ 3 hours ea)		9		9							18	$ 3,555						$ 3,555
4.7 Individual Utility Meeting (1 Meeting @ 4 hours)		4		4							8	$ 1,580						$ 1,580
4.8 Meeting Agendas & Minutes (4 Meetings @ 1 hour)		4		4							8	$ 1,580						$ 1,580
4.9 Sewer Service Connection Plan and profile sheets (3 sheets)			22	42	48						112	$ 18,150						$ 18,150
4.10 Sewer service parcel details sheets (2 sheets)			8	26	44						78	$ 11,970						$ 11,970
4.11 Misc Detail sheet (1 sheet)			4	13	22						39	$ 5,985						$ 5,985
4.12 General Notes and Legend Sheet (1 sheet)			2	8	11						21	$ 3,246.00						$ 3,246
4.13 MCESD ATC permit and misc expense											0	$ -					$ 2,000	$ 2,000
4.14 Sewer Letter to Amend Miller Road Sewer Report		1	6	18	40						65	$ 9,888.00						$ 9,888.00
5. ROADWAY PLANS																		
5.1 Cover Sheet				2	4						6	$ 874						$ 874
5.2 General Notes and Legend Sheets			2	4	6						12	$ 1,900						$ 1,900
5.3 Key Map						8					8	$ 1,072						$ 1,072
5.4 Typical Section Sheets			2	8	8	18					36	$ 5,256						$ 5,256
5.5 Geometric Sheets			4	16	24	40					84	$ 12,120						$ 12,120
5.6 Durango Street Paving Plan and Profile Sheets			4	20	16	32					72	$ 10,652						$ 10,652
5.7 249th Avenue Paving Plan and Profile Sheets			2	10	8	16					36	$ 5,326						$ 5,326
5.8 250th Avenue Detail Sheet			2	4	6	10					22	$ 3,240						$ 3,240
5.9 Durango Street & 249th Ave Intersection Sheet			3	6	13	18					40	$ 5,798						$ 5,798
5.10 Roundabout Staking Sheets (Plan and Data Tables)			4	14	22	40					80	$ 11,514						$ 11,514
5.11 Access/Frontage Road Detail Sheet				8	12	4					24	$ 3,496						$ 3,496
5.12 Roadway Detail Sheets			6	18	6	18					48	$ 7,518						$ 7,518
5.13 Side Street/Driveway Profile Sheets			4	8	16	8					36	$ 5,408						$ 5,408
5.14 Roadway Modeling		2	16	20	36						74	$ 12,016						$ 12,016
5.15 Quantity Take-off for 60%, 95% and Final				16	38						54	$ 7,796						$ 7,796
5.16 Cross section @ 50 Foot Intervals		2	8	20	20						50	$ 8,192						$ 8,192
5.17 Roundabout Geometrics Review and Verification													$ 7,917					$ 7,917
7. DRAINAGE																		
7.1 Review Adjacent Development & ADOT Miller Rd TI Reports				4	6						10	$ 1,480	$ -		$ -		$ -	$ 1,480
7.2 Drainage Coordination w/City			3	4							7	$ 1,306	$ -		$ -		$ -	$ 1,306
7.3 Field Reconnaissance				4							4	$ 676	$ -		$ -		$ 42	$ 718
7.4 Verify Offsite Hydrologic Analysis			2	4							6	$ 1,096	$ -		$ -		$ -	$ 1,096
7.5 Verify Offsite Hydraulic Analysis			2	4							6	$ 1,096	$ -		$ -		$ -	$ 1,096
7.6 Onsite Pavement Hydrologic Analysis			2	12	28						42	$ 6,200	$ -		$ -		$ -	$ 6,200
7.7 Onsite Pavement & Culvert Hydraulic Analysis			2	12	28						42	$ 6,200	$ -		$ -		$ -	$ 6,200
7.8 Drainage Plan (Drainage info depicted on Roadway Plans)			1	4	12	16					33	$ 4,638	$ -		$ -		$ -	$ 4,638

7.9 Storm Drain Profiles (4 profiles, 2 sheets)			2	6	12	16					36	$ 5,186	$ -		$ -		$ -	$ 5,186
7.10 Culvert P & P Sheets (5 culverts, 3 sheets)			2	12	28	12					54	$ 7,808					$ -	$ 7,808
7.11 Drainage Details (3 graded basins, 2 level spreaders, energy dissipator, handrail, 6 sheets)			6	20	42	26					94	$ 13,752					$ -	$ 13,752
7.12 Drainage Report (Draft Final & Final)			2	10	30					4	46	$ 6,438					$ -	$ 6,438
7.13 Address Comments Drainage Report & Coord w/City			2	8	16						26	$ 3,916					$ -	$ 3,916
7.14 Drainage Quantities and Cost Estimate			2	6	18						26	$ 3,846					$ -	$ 3,846
7.15 Special Provisions & Specifications			2	6	8						16	$ 2,506					$ -	$ 2,506
9. Signing and Pavement Marking Plans																		
9.1 General Notes, Legend, and Details		1			7	4					12	$ 1,700	$ -		$ -		$ -	$ 1,700
9.2 Signing and Pavement Marking Sheets		1			32	19					52	$ 7,060	$ -		$ -		$ -	$ 7,060
9.3 Signing and Pavement Marking Obliteration Sheets		2			20	18					40	$ 5,544						$ 5,544
9.4 Sign Summary Sheets		1			28	16					45	$ 6,122	$ -		$ -		$ -	$ 6,122
9.5 Quantity Take-off for 60%, 95% and Final		3		8	18						29	$ 4,442					$ -	$ 4,442
10 Traffic Signal																		$ -
10.1 Cover, General Notes, Legend, and Details			2		12						14	$ 2,028					$ -	$ 2,028
10.2 Miller/Durango Traffic Signal Layout sheet			2	4	12						18	$ 2,704					$ -	$ 2,704
10.3 Miller/Durango Pole and Conductor Schedule			2	2	12						16	$ 2,366					$ -	$ 2,366
10.4 Ped Activated RRFB Layout sheet			2	4	12						18	$ 2,704						$ 2,704
10.5 Ped Activated RRFB Pole and Conductor Schedule			2	2	12						16	$ 2,366						$ 2,366
10.6 Quantity Take-off for 60%, 95% and Final		3		8	18						29	$ 4,442						$ 4,442
																		$ -
11 LIGHTING & ITS CONDUIT																		
11.1 Photometric Analysis			6	18							24	$ 4,302					$ -	$ 4,302
11.2 General Notes, Legend, and Details			2		12						14	$ 2,028					$ -	$ 2,028
11.3 Street Lighting & ITS Conduit Plan Sheets		2	16	18	38						74	$ 11,946					$ -	$ 11,946
11.4 Street Lighting Detail Sheet			2		14						16	$ 2,296					$ -	$ 2,296
11.5 APS Coordination for new services		1	12								13	$ 2,746					$ -	$ 2,746
11.6 Quantity Take-off for 60%, 95% and Final			8		12						20	$ 3,288					$ -	$ 3,288
12. TECHNICAL SPECIFICATIONS & EOPCC																		
12.1 Bid Schedule / Cost Estimate for 60%, 95% and Final Submittals		2	8		16						26	$ 4,276					$ -	$ 4,276
12.2 Technical Specifications		2	12		32						46	$ 7,260					$ -	$ 7,260
13. STAKEHOLDER & PUBLIC MEETING																		
13.1 Attend public meeting (1 meeting, 2 Stanley members)		5	5								10	$ 2,180	$ -		$ -		$ -	$ 2,180
13.2 Prepare up to 3 (24" x 36") exhibits		2				9					11	$ 1,658	$ -		$ -		$ -	$ 1,658
											0	$ -	$ -		$ -		$ -	$ -
TOTAL	**2**	**135**	**288**	**584**	**1033**	**348**	**32**	**36**	**116**	**12**	**2586**	**$ 398,968**	**$ 7,917**	**$ -**	**$ -**	**$ 5,570**	**$ 2,404**	**$ 406,139**

Contract Amendment

7/28/2020

Ms. Natalie Carrick, PE	Project Name: Durango Street and Yuma Street
STANLEY CONSULTANTS, INC	Project Location: City of Buckeye, Arizona
1661 East Camelback Road, Suite 400	Project number: 4410900-191295.01
Phoenix, AZ 85016	Mead & Hunt Manager: Troy Pankratz

Subject: Amendment No. 1

Dear Ms. Natalie Carrick, PE:

The above-referenced PROJECT requires an Amendment. The work in this Amendment is in addition to the Scope of Services stated in the original contract between the CLIENT (STANLEY CONSULTANTS, INC) and the CONSULTANT (Mead & Hunt, Inc.) dated 8/6/2019.

The CLIENT agrees that the CONSULTANT shall provide professional consulting services for the PROJECT as set forth in this Amendment and the CLIENT shall provide payment for those services as provided for in this Amendment.

A detailed description of our understanding of the Amended PROJECT Scope of Services, Schedule, and Compensation is provided below.

Reason for Amendment

We have previously provided design review services to assist in the development of the roundabout layout for DCR plans. The roundabout is now proceeding to final design plans and Stanley Consultants has requested that Mead & Hunt provide additional services for this next phase of the project.

Amended Scope of Services

The Scope of Services for the PROJECT is amended to include the following:

1) Horizontal Design Review

The scope of this task will be to review the horizontal geometry of the roundabout intersection and is expected to include the following:

- Review roundabout horizontal geometrics based on composition of circle location, alignment of approaches, and intersection geometry.
- Review roundabout functionality of fast paths, vision angles, vehicle path overlap, and phi angles.
- Review accommodation of design vehicle turning movements through the roundabout.

2) Plan Review

The scope of this task will be to provide design review and recommendations on the roundabout related plan sheets. Review of the following items will be provided:

- Intersection layout sheets
- Vertical geometrics
- Permanent signing
- Pavement marking
- Constructability
- Landscaping (for conformance with clear view requirements in FHWA guidelines)

3) Roundabout Geometry Documentation Package

The scope of this task will consist of preparing a Roundabout Documentation submittal package depicting the final horizontal geometry, fastest paths, design vehicle movements, and sight distance envelopes.

Amended Schedule

Mead & Hunt proposes the following revised dates to complete the work for this PROJECT:

Item	Completion Date
Horizontal Design Review	3 weeks from receiving the required design information
Plan Review	3 weeks from receiving the required design information
Roundabout Geometry Documentation Package	4 weeks from receiving the required design information

Amended Compensation

Form of compensation for work in this Amendment will be in accordance with the *Terms and Conditions* of the existing CONTRACT. STANLEY CONSULTANTS, INC will pay Mead & Hunt an increase of $7,917.00 for the work performed under this Amendment. This Amendment results in a revised contract amount of $ 18,379.00 for the total PROJECT.

Authorization for Amendment

The Amended Scope of Services, Schedule, and Compensation stated in this amendment are valid for a period of thirty (30) days from date of submission. If authorization to proceed is not received during this period, this amendment may be reviewed and modified by Mead & Hunt.

Signatures of authorized representatives of STANLEY CONSULTANTS, INC and Mead & Hunt shall amend the existing Agreement (original CONTRACT and all previous amendments, if applicable) between the two parties, and receipt of one signed copy shall be considered authorization to proceed with the work described in this Amendment. All services will be performed in accordance with the *Terms and Conditions* of the original CONTRACT and amendment, if applicable. If a signed copy of this Authorization is not received by Mead & Hunt, Inc. within seven (7) days from the date of issuance, Mead & Hunt, Inc. may stop work on the above services.

Respectfully submitted,



MEAD & HUNT, Inc.

Troy Pankratz, PE

Attachments

Accepted by:	STANLEY CONSULTANTS, INC	Approved by:	MEAD & HUNT, INC.
By:		By:	
Name:		Name:	Rusty Chesmore
Title:		Title:	Vice President
	The above person is authorized to sign for Client and bind the Client to the terms hereof.		*The above person is an authorized signer for Mead & Hunt, Inc.*
Date:		Date	

Mead&Hunt

PROJECT ID: **City of Buckeye, Durango/Yuma - Contract Mod #1**

CLASS Avg. Hourly Wage TASK		Senior Engineer $183.00		Technician II $116.00		Clerical $79.00		Total Direct Labor	
		Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars
Horizontal Design Review		17	$3,111.00					17	$3,111.00
Plan Review		14	$2,562.00					14	$2,562.00
Roundabout Documentation Package		8	$1,464.00	4	$464.00	4	$316.00	16	$2,244.00
TOTALS		**39**	**$7,137.00**	**4**	**$464.00**	**4**	**$316.00**	**47**	**$7,917.00**

MEAD & HUNT, Inc.
Standard Billing Rate Schedule
Effective January 1, 2020

Standard Billing Rates

Clerical	$79.00 / hour
Technical Editor	$113.00 / hour
Senior Editor	$183.00 / hour
Registered Land Surveyor	$144.00 / hour
Accounting, Administrative Assistant	$101.00 / hour
Technician I, Technical Writer	$101.00 / hour
Technician II, Surveyor - Instrument Person	$116.00 / hour
Technician III	$134.00 / hour
Technician IV	$149.00 / hour
Senior Technician	$159.00 / hour
Engineer I, Scientist I, Architect I, Interior Designer I, Planner I	$129.00 / hour
Engineer II, Scientist II, Architect II, Interior Designer II, Planner II	$147.00 / hour
Engineer III, Scientist III, Architect III, Interior Designer III, Planner III	$165.00 / hour
Senior Engineer, Senior Scientist, Senior Architect, Senior Interior Designer, Senior Planner, Senior Economist	$183.00 / hour
Project Engineer, Project Scientist, Project Architect, Project Interior Designer, Project Planner	$203.00 / hour
Senior Project Engineer, Senior Project Scientist, Senior Project Architect, Senior Project Interior Designer, Senior Project Planner	$234.00 / hour
Senior Associate	$261.00 / hour
Principal	$284.00 / hour
Senior Client/Project Manager	$284.00 / hour

Expenses

Geographic Information or GPS Systems	$100.00 / day
Total Station Survey Equipment	$110.00 / day
Charges for other equipment may appear in a proposal	
Out-Of-Pocket Direct Job Expenses	cost plus 15%
Such as reproductions, sub-consultants / contractors, etc.	

Travel Expense

Company or Personal Car Mileage	IRS rate / mile
Air and Surface Transportation	cost plus 15%
Lodging and Sustenance	cost plus 15%

Billing & Payment

Travel time is charged for work required to be performed out-of-office. A minimum of two hours will be billed for any work out-of-office.

Invoicing is on a monthly basis for work performed. Payment for services is due within 30 days from the date of the invoice. An interest charge of 1.5% per month is made on the unpaid balance starting 30 days after the date of invoice.

This schedule of billing rates is effective January 1, 2020, and will remain in effect until December 31, 2020, unless unforeseen increases in operational costs are encountered. We reserve the right to change rates to reflect such increases.

7623 N 73rd Drive
Glendale, AZ 85303
O: 602.606.8882
F: 602.391.2934
www.safesitellc.com

August 4, 2020 Proposal No. 2007329

Natalie Carrick, P.E., RSP
Stanley Consultants
1661 E Camelback Rd, Suite 400
Phoenix, AZ 85016

Re: Utility Designation and Test Hole Services for Durango Rd: Miller Rd to Yuma Rd Improvements located in Buckeye, AZ

Dear Natalie:

Safe Site Utility Services, LLC (Safe Site) is pleased to provide ***Stanley Consultants*** *(*Client) this proposal for utility locating and potholing services at the above-referenced site. Based on the information received, we are offering this proposal.

Scope of Work

PHASE I - Quality Level B Subsurface Utility Investigation and Designation

1. Perform Subsurface Utility Investigation (SUI) to determine presence of site utilities in order to designate and map their horizontal locations in 2D (X and Y coordinates).
2. Utilize the following approaches to designation (segregated by ASCE 38-02 quality level standards)
    a. Quality Level B – Electromagnetic locating of metallic/conductive utilities. This would also include non-conductive utilities that have companion locate wire or are open pipe that can be accessed to insert locatable rodder.
    b. Quality Level C – Identifying existing utilities that are not electromagnetically locatable (non-conductive) through use of utility maps and visible surface indicators in order to designate the approximate location for purposes of mapping. Other technologies may be used to enhance this effort including ground penetrating radar and acoustic devices. These utilities will be labeled as QL-C on maps and it is highly recommended that vacuum excavation test holes (Quality Level A) be performed to confirm exact locations.

3. After designation, the utility horizontal locations would be captured using mapping grade GPS data collector(s) in AZ State Plane NAD83 datum. A CAD layer will be created in "2D" (no elevation information) in order to be incorporated into project design maps.
4. Work with Client to determine potential connection points and/or construction conflict locations in order to create a Test Hole Exhibit to be used for potholing in Phase 2.

PHASE II - Quality Level A Subsurface Utility Test Holes

1. Safe Site will supply a vacuum excavation crew on the project site for the purpose of investigating, digging test holes and documenting utility locations.
2. Upon exposure of a target utility, Safe Site will record utility type, size, material and depth of cover of each.
3. Safe Site will provide survey by a Registered Land Surveyor to document the locations and elevations of potholed utilities.
4. Safe Site will provide a Test Hole Summary Report detailing this information.
5. Safe Site will indicate the locations of utilities by marking the ground surface using PK nails or stake chasers (nylon brushes).
6. Safe Site anticipates approximately 7-8 workdays to complete this project from the time of start and expects work to begin within 15 business days of notice to proceed.

Terms and Conditions

1. Client will perform the utility records research and provide all available utility location maps and other pertinent information for use during the designation phase.
2. Client will provide project datum and benchmark information to Safe Site for use as survey control.
3. A "Test Hole" will be considered one excavation up to 8 feet deep with lateral "belling" of the hole up to a width of 4 feet.
4. Test Holes will be backfilled per owner/agency specifications.
5. Unless Agency representative expressly authorizes the use of cold mix asphalt patch, asphalt pavement surfaces will be restored per MAG Spec 212-B per additional fees as detailed in Project Fee section.
6. Pricing assumes test hole locations are accessible within 20' with vacuum truck. Further distances, such as rear of lots, will be considered out of scope and billed at hourly rate.
7. Should caliche, tree roots, concrete, rocks in excess of 6" diameter, or other materials be encountered that encumber vacuum excavation, work will be considered Out of Scope and client will be contacted for approval to continue at hourly rate.
8. Traffic control costs are included.
9. Expected Permitting/Bonding costs have been included in this proposal. Any out of ordinary costs incurred due to governing agency requirements will be presented to Client for approval to add to the project fee.
10. Safe Site will exercise due diligence in identifying and locating all utilities. However, due to factors beyond our control including lack of maps, inaccuracy of maps, lack of aboveground indications of utilities, the presence of unknown and non-electromagnetically conductive utilities and soil conditions being non-conducive to GPR scans, Safe Site cannot guarantee that all utilities will be found.

11. Payment terms are Net 30 days unless other arrangements have been made.

Project Fee

Phase I Utility Designation & Mapping

Designation	**$ 3,680.00**
GPS Mapping & CAD Services	**$ 1,890.00**
TOTAL PHASE I	**$ 5,570.00**

Phase II – Test Hole Excavation

Excavating 20 Test Holes up to 8' in Depth @ $500.00 each	**$ 10,000.00**
Ancillary Costs (permit/bonding fees, back fill, traffic control, etc.)	**$ 5,750.00**
14 Test Holes–Core/Reinstate per MAG Spec 212-B @ $222 each	**$ 3,108.00**
TOTAL PHASE II	**$ 18,858.00**

TOTAL PROJECT FEE	**$ 24,428.00**

Potential Contingencies:

Additional Test Holes While on Site	**$ 940.00**
Hourly Rate for Out of Scope Work	**$ 275.00**
Additional Charge per Test Hole 8' to 12' depth*	**$ 195.00**

Potholes exceeding 12 foot in depth will be considered Out of Scope.

We appreciate the opportunity to provide this proposal and look forward to hearing back from you. If you have any questions or would like to further discuss this proposal please do not hesitate to contact me at tim@safesitellc.com or 623-444-2194.

Respectfully,



Tim Story
Principal Partner & COO

ACCEPTANCE STATEMENT AND AUTHORIZATION TO PROCEED
Proposal # 2007329

This Acceptance becomes a part of the Proposal Letter dated August 4, 2020.

The Proposal is hereby accepted according to the Scope of Work and Terms and Conditions contained therein. Safe Site Utility Services, LLC is authorized to proceed with the work described therein. Payment will be made according to the payment terms specified in the Proposal. Any unpaid balance remaining beyond the due date will be subject to interest at an annual rate of 18% (1.5% per month).

Please fax completed form back us @ 602-391-2934 or scan and email to bids@safesitellc.com .

Client Name: _____
By:

_____ _____
Signature **Date**

_____ _____
Printed Name **Title**

Proposal submitted by:

Safe Site Utility Services, LLC
7623 N 73rd Drive
Glendale, AZ 85303
O: 602-606-8882
F: 602-391-2934
www.safesitellc.com

Arizona – ROC211956 | Nevada NSCB-0078575

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.H. Shums Coda - Building Inspections, Building Official and Building Plan Review Services
DATE PREPARED: 02/24/22	**DISTRICT NO.:**
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action on Task Order No. 5 to the On-Call Consulting for Engineering and Architectural Services Contract (No. 2017-010-002) between the City of Buckeye and Shums Coda Associates, Inc., or Building Plan Review and Inspection Services; and authorizing the Mayor to execute and deliver said Task Order on behalf of the City.

RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

SUMMARY

PROJECT DESCRIPTION:
The Development Services Department is requesting funds through Task Order No. 5 to keep up with the current demand for Building Inspections, Building Official and Building Plan Review Services. SHUMS Coda, Inc. will provide assistance with Building Inspections, Building Official and Building Plan Review Service reviews and other project related services.

BENEFITS:
To maintain or exceed customer service expectation in the Development Services Department.

FUTURE ACTION:
None

FINANCIAL IMPACT STATEMENT:
10005180-520056 - $543,000

CURRENT FISCAL YEAR TOTAL COST:
$543,000

BUDGETED:
Yes

FISCAL YEAR:
21/22

FUND/DEPARTMENT:

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:

Contract 2017-010-002 FE Shums Coda Associates.pdf
Shums Coda CO1.pdf
TO5 Shums Coda.pdf

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
BUILDING PLAN REVIEW AND INSPECTION SERVICES
CATEGORY 1: BUILDING PLAN REVIEW
CATEGORY 2: BUILDING INSPECTION SERVICES

SHUMS CODA ASSOCIATES
Contract No: 2017-010-002

THIS CONTRACT, ("Contract") is entered into by and between the CITY OF BUCKEYE, an Arizona municipal corporation, hereafter called (the "CITY") and Shums Coda Associates an Arizona corporation hereafter called "CONSULTANT".

RECITALS

The CITY OF BUCKEYE, Arizona, is authorized and empowered by the City Code to execute contracts

NOW, THEREFORE, in consideration of the premises and the mutual promises herein contained, The City and Consultant agree as follows:

This Contract shall be in full force and effect only when it has been approved as required by the City Code and executed by the duly authorized City officials.

1.0 SCOPE OF SERVICES

The City desires to obtain Professional Building Plan Review and Building Inspection Services for City-wide Improvement projects. In accordance with the contract documents, a specific scope of services and fee proposal shall be negotiated for each project and be executed by individual Task Orders. Services provided by the Consultant under this agreement shall be performed in a manner consistent with that degree of care and skills ordinarily exercised by members of the same profession currently practicing under similar conditions.

The Consultant shall perform all services within the cost and time frames defined in executed Task Orders, and comply in all respect, as described herein for the consideration stipulated, and in compliance with applicable Federal, State and City Codes. Services at the City's request may include, in general, but are not limited to the following:

BUILDING PLAN REVIEW:

- Plan Check for complex construction of buildings and structural, both Commercial and Residential Construction.

- Plan review may include; structural, architectural, grading, energy, electrical, mechanical, plumbing, and specifications summited as part of a building permit.
- Work may include; review of plan and specifications, drafting of written corrections and redlining of plans, communicating both orally and in writing to the applicant and providing code interpretation.
- The selected firm(s) may be required to work at City Hall or within another facility within the City of Buckeye.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

BUILDING INSPECTION SERVICES:

- Building Construction inspection services to ensure construction conforms to the approved plans and the standards and codes adopted by the City of Buckeye.
- Provide written documentation of inspections performed, issuance of stop work orders, and notices of corrections.
- The selected firm(s) must be able to provide inspection services within 24 hour notice.
- Provide Inspection Services to locations throughout the City of Buckeye as assigned.
- Work with City Staff as assigned for Building Inspection Services.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

2.0 FEES AND PAYMENTS

2.1 REGISTRATION REQUIREMENT IN VENDOR SELF SERVICE (VSS)

In order to do business with the City, register at https://selfservice.buckeyeaz.gov/MSS Please be aware vendors that do not register and verify their information, including uploading a W-9 form to their profile, may experience delays in processing of invoices and will not be able to do business with the City.

2.2 FEE SCHEDULE

Consultant shall be paid according to the schedule set forth in Exhibit A. Each "Task Order" over One Hundred Thousand Dollars ($100,000.00) shall be subject to City Council Approval.

2.3 PAYMENT APPROVAL

The time spent for each task shall be recorded and submitted to the Contract Administrator. Consultant shall maintain all books, papers, documents, accounting records and other evidence pertaining to time billed and to costs incurred and make such materials available at all reasonable times during the contract period.

Monthly payments shall be made to the Consultant on the basis of a progress report prepared and submitted by the Consultant for work completed through the last day of the preceding calendar month. Each task shall be subject to review and approval by the Contract Administrator to determine acceptable percentage of completion.

The Contract Administrator reserves the exclusive right to determine the amount of work performed and payment due the Consultant on a monthly basis.

All charges must be approved by the Contract Administrator prior to payment.

3.0 GENERAL TERMS AND CONDITIONS

3.1 CONTRACT ADMINISTRATOR

The Contract Administrator for the City shall be the Purchasing Agent, in the Construction and Contracting Division or designee. The Contract Administrator shall oversee the performance of this Contract; assist the Consultant in contacting members associated with the project, audit billings, and approve payments.

The Consultant shall submit all reports and special requests through the Contract Administrator.

3.2 TERM OF CONTRACT

The Contract initial term is established for a term commencing on the date of execution and ending on the Contract 1 year Anniversary date in 2018, with automatic renewals, unless otherwise terminated by either party, for four (4) additional one-year terms. Consultant shall provide services under the contract for specific project assignments with a Task Order issued no later than the final day of the effective Contract terms.

3.3 TERMINATION OF CONTRACT

The City has the right to terminate this Contract or abandon any portion of a Task Order, which has not been performed by the Consultant.

Termination for Convenience: City and Consultant reserve the right to terminate this contract or any part hereof for its sole convenience with thirty (30) days written notice. In the event of such termination, Consultant shall immediately stop all work hereunder, and shall immediately cause any of its suppliers and SubConsultants to cease such work. As compensation in full for services performed to the date of such termination, the Consultant shall receive a fee for the percentage of services actually completed. This fee shall be in the amount to be mutually agreed upon by the Consultant and the City, based on the agreed Scope of Work and the value to the City of the services completed. If there is no mutual agreement, the Contract Administrator shall determine the percentage of completion of each task detailed in the Scope of Work and the Consultant's compensation shall be based upon such determination. The City shall make this final payment within sixty (60) days after the Consultant has delivered the last of the partially completed items. Consultant shall not be paid for any work done after receipt of the notice of termination, or for any costs incurred by Consultant's suppliers or SubConsultants, which Consultant could reasonably have avoided.

Termination for Cause: City may also terminate this contract or any part hereof with seven (7) days written notice for cause in the event of any default by the Consultant, or if the Consultant fails to comply with any of the material terms and conditions of this contract. By way of example and not limitation, unsatisfactory performance as judged by the Contract Administrator and failure to provide City, upon written request, with adequate assurances of future performance shall all be causes allowing City to terminate this contract for cause. In the event of termination for cause, CITY shall not be liable to Consultant for any amount after the issuance of written notice, and Consultant shall be liable to City for any and all damages sustained by reason of the default that gave rise to the termination.

In the event Consultant is in violation of any Federal, State, County or City law, regulation or ordinance, the City may terminate this contract immediately upon giving written notice to the Consultant.

In the event the City shall terminate this Contract or any part of the services as herein provided, the City shall notify the Consultant in writing, and immediately upon receiving such written notice, the Consultant shall discontinue advancing the work under this Contract and/or awarded Task Order.

Upon such termination or abandonment, the Consultant shall deliver to the City all drawings, special provisions, field survey notes, reports, and estimates, entirely or partially completed, in any format, including but not limited to written or electronic media, together with all unused materials supplied by the City.

The Consultant shall appraise the work it has completed and submit its appraisal to the City for evaluation.

If through any cause, the Consultant shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the Consultant shall violate any of the covenants, agreements, or stipulations of this Contract, the City may withhold any payments to the Consultant for the purpose of setoff until such time as the exact amount of damages due the City from the Consultant is determined.

3.4 FUNDS APPROPRIATION

If the City Council does not appropriate funds to continue this Contract and pay for charges hereunder, the City may terminate this Contract at the end of the current fiscal period, or at the time that funds are no longer available to meet the City's payment obligations hereunder. The City agrees to give written notice of termination to the Consultant at least thirty (30) days prior to any termination for a lack of funds and will pay to the Consultant all approved charges incurred prior to Consultant's receipt of such notice, subject to the availability of funds therefore.

3.5 AUDIT

The City may audit all of the Consultant's records, calculations, and working documents pertaining to this work at a mutually agreeable time and place.

Consultant's records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by the City to substantiate charges and claims related to this contract shall be open to inspection and subject to audit and/or reproduction by City's authorized representative to the extent necessary to permit evaluation and verification of cost of the work, and any invoices, change orders, payments or claims submitted by the Consultant or any of his payees pursuant to the execution of the contract. The City's authorized representative shall be afforded access, at reasonable times and places, to all of the Consultant's Records and personnel pursuant to the provisions of this article throughout the term of this contract and for a period of three years after last or final payment.

Consultant shall require all SubConsultants, to comply with the provisions of this article by insertion of the requirements hereof in a written contract agreement between Consultant and payee. Such requirements will also apply to any and all SubConsultants.

If an audit in accordance with this article, discloses overcharges, of any nature, by the Consultant to the City in excess of five percent (5%) of the total contract billings, the actual cost of the City's audit shall be reimbursed to the City by the Consultant.

Any adjustments and/or payments, which must be made as a result of any, such audit or inspection of the Consultant's invoices and/or records, shall be made within a reasonable amount of time (not to exceed 60 days) from presentation of CITY's findings to Consultant.

3.6 OWNERSHIP OF PROJECT DOCUMENTS

All documents, including but not limited to, field notes, design notes, tracings, data compilations, studies, and reports in any format, including but not limited to, written or electronic media, which are prepared in the performance of this Contract will become and are the property of City.

3.7 COMPLETENESS AND ACCURACY

The Consultant shall be responsible for the accuracy of its work, including but not limited to, survey work, reports, supporting data, and drawings, sketches, etc. prepared or compiled pursuant to this Contract and shall correct, at its expense, all negligent errors or omissions therein which may be disclosed. The cost necessary to correct those errors attributable to the engineering errors shall be chargeable to the Consultant. Additional Scope(s) of work which may be added to the Task Order shall not be considered the responsibility of the Consultant unless the need for same was created solely by any negligent error, omission, or negligent act of the Consultant and does not result in betterment to the City. The fact that the City has accepted or approved the Consultant's work shall in no way relieve the Consultant of any of its responsibilities.

3.8 ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Contract, or on account of any breach or default hereof, the prevailing shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, which shall be deemed to have accrued from the commencement of such action.

3.9 SUCCESSORS AND ASSIGNS

This Contract shall extend to and be binding upon the Consultant, its successors and assigns, including any individual, company, partnership, or other entity with or into which the Consultant shall merge, consolidate, or be liquidated, or any person, corporation, partnership, or other entity to which the Consultant shall sell its assets.

3.10 ASSIGNMENT

Services covered by this Contract shall not be assigned or subcontracted in whole or in part without the prior written consent of the Contract Administrator.

3.11 SUBCONSULTANTS

During the performance of the Contract, the Consultant may engage such additional SubConsultants as may be required for the timely completion of this Contract. The addition of any SubConsultants shall

be subject to the prior approval of the City.

In the event of subcontracting, the sole responsibility for fulfillment of all terms and conditions of this Contract rests with the Consultant.

3.12 ALTERATIONS OR ADDITIONS TO SCOPE OF SERVICES

The total scope of Services to be performed in accordance with this Contract will be identified in each Task Order. Services, which are not included in this Contract, will be considered Additional Services. The Consultant shall not perform these Additional Services without written authorization in the form of an approved Change Order from the City.

3.13 MODIFICATIONS

Any amendment, modification or variation from the terms of this Contract shall be in writing and shall be effective only after approval of all parties signing the original Contract.

3.14 CONFLICT OF INTEREST

This Contract is subject to cancellation pursuant to the provisions of A.R.S. 38-511.

3.15 FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

3.16 TAXES

The fee listed in this Contract includes any and all taxes applicable to the activities hereunder. The City shall have no obligation to pay additional amounts for taxes of any type.

3.17 ADVERTISING

No advertising or publicity concerning the City using the Consultant's services shall be undertaken without prior written approval of such advertising or public City by the Contract Administrator.

3.18 COUNTERPARTS

This Contract may be executed in one or more counterparts, and each executed duplicate counterpart of this Contract shall be deemed to possess the full force and effect of the original.

3.19 ENTIRE AGREEMENT

This Contract constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein.

3.20 ARIZONA LAW

This Contract shall be governed and interpreted according to the laws of the State of Arizona.

3.21 EQUAL EMPLOYMENT OPPORTUNITY

The Consultant shall comply with Executive Order No. 11245, entitled "Equal Employment Opportunity", as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60).

3.22 NOTICES

All notices or demands required to be given, pursuant to the terms of this Contract, shall be given to the other party in writing, delivered by hand or registered or certified mail, at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

On behalf of the Consultant:

Shums Coda Associates
Attn: Adam Sessions, Regional Manager
2942 N. 24th Street
Suite 114-406
Phoenix, Arizona 85016

Phone: 602 424 7468
Email: ADAM.SESSIONS@SHUMSCODA.COM

On behalf of the CITY:

Tammy Vogel, Contract Administrator
530 East Monroe Ave.
Buckeye, AZ 85326
P: (623) 349-6175
Tvogel@buckeyeaz.gov

With a copy to:

Gust Rosenfeld, P.L.C.
One E. Washington, Suite 1600
Phoenix, AZ 85004-2553
Attention: City of Buckeye Attorney
P: (602) 257-7432
F :(602) 254-4878

Notices shall be deemed received on date delivered if delivered by hand and on the delivery date indicated on receipt if delivered by certified or registered mail.

3.23 INDEPENDENT CONSULTANT

The services Consultant provides under the terms of this Contract to the City are that of an Independent Consultant, not an employee, or agent of the City. The City will report the value paid for these services each year to the Internal Revenue Service (I.R.S.) using Form 1099.

City shall not withhold income tax as a deduction from contractual payments. As a result of this, Consultant may be subject to I.R.S. provisions for payment of estimated income tax. Consultant is responsible for consulting the local I.R.S. office for current information on estimated tax requirements.

3.24 INDEMNIFICATION

To the fullest extent permitted by law, the Consultant shall indemnify and hold harmless the City and each council member, officer, employee or agent thereof (the City and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims"), insofar as such Claims (or actions in respect thereof) are caused by the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Consultant, its officers, employees, agents, or any tier of SubConsultant in the performance of this Contract. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this Section.

3.25 E-VERIFY REQUIREMENTS

To the extent applicable under Arizona Revised Statues § 41-4401, the Consultant and its Subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and their compliance with the E-verify requirements under ARIZ. Revised Statues. § 23-214(A). The Consultant or Subconsultant's breach of the above-mentioned warranty shall be deemed a material breach of the Contract and may result in the termination of the Contract by the City of Buckeye. The City of Buckeye retains the legal right to randomly inspect the papers and records of

the Consultant or Subconsultant employee who work on the Contract to ensure that the Consultant and its Subconsultants are complying with the above-mentioned warranty.

The Consultant and its SubConsultants warrant keeping the papers and records open for random inspection during normal business hours by the City. The Consultant and its SubConsultants shall cooperate with City's random inspections including granting the City's entry rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

3.26 SCRUTINIZED BUSINESS OPERATIONS

Pursuant to Arizona Revised Statues §§ 35-391.06 and 35-393.06, the Consultant certifies that it does not have a scrutinized business operation in Sudan or Iran. For the purpose of this Section the term "scrutinized business operations" shall have the meanings set forth in ARIZ. Revised Statues § 35-391 or and 35-393, as applicable. If the City determines that the Consultant submitted a false Certification, the City may impose remedies as provided by law including terminating this Contract.

3.27 COMPLIANCE WITH LAWS

In performing any work required hereunder, Consultant shall comply with all applicable laws, ordinances, and codes of Federal, State and local governments, in effect during this Contract.

3.28 COOPERATIVE PURCHASING

Specific eligible political subdivisions and nonprofit educational or public health institutions ("Eligible Procurement Unit(s) ") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All Cooperative procurements under this Agreement shall be transacted solely between the requesting of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

4.0 INSURANCE

A Standard Accord Certificate of Insurance is acceptable provided it is contains the additional language and deleted language as required in this contract. Failure to provide a Certificate of Insurance with the appropriate verbiage as required by this contract will result in rejection of the Certificate and delay contract execution.

Additionally, Certificates of Insurance submitted without referencing a Contract number will be subject to rejection and returned or discarded.

4.1 Insurance Representations and Requirements

4.1.1 General: Consultant agrees to comply with all City ordinances and state and federal laws and regulations.

Without limiting any obligations or liabilities of Consultant, Consultant shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona (admitted insurer) with an AM Best, Inc. rating of A or above or an equivalent qualified unlicensed insurer by the State of Arizona (non-admitted insurer) with policies and forms satisfactory to City of Buckeye. Failure to maintain insurance as specified may result in termination of this Contract at City of Buckeye's option.

No Representation of Coverage Adequacy: By requiring insurance herein, City of Buckeye does not represent that coverage and limits will be adequate to protect Consultant. City of Buckeye reserves the right to review any and all of the insurance policies and/or endorsements cited in this Contract but have no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements set forth in this agreement or failure to identify any insurance deficiency shall not relieve Consultant from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

4.1.3 Additional Insured: All insurance coverage and self-insured retention or deductible portions, except Workers Compensation insurance and Professional Liability insurance if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this contract, City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insured as specified under the respective coverage sections of this agreement.

4.1.4 Coverage Term: All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of subject contract is satisfactorily performed, completed and formally accepted by the City of Buckeye, unless specified otherwise in this Contract.

4.1.5 Primary Insurance: Consultant's insurance shall be primary insurance as respects performance of subject contract and in the protection of City of Buckeye as an Additional Insured.

4.1.6 Claims Made: In the event any insurance policies required by this Contract are written on a "claims made" basis, coverage shall extend, either by keeping coverage in force or purchasing an extended reporting option, for three (3) years past completion and acceptance of the work or services evidenced by submission of annual Certificates of Insurance citing applicable coverage is in force and

contains the provisions as required herein for the three year period.

4.1.7 Waiver: All policies, except Professional Liability insurance, shall contain a waiver of rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officials, directors, officers, and employees for any claims arising out of the work or services of Consultant. Consultant shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

4.1.8 Policy Deductibles and or Self Insured Retentions: The policies set forth in these requirements may provide coverage, which contain deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to City of Buckeye. Consultant shall be solely responsible for any such deductible or self-insured retention amount. CITY OF BUCKEYE, at its option and cost, may require Consultant to secure payment of such deductible or self-insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

4.1.9 Use of SubConsultants: If any work under this agreement is subcontracted in any way, Consultant shall execute written agreement with SubConsultant containing the same Indemnification Clause and Insurance Requirements set forth herein protecting City of Buckeye and Consultant. Consultant shall be responsible for executing the agreement with SubConsultant and obtaining Certificates of Insurance verifying the insurance requirements.

4.1.10 Evidence of Insurance: Prior to commencing any work or services under this Contract, Consultant shall furnish City of Buckeye with Certificate(s) of Insurance, or formal endorsements as required by this Contract, issued by Consultant's insurer(s) as evidence that policies are placed with acceptable Insurers as specified herein and provide the required coverage(s), conditions, and limits of coverage specified in this Contract and that such coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, City of Buckeye shall reasonably rely upon the Certificate of Insurance as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this agreement. Such certificates shall identify the Contract work number and be sent to the designated City of Buckeye- Contract Administrator. If any of the above cited policies expire during the life of this Contract, it shall be Consultant's responsibility to forward renewal Certificates within ten (10) days after the renewal date containing all the aforementioned insurance provisions. Certificates shall specifically cite the following provisions:

1. City of Buckeye, its agents, representatives, officers, directors, officials and employees is an Additional Insured as follows:

A) Commercial General Liability - Under ISO Form CG 20 10 11 85 or equivalent.
b) Auto Liability- under ISO Form CA 20 48 or equivalent.
c) Excess Liability- Follow Form to underlying insurance.

2. Consultant's insurance shall be primary insurance as respects performance of subject contract.

3. All policies, except Professional Liability, waive rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by Consultant under this contract.

4. Certificate shall cite a 30 day advance notice cancellation provision. If ACORD Certificate of Insurance form used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

4.2 Required Coverage

4.2.1 Commercial General Liability: Consultant shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit.

The policy shall cover liability arising from premises, operations, and independent Consultants, products-completed operations, personal injury and advertising injury. Coverage under the policy will be at least as broad as Insurance Services Office, Inc. policy form CG 00 010 93 or equivalent thereof, including but not limited to, separation of insureds clause. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Commercial General Liability Additional Insured Endorsement form CG 20 10 11 85, or equivalent, which shall read "Who is an Insured (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you." If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.2 Professional Liability: If the Contract is the subject of any professional services or work, or if Consultant engages in any professional services or work adjunct or residual to performing the work under this Contract, Consultant shall maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone for whose acts, mistakes, errors and omissions Consultant is legally liable, with liability insurance limit of $1,000,000 each claim and $2,000,000 all claims. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and Consultant shall be required to submit Certificates of Insurance evidencing proper coverage is in effect as required above.

4.2.3 Vehicle Liability: Consultant shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each occurrence on Consultant's owned, hired, and non-owned vehicles assigned to or used in the performance of the Consultant's work or services under this Contract. Coverage will be at least as broad as Insurance Services Office, Inc. coverage code "1" "any auto" policy form CA 00 01 12 93 or equivalent thereof. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.4 Worker's Compensation Insurance: Consultant shall maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of work or services under this Contract and shall also maintain Employers Liability Insurance of not less than $500,000 for each accident, $500,000 disease for each employee and $1,000,000 disease policy limit.

Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $2,000,000 per occurrence combined limit Bodily Injury and Property

Damage, that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

5.0 SOFTWARE LICENSES

As to all software licenses provided to the City as part of Consultant's obligations under this Contract, the following provisions apply:

5.1 SOURCE CODE AVAILABILITY

Consultant shall furnish City, without charge, a single copy of the Source Code for the Software immediately upon the occurrence of any of the following:

1. Consultant becomes insolvent; or

2. Consultant ceases to conduct business; or

3. Consultant makes a general assignment for the benefit of creditors; or

4. A petition is filed in Bankruptcy by or against Consultant.

5.1.1 Use of the Source Code shall be subject to the same restrictions as to which the Software itself is

subject.

5.1.2 City shall have the right to modify Source Code in any manner it deems appropriate, provided that the Source Code as modified shall remain subject to the restrictions set forth in immediately above.

5.2 PROPRIETARY PROTECTION

5.2.1 City acknowledges that to the extent Consultant advises the City that the Software is confidential information or is a trade secret property of the Consultant, the Software is thereby disclosed on a confidential basis under this Contract and is to be used only pursuant to the terms and conditions set forth herein.

5.2.2 Consultant shall not use or disclose any knowledge, data or proprietary information relating to CITY obtained in any manner whatsoever.

5.2.3 To the extent permitted by Arizona Law, the parties agree, both during the term of this Contract and for a period of seven (7) years after termination of this Contract and of all licenses granted hereunder, to hold each other's confidential information in confidence. The parties agree, unless required by government regulations or order of court, not to make each other's confidential information available in any form to any third party or to use each other's confidential information for any purposes other than the implementation of this Contract provided, however, that if Consultant's confidential information is requested to be divulged under the provisions of the Arizona Public Records Act, A.R.S., Title 39, Consultant shall reimburse to City the full cost of City's refusal to release the information, including costs of litigation, City's attorney fees, fines, penalties or assessments of opposing party's attorney fees. Each party agrees to take all reasonable steps to ensure that confidential information is not disclosed or distributed by its employees or agents in violation of the provisions of this Contract.

5.3 NON-INFRINGEMENT

Consultant warrants that the Software provided hereunder does not and will not infringe upon or violate any patent, copyright, trade secret or other proprietary or property right of any person or entity. In the event of a claim against City asserting or involving such an allegation, Consultant will defend, at Consultant's expense, and will indemnify City and hold City harmless against any loss, cost, expense (including attorney fees) or liability arising out of such claim, whether or not such claim is successful. In the event an injunction or order should be obtained against use of the Software by reason of the allegations, or if in Consultant's opinion the Software is likely to become the subject of such a claim of infringement, Consultant will, at its option and its expense: (I) procure for the City the right to continue using the Software; or (ii) replace or modify the same so that it becomes non-infringing (such modification or replacement shall be functionally equivalent to the original); or (iii) if neither (i) nor (ii) is practicable, repurchase the Software on a depreciated basis utilizing a straight line

five (5) year period, commencing on the date of acceptance.

5.4 THIRD PARTY LICENSE

Consultant shall sublicense to City any and all third party Software required in the execution of this Contract. City reserves the right to accept or reject third party license terms. If the City rejects the terms of a third party license, it shall be Consultant's responsibility to negotiate acceptable terms or to supply Software from another source with terms acceptable to City. City's acceptance of the third party license terms shall not be unreasonably withheld.

6.0 SEVERABILITY AND AUTHORITY

6.1 SEVERABILITY

If any term or provision of this Contract shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this Contract shall remain in full force and effect and such term or provision shall be deemed to be deleted.

6.2 AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this Contract, and that the person signing on behalf of each party has been properly authorized and empowered to enter this Contract. Each party further acknowledges that it has read, understands, and agrees to be bound by the terms and conditions of this Contract.

6.3 ISRAEL COMPLIANCE

Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

[Signature page follows]

Contract No: 2017-010-002

IN WITNESS WHEREOF, the City of Buckeye by its Mayor and City Clerk has hereunto subscribed their names this 15th day of August, 2017.

CITY OF BUCKEYE

Jackie A. Meck, Mayor

ATTEST:

Lucinda Aja, City Clerk

RECOMMENDED:

Christopher A. Williams, Manager
Construction and Procurement

APPROVED AS TO FORM:

City Attorney

CONSULTANT:

BY: 6.22.17
Shums Coda Associates

CONSULTANT SIGNATURE

ITS: DAVID BASINGER
PRESIDENT / C.E.O.

Shums Coda Associates – Contact List

Building Plan Review & Inspection Services

Arizona Regional Office
2942 N 24th Street, Suite 114-406
Phoenix, AZ 85016
(602) 424-7468

Corporate Headquarters
5776 Stoneridge Mall Rd., Suite 150
Pleasanton, CA 94588
(925) 463-0651
(925) 463-0691 Fax
www.shumscoda.com

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Terry Knox Business Development Director	(916) 367-8518 terry.knox@shumscoda.com
Christine Godinez Operations Manager	(925) 463-0651 christine.godinez@shumscoda.com

Transmittal Sheet

To	City of Buckeye, AZ	**From**	Christine Godinez
Attention	Tammy Vogel	**Phone**	925-463-0651
Address	530 E. MONROE AVENUE BUCKEYE, AZ 85326	**Delivered Via:**	☐ Messenger ☒ Overnight ☐ Hand-Carried
Fax			☐ US Mail ☐ Fax ☐ Other:
Subject	PSA 2017-010		

For Your: ☒ Approval ☐ Use ☐ Record ☐ Review/ Comment ☐ Distribution ☐ Information

Remarks

- Three (3) wet-signed copies are being FedEx'd to your attention for delivery tomorrow.
- Rate Sheet
- Contact List
- Insurance Certificate

Shums Coda Associates
5776 Stoneridge Mall Rd., Ste. 150
925.463.0651
Pleasanton, CA 94588
925.463.0691 (fax)

EXHIBIT A
GENERAL SCOPE OF SERVICES

GENERAL SCOPE OF SERVICES REQUIREMENTS AND STANDARDS

BUILDING PLAN REVIEW:

- Plan Check for complex construction of buildings and structural, both Commercial and Residential Construction.
- Plan review may include; structural, architectural, grading, energy, electrical, mechanical, plumbing, and specifications summited as part of a building permit.
- Work may include; review of plan and specifications, drafting of written corrections and redlining of plans, communicating both orally and in writing to the applicant and providing code interpretation.
- The selected firm(s) may be required to work at City Hall or within another facility within the City of Buckeye.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

BUILDING INSPECTION SERVICES:

- Building Construction inspection services to ensure construction conforms to the approved plans and the standards and codes adopted by the City of Buckeye.
- Provide written documentation of inspections performed, issuance of stop work orders, and notices of corrections.
- The selected firm(s) must be able to provide inspection services within 24 hour notice.
- Provide Inspection Services to locations throughout the City of Buckeye as assigned.
- Work with City Staff as assigned for Building Inspection Services.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

EXHIBIT B:
RATE SCHEDULE FOR BUILDING PLAN REVIEW

EXHIBIT C
RATE SCHEDULE FOR BUILDING INSPECTION SERVICES

Category 1 - Building Plan Review Services

Fees for comprehensive plan reviews, performed at SCA offices, will be equal to Sixty- Five percent (65%) of the plan review fees as calculated per the jurisdiction. The City will provide SCA with jurisdiction plan review fees (project-by-project) for use in calculating SCA's fees. In return, invoicing will be done on a monthly basis with detailed description of each project.

The above fee covers all services associated with the typical plan review, including:

- Pick – up and delivery of design documents to the jurisdiction.
- First, second and quick third reviews to approve projects.

Extensive plan reviews (longer third reviews or more) that may be required to be charged on an hourly rate shown below. Further, smaller projects that take one or more reviews may also be charged at an hourly rate when agreed upon with the Chief Building Official. Pre-application, pre-construction, or additional meeting attendance that is necessary for unusual or complex projects shall also be charged at the same hourly rate schedule.

Personnel Description	Hourly Billing Rate
In-House Plan Reviewer	$100
Principal	$120
Senior Engineer/Architect	$110
Engineer/Architect	$100
Senior Plans Examiner	$90
Plans Examiner	$80

If an expedited plan review is requested, the turn-around time could be as quickly as a single day, but these types of review schedules are typically determined based on the complexity of the project and the availability of SCA staff to complete the review. SCA will not charge extra for an expedited plan review.

Category 2 – Building Inspection Services

The scope of inspection services to be provided will be defined uniquely for each project or as determined mutually by Shums Coda Associates project manager and the Chief Building Official. Inspector(s) provided to the City will report directly to the Chief Building Official or other person designated by the City for all project-related work. Fees for inspection services shall be billed at an hourly rate. Inspection services will be billed hourly based on the rates below:

Personnel Description	Hourly Billing Rate
Supervising Inspector / Inspector of Record	$100 - 115
Senior Inspector	$90 - 100
Inspector II	$80 - 90
Inspector I	$70 - 80
Inspector In-Training	$50 - 70

Overtime

Overtime will be not be charged for any plan review services billed at the hourly rate, while inspection services will be charged at 150% of the standard hourly rates.

SHUMCOD-01 VANESSAMALDONADO

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 6/22/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
NFP Property & Casualty Services, Inc. 160 W. Santa Clara Street Ste 575 San Jose, CA 95113	PHONE (A/C, No, Ext): (408) 792-5400	FAX (A/C, No): (408) 792-3670
	E-MAIL ADDRESS:	

INSURED	INSURER(S) AFFORDING COVERAGE	NAIC #
Shums Coda & Associates, Inc. 5776 Stoneridge Mall Road Suite 150 Pleasanton, CA 94588	INSURER A : Sentinel Insurance Company Ltd	11000
	INSURER B : Trumbull Insurance Company	27120
	INSURER C :	
	INSURER D :	
	INSURER E :	
	INSURER F :	

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [ ] PRO-JECT [ ] LOC OTHER:	X		57SBABZ4608	03/08/2017	03/08/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 1,000,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY ANY AUTO OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			57SBABZ4608	03/08/2017	03/08/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 2,000,000 $ $ $
A	[ ] UMBRELLA LIAB [X] OCCUR X EXCESS LIAB [ ] CLAIMS-MADE DED [X] RETENTION $ 10,000			57SBABZ4608	03/08/2017	03/08/2018	EACH OCCURRENCE AGGREGATE	$ 1,000,000 $ 1,000,000 $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		57WECYG2020	03/09/2017	03/09/2018	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Certificate Holder is included as Additional Insured as respects General Liability, per written contract, per form SS0008 04/05 attached. CIR form attached.

CERTIFICATE HOLDER

City of Buckeye
530 E Monroe Ave
Buckeye, AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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AGENCY CUSTOMER ID: SHUMCOD-01 VANESSAMALDONADO

LOC #: 1

ADDITIONAL REMARKS SCHEDULE

AGENCY		NAMED INSURED
NFP Property & Casualty Services, Inc.		Shums Coda & Associates, Inc. 5776 Stoneridge Mall Road Suite 150 Pleasanton, CA 94588
POLICY NUMBER		
SEE PAGE 1		
CARRIER	NAIC CODE	EFFECTIVE DATE: SEE PAGE 1
SEE PAGE 1	SEE P 1	

ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,

FORM NUMBER: ACORD 25 FORM TITLE: Certificate of Liability Insurance

Cert Liability Remarks
CONTRACTUAL INSURANCE REQUIREMENTS

The attached Certificate of Insurance is provided as part of our service to our client, the Insured. If special endorsements have been provided, they also are indicated attached. You may find that these documents do not comply with all the terms and conditions of the underlying contract between the Certificate Holder and the Insured due to the insurance company's insuring conditions, limitations, exclusions and other terms. If you have any questions, please contact the undersigned.

NFP Property and Casualty Services, Inc.
160 West Santa Clara Street, Suite #575
CA License #0F15715

TELEPHONE: 408.792.5400
FAX: 408.792.3670

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2. **Applicable To Medical Expenses Coverage**

   We will not pay expenses for "bodily injury":

   a. **Any Insured**

      To any insured, except "volunteer workers".

   b. **Hired Person**

      To a person hired to do work for or on behalf of any insured or a tenant of any insured.

   c. **Injury On Normally Occupied Premises**

      To a person injured on that part of premises you own or rent that the person normally occupies.

   d. **Workers' Compensation And Similar Laws**

      To a person, whether or not an "employee" of any insured, if benefits for the "bodily injury" are payable or must be provided under a workers' compensation or disability benefits law or a similar law.

   e. **Athletics Activities**

      To a person injured while practicing, instructing or participating in any physical exercises or games, sports or athletic contests.

   f. **Products-Completed Operations Hazard**

      Included with the "products-completed operations hazard".

   g. **Business Liability Exclusions**

      Excluded under Business Liability Coverage.

C. WHO IS AN INSURED

1. If you are designated in the Declarations as:

   a. An individual, you and your spouse are insureds, but only with respect to the conduct of a business of which you are the sole owner.

   b. A partnership or joint venture, you are an insured. Your members, your partners, and their spouses are also insureds, but only with respect to the conduct of your business.

   c. A limited liability company, you are an insured. Your members are also insureds, but only with respect to the conduct of your business. Your managers are insureds, but only with respect to their duties as your managers.

   d. An organization other than a partnership, joint venture or limited liability company, you are an insured. Your "executive officers" and directors are insureds, but only with respect to their duties as your officers or directors. Your stockholders are also insureds, but only with respect to their liability as stockholders.

   e. A trust, you are an insured. Your trustees are also insureds, but only with respect to their duties as trustees.

2. Each of the following is also an insured:

   a. **Employees And Volunteer Workers**

      Your "volunteer workers" only while performing duties related to the conduct of your business, or your "employees", other than either your "executive officers" (if you are an organization other than a partnership, joint venture or limited liability company) or your managers (if you are a limited liability company), but only for acts within the scope of their employment by you or while performing duties related to the conduct of your business.

      However, none of these "employees" or "volunteer workers" are insureds for:

      (1) "Bodily injury" or "personal and advertising injury":

         (a) To you, to your partners or members (if you are a partnership or joint venture), to your members (if you are a limited liability company), or to a co-"employee" while in the course of his or her employment or performing duties related to the conduct of your business, or to your other "volunteer workers" while performing duties related to the conduct of your business;

         (b) To the spouse, child, parent, brother or sister of that co-"employee" or that "volunteer worker" as a consequence of Paragraph **(1)(a)** above;

         (c) For which there is any obligation to share damages with or repay someone else who must pay damages because of the injury described in Paragraphs **(1)(a)** or **(b)** above; or

         (d) Arising out of his or her providing or failing to provide professional health care services.

      If you are not in the business of providing professional health care services, Paragraph **(d)** does not apply to any nurse, emergency medical technician or paramedic employed by you to provide such services.

      (2) "Property damage" to property:

         (a) Owned, occupied or used by,

(b) Rented to, in the care, custody or control of, or over which physical control is being exercised for any purpose by you, any of your "employees", "volunteer workers", any partner or member (if you are a partnership or joint venture), or any member (if you are a limited liability company).

b. Real Estate Manager

Any person (other than your "employee" or "volunteer worker"), or any organization while acting as your real estate manager.

c. Temporary Custodians Of Your Property

Any person or organization having proper temporary custody of your property if you die, but only:

(1) With respect to liability arising out of the maintenance or use of that property; and

(2) Until your legal representative has been appointed.

d. Legal Representative If You Die

Your legal representative if you die, but only with respect to duties as such. That representative will have all your rights and duties under this insurance.

e. Unnamed Subsidiary

Any subsidiary and subsidiary thereof, of yours which is a legally incorporated entity of which you own a financial interest of more than 50% of the voting stock on the effective date of this Coverage Part.

The insurance afforded herein for any subsidiary not shown in the Declarations as a named insured does not apply to injury or damage with respect to which an insured under this insurance is also an insured under another policy or would be an insured under such policy but for its termination or upon the exhaustion of its limits of insurance.

3. Newly Acquired Or Formed Organization

Any organization you newly acquire or form, other than a partnership, joint venture or limited liability company, and over which you maintain financial interest of more than 50% of the voting stock, will qualify as a Named Insured if there is no other similar insurance available to that organization. However:

a. Coverage under this provision is afforded only until the 180th day after you acquire or form the organization or the end of the policy period, whichever is earlier; and

b. Coverage under this provision does not apply to:

(1) "Bodily injury" or "property damage" that occurred; or

(2) "Personal and advertising injury" arising out of an offense committed

before you acquired or formed the organization.

4. Operator Of Mobile Equipment

With respect to "mobile equipment" registered in your name under any motor vehicle registration law, any person is an insured while driving such equipment along a public highway with your permission. Any other person or organization responsible for the conduct of such person is also an insured, but only with respect to liability arising out of the operation of the equipment, and only if no other insurance of any kind is available to that person or organization for this liability. However, no person or organization is an insured with respect to:

a. "Bodily injury" to a co-"employee" of the person driving the equipment; or

b. "Property damage" to property owned by, rented to, in the charge of or occupied by you or the employer of any person who is an insured under this provision.

5. Operator of Nonowned Watercraft

With respect to watercraft you do not own that is less than 51 feet long and is not being used to carry persons for a charge, any person is an insured while operating such watercraft with your permission. Any other person or organization responsible for the conduct of such person is also an insured, but only with respect to liability arising out of the operation of the watercraft, and only if no other insurance of any kind is available to that person or organization for this liability.

However, no person or organization is an insured with respect to:

a. "Bodily injury" to a co-"employee" of the person operating the watercraft; or

b. "Property damage" to property owned by, rented to, in the charge of or occupied by you or the employer of any person who is an insured under this provision.

6. Additional Insureds When Required By Written Contract, Written Agreement Or Permit

The person(s) or organization(s) identified in Paragraphs **a.** through **f.** below are additional insureds when you have agreed, in a written

contract, written agreement or because of a permit issued by a state or political subdivision, that such person or organization be added as an additional insured on your policy, provided the injury or damage occurs subsequent to the execution of the contract or agreement, or the issuance of the permit.

A person or organization is an additional insured under this provision only for that period of time required by the contract, agreement or permit.

However, no such person or organization is an additional insured under this provision if such person or organization is included as an additional insured by an endorsement issued by us and made a part of this Coverage Part, including all persons or organizations added as additional insureds under the specific additional insured coverage grants in Section **F.** – Optional Additional Insured Coverages.

a. Vendors

Any person(s) or organization(s) (referred to below as vendor), but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business and only if this Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

(1) The insurance afforded to the vendor is subject to the following additional exclusions:

This insurance does not apply to:

(a) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the contract or agreement;

(b) Any express warranty unauthorized by you;

(c) Any physical or chemical change in the product made intentionally by the vendor;

(d) Repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

(e) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

(f) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

(g) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

(h) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

(i) The exceptions contained in Subparagraphs **(d)** or **(f)**; or

(ii) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.

(2) This insurance does not apply to any insured person or organization from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.

b. Lessors Of Equipment

(1) Any person or organization from whom you lease equipment; but only with respect to their liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your maintenance, operation or use of equipment leased to you by such person or organization.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to any "occurrence" which takes place after you cease to lease that equipment.

c. Lessors Of Land Or Premises

(1) Any person or organization from whom you lease land or premises, but only with respect to liability arising out of the ownership, maintenance or use of that part of the land or premises leased to you.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to:

(a) Any "occurrence" which takes place after you cease to lease that land or be a tenant in that premises; or

(b) Structural alterations, new construction or demolition operations performed by or on behalf of such person or organization.

d. Architects, Engineers Or Surveyors

(1) Any architect, engineer, or surveyor, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

(a) In connection with your premises; or

(b) In the performance of your ongoing operations performed by you or on your behalf.

(2) With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of or the failure to render any professional services by or for you, including:

(a) The preparing, approving, or failure to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, designs or drawings and specifications; or

(b) Supervisory, inspection, architectural or engineering activities.

e. Permits Issued By State Or Political Subdivisions

(1) Any state or political subdivision, but only with respect to operations performed by you or on your behalf for which the state or political subdivision has issued a permit.

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to:

(a) "Bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the state or municipality; or

(b) "Bodily injury" or "property damage" included within the "products-completed operations hazard".

f. Any Other Party

(1) Any other person or organization who is not an insured under Paragraphs **a.** through **e.** above, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

(a) In the performance of your ongoing operations;

(b) In connection with your premises owned by or rented to you; or

(c) In connection with "your work" and included within the "products-completed operations hazard", but only if

(i) The written contract or written agreement requires you to provide such coverage to such additional insured; and

(ii) This Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

(2) With respect to the insurance afforded to these additional insureds, this insurance does not apply to:

"Bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

(a) The preparing, approving, or failure to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, designs or drawings and specifications; or

(b) Supervisory, inspection, architectural or engineering activities.

The limits of insurance that apply to additional insureds are described in Section **D.** – Limits Of Insurance.

How this insurance applies when other insurance is available to an additional insured is described in the Other Insurance Condition in Section **E.** – Liability And Medical Expenses General Conditions.

No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

D. LIABILITY AND MEDICAL EXPENSES LIMITS OF INSURANCE

1. The Most We Will Pay

The Limits of Insurance shown in the Declarations and the rules below fix the most we will pay regardless of the number of:

a. Insureds;

b. Claims made or "suits" brought; or

c. Persons or organizations making claims or bringing "suits".

2. Aggregate Limits

The most we will pay for:

a. Damages because of "bodily injury" and "property damage" included in the "products-completed operations hazard" is the Products-Completed Operations Aggregate Limit shown in the Declarations.

b. Damages because of all other "bodily injury", "property damage" or "personal and advertising injury", including medical expenses, is the General Aggregate Limit shown in the Declarations.

This General Aggregate Limit applies separately to each of your "locations" owned by or rented to you.

"Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway or right-of-way of a railroad.

This General Aggregate limit does not apply to "property damage" to premises while rented to you or temporarily occupied by you with permission of the owner, arising out of fire, lightning or explosion.

3. Each Occurrence Limit

Subject to **2.a.** or **2.b** above, whichever applies, the most we will pay for the sum of all damages because of all "bodily injury", "property damage" and medical expenses arising out of any one "occurrence" is the Liability and Medical Expenses Limit shown in the Declarations.

The most we will pay for all medical expenses because of "bodily injury" sustained by any one person is the Medical Expenses Limit shown in the Declarations.

4. Personal And Advertising Injury Limit

Subject to **2.b.** above, the most we will pay for the sum of all damages because of all "personal and advertising injury" sustained by any one person or organization is the Personal and Advertising Injury Limit shown in the Declarations.

5. Damage To Premises Rented To You Limit

The Damage To Premises Rented To You Limit is the most we will pay under Business Liability Coverage for damages because of "property damage" to any one premises, while rented to you, or in the case of damage by fire, lightning or explosion, while rented to you or temporarily occupied by you with permission of the owner.

In the case of damage by fire, lightning or explosion, the Damage to Premises Rented To You Limit applies to all damage proximately caused by the same event, whether such damage results from fire, lightning or explosion or any combination of these.

6. How Limits Apply To Additional Insureds

The most we will pay on behalf of a person or organization who is an additional insured under this Coverage Part is the lesser of:

a. The limits of insurance specified in a written contract, written agreement or permit issued by a state or political subdivision; or

b. The Limits of Insurance shown in the Declarations.

Such amount shall be a part of and not in addition to the Limits of Insurance shown in the Declarations and described in this Section.

If more than one limit of insurance under this policy and any endorsements attached thereto applies to any claim or "suit", the most we will pay under this policy and the endorsements is the single highest limit of liability of all coverages applicable to such claim or "suit". However, this paragraph does not apply to the Medical Expenses limit set forth in Paragraph **3.** above.

The Limits of Insurance of this Coverage Part apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for purposes of determining the Limits of Insurance.

E. LIABILITY AND MEDICAL EXPENSES GENERAL CONDITIONS

1. Bankruptcy

Bankruptcy or insolvency of the insured or of the insured's estate will not relieve us of our obligations under this Coverage Part.

2. Duties In The Event Of Occurrence, Offense, Claim Or Suit

a. Notice Of Occurrence Or Offense

You or any additional insured must see to it that we are notified as soon as practicable of an "occurrence" or an offense which may result in a claim. To the extent possible, notice should include:

(1) How, when and where the "occurrence" or offense took place;

(2) The names and addresses of any injured persons and witnesses; and

(3) The nature and location of any injury or damage arising out of the "occurrence" or offense.

b. Notice Of Claim

If a claim is made or "suit" is brought against any insured, you or any additional insured must:

(1) Immediately record the specifics of the claim or "suit" and the date received; and

(2) Notify us as soon as practicable.

You or any additional insured must see to it that we receive a written notice of the claim or "suit" as soon as practicable.

c. Assistance And Cooperation Of The Insured

You and any other involved insured must:

(1) Immediately send us copies of any demands, notices, summonses or legal papers received in connection with the claim or "suit";

(2) Authorize us to obtain records and other information;

(3) Cooperate with us in the investigation, settlement of the claim or defense against the "suit"; and

(4) Assist us, upon our request, in the enforcement of any right against any person or organization that may be liable to the insured because of injury or damage to which this insurance may also apply.

d. Obligations At The Insured's Own Cost

No insured will, except at that insured's own cost, voluntarily make a payment, assume any obligation, or incur any expense, other than for first aid, without our consent.

e. Additional Insured's Other Insurance

If we cover a claim or "suit" under this Coverage Part that may also be covered by other insurance available to an additional insured, such additional insured must submit such claim or "suit" to the other insurer for defense and indemnity.

However, this provision does not apply to the extent that you have agreed in a written contract, written agreement or permit that this insurance is primary and non-contributory with the additional insured's own insurance.

f. Knowledge Of An Occurrence, Offense, Claim Or Suit

Paragraphs **a.** and **b.** apply to you or to any additional insured only when such "occurrence", offense, claim or "suit" is known to:

(1) You or any additional insured that is an individual;

(2) Any partner, if you or an additional insured is a partnership;

(3) Any manager, if you or an additional insured is a limited liability company;

(4) Any "executive officer" or insurance manager, if you or an additional insured is a corporation;

(5) Any trustee, if you or an additional insured is a trust; or

(6) Any elected or appointed official, if you or an additional insured is a political subdivision or public entity.

This Paragraph **f.** applies separately to you and any additional insured.

3. Financial Responsibility Laws

a. When this policy is certified as proof of financial responsibility for the future under the provisions of any motor vehicle financial responsibility law, the insurance provided by the policy for "bodily injury" liability and "property damage" liability will comply with the provisions of the law to the extent of the coverage and limits of insurance required by that law.

b. With respect to "mobile equipment" to which this insurance applies, we will provide any liability, uninsured motorists, underinsured motorists, no-fault or other coverage required by any motor vehicle law. We will provide the required limits for those coverages.

4. Legal Action Against Us

No person or organization has a right under this Coverage Form:

a. To join us as a party or otherwise bring us into a "suit" asking for damages from an insured; or

b. To sue us on this Coverage Form unless all of its terms have been fully complied with.

A person or organization may sue us to recover on an agreed settlement or on a final judgment against an insured; but we will not be liable for damages that are not payable under the terms of this insurance or that are in excess of the applicable limit of insurance. An agreed settlement means a settlement and release of liability signed by us, the insured and the claimant or the claimant's legal representative.

5. Separation Of Insureds

Except with respect to the Limits of Insurance, and any rights or duties specifically assigned in this policy to the first Named Insured, this insurance applies:

a. As if each Named Insured were the only Named Insured; and

b. Separately to each insured against whom a claim is made or "suit" is brought.

6. Representations

a. When You Accept This Policy

By accepting this policy, you agree:

(1) The statements in the Declarations are accurate and complete;

(2) Those statements are based upon representations you made to us; and

(3) We have issued this policy in reliance upon your representations.

b. Unintentional Failure To Disclose Hazards

If unintentionally you should fail to disclose all hazards relating to the conduct of your business at the inception date of this Coverage Part, we shall not deny any coverage under this Coverage Part because of such failure.

7. Other Insurance

If other valid and collectible insurance is available for a loss we cover under this Coverage Part, our obligations are limited as follows:

a. Primary Insurance

This insurance is primary except when **b.** below applies. If other insurance is also primary, we will share with all that other insurance by the method described in **c.** below.

b. Excess Insurance

This insurance is excess over any of the other insurance, whether primary, excess, contingent or on any other basis:

(1) Your Work

That is Fire, Extended Coverage, Builder's Risk, Installation Risk or similar coverage for "your work";

(2) Premises Rented To You

That is fire, lightning or explosion insurance for premises rented to you or temporarily occupied by you with permission of the owner;

(3) Tenant Liability

That is insurance purchased by you to cover your liability as a tenant for "property damage" to premises rented to you or temporarily occupied by you with permission of the owner;

(4) Aircraft, Auto Or Watercraft

If the loss arises out of the maintenance or use of aircraft, "autos" or watercraft to the extent not subject to Exclusion **g.** of Section **A.** – Coverages.

(5) Property Damage To Borrowed Equipment Or Use Of Elevators

If the loss arises out of "property damage" to borrowed equipment or the use of elevators to the extent not subject to Exclusion **k.** of Section **A.** – Coverages.

(6) When You Are Added As An Additional Insured To Other Insurance

That is other insurance available to you covering liability for damages arising out of the premises or operations, or products and completed operations, for which you have been added as an additional insured by that insurance; or

(7) When You Add Others As An Additional Insured To This Insurance

That is other insurance available to an additional insured.

However, the following provisions apply to other insurance available to any person or organization who is an additional insured under this Coverage Part:

(a) Primary Insurance When Required By Contract

This insurance is primary if you have agreed in a written contract, written agreement or permit that this insurance be primary. If other insurance is also primary, we will share with all that other insurance by the method described in **c.** below.

(b) Primary And Non-Contributory To Other Insurance When Required By Contract

If you have agreed in a written contract, written agreement or permit that this insurance is primary and non-contributory with the additional insured's own insurance, this insurance is primary and we will not seek contribution from that other insurance.

Paragraphs **(a)** and **(b)** do not apply to other insurance to which the additional insured has been added as an additional insured.

When this insurance is excess, we will have no duty under this Coverage Part to defend the insured against any "suit" if any other insurer has a duty to defend the insured against that "suit". If no other insurer defends, we will undertake to do so, but we will be entitled to the insured's rights against all those other insurers.

When this insurance is excess over other insurance, we will pay only our share of the amount of the loss, if any, that exceeds the sum of:

(1) The total amount that all such other insurance would pay for the loss in the absence of this insurance; and

(2) The total of all deductible and self-insured amounts under all that other insurance.

We will share the remaining loss, if any, with any other insurance that is not described in this Excess Insurance provision and was not bought specifically to apply in excess of the Limits of Insurance shown in the Declarations of this Coverage Part.

c. Method Of Sharing

If all the other insurance permits contribution by equal shares, we will follow this method also. Under this approach, each insurer contributes equal amounts until it has paid its applicable limit of insurance or none of the loss remains, whichever comes first.

If any of the other insurance does not permit contribution by equal shares, we will contribute by limits. Under this method, each insurer's share is based on the ratio of its applicable limit of insurance to the total applicable limits of insurance of all insurers.

8. Transfer Of Rights Of Recovery Against Others To Us

a. Transfer Of Rights Of Recovery

If the insured has rights to recover all or part of any payment, including Supplementary Payments, we have made under this Coverage Part, those rights are transferred to us. The insured must do nothing after loss to impair them. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them. This condition does not apply to Medical Expenses Coverage.

b. Waiver Of Rights Of Recovery (Waiver Of Subrogation)

If the insured has waived any rights of recovery against any person or organization for all or part of any payment, including Supplementary Payments, we have made under this Coverage Part, we also waive that right, provided the insured waived their rights of recovery against such person or organization in a contract, agreement or permit that was executed prior to the injury or damage.

F. OPTIONAL ADDITIONAL INSURED COVERAGES

If listed or shown as applicable in the Declarations, one or more of the following Optional Additional Insured Coverages also apply. When any of these Optional Additional Insured Coverages apply, Paragraph **6.** (Additional Insureds When Required by Written Contract, Written Agreement or Permit) of Section **C.**, Who Is An Insured, does not apply to the person or organization shown in the Declarations. These coverages are subject to the terms and conditions applicable to Business Liability Coverage in this policy, except as provided below:

1. **Additional Insured - Designated Person Or Organization**

   WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

   a. In the performance of your ongoing operations; or

   b. In connection with your premises owned by or rented to you.

2. **Additional Insured - Managers Or Lessors Of Premises**

   a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured - Designated Person Or Organization; but only with respect to liability arising out of the ownership, maintenance or use of that part of the premises leased to you and shown in the Declarations.

   b. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

   This insurance does not apply to:

   (1) Any "occurrence" which takes place after you cease to be a tenant in that premises; or

   (2) Structural alterations, new construction or demolition operations performed by or on behalf of such person or organization.

3. **Additional Insured - Grantor Of Franchise**

   WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured - Grantor Of Franchise, but only with respect to their liability as grantor of franchise to you.

4. **Additional Insured - Lessor Of Leased Equipment**

   a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured – Lessor of Leased Equipment, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your maintenance, operation or use of equipment leased to you by such person(s) or organization(s).

   b. With respect to the insurance afforded to these additional insureds, this insurance does not apply to any "occurrence" which takes place after you cease to lease that equipment.

5. **Additional Insured - Owners Or Other Interests From Whom Land Has Been Leased**

   a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured – Owners Or Other Interests From Whom Land Has Been Leased, but only with respect to liability arising out of the ownership, maintenance or use of that part of the land leased to you and shown in the Declarations.

   b. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

   This insurance does not apply to:

   (1) Any "occurrence" that takes place after you cease to lease that land; or

   (2) Structural alterations, new construction or demolition operations performed by or on behalf of such person or organization.

6. **Additional Insured - State Or Political Subdivision – Permits**

   a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the state or political subdivision shown in the Declarations as an Additional

Insured – State Or Political Subdivision - Permits, but only with respect to operations performed by you or on your behalf for which the state or political subdivision has issued a permit.

b. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to:

(1) "Bodily injury", "property damage" or "personal and advertising injury" arising out of operations performed for the state or municipality; or

(2) "Bodily injury" or "property damage" included in the "product-completed operations" hazard.

7. Additional Insured – Vendors

a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) (referred to below as vendor) shown in the Declarations as an Additional Insured - Vendor, but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business and only if this Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

b. The insurance afforded to the vendor is subject to the following additional exclusions:

(1) This insurance does not apply to:

(a) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the contract or agreement;

(b) Any express warranty unauthorized by you;

(c) Any physical or chemical change in the product made intentionally by the vendor;

(d) Repackaging, unless unpacked solely for the purpose of inspection, demonstration, testing, or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

(e) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

(f) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

(g) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

(h) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

(i) The exceptions contained in Subparagraphs **(d)** or **(f)**; or

(ii) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.

(2) This insurance does not apply to any insured person or organization from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.

8. Additional Insured – Controlling Interest

WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured – Controlling Interest, but only with respect to their liability arising out of:

a. Their financial control of you; or

b. Premises they own, maintain or control while you lease or occupy these premises.

This insurance does not apply to structural alterations, new construction and demolition operations performed by or for that person or organization.

9. **Additional Insured – Owners, Lessees Or Contractors – Scheduled Person Or Organization**

   a. WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or organization(s) shown in the Declarations as an Additional Insured – Owner, Lessees Or Contractors, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

      (1) In the performance of your ongoing operations for the additional insured(s); or

      (2) In connection with "your work" performed for that additional insured and included within the "products-completed operations hazard", but only if this Coverage Part provides coverage for "bodily injury" or "property damage" included within the "products-completed operations hazard".

   b. With respect to the insurance afforded to these additional insureds, this insurance does not apply to "bodily injury", "property damage" or "personal an advertising injury" arising out of the rendering of, or the failure to render, any professional architectural, engineering or surveying services, including:

      (1) The preparing, approving, or failure to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders, designs or drawings and specifications; or

      (2) Supervisory, inspection, architectural or engineering activities.

10. **Additional Insured – Co-Owner Of Insured Premises**

    WHO IS AN INSURED under Section **C.** is amended to include as an additional insured the person(s) or Organization(s) shown in the Declarations as an Additional Insured – Co-Owner Of Insured Premises, but only with respect to their liability as co-owner of the premises shown in the Declarations.

The limits of insurance that apply to additional insureds are described in Section **D.** – Limits Of Insurance.

How this insurance applies when other insurance is available to an additional insured is described in the Other Insurance Condition in Section **E.** – Liability And Medical Expenses General Conditions.

G. LIABILITY AND MEDICAL EXPENSES DEFINITIONS

1. "Advertisement" means the widespread public dissemination of information or images that has the purpose of inducing the sale of goods, products or services through:

   a. **(1)** Radio;
      (2) Television;
      (3) Billboard;
      (4) Magazine;
      (5) Newspaper;

   b. The Internet, but only that part of a web site that is about goods, products or services for the purposes of inducing the sale of goods, products or services; or

   c. Any other publication that is given widespread public distribution.

   However, "advertisement" does not include:

   a. The design, printed material, information or images contained in, on or upon the packaging or labeling of any goods or products; or

   b. An interactive conversation between or among persons through a computer network.

2. "Advertising idea" means any idea for an "advertisement".

3. "Asbestos hazard" means an exposure or threat of exposure to the actual or alleged properties of asbestos and includes the mere presence of asbestos in any form.

4. "Auto" means a land motor vehicle, trailer or semi-trailer designed for travel on public roads, including any attached machinery or equipment. But "auto" does not include "mobile equipment".

5. "Bodily injury" means physical:

   a. Injury;

   b. Sickness; or

   c. Disease

   sustained by a person and, if arising out of the above, mental anguish or death at any time.

6. "Coverage territory" means:

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
BUILDING PLAN REVIEW AND INSPECTION SERVICES
CATEGORY 1: BUILDING PLAN REVIEW
CATEGORY 2: BUILDING INSPECTION SERVICES

SHUMS CODA ASSOCIATES
CONTRACT NO. 2017-010-002

CHANGE ORDER #1

Pursuant to the Contract between the City of Buckeye, an Arizona municipal corporation (City) and Shums Coda Associates, an Arizona corporation, dated August 15, 2017, the following changes apply:

The following documents attached hereto are hereby added to the contract:

1. Revised fee schedule, pursuant to Attachment A.

This is a NO COST Change Order, and shall not affect any other aspects of the Contract.

The terms and conditions of the Change Order, including the cost and time contained herein, constitute a full accord and complete satisfaction for all costs and time of performance related to the work described or referenced. Except as amended herein, all provisions of the contract remain in full force and effect. This document shall become an amendment to the contract and all provisions of the contract will apply hereto.

THEREFORE, the City of Buckeye by its Manager of Construction and Contracting has hereunto subscribed his name this 22-Feb-2022.

CITY OF BUCKEYE

CA Williams
Christopher A. Williams
Manager of Construction and Contracting

CONTRACTOR:
SHUMS CODA ASSOCIATES

By: _____

Its: Chief Operating Officer

Adobe Sign Transaction Number: CBJCHBCAABAAaacx1EPBct8MFGQTZMgRatTmIybjGM12

ATTACHMENT A

REVISED FEE SCHEDULE

Category 1 - Building Plan Review Services

Fees for comprehensive plan reviews, performed at SCA offices, will be equal to Sixty- Five percent (65%) of the plan review fees as calculated per the jurisdiction. The City will provide SCA with jurisdiction plan review fees (project-by-project) for use in calculating SCA's fees. In return, invoicing will be done on a monthly basis with detailed description of each project.

The above fee covers all services associated with the typical plan review, including:

- Pick – up and delivery of design documents to the jurisdiction.
- First, second and quick third reviews to approve projects.

Extensive plan reviews (longer third reviews or more) that may be required to be charged on an hourly rate shown below. Further, smaller projects that take one or more reviews may also be charged at an hourly rate when agreed upon with the Chief Building Official. Pre-application, pre-construction, or additional meeting attendance that is necessary for unusual or complex projects shall also be charged at the same hourly rate schedule.

Personnel Description	Hourly Billing Rate
In-House Plan Reviewer	$100
Principal	$120
Senior Engineer/Architect	$110
Engineer/Architect	$100
Senior Plans Examiner	$90
Plans Examiner	$80

If an expedited plan review is requested, the turn-around time could be as quickly as a single day, but these types of review schedules are typically determined based on the complexity of the project and the availability of SCA staff to complete the review. SCA will not charge extra for an expedited plan review.

Category 2 – Building Inspection Services

The scope of inspection services to be provided will be defined uniquely for each project or as determined mutually by Shums Coda Associates project manager and the Chief Building Official. Inspector(s) provided to the City will report directly to the Chief Building Official or other person designated by the City for all project-related work. Fees for inspection services shall be billed at an hourly rate. Inspection services will be billed hourly based on the rates below:

Personnel Description	Hourly Billing Rate
Supervising Inspector / Inspector of Record	$100 - 115
Senior Inspector	$90 - 100
Inspector II	$80 - 90
Inspector I	$70 - 80
Inspector In-Training	$50 - 70

Other Services

The scope of services to be provided will be defined uniquely for each project or as determined mutually by Shums Coda Associates and the Chief Building Official.

Personnel Description	Hourly Billing Rate
Clerical	$45

Overtime

Overtime will be not be charged for any plan review services billed at the hourly rate, while inspection and other services will be charged at 150% of the standard hourly rates.

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
ENGINEERING AND ARCHITECTURAL SERVICES

SHUMS CODA ASSOCIATES
CONTRACT #2017-010-002
Task Order No. 5

In accordance with the On-Call Consulting for Engineering and Architectural Services Contract between the City of Buckeye (the "City") and Shums Coda Associates, ("Consultant"), dated the 15th day of August, 2017, the Consultant will perform the following Scope of Services as detailed in Article 1, subject and pursuant to the terms and conditions of the Engineering and Architectural Services Contract for On-Call Engineering and Architectural Services.

ARTICLE 1
SCOPE OF SERVICES

Consultant shall provide services for City of Buckeye Building Inspections, Plan Reviews, and Building Services, as further described in Exhibit A.

ARTICLE 2
SCHEDULE OF COMPLETION OF SERVICES

The Consultant shall commence work immediately upon execution of this Task Order and will continue until such time that the Scope of Services has been completed and approved by the City.

ARTICLE 3
FEE BREAKDOWN

Total cost to complete the projects under this Task Order as identified in Article 1 shall not exceed Five Hundred and Forty Three Thousand Dollars and Zero Cents ($543,000.00).

This Task Order No. 5 is subject to the terms and requirements of the Consultant Contract and may be cancelled pursuant to the provisions of Arizona Revised Statutes Section 38-511.

THEREFORE, the City of Buckeye by its City Mayor has hereunto subscribed his name on this date: _____.

CITY

THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

By: _____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

_____
Christopher A. Williams, Manager
Construction & Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
SHUMS CODA ASSOCIATES

By:_____
Name

Chief Operating Officer
_____
Title

Adobe Sign Transaction Number: CBJCHBCAABAAIuwOg2jnnlG81f6js-lVwiHZLj-rOFx1

EXHIBIT A

SCOPE OF WORK
AND
FEE SCHEDULE

February 8, 2022

Cathy Clemons
Deputy Director of Administration
Development Services Department
City of Buckeye
530 East Monroe Avenue
cclemons@buckeyeaz.gov

Subject: Anticipated Contractual Costs
February-June, 2022

For over the past couple of years Shums Coda Associates (SCA) has enjoyed working with your staff to provide building inspections, plan reviews and Building Official services. We know the City of Buckeye is one of the fastest growing cities in Arizona and the United States and that your workloads have been ever increasing. This naturally causes an undue burden on your staff as they continually attempt to maintain or exceed customer service expectations. As with many cities in Arizona, and other states, plan review and inspection consultants are being used to handle this influx of work rather than staffing up. While increasing your fulltime employee headcount is an option, we all know that there will be another decrease in construction activity which will most likely require initiating a reduction in force as occurred during the past recession. Using a third-party contractor, such as SCA, allows flexibility if, and when, this does occur. Contract employees are reduced while maintaining the fulltime City employees.

Through your guidance and feedback, we feel that we have established a positive working relationship with you and your staff and would like to continue to do so again for the coming fiscal year.

It is our intent to keep our billing rates as have been established by the initial contract with the following modifications that both the City and SCA have previously agreed upon.

Those hourly rates are as follows:

Clerical Services	$45
Inspection Services	$50 - 115
In-house Plan Reviews	$100
Plan Reviews Based on Valuation	65% of the City's Plan Review Fee

With these figures established, we feel the following costs are likely to be incurred for the remainder of the fiscal year:

	Hourly Rate	Hours/Week	# Weeks	Total
Inspection Services	$70-100	~120	20	$204,000
In-house Plan Reviews	$100	60	20	$120,000
Plan Reviews Based on Valuation				$219,000
			TOTAL	**$543,000**

Again, it is understood that this total amount will vary depending on the need for our services and the amount of activity occurring in Buckeye.

Best Regards,

Christine Godinez
Chief Operating Officer

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.I. Brown & Associates - Building Inspection Services
DATE PREPARED: 02/24/22	**DISTRICT NO.:**
STAFF LIAISON: Chris Williams, Construction and Contracting Manager, cwilliams@buckeyeaz.gov, (623) 349-6225	
DEPARTMENT: Construction and Contracting	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council)
Council to take action approving Task Order No. 2 to the On-Call Consulting Contract for Building Plan Review and Inspection Services (Contract No. 2017-010-003) between the City of Buckeye and Brown & Associates; and authorizing the Mayor to execute and deliver said Task Order on behalf of the City.

RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

SUMMARY

PROJECT DESCRIPTION:
The Development Services Department is requesting funds through Task Order No. 2 to keep up with the current demand for Building Inspections and other project related services.

BENEFITS:
To maintain or exceed customer service expectation in the Development Services Department.

FUTURE ACTION:
None

FINANCIAL IMPACT STATEMENT:
10005180-520056 - $75,600

CURRENT FISCAL YEAR TOTAL COST:
$75,600

BUDGETED:
Yes

FISCAL YEAR:
21/22

FUND/DEPARTMENT:
10005180-520056/Development Services

Items related to a project or facility location must include an attached vicinity map for Council Review.

ATTACHMENTS:

Brown & Associates TO2.pdf
2017-010-003 FE Brown & Associates.pdf

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
BUILDING PLAN REVIEW AND INSPECTION SERVICES

BROWN & ASSOCIATES
CONTRACT #2017-010-003
Task Order #2

In accordance with the Building Plan Review and Inspection Services Contract between the City of Buckeye (the "City") and Brown & Associates, ("Consultant"), the Consultant will perform the following Scope of Services as detailed in Article 1, subject and pursuant to the terms and conditions of the Building Plan Review and Inspection Services Contract for On-Call Building Plan Review and Inspection Services.

ARTICLE 1
SCOPE OF SERVICES

Consultant shall provide services for City of Buckeye Building Inspection Services, as further described in Exhibit A.

ARTICLE 2
SCHEDULE OF COMPLETION OF SERVICES

The Consultant shall commence work immediately upon execution of this Task Order and will continue until such time that the Scope of Services has been completed and approved by the City.

ARTICLE 3
FEE BREAKDOWN

Total cost to complete the projects under this Task Order as identified in Article 1 shall not exceed **Seventy-Five Thousand Six Hundred Dollars and Zero Cents** ($75,600.00).

This Task Order No. 2 is subject to the terms and requirements of the Consultant Contract and may be cancelled pursuant to the provisions of Arizona Revised Statutes Section 38-511.

THEREFORE, the City of Buckeye by its City Mayor has hereunto subscribed his name this _____.

CITY

THE CITY OF BUCKEYE, ARIZONA
an Arizona Municipal corporation

By: _____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda Aja, City Clerk

RECOMMENDED:

_____
Christopher A. Williams, Manager
Construction & Contracting Division

APPROVED AS TO FORM:

_____
City Attorney

CONTRACTOR:
BROWN AND ASSOCIATES

By: Katie Brown Floyd
_____
Name

Project Coordinator
_____
Title

Adobe Sign Transaction Number: CBJCHBCAABAAKj2b84MKsOj0GvhiQyF4W_icgf1wVCvg

EXHIBIT A

SCOPE OF WORK
AND
FEE SCHEDULE

BROWN & ASSOCIATES
BUILDING & LIFE SAFETY CONSULTING
O: 480.991.3751 | F: 480.596.5065 | Toll Free: 866.991.3751

MEMORANDUM

To: City of Buckeye Construction and Contracting Department

From: Katie Brown, Project Coordinator

Date: January 27, 2022

Regarding: Anticipated Contractual Costs for Fiscal Year 2021/2022

For on-call consulting services of Building Inspection services provided by Brown & Associates under Contract No. 2017-010-003, Brown & Associates anticipates contractual costs of **$75,600.00** for inspection services to be provided from February 1- June 30, 2022.

Line Item	Personnel	Hours	Schedule (weeks)	Rate	TOTAL
Sr. Building Inspector	1	40.0	21	$90.00	$75,600.00
				Inspection Services Estimate	$75,600.00

CITY OF BUCKEYE
ON-CALL CONSULTING FOR
BUILDING PLAN REVIEW AND INSPECTION SERVICES
CATEGORY 1: BUILDING PLAN REVIEW
CATEGORY 2: BUILDING INSPECTION SERVICES

BROWN & ASSOCIATES
Contract No: 2017-010-003

THIS CONTRACT, ("Contract") is entered into by and between the CITY OF BUCKEYE, an Arizona municipal corporation, hereafter called (the "CITY") and Brown & Associates an Arizona corporation hereafter called "CONSULTANT".

RECITALS

The CITY OF BUCKEYE, Arizona, is authorized and empowered by the City Code to execute contracts

NOW, THEREFORE, in consideration of the premises and the mutual promises herein contained, The City and Consultant agree as follows:

This Contract shall be in full force and effect only when it has been approved as required by the City Code and executed by the duly authorized City officials.

1.0 SCOPE OF SERVICES

The City desires to obtain Professional Building Plan Review and Building Inspection Services for City-wide Improvement projects. In accordance with the contract documents, a specific scope of services and fee proposal shall be negotiated for each project and be executed by individual Task Orders. Services provided by the Consultant under this agreement shall be performed in a manner consistent with that degree of care and skills ordinarily exercised by members of the same profession currently practicing under similar conditions.

The Consultant shall perform all services within the cost and time frames defined in executed Task Orders, and comply in all respect, as described herein for the consideration stipulated, and in compliance with applicable Federal, State and City Codes. Services at the City's request may include, in general, but are not limited to the following:

BUILDING PLAN REVIEW:

- Plan Check for complex construction of buildings and structural, both Commercial and Residential Construction.

- Plan review may include; structural, architectural, grading, energy, electrical, mechanical, plumbing, and specifications summited as part of a building permit.
- Work may include; review of plan and specifications, drafting of written corrections and redlining of plans, communicating both orally and in writing to the applicant and providing code interpretation.
- The selected firm(s) may be required to work at City Hall or within another facility within the City of Buckeye.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

BUILDING INSPECTION SERVICES:

- Building Construction inspection services to ensure construction conforms to the approved plans and the standards and codes adopted by the City of Buckeye.
- Provide written documentation of inspections performed, issuance of stop work orders, and notices of corrections.
- The selected firm(s) must be able to provide inspection services within 24 hour notice.
- Provide Inspection Services to locations throughout the City of Buckeye as assigned.
- Work with City Staff as assigned for Building Inspection Services.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

2.0 FEES AND PAYMENTS

2.1 REGISTRATION REQUIREMENT IN VENDOR SELF SERVICE (VSS)

In order to do business with the City, register at https://selfservice.buckeyeaz.gov/MSS Please be aware vendors that do not register and verify their information, including uploading a W-9 form to their profile, may experience delays in processing of invoices and will not be able to do business with the City.

2.2 FEE SCHEDULE

Consultant shall be paid according to the schedule set forth in Exhibit A. Each "Task Order" over One Hundred Thousand Dollars ($100,000.00) shall be subject to City Council Approval.

2.3 PAYMENT APPROVAL

The time spent for each task shall be recorded and submitted to the Contract Administrator. Consultant shall maintain all books, papers, documents, accounting records and other evidence pertaining to time billed and to costs incurred and make such materials available at all reasonable times during the contract period.

Monthly payments shall be made to the Consultant on the basis of a progress report prepared and submitted by the Consultant for work completed through the last day of the preceding calendar month. Each task shall be subject to review and approval by the Contract Administrator to determine acceptable percentage of completion.

The Contract Administrator reserves the exclusive right to determine the amount of work performed and payment due the Consultant on a monthly basis.

All charges must be approved by the Contract Administrator prior to payment.

3.0 GENERAL TERMS AND CONDITIONS

3.1 CONTRACT ADMINISTRATOR

The Contract Administrator for the City shall be the Purchasing Agent, in the Construction and Contracting Division or designee. The Contract Administrator shall oversee the performance of this Contract; assist the Consultant in contacting members associated with the project, audit billings, and approve payments.

The Consultant shall submit all reports and special requests through the Contract Administrator.

3.2 TERM OF CONTRACT

The Contract initial term is established for a term commencing on the date of execution and ending on the Contract 1 year Anniversary date in 2018, with automatic renewals, unless otherwise terminated by either party, for four (4) additional one-year terms. Consultant shall provide services under the contract for specific project assignments with a Task Order issued no later than the final day of the effective Contract terms.

3.3 TERMINATION OF CONTRACT

The City has the right to terminate this Contract or abandon any portion of a Task Order, which has not been performed by the Consultant.

Termination for Convenience: City and Consultant reserve the right to terminate this contract or any part hereof for its sole convenience with thirty (30) days written notice. In the event of such termination, Consultant shall immediately stop all work hereunder, and shall immediately cause any of its suppliers and SubConsultants to cease such work. As compensation in full for services performed to the date of such termination, the Consultant shall receive a fee for the percentage of services actually completed. This fee shall be in the amount to be mutually agreed upon by the Consultant and the City, based on the agreed Scope of Work and the value to the City of the services completed. If there is no mutual agreement, the Contract Administrator shall determine the percentage of completion of each task detailed in the Scope of Work and the Consultant's compensation shall be based upon such determination. The City shall make this final payment within sixty (60) days after the Consultant has delivered the last of the partially completed items. Consultant shall not be paid for any work done after receipt of the notice of termination, or for any costs incurred by Consultant's suppliers or SubConsultants, which Consultant could reasonably have avoided.

Termination for Cause: City may also terminate this contract or any part hereof with seven (7) days written notice for cause in the event of any default by the Consultant, or if the Consultant fails to comply with any of the material terms and conditions of this contract. By way of example and not limitation, unsatisfactory performance as judged by the Contract Administrator and failure to provide City, upon written request, with adequate assurances of future performance shall all be causes allowing City to terminate this contract for cause. In the event of termination for cause, CITY shall not be liable to Consultant for any amount after the issuance of written notice, and Consultant shall be liable to City for any and all damages sustained by reason of the default that gave rise to the termination.

In the event Consultant is in violation of any Federal, State, County or City law, regulation or ordinance, the City may terminate this contract immediately upon giving written notice to the Consultant.

In the event the City shall terminate this Contract or any part of the services as herein provided, the City shall notify the Consultant in writing, and immediately upon receiving such written notice, the Consultant shall discontinue advancing the work under this Contract and/or awarded Task Order.

Upon such termination or abandonment, the Consultant shall deliver to the City all drawings, special provisions, field survey notes, reports, and estimates, entirely or partially completed, in any format, including but not limited to written or electronic media, together with all unused materials supplied by the City.

The Consultant shall appraise the work it has completed and submit its appraisal to the City for evaluation.

If through any cause, the Consultant shall fail to fulfill in a timely and proper manner its obligations under this Contract, or if the Consultant shall violate any of the covenants, agreements, or stipulations of this Contract, the City may withhold any payments to the Consultant for the purpose of setoff until such time as the exact amount of damages due the City from the Consultant is determined.

3.4 FUNDS APPROPRIATION

If the City Council does not appropriate funds to continue this Contract and pay for charges hereunder, the City may terminate this Contract at the end of the current fiscal period, or at the time that funds are no longer available to meet the City's payment obligations hereunder. The City agrees to give written notice of termination to the Consultant at least thirty (30) days prior to any termination for a lack of funds and will pay to the Consultant all approved charges incurred prior to Consultant's receipt of such notice, subject to the availability of funds therefore.

3.5 AUDIT

The City may audit all of the Consultant's records, calculations, and working documents pertaining to this work at a mutually agreeable time and place.

Consultant's records (hard copy, as well as computer readable data), and any other supporting evidence deemed necessary by the City to substantiate charges and claims related to this contract shall be open to inspection and subject to audit and/or reproduction by City's authorized representative to the extent necessary to permit evaluation and verification of cost of the work, and any invoices, change orders, payments or claims submitted by the Consultant or any of his payees pursuant to the execution of the contract. The City's authorized representative shall be afforded access, at reasonable times and places, to all of the Consultant's Records and personnel pursuant to the provisions of this article throughout the term of this contract and for a period of three years after last or final payment.

Consultant shall require all SubConsultants, to comply with the provisions of this article by insertion of the requirements hereof in a written contract agreement between Consultant and payee. Such requirements will also apply to any and all SubConsultants.

If an audit in accordance with this article, discloses overcharges, of any nature, by the Consultant to the City in excess of five percent (5%) of the total contract billings, the actual cost of the City's audit shall be reimbursed to the City by the Consultant.

Any adjustments and/or payments, which must be made as a result of any, such audit or inspection of the Consultant's invoices and/or records, shall be made within a reasonable amount of time (not to exceed 60 days) from presentation of CITY's findings to Consultant.

3.6 OWNERSHIP OF PROJECT DOCUMENTS

All documents, including but not limited to, field notes, design notes, tracings, data compilations, studies, and reports in any format, including but not limited to, written or electronic media, which are prepared in the performance of this Contract will become and are the property of City.

3.7 COMPLETENESS AND ACCURACY

The Consultant shall be responsible for the accuracy of its work, including but not limited to, survey work, reports, supporting data, and drawings, sketches, etc. prepared or compiled pursuant to this Contract and shall correct, at its expense, all negligent errors or omissions therein which may be disclosed. The cost necessary to correct those errors attributable to the engineering errors shall be chargeable to the Consultant. Additional Scope(s) of work which may be added to the Task Order shall not be considered the responsibility of the Consultant unless the need for same was created solely by any negligent error, omission, or negligent act of the Consultant and does not result in betterment to the City. The fact that the City has accepted or approved the Consultant's work shall in no way relieve the Consultant of any of its responsibilities.

3.8 ATTORNEY'S FEES

In the event either party brings any action for any relief, declaratory or otherwise, arising out of this Contract, or on account of any breach or default hereof, the prevailing shall be entitled to receive from the other party reasonable attorneys' fees and reasonable costs and expenses, which shall be deemed to have accrued from the commencement of such action.

3.9 SUCCESSORS AND ASSIGNS

This Contract shall extend to and be binding upon the Consultant, its successors and assigns, including any individual, company, partnership, or other entity with or into which the Consultant shall merge, consolidate, or be liquidated, or any person, corporation, partnership, or other entity to which the Consultant shall sell its assets.

3.10 ASSIGNMENT

Services covered by this Contract shall not be assigned or subcontracted in whole or in part without the prior written consent of the Contract Administrator.

3.11 SUBCONSULTANTS

During the performance of the Contract, the Consultant may engage such additional SubConsultants as may be required for the timely completion of this Contract. The addition of any SubConsultants shall

be subject to the prior approval of the City.

In the event of subcontracting, the sole responsibility for fulfillment of all terms and conditions of this Contract rests with the Consultant.

3.12 ALTERATIONS OR ADDITIONS TO SCOPE OF SERVICES

The total scope of Services to be performed in accordance with this Contract will be identified in each Task Order. Services, which are not included in this Contract, will be considered Additional Services. The Consultant shall not perform these Additional Services without written authorization in the form of an approved Change Order from the City.

3.13 MODIFICATIONS

Any amendment, modification or variation from the terms of this Contract shall be in writing and shall be effective only after approval of all parties signing the original Contract.

3.14 CONFLICT OF INTEREST

This Contract is subject to cancellation pursuant to the provisions of A.R.S. 38-511.

3.15 FORCE MAJEURE

Neither party shall be responsible for delays or failures in performance resulting from acts beyond their control. Such acts shall include, but not be limited to, acts of God, riots, acts of war, epidemics, governmental regulations imposed after the fact, fire, communication line failures, power failures, or earthquakes.

3.16 TAXES

The fee listed in this Contract includes any and all taxes applicable to the activities hereunder. The City shall have no obligation to pay additional amounts for taxes of any type.

3.17 ADVERTISING

No advertising or publicity concerning the City using the Consultant's services shall be undertaken without prior written approval of such advertising or public City by the Contract Administrator.

3.18 COUNTERPARTS

This Contract may be executed in one or more counterparts, and each executed duplicate counterpart of this Contract shall be deemed to possess the full force and effect of the original.

3.19 ENTIRE AGREEMENT

This Contract constitutes the entire understanding of the parties and no representations or agreements, oral or written, made prior to its execution shall vary or modify the terms herein.

3.20 ARIZONA LAW

This Contract shall be governed and interpreted according to the laws of the State of Arizona.

3.21 EQUAL EMPLOYMENT OPPORTUNITY

The Consultant shall comply with Executive Order No. 11245, entitled "Equal Employment Opportunity", as amended by Executive Order No. 11375, and as supplemented in Department of Labor Regulations (41 CFR Part 60).

3.22 NOTICES

All notices or demands required to be given, pursuant to the terms of this Contract, shall be given to the other party in writing, delivered by hand or registered or certified mail, at the addresses set forth below, or to such other address as the parties may substitute by written notice given in the manner prescribed in this paragraph.

On behalf of the Consultant:

Brown & Associates
Attn: Katie Brown, Project Coordinator
15601 N. 40th Street
Building 130
Phoenix, Arizona 85032

Phone: 480 991 3751
Email: KATIE@BROWNANDASSOCIATES.NET

On behalf of the CITY:

Tammy Vogel, Contract Administrator
530 East Monroe Ave.
Buckeye, AZ 85326
P: (623) 349-6175
Tvogel@buckeyeaz.gov

With a copy to:

Gust Rosenfeld, P.L.C.
One E. Washington, Suite 1600
Phoenix, AZ 85004-2553
Attention: City of Buckeye Representative
P: (602) 257-7432
F : (602) 254-4878

Notices shall be deemed received on date delivered if delivered by hand and on the delivery date indicated on receipt if delivered by certified or registered mail.

3.23 INDEPENDENT CONSULTANT

The services Consultant provides under the terms of this Contract to the City are that of an Independent Consultant, not an employee, or agent of the City. The City will report the value paid for these services each year to the Internal Revenue Service (I.R.S.) using Form 1099.

City shall not withhold income tax as a deduction from contractual payments. As a result of this, Consultant may be subject to I.R.S. provisions for payment of estimated income tax. Consultant is responsible for consulting the local I.R.S. office for current information on estimated tax requirements.

3.24 INDEMNIFICATION

To the fullest extent permitted by law, the Consultant shall indemnify and hold harmless the City and each council member, officer, employee or agent thereof (the City and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims"), insofar as such Claims (or actions in respect thereof) are caused by the negligent acts, intentional misconduct, errors, mistakes or omissions, in connection with the work or services of the Consultant, its officers, employees, agents, or any tier of SubConsultant in the performance of this Contract. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this Section.

3.25 E-VERIFY REQUIREMENTS

To the extent applicable under Arizona Revised Statues § 41-4401, the Consultant and its Subconsultants warrant compliance with all federal immigration laws and regulations that relate to their employees and their compliance with the E-verify requirements under ARIZ. Revised Statues. § 23-214(A). The Consultant or Subconsultant's breach of the above-mentioned warranty shall be deemed a material breach of the Contract and may result in the termination of the Contract by the City of Buckeye. The City of Buckeye retains the legal right to randomly inspect the papers and records of

the Consultant or Subconsultant employee who work on the Contract to ensure that the Consultant and its Subconsultants are complying with the above-mentioned warranty.

The Consultant and its SubConsultants warrant keeping the papers and records open for random inspection during normal business hours by the City. The Consultant and its SubConsultants shall cooperate with City's random inspections including granting the City's entry rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

3.26 SCRUTINIZED BUSINESS OPERATIONS

Pursuant to Arizona Revised Statues §§ 35-391.06 and 35-393.06, the Consultant certifies that it does not have a scrutinized business operation in Sudan or Iran. For the purpose of this Section the term "scrutinized business operations" shall have the meanings set forth in ARIZ. Revised Statues § 35-391 or and 35-393, as applicable. If the City determines that the Consultant submitted a false Certification, the City may impose remedies as provided by law including terminating this Contract.

3.27 COMPLIANCE WITH LAWS

In performing any work required hereunder, Consultant shall comply with all applicable laws, ordinances, and codes of Federal, State and local governments, in effect during this Contract.

3.28 COOPERATIVE PURCHASING

Specific eligible political subdivisions and nonprofit educational or public health institutions ("Eligible Procurement Unit(s) ") are permitted to utilize procurement agreements developed by the City, at their discretion and with the agreement of the awarded Consultant. Consultant may, at its sole discretion, accept orders from Eligible Procurement Unit(s) for the purchase of the Materials and/or Services at the prices and under the terms and conditions of this Agreement, in such quantities and configurations as may be agreed upon between the parties. All Cooperative procurements under this Agreement shall be transacted solely between the requesting of the Eligible Procurement Unit. The exercise of any rights, responsibilities or remedies by Eligible Procurement Unit shall be the exclusive obligation of such unit. The City assumes no responsibility for payment, performance or any liability or obligation associated with any cooperative procurement under this Agreement. The City shall not be responsible for any disputes arising out of transactions made by others.

4.0 INSURANCE

A Standard Accord Certificate of Insurance is acceptable provided it is contains the additional language and deleted language as required in this contract. Failure to provide a Certificate of Insurance with the appropriate verbiage as required by this contract will result in rejection of the Certificate and delay contract execution.

Additionally, Certificates of Insurance submitted without referencing a Contract number will be subject to rejection and returned or discarded.

4.1 Insurance Representations and Requirements

4.1.1 General: Consultant agrees to comply with all City ordinances and state and federal laws and regulations.

Without limiting any obligations or liabilities of Consultant, Consultant shall purchase and maintain, at its own expense, hereinafter stipulated minimum insurance with insurance companies duly licensed by the State of Arizona (admitted insurer) with an AM Best, Inc. rating of A or above or an equivalent qualified unlicensed insurer by the State of Arizona (non-admitted insurer) with policies and forms satisfactory to City of Buckeye. Failure to maintain insurance as specified may result in termination of this Contract at City of Buckeye's option.

No Representation of Coverage Adequacy: By requiring insurance herein, City of Buckeye does not represent that coverage and limits will be adequate to protect Consultant. City of Buckeye reserves the right to review any and all of the insurance policies and/or endorsements cited in this Contract but have no obligation to do so. Failure to demand such evidence of full compliance with the insurance requirements set forth in this agreement or failure to identify any insurance deficiency shall not relieve Consultant from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Contract.

4.1.3 Additional Insured: All insurance coverage and self-insured retention or deductible portions, except Workers Compensation insurance and Professional Liability insurance if applicable, shall name, to the fullest extent permitted by law for claims arising out of the performance of this contract, City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insured as specified under the respective coverage sections of this agreement.

4.1.4 Coverage Term: All insurance required herein shall be maintained in full force and effect until all work or services required to be performed under the terms of subject contract is satisfactorily performed, completed and formally accepted by the City of Buckeye, unless specified otherwise in this Contract.

4.1.5 Primary Insurance: Consultant's insurance shall be primary insurance as respects performance of subject contract and in the protection of City of Buckeye as an Additional Insured.

4.1.6 Claims Made: In the event any insurance policies required by this Contract are written on a "claims made" basis, coverage shall extend, either by keeping coverage in force or purchasing an extended reporting option, for three (3) years past completion and acceptance of the work or services evidenced by submission of annual Certificates of Insurance citing applicable coverage is in force and

contains the provisions as required herein for the three year period.

4.1.7 Waiver: All policies, except Professional Liability insurance, shall contain a waiver of rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officials, directors, officers, and employees for any claims arising out of the work or services of Consultant. Consultant shall arrange to have such subrogation waivers incorporated into each policy via formal written endorsement thereto.

4.1.8 Policy Deductibles and or Self Insured Retentions: The policies set forth in these requirements may provide coverage, which contain deductibles or self-insured retention amounts. Such deductibles or self-insured retention shall not be applicable with respect to the policy limits provided to City of Buckeye. Consultant shall be solely responsible for any such deductible or self-insured retention amount. CITY OF BUCKEYE, at its option and cost, may require Consultant to secure payment of such deductible or self-insured retention by a surety bond or irrevocable and unconditional Letter of Credit.

4.1.9 Use of SubConsultants: If any work under this agreement is subcontracted in any way, Consultant shall execute written agreement with SubConsultant containing the same Indemnification Clause and Insurance Requirements set forth herein protecting City of Buckeye and Consultant. Consultant shall be responsible for executing the agreement with SubConsultant and obtaining Certificates of Insurance verifying the insurance requirements.

4.1.10 Evidence of Insurance: Prior to commencing any work or services under this Contract, Consultant shall furnish City of Buckeye with Certificate(s) of Insurance, or formal endorsements as required by this Contract, issued by Consultant's insurer(s) as evidence that policies are placed with acceptable Insurers as specified herein and provide the required coverage(s), conditions, and limits of coverage specified in this Contract and that such coverage and provisions are in full force and effect. If a Certificate of Insurance is submitted as verification of coverage, City of Buckeye shall reasonably rely upon the Certificate of Insurance as evidence of coverage but such acceptance and reliance shall not waive or alter in any way the insurance requirements or obligations of this agreement. Such certificates shall identify the Contract work number and be sent to the designated City of Buckeye- Contract Administrator. If any of the above cited policies expire during the life of this Contract, it shall be Consultant's responsibility to forward renewal Certificates within ten (10) days after the renewal date containing all the aforementioned insurance provisions. Certificates shall specifically cite the following provisions:

1. City of Buckeye, its agents, representatives, officers, directors, officials and employees is an Additional Insured as follows:

A) Commercial General Liability - Under ISO Form CG 20 10 11 85 or equivalent.
b) Auto Liability- under ISO Form CA 20 48 or equivalent.
c) Excess Liability- Follow Form to underlying insurance.

2. Consultant's insurance shall be primary insurance as respects performance of subject contract.

3. All policies, except Professional Liability, waive rights of recovery (subrogation) against City of Buckeye, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by Consultant under this contract.

4. Certificate shall cite a 30 day advance notice cancellation provision. If ACORD Certificate of Insurance form used, the phrases in the cancellation provision "endeavor to" and "but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives" shall be deleted. Certificate forms other than ACORD form shall have similar restrictive language deleted.

4.2 Required Coverage

4.2.1 Commercial General Liability: Consultant shall maintain "occurrence" form Commercial General Liability insurance with an unimpaired limit of not less than $1,000,000 for each occurrence, $2,000,000 Products and Completed Operations Annual Aggregate, and a $2,000,000 General Aggregate Limit.

The policy shall cover liability arising from premises, operations, and independent Consultants, products-completed operations, personal injury and advertising injury. Coverage under the policy will be at least as broad as Insurance Services Office, Inc. policy form CG 00 010 93 or equivalent thereof, including but not limited to, separation of insureds clause. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Commercial General Liability Additional Insured Endorsement form CG 20 10 11 85, or equivalent, which shall read "Who is an Insured (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of "your work" for that insured by or for you." If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.2 Professional Liability: If the Contract is the subject of any professional services or work, or if Consultant engages in any professional services or work adjunct or residual to performing the work under this Contract, Consultant shall maintain Professional Liability insurance covering errors and omissions arising out of the work or services performed by Consultant, or anyone employed by Consultant, or anyone for whose acts, mistakes, errors and omissions Consultant is legally liable, with liability insurance limit of $1,000,000 each claim and $2,000,000 all claims. In the event the Professional Liability insurance policy is written on a "claims made" basis, coverage shall extend for three (3) years past completion and acceptance of the work or services, and Consultant shall be required to submit Certificates of Insurance evidencing proper coverage is in effect as required above.

4.2.3 Vehicle Liability: Consultant shall maintain Business Automobile Liability insurance with a limit of $1,000,000 each occurrence on Consultant's owned, hired, and non-owned vehicles assigned to or used in the performance of the Consultant's work or services under this Contract. Coverage will be at least as broad as Insurance Services Office, Inc. coverage code "1" "any auto" policy form CA 00 01 12 93 or equivalent thereof. To the fullest extent allowed by law, for claims arising out of the performance of this contract, the City of Buckeye, its agents, representatives, officers, directors, officials and employees shall be cited as an Additional Insured under Insurance Service Offices, Inc. Business Auto policy Designated Insured Endorsement form CA 20 48 or equivalent. If any Excess insurance is utilized to fulfill the requirements of this paragraph, such Excess insurance shall be "follow form" equal or broader in coverage scope then underlying insurance.

4.2.4 Worker's Compensation Insurance: Consultant shall maintain Workers Compensation insurance to cover obligations imposed by federal and state statutes having jurisdiction of Consultant's employees engaged in the performance of work or services under this Contract and shall also maintain Employers Liability Insurance of not less than $500,000 for each accident, $500,000 disease for each employee and $1,000,000 disease policy limit.

Umbrella/Excess Liability: Umbrella/Excess Liability insurance with a limit of not less than $2,000,000 per occurrence combined limit Bodily Injury and Property

Damage, that "follows form" and applies in excess of the Commercial General Liability, Automobile Liability, and Employer's Liability, as required above.

5.0 SOFTWARE LICENSES

As to all software licenses provided to the City as part of Consultant's obligations under this Contract, the following provisions apply:

5.1 SOURCE CODE AVAILABILITY

Consultant shall furnish City, without charge, a single copy of the Source Code for the Software immediately upon the occurrence of any of the following:

1. Consultant becomes insolvent; or

2. Consultant ceases to conduct business; or

3. Consultant makes a general assignment for the benefit of creditors; or

4. A petition is filed in Bankruptcy by or against Consultant.

5.1.1 Use of the Source Code shall be subject to the same restrictions as to which the Software itself is subject.

5.1.2 City shall have the right to modify Source Code in any manner it deems appropriate, provided that the Source Code as modified shall remain subject to the restrictions set forth in immediately above.

5.2 PROPRIETARY PROTECTION

5.2.1 City acknowledges that to the extent Consultant advises the City that the Software is confidential information or is a trade secret property of the Consultant, the Software is thereby disclosed on a confidential basis under this Contract and is to be used only pursuant to the terms and conditions set forth herein.

5.2.2 Consultant shall not use or disclose any knowledge, data or proprietary information relating to CITY obtained in any manner whatsoever.

5.2.3 To the extent permitted by Arizona Law, the parties agree, both during the term of this Contract and for a period of seven (7) years after termination of this Contract and of all licenses granted hereunder, to hold each other's confidential information in confidence. The parties agree, unless required by government regulations or order of court, not to make each other's confidential information available in any form to any third party or to use each other's confidential information for any purposes other than the implementation of this Contract provided, however, that if Consultant's confidential information is requested to be divulged under the provisions of the Arizona Public Records Act, A.R.S., Title 39, Consultant shall reimburse to City the full cost of City's refusal to release the information, including costs of litigation, City's attorney fees, fines, penalties or assessments of opposing party's attorney fees. Each party agrees to take all reasonable steps to ensure that confidential information is not disclosed or distributed by its employees or agents in violation of the provisions of this Contract.

5.3 NON-INFRINGEMENT

Consultant warrants that the Software provided hereunder does not and will not infringe upon or violate any patent, copyright, trade secret or other proprietary or property right of any person or entity. In the event of a claim against City asserting or involving such an allegation, Consultant will defend, at Consultant's expense, and will indemnify City and hold City harmless against any loss, cost, expense (including attorney fees) or liability arising out of such claim, whether or not such claim is successful. In the event an injunction or order should be obtained against use of the Software by reason of the allegations, or if in Consultant's opinion the Software is likely to become the subject of such a claim of infringement, Consultant will, at its option and its expense: (I) procure for the City the right to continue using the Software; or (ii) replace or modify the same so that it becomes non-infringing (such modification or replacement shall be functionally equivalent to the original); or (iii) if

neither (i) nor (ii) is practicable, repurchase the Software on a depreciated basis utilizing a straight line five (5) year period, commencing on the date of acceptance.

5.4 THIRD PARTY LICENSE

Consultant shall sublicense to City any and all third party Software required in the execution of this Contract. City reserves the right to accept or reject third party license terms. If the City rejects the terms of a third party license, it shall be Consultant's responsibility to negotiate acceptable terms or to supply Software from another source with terms acceptable to City. City's acceptance of the third party license terms shall not be unreasonably withheld.

6.0 SEVERABILITY AND AUTHORITY

6.1 SEVERABILITY

If any term or provision of this Contract shall be found to be illegal or unenforceable, then notwithstanding such illegality or unenforceability, this Contract shall remain in full force and effect and such term or provision shall be deemed to be deleted.

6.2 AUTHORITY

Each party hereby warrants and represents that it has full power and authority to enter into and perform this Contract, and that the person signing on behalf of each party has been properly authorized and empowered to enter this Contract. Each party further acknowledges that it has read, understands, and agrees to be bound by the terms and conditions of this Contract.

6.3 ISRAEL COMPLIANCE

Pursuant to Arizona Revised Statute § 35-393.01, Contractor certifies that it is not currently engaged in, and agrees for the duration of the Contract to not engage in, a boycott of Israel.

[Signature page follows]

Contract No: 2017-010-003

IN WITNESS WHEREOF, the City of Buckeye by its Mayor and City Clerk has hereunto subscribed their names this 15th day of August, 2017.

CITY OF BUCKEYE

Jackie A. Meck, Mayor

ATTEST:

Lucinda Aja, City Clerk

RECOMMENDED:

Christopher A. Williams, Manager
Construction and Procurement

APPROVED AS TO FORM:

City Attorney

CONSULTANT:

BY:
Brown & Associates

CONSULTANT SIGNATURE

ITS: Secretary

BROWN & ASSOCIATES CONTACT LIST

NAME	TITLE	CELL PHONE	EMAIL ADDRESS
Michael Brown, CBO	President	(480) 209-8902	Mike@brownandassociates.net
Malinda Brown	Secretary	(480) 223-7567	Malinda@brownandassociates.net
Katie Brown	Project Coordinator	(480) 209-8908	Katie@brownandassociates.net
Bob Schettler	Sr. Building Inspector/Plans Examiner	(480) 209-8907	Bob@brownandassociates.net
Patrick "John" Gunn	Sr. Building Inspector/Plans Examiner	(480) 209-8905	John@brownandassociates.net
Michael "Mac" McMillan, CBO	Certified Building Official (Inspector/Plans Examiner)	(602) 319-9666	Mac@brownandassociates.net
John Martinez	Sr. Civil Inspector/Plans Examiner	(480) 625-5469	Jmartinez@brownandassociates.net
Wayne Befort, PE, CBO	Structural Engineer, Certified Building Official	(623) 570-9955	Wayne@brownandassociates.net
Ed Peaser, CBO	Certified Building Official (Inspector/Plans Examiner)	(480) 493-3656	Ed@brownandassociates.net
Ben Cox, CBO	Certified Building Official (Inspector/Plans Examiner)	(480) 278-6019	Ben@brownandassociates.net
Joshua Rison	Building Inspector	(480) 435-8539	Joshua@brownandassociates.net
Jeff Lill	Building Inspector	(602) 525-2556	inspect@brownandassociates.net
Luke Hicks	Building Inspector	(480) 215-9774	Luke@brownandassociates.net
Ric Montiel	Civil Inspector	(480) 773-5410	Ric@brownandassociates.net
Lyndell Geneeha	Civil Inspector	(602) 478-8740	Lyndell@brownandassociates.net
Guadalupe "Jeff" Ross	Building Inspector	(623) 764-2429	inspect@brownandassociates.net
Ken Sowers	Building Inspector	(623) 764-2420	inspect@brownandassociates.net
Patti Schechter	Operations Manager	(480) 294-3175	Patti@brownandassociates.net
Adam Gunn	Office Administrator	(480) 991-3751	Adam@brownandassociates.net
Lisa Davis	Office Administrator	(480) 991-3751	ScottsdaleAdmin@brownandassociates.net

EXHIBIT A
GENERAL SCOPE OF SERVICES

GENERAL SCOPE OF SERVICES REQUIREMENTS AND STANDARDS

BUILDING PLAN REVIEW:

- Plan Check for complex construction of buildings and structural, both Commercial and Residential Construction.
- Plan review may include; structural, architectural, grading, energy, electrical, mechanical, plumbing, and specifications summited as part of a building permit.
- Work may include; review of plan and specifications, drafting of written corrections and redlining of plans, communicating both orally and in writing to the applicant and providing code interpretation.
- The selected firm(s) may be required to work at City Hall or within another facility within the City of Buckeye.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

BUILDING INSPECTION SERVICES:

- Building Construction inspection services to ensure construction conforms to the approved plans and the standards and codes adopted by the City of Buckeye.
- Provide written documentation of inspections performed, issuance of stop work orders, and notices of corrections.
- The selected firm(s) must be able to provide inspection services within 24 hour notice.
- Provide Inspection Services to locations throughout the City of Buckeye as assigned.
- Work with City Staff as assigned for Building Inspection Services.

A detailed scope of services will be prepared for each individual project by the Consultant and submitted to the City. Requests for services will be issued in the form of a written Task Order ("Task Order") document initiated by the Manager, Construction and Contracting. The Task Order will include a description of the project, detailed scope of services, project schedule, and the approved fee. The Consultant should receive prior approval from the Manager, Construction and Contracting prior to commencement of services on project assignments released under this Contract.

EXHIBIT B:
RATE SCHEDULE FOR BUILDING PLAN REVIEW

EXHIBIT B
RATE SCHEDULE FOR BUILDING PLAN REVIEW

A. BUILDING PLAN REVIEW SERVICES

For BUILDING PLAN REVIEW SERVICES of Architectural, Structural, Mechanical, Electrical, Plumbing, Accessibility and Model Energy performed for the Client, BROWN & ASSOCIATES shall be compensated at a lump sum rate of 75% of the Plan Check Fee determined by the current ICC Building Valuation Table and Permit Fee Table 1-A or the most current fee structure adopted by the City of Buckeye for an initial review and one complete recheck of the project documents. Third and subsequent, Fire and Civil review, deferred submittals, and revisions to approved plans will be at BROWN & ASSOCIATES hourly rates listed below for personnel provided. Expedited plan review services are available at a rate of twice the calculated or hourly rate as agreed upon at acceptance of project.

PROJECT TYPE / SIZE	STANDARD REVIEW	EXPEDITED REVIEW	SUBSEQUENT RECHECKS
Single & Multi-Family Residential	7 to 10	5	5
Commercial to 75,000 sq. ft.	10	5	5
Commercial 75,001 to 150,000 sq. ft.	15	7	7
Commercial greater than 150,000 sq. ft.	15	7	7
Warehouse 150,001 to 500,000 sq. ft.	20	10	10
Warehouse 500,001 to 1,000,000+ sq. ft.	30	15	15
Fire Protection Systems & Civil Review	10	5	5

BROWN & ASSOCIATES

B&A PERMIT FEE TABLE 1-A

TOTAL VALUATION	FEE
$1.00 to $500.00	$60.00
$501.00 to $2,000.00	$59.88 for the first $500.00 plus $4.09 for each additional $100.00, or fraction thereof
$2,000.01 to $25,000.00	$121.26 for the first $2000.00 plus $14.00 for each additional $1,000.00, or fraction thereof
$25,001.00 to $50,000.00	$553.25 for the first $25,000.00 plus $13.54 for each additional $1,000.00, or fraction thereof
$50,001.00 to $100,000.00	$891.99 for the first $50,000.00 plus $9.39 for each additional $1,000.00, or fraction thereof
$100,001.00 to $500,000.00	$1,361.54 for the first $100,000.00 plus $7.50 for each additional $1,000.00, or fraction thereof
$500,001.00 to $1,000,000.00	$4,366.58 for the first $500,000.00 plus $6.38 for each additional $1,000.00, or fraction thereof
$1,000,001.00 and above	$7,552.77 for the first $1,000,000.00 plus $4.90 for each additional $1,000.00, or fraction thereof.

HOURLY RATES

Building Official	$100
Fire Marshal	$100
Project Manager	$100
Structural Engineer	$100
Fire Protection Engineer	$90
Civil Engineer	$90
Senior Plans Examiner	$90
Senior Building Inspector	$90
Building Inspector	$80
Senior Permit Specialist	$60
Clerical / Administration	$50

EXHIBIT C
RATE SCHEDULE FOR BUILDING INSPECTION SERVICES

EXHIBIT C
RATE SCHEDULE FOR BUILDING INSPECTION SERVICES

A. BUILDING INSPECTION SERVICES

For BUILDING INSPECTION SERVICES performed under Exhibit A of this Agreement, BROWN & ASSOCIATES shall be compensated at hourly rates for personnel provided. A minimum of 2-hours will be assessed for inspections on a given day.

Normal hours of inspection services for determination of Brown & Associates fees is at a schedule of Monday through Friday from 7:00 AM- 3:00 PM Arizona time. Inspection times may be adjusted based on seasonal conditions and not to exceed an agreed upon 8-hour work day.

Expedited, before or after hour, weekend and holiday inspection services are available for double the regular hourly rate for personnel provided with a three-hour minimum.

Brown & Associates Holiday Schedule includes: New Year's Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

HOURLY RATES

Building Official	$100
Fire Marshal	$100
Project Manager	$100
Structural Engineer	$100
Fire Protection Engineer	$90
Civil Engineer	$90
Senior Plans Examiner	$90
Senior Building Inspector	$90
Building Inspector	$80
Senior Permit Specialist	$60
Clerical / Administration	$50

BROWN & ASSOCIATES shall invoice the CITY OF BUCKEYE for work performed on a monthly basis. All building safety consulting services provided will be invoiced for hours spent by the specific staff member on a task for the project. In monthly invoices, BROWN & ASSOCIATES will provide an itemized breakdown of hours and description of the task, and provide a monthly budget status report.

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Donna Hilker
DM Lovitt Insurance Agency www.GBPrs.com 2222 S. Dobson Road, Suite 506 Mesa AZ 85202	PHONE (A/C, No, Ext): 480-483-3311 FAX (A/C, No): 866-217-9571 E-MAIL ADDRESS: donnah@azwesternins.com
INSURED	**INSURER(S) AFFORDING COVERAGE** / **NAIC #**
Brown And Assoc. Certified Inspection Service, Inc 15601 N. 40th Street Suite 130 Phoenix AZ 85032	INSURER A: CNA Insurance Companies 020435 INSURER B: Endurance American Specialty INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** 17-18 GL AL PL Umb **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY [ ] PRO-JECT [ ] LOC OTHER:	X		5085070379	5/17/2017	5/17/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS X HIRED AUTOS X NON-OWNED AUTOS			6011143979	5/17/2017	5/17/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	X UMBRELLA LIAB [ ] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $			5085070785	5/17/2017	5/17/2018	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
B	Professional Liability			DPL100004152703	8/18/2016	8/18/2017	$3,000,000/$3,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insureds on a Primary & Non-Contributory basis.

CERTIFICATE HOLDER

EGilbert@buckeyeaz.gov

City of Buckeye
Attn: Erin Gilbert
530 East Monroe Ave.
Buckeye, AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Donna Hilker/DONNA

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CERTIFICATE OF LIABILITY INSURANCE

Acct#: 2044226

DATE (MM/DD/YYYY): 7/5/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Lockton Companies, LLC 5847 San Felipe, Suite 320 Houston, TX 77057	CONTACT NAME: 888-828-8365 PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED Insperity , Inc. for Leased Workers to BROWN & ASSOCIATES CERTIFIED INSPECTION 19001 Crescent Springs Drive Kingwood, TX 77339	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Ace American Insurance Co. 22667 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	☐ OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ☐ NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N ☐ If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	C49217493	10/1/2016	10/1/2017	X PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CONTRACT 2017-010-003

WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER

CITY OF BUCKEYE
TAMMY VOGEL
530 EAST MONROE AVENUE
BUCKEYE, AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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The ACORD name and logo are registered marks of ACORD

Workers' Compensation and Employers' Liability Policy

Named Insured Insperity, Inc, For Leased Workers to BROWN & ASSOCIATES CERTIFIED INSPECTION 19001 Crescent Springs Drive Kingwood, TX 77339	Endorsement Number Policy Number Symbol: RWC Number: C49217493
Policy Period 10/1/2016 **TO** 10/1/2017	Effective Date of Endorsement 10/1/2016
Issued By (Name of Insurance Company) Ace American Insurance Co.	
Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.	

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit any one not named in the Schedule.

Schedule

CITY OF BUCKEYE
WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.
530 East Monroe Avenue
Buckeye, AZ 85326
CONTRACT 2017-010-003

For the states of CA, UT, TX, refer to state specific endorsements. This endorsement is not applicable in KY, NH, and NJ.

The endorsement does not apply to policies in Missouri where the employer is in the construction group of code classifications. According to Section 287.150(6) of the Missouri statutes, a contractual provision purporting to waive subrogation rights against public policy and void where one party to the contract is an employer in the construction group of code classifications.

For Kansas, use of this endorsement is limited by the Kansas Fairness in Private Construction Contract Act(K.S.A.. 16-1801 through 16-1807 and any amendments thereto) and the Kansas Fairness in Public Construction Contract Act(K.S.A 16-1901 through 16-1908 and any amendments thereto). According to the Acts a provision in a contract for private or public construction purporting to waive subrogation rights for losses or claims covered or paid by liability or workers compensation insurance shall be against public policy and shall be void and unenforceable except that, subject to the Acts, a contract may require waiver of subrogation for losses or claims paid by a consolidated or wrap-up insurance program.

Michelle Kopp

Authorized Representative

WC 00 03 13 (11/05) Ptd. U.S.A. Copyright 1982-83, National Council on Compensation

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER
DM Lovitt Insurance Agency
www.GBPrs.com
2222 S. Dobson Road, Suite 506
Mesa AZ 85202

CONTACT NAME: Donna Hilker
PHONE (A/C, No, Ext): 480-483-3311 FAX (A/C, No): 866-217-9571
E-MAIL ADDRESS: donnah@azwesternins.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: CNA Insurance Companies	020435
INSURER B: Endurance American Specialty	
INSURER C:	
INSURER D:	
INSURER E:	
INSURER F:	

INSURED
Brown And Assoc. Certified Inspection Service, Inc
15601 N. 40th Street
Suite 130
Phoenix AZ 85032

COVERAGES CERTIFICATE NUMBER: 17-18 GL AL PL Umb REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC OTHER:	X		5085070379	5/17/2017	5/17/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY [X] ANY AUTO ALL OWNED AUTOS [X] HIRED AUTOS SCHEDULED AUTOS [X] NON-OWNED AUTOS			6011143979	5/17/2017	5/17/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	[X] UMBRELLA LIAB [ ] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $			5085070785	5/17/2017	5/17/2018	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
B	Professional Liability			DPL100004152703	8/18/2016	8/18/2017	$3,000,000/$3,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insureds on a Primary & Non-Contributory basis.

CERTIFICATE HOLDER
EGilbert@buckeyeaz.gov

City of Buckeye
Attn: Erin Gilbert
530 East Monroe Ave.
Buckeye, AZ 85326

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Donna Hilker/DONNA

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CERTIFICATE OF LIABILITY INSURANCE

Acct#: 2044226

DATE (MM/DD/YYYY): 7/5/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER
Lockton Companies, LLC
5847 San Felipe, Suite 320
Houston, TX 77057

CONTACT NAME: 888-828-8365
PHONE (A/C, No, Ext):
FAX (A/C, No):
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Ace American Insurance Co.	22667
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Insperity , Inc. for Leased Workers to
BROWN & ASSOCIATES CERTIFIED INSPECTION
19001 Crescent Springs Drive
Kingwood, TX 77339

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	CLAIMS-MADE OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	POLICY PRO-JECT LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	ANY AUTO						BODILY INJURY (Per person)	$
	ALL OWNED AUTOS / SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	HIRED AUTOS / NON-OWNED AUTOS						PROPERTY DAMAGE (Per accident)	$
								$
	UMBRELLA LIAB OCCUR						EACH OCCURRENCE	$
	EXCESS LIAB CLAIMS-MADE						AGGREGATE	$
	DED RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y/N ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	C49217493	10/1/2016	10/1/2017	X PER STATUTE / OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
CONTRACT 2017-010-003
WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER

CITY OF BUCKEYE
TAMMY VOGEL
530 EAST MONROE AVENUE
BUCKEYE, AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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ACORD 25 (2014/01)

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Workers' Compensation and Employers' Liability Policy

Named Insured Insperity, Inc, For Leased Workers to BROWN & ASSOCIATES CERTIFIED INSPECTION 19001 Crescent Springs Drive Kingwood, TX 77339	Endorsement Number Policy Number Symbol: RWC Number: C49217493
Policy Period 10/1/2016 **TO** 10/1/2017	Effective Date of Endorsement 10/1/2016
Issued By (Name of Insurance Company) Ace American Insurance Co.	
Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.	

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit any one not named in the Schedule.

Schedule

CITY OF BUCKEYE
WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.
530 East Monroe Avenue
Buckeye, AZ 85326
CONTRACT 2017-010-003

For the states of CA, UT, TX, refer to state specific endorsements. This endorsement is not applicable in KY, NH, and NJ.

The endorsement does not apply to policies in Missouri where the employer is in the construction group of code classifications. According to Section 287.150(6) of the Missouri statutes, a contractual provision purporting to waive subrogation rights against public policy and void where one party to the contract is an employer in the construction group of code classifications.

For Kansas, use of this endorsement is limited by the Kansas Fairness in Private Construction Contract Act(K.S.A.. 16-1801 through 16-1807 and any amendments thereto) and the Kansas Fairness in Public Construction Contract Act(K.S.A 16-1901 through 16-1908 and any amendments thereto). According to the Acts a provision in a contract for private or public construction purporting to waive subrogation rights for losses or claims covered or paid by liability or workers compensation insurance shall be against public policy and shall be void and unenforceable except that, subject to the Acts, a contract may require waiver of subrogation for losses or claims paid by a consolidated or wrap-up insurance program.

Michelle Kopp

Authorized Representative

WC 00 03 13 (11/05) Ptd. U.S.A. Copyright 1982-83, National Council on Compensation

BROWN & ASSOCIATES CONTACT LIST

NAME	TITLE	CELL PHONE	EMAIL ADDRESS
Michael Brown, CBO	President	(480) 209-8902	Mike@brownandassociates.net
Malinda Brown	Secretary	(480) 223-7567	Malinda@brownandassociates.net
Katie Brown	Project Coordinator	(480) 209-8908	Katie@brownandassociates.net
Bob Schettler	Sr. Building Inspector/Plans Examiner	(480) 209-8907	Bob@brownandassociates.net
Patrick "John" Gunn	Sr. Building Inspector/Plans Examiner	(480) 209-8905	John@brownandassociates.net
Michael "Mac" McMillan, CBO	Certified Building Official (Inspector/Plans Examiner)	(602) 319-9666	Mac@brownandassociates.net
John Martinez	Sr. Civil Inspector/Plans Examiner	(480) 625-5469	Jmartinez@brownandassociates.net
Wayne Befort, PE, CBO	Structural Engineer, Certified Building Official	(623) 570-9955	Wayne@brownandassociates.net
Ed Peaser, CBO	Certified Building Official (Inspector/Plans Examiner)	(480) 493-3656	Ed@brownandassociates.net
Ben Cox, CBO	Certified Building Official (Inspector/Plans Examiner)	(480) 278-6019	Ben@brownandassociates.net
Joshua Rison	Building Inspector	(480) 435-8539	Joshua@brownandassociates.net
Jeff Lill	Building Inspector	(602) 525-2556	inspect@brownandassociates.net
Luke Hicks	Building Inspector	(480) 215-9774	Luke@brownandassociates.net
Ric Montiel	Civil Inspector	(480) 773-5410	Ric@brownandassociates.net
Lyndell Geneeha	Civil Inspector	(602) 478-8740	Lyndell@brownandassociates.net
Guadalupe "Jeff" Ross	Building Inspector	(623) 764-2429	inspect@brownandassociates.net
Ken Sowers	Building Inspector	(623) 764-2420	inspect@brownandassociates.net
Patti Schechter	Operations Manager	(480) 294-3175	Patti@brownandassociates.net
Adam Gunn	Office Administrator	(480) 991-3751	Adam@brownandassociates.net
Lisa Davis	Office Administrator	(480) 991-3751	ScottsdaleAdmin@brownandassociates.net

ACORD®

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 5/10/2017

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

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PRODUCER	CONTACT NAME: Donna Hilker
DM Lovitt Insurance Agency www.GBPrs.com 2222 S. Dobson Road, Suite 506 Mesa AZ 85202	PHONE (A/C, No, Ext): 480-483-3311 FAX (A/C, No): 866-217-9571 E-MAIL ADDRESS: donnah@azwesternins.com
	INSURER(S) AFFORDING COVERAGE — NAIC #
	INSURER A: CNA Insurance Companies — 020435
INSURED Brown And Assoc. Certified Inspection Service, Inc 15601 N. 40th Street Suite 130 Phoenix AZ 85032	INSURER B: Endurance American Specialty INSURER C: INSURER D: INSURER E: INSURER F:

COVERAGES **CERTIFICATE NUMBER:** 17-18 GL AL PL Umb **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [X] POLICY [ ] PRO-JECT [ ] LOC OTHER:	X		5085070379	5/17/2017	5/17/2018	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY [X] ANY AUTO ALL OWNED AUTOS [X] HIRED AUTOS SCHEDULED AUTOS [X] NON-OWNED AUTOS			6011143979	5/17/2017	5/17/2018	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	[X] UMBRELLA LIAB [ ] OCCUR EXCESS LIAB [ ] CLAIMS-MADE DED RETENTION $			5085070785	5/17/2017	5/17/2018	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [ ] N/A If yes, describe under DESCRIPTION OF OPERATIONS below	N/A					PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ $
B	Professional Liability			DPL100004152703	8/18/2016	8/18/2017	$3,000,000/$3,000,000	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

City of Buckeye, its agents, representatives, officers, directors, officials and employees as Additional Insureds on a Primary & Non-Contributory basis.

CERTIFICATE HOLDER

EGilbert@buckeyeaz.gov

City of Buckeye
Attn: Erin Gilbert
530 East Monroe Ave.
Buckeye, AZ 85326

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Donna Hilker/DONNA

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CERTIFICATE OF LIABILITY INSURANCE

Acct#: 2044226

DATE (MM/DD/YYYY): 7/5/2017

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PRODUCER Lockton Companies, LLC 5847 San Felipe, Suite 320 Houston, TX 77057	CONTACT NAME: 888-828-8365 PHONE (A/C, No, Ext): FAX (A/C, No): E-MAIL ADDRESS:
INSURED Insperity , Inc. for Leased Workers to BROWN & ASSOCIATES CERTIFIED INSPECTION 19001 Crescent Springs Drive Kingwood, TX 77339	INSURER(S) AFFORDING COVERAGE / NAIC # INSURER A : Ace American Insurance Co. 22667 INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

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	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	☐ OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO ☐ ALL OWNED AUTOS ☐ HIRED AUTOS ☐ SCHEDULED AUTOS ☐ NON-OWNED AUTOS						BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N ☐ (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	C49217493	10/1/2016	10/1/2017	X PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CONTRACT 2017-010-003

WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.

CERTIFICATE HOLDER

CITY OF BUCKEYE
TAMMY VOGEL
530 EAST MONROE AVENUE
BUCKEYE, AZ 85326

CANCELLATION

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AUTHORIZED REPRESENTATIVE

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Workers' Compensation and Employers' Liability Policy

Named Insured Insperity, Inc, For Leased Workers to BROWN & ASSOCIATES CERTIFIED INSPECTION 19001 Crescent Springs Drive Kingwood, TX 77339	Endorsement Number
	Policy Number Symbol: RWC Number: C49217493
Policy Period 10/1/2016 **TO** 10/1/2017	Effective Date of Endorsement 10/1/2016
Issued By (Name of Insurance Company) Ace American Insurance Co.	
Insert the policy number. The remainder of the information is to be completed only when this endorsement is issued subsequent to the preparation of the policy.	

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Schedule

CITY OF BUCKEYE
WAIVER OF SUBROGATION IN FAVOR OF CITY OF BUCKEYE WHEN REQUIRED BY WRITTEN CONTRACT.
530 East Monroe Avenue
Buckeye, AZ 85326
CONTRACT 2017-010-003

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Michelle Kopf

Authorized Representative

WC 00 03 13 (11/05) Ptd. U.S.A. Copyright 1982-83, National Council on Compensation

BROWN & ASSOCIATES CONTACT LIST

NAME	TITLE	CELL PHONE	EMAIL ADDRESS
Michael Brown, CBO	President	(480) 209-8902	Mike@brownandassociates.net
Malinda Brown	Secretary	(480) 223-7567	Malinda@brownandassociates.net
Katie Brown	Project Coordinator	(480) 209-8908	Katie@brownandassociates.net
Bob Schettler	Sr. Building Inspector/Plans Examiner	(480) 209-8907	Bob@brownandassociates.net
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Jeff Lill	Building Inspector	(602) 525-2556	inspect@brownandassociates.net
Luke Hicks	Building Inspector	(480) 215-9774	Luke@brownandassociates.net
Ric Montiel	Civil Inspector	(480) 773-5410	Ric@brownandassociates.net
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Patti Schechter	Operations Manager	(480) 294-3175	Patti@brownandassociates.net
Adam Gunn	Office Administrator	(480) 991-3751	Adam@brownandassociates.net
Lisa Davis	Office Administrator	(480) 991-3751	ScottsdaleAdmin@brownandassociates.net

CITY OF BUCKEYE
Regular Council Meeting
COUNCIL ACTION REPORT

MEETING DATE: 03/01/22	**AGENDA ITEM:** 6.J. Ratify Submission of SAFER Grant Application to the Federal Emergency Management Agency
DATE PREPARED: 02/24/22	**DISTRICT NO.:** All
STAFF LIAISON: Jake Rhoades, Fire Chief, jrhoades@buckeyeaz.gov, (623) 349-6700	
DEPARTMENT: Fire	**AGENDA ITEM TYPE:** Consent Agenda Items / New Business

ACTION/MOTION: (This language identifies the formal motion to be made by the Council) Council to take action on Resolution No. 25-22 ratifying the submission of a SAFER Grant Application to the Federal Emergency Management Agency; and authorizing the Mayor to accept, execute, and deliver any resulting grant award or agreement.

RELEVANT GOALS:
GOAL 5: Responsive and Accountable Government and Effective Public Services

SUMMARY

PROJECT DESCRIPTION:

The Fire Department has applied for the FEMA Staffing for Adequate Fire and Emergency Response (SAFER) Grant Program for the staffing of future Fire Station 707 in Blue Horizons. The SAFER program is designed to help fire departments with staffing needs on a three-year basis. The total grant request is for $4,248,284.25 to be allocated as follows:

Year 1: $1,325,115.00 for Salaries and ETE

Year 2: $1,413,825.15 for Salaries and ETE

Year 3: $1,509,344.10 for Salaries and ETE

Total: $4,248,284.25

The population, fueled by growth in the housing market, has increased Buckeye's population by 54,000 in six years, from 50,000 in 2015 to 104,000 today. Fire call volume has doubled from 4,600 to 9,600, with no additional stations. The City of Buckeye's population is estimated to be around 155,000 people by the year 2026. Currently, the department has six fire stations. The number of stations has remained unchanged for the past 11 years. During this time, Buckeye's population has increased from 45,000 to 104,000, and the call volume has risen from 3,300 to nearly 9,600 emergency calls annually. A new fire station is planned in Blue Horizons with construction expected to be completed by mid to late 2023.

This will allow the department to meet the minimum response time per NFPA Standard 1710.

The department seeks to hire 15 firefighter recruits to complete a 14-week Academy no later than January 2023, with the intent to have those 15 new firefighters operational to allow the department to send 15 other members to specialty schools such as Paramedic, Technical Rescue and Hazardous Materials schools before the completion of Fire Station 707 in Blue Horizons. Twelve of the 15 firefighters will be assigned to Fire Station 707 when operational. The remaining three firefighters will serve as Rovers which will enhance the Fire Department's ability to meet the minimum staffing requirement consistently, thereby reducing response time and allow for 15 firefighters on scene in less than eight minutes at a higher frequency.

BENEFITS:

If awarded, the SAFER Grant provides for 15 additional firefighters which will allow the City of Buckeye to open Fire Station 707 on time, provide for a much-needed emergency response to a new growing area and will assist both neighboring cities and the City of Buckeye as a whole. The SAFER Grant also helps the department's ability to meet NFPA Standard 1710 requirements by reducing the first unit response time from 10 to 4 minutes.

FINANCIAL IMPACT STATEMENT:

The city's current population, commercial development, and corresponding revenues for the positions exist but lag behind three to five years. SAFER Grant funding will allow for the hiring and training of 15 new firefighters, and in the field early enough to match the timeline for construction of Fire Station 707 in Blue Horizons.

The SAFER program is designed to help fire departments with staffing needs on a three-year basis; therefore, there is no current financial impact to the City of Buckeye.

CURRENT FISCAL YEAR TOTAL COST:
N/A

BUDGETED:
No

FISCAL YEAR:
2022-23

FUND/DEPARTMENT:
35742140

Items related to a project or facility location must include an attached vicinity map for Council Review.
ATTACHMENTS:
SAFER Grant Application.pdf
RES 25-22 Ratifying FEMA SAFER Grant Application.pdf

System for Award Management (SAM.gov) profile

Please identify your organization to be associated with this application.
All organization information in this section will come from the System for Award Management (SAM) profile for that organization.

BUCKEYE, CITY OF

Information current from SAM.gov as of:	**02/06/2022**
UEI-EFT:	**WYJHKKNHLA38**
DUNS (includes DUNS+4):	**085452928**
Employer Identification Number (EIN):	**866000236**
Organization legal name:	**BUCKEYE, CITY OF**
Organization (doing business as) name:	
Mailing address:	**530 EAST MONROE AVENUE BUCKEYE, AZ 85326-2806**
Physical address:	**530 E MONROE AVE BUCKEYE, AZ 85326-2806**
Is your organization delinquent on any federal debt?	**N**
SAM.gov registration status:	**Active as of 09/13/2021**

☑ We have reviewed our bank account information on our SAM.gov profile to ensure it is up to date

Applicant information

Please provide the following additional information about the department or organization applying for this grant.

Applicant Name (i.e., fire department or organization name)	**City of Buckeye Fire/Medical/Rescue Department**

Main address of location impacted by this grant

Main address 1	**21699 W Yuma Road Suite 101**
Main address 2	
City	**Buckeye**

State/territory	**AZ**
Zip code	**85326**
Zip extension	**8709**
In what county/parish is your organization physically located? If you have more than one station, in what county/parish is your main station located?	**Maricopa**

Applicant characteristics

The SAFER (Staffing for Adequate Fire and Emergency Response) program intends to improve or restore local fire departments' staffing and deployment capabilities so they may more effectively respond to emergencies. With the restored or enhanced staffing, grantees should see a reduction in response times and an increase in the number of trained personnel assembled at the incident scene. Grant funds are available in two activities: Hiring Firefighters and Recruitment and Retention of Volunteer Firefighters. Please review the Notice of Funding Opportunity for information on available program areas and for more information on the evaluation process and conditions of award.
Please provide the following additional information about the applicant.

Applicant type	**Fire Department/Fire District**
What kind of organization do you represent?	**All Paid/Career**
Which activity are you applying for?	**Hiring of Firefighters**

Operating budget

What was your department's operating budget (e.g., personnel, maintenance of apparatus, equipment, facilities, utility costs, purchasing expendable items, etc.) related to fire-related programs and emergency response for the current (at time of application) fiscal year, as well as the previous three fiscal years?

Current Fiscal Year (i.e., 2021)	**2021**

Fiscal Year	Operating budget
2021	$17,488,330.00
2020	$15,902,320.00

Fiscal Year	Operating budget
2019	$15,394,789.00
2018	$14,500,752.00

What percentage of the declared operating budget is dedicated to personnel costs (salary, benefits, overtime costs, etc.)?	**82**
Does your department have any rainy day reserves, emergency funds, or capital outlay?	**Yes**
What is the total amount currently set aside?	**340000**
Describe the planned purpose of this fund.	**The Capital outlay aims to construct one new fire station and one replacement station in the next five years. The money is set aside for site planning and preparation. One or both stations will be constructed during the time frame of this grant. The remaining $190,000 is for a mixture of communication infrastructure projects for Fire and Police communications. No monies are allocated to the fire department for a Rainy Day Fund.**

What percentage of the declared operating budget is derived from the following	2021
Taxes	35
Bond issues	19
EMS billing	0
Grants	4
Donations	0
Fund drives	0
Fee for service	32

What percentage of the declared operating budget is derived from the following	2021
Other	10
Total	100 %

Please explain the "Other" portion of the declared operating budget.	**Intergovernmental funds from Maricopa County and Arizona derived from federal taxes. Commercial and residential developers contribute impact fees to building infrastructure for the land they want to develop. It also includes fines and forfeitures, and money from improvement Districts. A small amount of the budget, less than 1%, is derived from the miscellaneous category in the budget—the most extensive budget, other, is transferred from other line items and reserve funds.**
Describe your financial need to include descriptions of the following: • Income vs. expense breakdown of the current annual budget • Budget shortfalls and the inability to address financial needs without federal assistance • Actions taken to obtain funding elsewhere (i.e. state assistance programs or other grant programs) • How your critical functions are affected without this funding	**The population fueled by growth in the housing market has increased Buckeye's population by 54,000 in 6 years, from 50,000 in 2015 to 104,000 today. Subsequent call volume has doubled from 4600 to 9600, with no additional stations. The new population's revenue is about 3-5 years behind the city's service delivery. The lag in payment creates budgetary shortfalls for the new population's initial years; since Buckeye's population grows 12.5% per year, Buckeye is always behind in revenue collection for the new people. Buckeye's revenue is down 2.8% from last year's budget and stands at $255 million. To balance the 21-22 Fiscal Year (FY) budget, $75 million was taken from the reserve fund. Bond proceeds ($64.2 Million), Utility Fees ($50.5 million), Sales and Property taxes ($50.2 million), and Intergovernmental Revenue ($36.2 million) account for the majority of Buckeyes revenue. The remaining $54 million is a mixture of impact, developer franchise fees, service charges, and grants. The annual expenditures budget for Buckeye in FY21-22 is $329 million. There are 5 main categories for the budget. The first and most significant is Capital Outlay used to improve and construct infrastructure and facilities at $151 million. Personnel and Services consist of salary and benefit-cost for employees, costing $64.1 million. Operating expenditures account for the**

million. Operating expenditures account for the day-to-day operating cost of city services, including utilities, at $59 million. The Contingency fund is money held in reserve for unforeseen expenses for Capital and Operating costs. It accounts for $42.6 million. Debt service used to pay the city's outstanding debt is the fifth expenditure at $12.5 million. The FY21-22 Fire Departments' proposed expenditure budget is $17,488,330. In the last three years, the Fire department budget has risen for one-time expenditure money to purchase equipment, actual cost increases, and employees' salary and benefit increases. Approved funding in the major expenditure categories in the general fund are: Professional and contractual services $852,000, Operating supplies and vehicle service $1,026,310, Professional development $117,000 Capital outlay/lease payments $420,000 Other charges and services $33,500 Personnel and Benefits $14,299,020 The most significant budget expenditure is personnel and benefits (to include overtime, retirement, workers comp insurance, and employee insurance) at $14,299,020 or 82% of the budget. One-hundred and five positions, 99 sworn and six non-sworn positions are funded in the Personnel & Benefits expenditure category. Buckeye's overtime budget is $740,000 of the salary expenditure. Buckeye's daily budget for overtime is $2,027 but averages $2,370 in overtime daily, creating a deficit taken from other programs. Buckeye will add two fire stations over the next 5 years. Stations and a new workforce will be significant expenses in the coming years. Construction of each fire station will cost $7 million and $1.5 million yearly in salary and benefits for firefighters. Buckeye will need $15 million in capital improvement projects to construct new stations in the next 5 years. An additional $3 million is needed to replace fire apparatus over the next 3 years. With the growth experienced in Buckeye over the past 5 years, the impact fees and other one-time monies were collected to construct fire station 7 and purchase the fire apparatus. The taxes to support salaries for firefighters lag behind 3 years. The SAFER positions would allow Buckeye to open the new station on time, provide a much-needed emergency response to a new growing area and assist both neighboring cities and Buckeye as a

assist both neighboring cities and Buckeye as a whole. It would also enhance the Buckeye Fire's ability to meet NFPA 1710 requirements by reducing the first unit response time from 10 to 4 minutes. With Buckeye's tight budget, the project will not be unfunded, potentially leaving a newly constructed fire station empty until sufficient tax revenue is collected.

Other funding sources

This fiscal year, are you receiving Federal funding from any other grant program for the same purpose for which you are applying for this grant?	**No**
This fiscal year, are you receiving Federal funding from any other grant program regardless of purpose?	**No**

Applicant and community trends

Please provide the following additional information about the applicant.

Injuries and fatalities	2021	2020	2019
What is the total number of fire-related civilian fatalities in your jurisdiction over the last three calendar years?	2	3	2
What is the total number of fire-related civilian injuries in your jurisdiction over the last three calendar years?	7	5	3
What is the total number of line of duty member fatalities in your jurisdiction over the last three calendar years?	1	0	0
What is the total number of line of duty member injuries in your jurisdiction over the last three calendar years?	0	0	0
What is the total number of members with self-inflicted fatalities over the last three years?	0	0	0

How many frontline vehicles does your organization have in each of the types or classes of vehicle listed below that respond to first alarm assignments in support of NFPA 1710/1720? You must include vehicles that are leased or on long-term loan as well as any vehicles that have been ordered or otherwise currently under contract for purchase or lease by your organization but not yet in your possession.



Filled riding positions

The number of filled riding positions must be equal or less than the number of frontline apparatus multiplied by the number of available riding positions.

Type or class of vehicles	Number of frontline apparatus	Number of available riding positions	Number of filled riding positions
Engines or pumpers (pumping capacity of 750 gallons per minute (GPM) or greater and water capacity of 300 gallons or more): pumper, pumper/tanker, rescue/pumper, foam pumper, CAFS pumper, type I, type II engine urban interface.	6	36	24
Ambulances for transport and/or emergency response.	0	0	0
Tankers or tenders (water capacity of 1,000 gallons or more).	0	0	0
Aerial apparatus: aerial ladder truck, telescoping, articulating, ladder towers, platform, tiller ladder truck, quint.	1	7	4
Brush/quick attack (pumping capacity of less than 750 GPM and water carrying capacity of at least 300 gallons): brush truck, patrol unit (pickup w/ skid unit), quick attack unit, mini-pumper, type III engine, type IV engine, type V engine, type VI engine, type VII engine.	2	8	4
Rescue vehicles: rescue squad, rescue (light, medium, heavy), technical rescue vehicle, hazardous materials unit.	2	7	6
Additional vehicles: EMS chase vehicle, air/light unit, rehab units, bomb unit, technical support (command, operational support/supply), hose tender, salvage truck, ARFF (aircraft rescue firefighting), command/mobile communications vehicle.	2	8	4

Is your department facing a new risk, expanding service to a new area, or experiencing an increased call volume?	**Yes**
Please explain how your department is facing a new risk, expanding service to a new area, or experiencing an increased call volume.	**In 2022, the City of Buckeye Fire/Medical/Rescue plans to break ground on Fire Station 7, expanding service into a new area developing both residentially and commercially. The station should be operational by mid to late-2023. Buckeye could expand service to a new location in three years by constructing a fire station in another expanding area, then building the first of many infill stations to contend with an increased**

call volume and long response times. The response times are compounded by a geographical obstacle, the White Tank Mountains centrally located in Buckeye with no roads traversing it and a large response area, 639 square miles. The Buckeye Fire/Medical/Rescue Department is experiencing increased call volume throughout the city. In the past three years, call volume rose 6.5% in 2019, 11.6% in 2020, and 18.8% in 2021. The trend is expected to continue because of record home sales and reciprocal population growth. In 2012, Buckeye issued 699 permits for new home sales; that number has steadily grown over the last eight years to over 3000 in 2021. Statistically, for every home built in Buckeye, the population increases by 3.6 people. In 2020 alone, the number of people in Buckeye increased by 10,000. Buckeye is currently ranked as America's second-fastest-growing city since 2010, with a population growth of 56.6%. In 2010, Buckeye was a city of 45,000; today, that population tops 104,000. The growth is not just new homes but also commercial development. In 2019, Buckeye increased its retail square footage by a million square feet. In 2020 that number increased to 10 million, and the numbers for 2021 would indicate that trend will continue, most likely expanding. Buckeye has always been a bedroom community and now has large warehouse buildings in its response area. Eventually, this will lead to larger, more resource-consuming incidents. Population growth leads to an increase in call volume; in 2015, the six stations in Buckeye ran 4,600 calls a year; in 2021, the number of service calls has doubled to 9,600 with no additional staffing or units. Today, the same six stations and 99 sworn persons service Buckeye with little or no change in

operations with increased population and call volume. Buckeye is a growing, changing, dynamic community on the west side of the Phoenix metropolitan area. The new Engine and firefighters will enhance Buckeye Fire's ability to get 15 people on the scene in less than eight minutes. It will dramatically decrease the first unit response time to the primary area from 10-14 minutes to 2-6 minutes, increasing the opportunity for positive outcomes for both EMS

	and fire incidents. The additional three firefighters will serve as rovers to reduce overtime costs, keeping trucks at four-member staffing most of the time. Again, the additional three rovers will enhance Buckeyes' ability to meet the 15-person staffing assignment for NFPA 1710 under eight minutes and reduce the city's overtime cost.

Community description

Please provide the following additional information about the community your organization serves.

Type of jurisdiction served	**City**
What type of community does your organization serve?	**Suburban**
What is the square mileage of your first due response zone/jurisdiction served?	**639**
What percentage of your primary response area is protected by hydrants?	**80**

What percentage of your primary response area is for the following:	**Percentage (must sum to 100%)**
Agriculture, wildland, open space, or undeveloped properties	40
Commercial and industrial purposes	20
Residential purposes	40
Total	100

What is the permanent resident population of your first due response zone/jurisdiction served?	**104000**
Do you have a seasonal increase in population?	**Yes**
What is your seasonal increase in population (number of people)?	**4500**
Please describe your organization and/or community	**Buckeye has a population of 104,000 and is located approximately 25 miles west of Phoenix.**

that you serve.

The community includes 23,952 households in the 639 square miles planning area. Buckeye is 73.4% White, 38 % Latino, 8.2% Black, 1.6% Native American, 2.3% Asian, 0.2% Pacific Islander and 24.3% other races. Married couples living together represent 65.9% of residents, and 42.8% of these households have children under eighteen. The average household size in Buckeye is 3.4, and the average family size is 3.6. The median household income in Buckeye is $71,707. About 12.9% of households in Buckeye live below the poverty line. The Buckeye Fire Department provides fire and emergency medical services along 106 freeway/highway miles. These areas include 19 miles along I-10 from Mile Post (MP) 105-124, 20 miles along State Route 85 from MP 135-155, 25 miles along Old US-80 from MP 14-39, 35 miles along the Sun Valley Parkway, and seven miles of Maricopa County-85. Buckeye has 1,800 miles of roadways in the city's planning area. In addition to paved streets, thousands of miles of dirt, gravel, fire trail, and hiking trails exist within the city. With 30 master-planned communities in Buckeye, demographers estimate Buckeye's population to be around 155,000 people by 2026. The Buckeye Fire Department operates six fire stations with five engine companies, one ladder/engine co-manned response, and one battalion command vehicle. Buckeye Fire is a career department serving the Buckeye community 24-hours per day, seven days a week, 365 days per year. The city also maintains Technical Rescue and Hazardous Materials response capabilities out of separate stations. Buckeye employs 105 full-time staff, six in an administrative role with 99 sworn persons, half of which are paramedics. The 639 square miles present a challenge compounded by Buckeye's geography due to the White Tank Mountains located at its center. Unlike most conventional Cities that develop from the city center, Buckeye grew in four distinct clusters. The clusters are

inhibited by the White Tank Mountains, located in the center of Buckeye's response area, creating a unique challenge because no road traverses it, and none are planned in the foreseeable future due to the terrain and height of the range. All responses to the north and west of the White

Tanks have to travel around the range, delaying response to incidents. Cluster one is south of interstate 10 (I-10), is the oldest, containing the historic downtown area, and constitutes the bulk of Buckeye's population (80%). Three of Buckeye's six fire stations service this area, with a new fourth station, the subject of this grant beginning construction in September of 2022. Cluster two is Verrado, north of the I-10 but southeast of and landlocked by the White Tank mountains. There are only two means of entering and exiting the Verrado community, presenting an emergency evacuation challenge. Verrado has 15,000 residents and will have a second fire station added to the community's northern area in the next five years. Cluster three is located six miles north of the I-10 but west of the White Tanks. It has a population of 3,500 people and is growing fast. The final and fourth cluster is a retirement community north of the White Tanks servicing a transient snowbird community of 2,000-4,000 people. The spread-out nature of the clusters presents unique challenges for the Buckeye Fire department. Buckeye Fire ran 9,600 calls in its 639 miles of response area in 2021. The Buckeye Fire Department includes a training academy for firefighter recruits and continuing education for firefighters. Firefighters in Buckeye average 600 training hours per year. Buckeye fire department participates in the Phoenix Regional Automatic Aid program, sending the closest unit to emergency incidents regardless of the jurisdictional boundary. Twenty-seven cities participate in the program.

Call volume

Summary

Summary of responses per year by category. Enter whole numbers only. If you have no calls for any of the categories, enter 0.

Summary of responses per year per category	2021	2020	2019

Summary of responses per year per category	2021	2020	2019
Fire - NFIRS Series 100	295	285	225
Overpressure Rupture, Explosion, Overheat (No Fire) - NFIRS Series 200	3	3	7
Rescue & Emergency Medical Service Incident - NFIRS Series 300	7100	6182	5414
Hazardous Condition (No Fire) - NFIRS Series 400	116	124	81
Service Call - NFIRS Series 500	593	565	481
Good Intent Call - NFIRS Series 600	368	282	274
False Alarm & Falls Call - NFIRS Series 700	390	340	387
Severe Weather & Natural Disaster - NFIRS Series 800	0	0	0
Special Incident Type - NFIRS Series 900	24	10	18
Total	8889	7791	6887

Fire

How many responses per year by category? Enter whole numbers only. If you have no calls for any of the categories, enter 0.

How many responses per year per category?	2021	2020	2019
"Structure Fire" (Of the NFIRS Series 100 calls, NFIRS Codes 111-120)	112	89	85
"Vehicle Fire" (Of the NFIRS Series 100 calls, NFIRS Codes 130-138)	42	51	43
"Vegetation Fire" (Of the NFIRS Series 100 calls, NFIRS Codes 140-143)	77	72	49
Total	231	212	177

What is the total acreage of all vegetation fires? Enter whole numbers only. If you have no vegetation fires, enter 0.

Total acreage per year	2021	2020	2019

Total acreage per year	2021	2020	2019
Total acreage of all vegetation fires	528	1594	92

Rescue and emergency medical service incidents

How many responses per year per category?	2021	2020	2019
"Motor Vehicle Accidents" (Of the NFIRS Series 300 calls, NFIRS Codes 322-324)	611	400	365
"Extrications from Vehicles" (Of the NFIRS Series 300 calls, NFIRS Code 352)	61	47	45
"Rescues" (Of the NFIRS Series 300 calls, NFIRS Code 300, 351, 353-381)	43	48	33
EMS-BLS Response Calls	2983	2692	1918
EMS-ALS Response Calls	3092	2866	2858
EMS-BLS Scheduled Transports	0	0	0
EMS-ALS Scheduled Transports	0	0	0
Community Paramedic Response Calls	2635	1600	900
Total	9425	7653	6119

Mutual and automatic aid

How many responses per year by category? Enter whole numbers only. If you have no calls for any of the categories, enter 0.

How many responses per year per category?	2021	2020	2019
Amount of times the organization received Mutual Aid	33	27	25
Amount of times the organization received Automatic Aid	647	474	395
Amount of times the organization provided Mutual Aid	66	55	44

How many responses per year per category?	2021	2020	2019
Amount of times the organization provided Automatic Aid	920	839	778
Of the Mutual and Automatic Aid responses, amount that were structure fires	44	36	48
Total	1710	1431	1290

Grant request details

Instructions
You can add the positions you are requesting by using the add buttons below. Include all positions in a single item. Please answer all the questions for the overall Hiring activity as well as the required information for the requested positions.

Grand total: $4,248,284.25

Program area: Hiring of firefighters

Total requested for Hiring of Firefighters activity: $4,248,284.25

New, Additional Firefighter(s)

How many full-time firefighter positions are you requesting? "Full-time" is considered 2,080 hours or more worked per year.

NUMBER OF FIREFIGHTERS

15

What are the anticipated annual costs per position, per year? Annual costs include the base salary (exclusive of non-FLSA overtime) and the standard benefits package (including the average health cost, dental, vision, FICA, life insurance, retirement/pension, etc.) offered by the fire department. To get the "average" health care costs, average the annual cost among various health insurance plans offered (i.e., self only, family, etc). Do not use figures that assume all employees will select self or family coverage.

Year	ANNUAL SALARY	ANNUAL BENEFITS	TOTAL PER FIREFIGHTER
1	$50,547.60	$37,793.40	

	[illegible]	[illegible]	$88,341.00
Year 2	ANNUAL SALARY $53,060.20	ANNUAL BENEFITS $41,194.81	TOTAL PER FIREFIGHTER $94,255.01
Year 3	ANNUAL SALARY $55,720.60	ANNUAL BENEFITS $44,902.34	TOTAL PER FIREFIGHTER $100,622.94

What benefits are included in the annual benefits amount? You must provide details on the dollar amounts or percentages for each benefit being provided (health costs (family, employee only, employee plus one), dental, vision, FICA, life insurance, retirement/pension, etc.). Note: Failure to provide this information may results in reductions to the requested amounts.

BENEFITS FUNDED

Cost of Standard Health care package for a new firefighter. By standard, meaning the most common. Buckeye offers several benefit choices. The following costs are the most common benefits costs per firefighter in Buckeye: 1) Employee cost - $396.44/month, $4,757/year, City cost $2,081.34/month, $24,976/year. 2) Dental cost per employee, standard, or most common plan. $80.87/month, $970.44/year. 3) most common Vision plan employee cost. $16.58/month, $198.84/year. 4) Retirement costs (PSPRS) for tier 3, Employee 9.94%, City 17.26% 5) FICA cost for a new employee is 1.45% of gross pay. 6) Life Insurance costs. The city paid life insurance is $1.19 per $1,000 in coverage, and the coverage is one time their annual salary rounded to the nearest $1,000. The total annual compensation salary, plus city-paid benefits (workers' comp, health, life, EAP, etc.) for a firefighter at step 1 is $88,341. After that, benefits due to merit raises and other costs for benefits increase 9% each year. In year two, the total cost for firefighters is $94,902.34, and three, $100,622.94.

REQUEST TOTAL	**$4,248,284.25**

More Details for Hiring of Firefighters.

Staffing levels

SAFER intends to restore or improve local fire departments' staffing and deployment capabilities so they may more effectively respond to emergencies. With the enhanced staffing, a SAFER grant recipient's response time will be reduced sufficiently and an appropriate number of trained personnel will be assembled at the incident scene.

The following questions are designed to help us understand the staffing changes that have occurred in your department over the past several years and how the grant will assist in restoring or improving your staffing levels. The information provided must be a true and accurate depiction of your department on the timelines listed below.

For more information regarding these standards please see the Notice of Funding Opportunity or go to www.nfpa.org/freeaccess

Select the item that best describes the NFPA	**1710 - with aerial**

standard your department is attempting to meet:

What is the department's current (at the start of the application period) budgeted operational staffing level? Include all budgeted positions, even if they are not currently filled.

Current budgeted operational staffing level	**99**
How many budgeted, but vacant operational positions does your department have at the start of the application period?	**0**

Please enter information about your organization's staffing levels in the table below .

Staffing levels	Total number of operational career personnel	Number of operational career officers	Number of NFPA support
Staffing levels at the start of the application period	99	27	92
Staffing levels at one year prior to the start of the application period	99	27	93
Staffing levels at two years prior to the start of the application period	93	25	89
If awarded this grant, what will the staffing levels be in your department?	114	30	107

Please provide details on the department's existing staffing model to include the number of shifts, number of positions per shift, chief level officer staffing per shift (i.e., Battalion Chief, District Chief, etc.), and contracted shift hours per week/pay period. If the contracted shift hours included FLSA overtime or Kelly Days, please be sure to include details.	**The City of Buckeye Fire/Medical/Rescue Department has three shifts, A, B, and C working on the 48/96 schedule or two days on duty and four days off. Fully staffed, each shift will have one Battalion Chief as the shift's commander with an accompanying captain safety officer/chauffeur. Buckeye's five engine companies have one Captain, one Engineer/Chauffeur, and two firefighters. Buckeyes' ladder company has one Captain, two Engineers/Chauffeurs to drive the Tillered ladder truck, and one Firefighter. Right now, two shifts have 30, and one has 29 for an average of 29.67 per shift. Buckeye's current staffing model includes two roving firefighter**

positions on each shift. This is coverage for the allotted two people allowed off on vacation daily. Two rovers are not adequate for six fire stations. With sick leave costs, especially in the COVID era, and training requirements of the multiple specialties, including paramedics, SWAT medics, Technical Rescue, and HAZMAT, two rovers per shift is not adequate. The City of Buckeye's Fire Administration consists of a mixture of sworn and non-sworn personnel. The sworn persons are a Fire Chief, Assistant Fire Chief, a Deputy Chief in charge of Sustainment and Prevention. A Training Battalion Chief, an Emergency Medical Services

(EMS) Battalion Chief, an accompanying EMS Captain, a Fire Marshal, and one Community-Based-Paramedicine Program manager. Non-sworn persons in Administration are two Management Assistants that assist the Fire and Assistant Fire Chief and other Chiefs in the day-to-day operations of the Fire Department. There is one Community Based Paramedic who works with the program manager. Assigned to the fire marshal's office are one Fire Prevention Specialist II and two Fire Prevention Specialist I. Telestaff, a staffing program, manages the day-to-day staffing requirements specified by Buckeye's Intergovernmental Agreement (IGA) with the Phoenix Regional Automatic Aid program. The IGA states that the minimum daily staffing level for all engines and ladders shall be four (4) members, "full staffing" under NFPA 1710. Vacate positions are filled, rank for rank on a revolving list according to staff's opportunity advantages. To save money and provide promotional experience-qualified move-up can be used per policy. Qualification for move-up requires the candidate to complete and pass a test at the rank desired to move up and/or complete a move-up book of competencies. There is a minimum number of years attached to command ranks, seven for Battalion Chief and five for Captain. Buckeye does not incorporate Kelly days into its 24-day work cycle. Buckeye pays its employees bi-weekly, and firefighters' checks vary between 96 and 120 hours. If no vacation or sick leave is taken during the 24-day shift cycle, 10 hours of

	FSLA overtime is paid to the firefighter.
Does your department utilize part-time or reserve paid firefighters?	**No**

Hiring of firefighters

Please provide the following additional information regarding your fire department.

Based on current staffing levels:

If your department utilizes overtime to fill positions to ensure you are meeting applicable NFPA staffing and deployment standards, you should remove the number of positions filled by overtime from your calculations.

How often does your department meet the NFPA assembly requirements as indicated in the table above for the department's first due response zone/jurisdiction served?	**Rarely (1 to 19%)**
What is the average actual staffing level on your first arriving engine company or vehicle capable of initiating suppression activities on the number of structure fires indicated in the department call volume section of your application?	**4**
Do you provide NFPA 1582 annual medical/physical exams?	**Yes**

If awarded the number of positions requested in this application:

How often do you anticipate that your department will meet the NFPA assembly requirements as indicated in the table above?	**Sometimes (20 to 39%)**
What will be the average actual staffing level on your first arriving engine company or vehicle capable of initiating suppression activities on the number of structure fires indicated in the department call volume section of your application?	**4**
Will you provide the new hires with NFPA 1582 entry-level physicals?	**Yes**
Will the personnel hired meet the minimum EMS training and certification as required by your Authority Having Jurisdiction (AHJ)?	**Yes**
Is it your department's intent to sustain the awarded positions after the completion of the	**Yes**

period of performance?	
Please provide a brief description on how the positions will be sustained.	**Section H of the IGA for the Phoenix Regional, Automatic Aid program states that: Full staffing as described in NFPA 1710 on engines and ladders provides the most efficient and effective personnel safety and service delivery to the public. System Participants recognize the importance of service delivery and personnel safety issues. The minimum daily staffing level for all engines and ladders shall be four (4) members, which is "full staffing" under NFPA 1710. Buckeye City Management signed this agreement twenty years ago and remains committed to it. The residential population, commercial development, and corresponding taxes for the positions exist but lag behind 3 years. SAFER funding will get the firefighters for station 7 hired, trained, and in the field early enough to match the new station's construction, positively affecting the community as early as possible. The taxes collected, residentially and commercially, in the primary area will sustain the positions long-term in 3 years.**
Describe the department's step-by-step hiring process (application period, written test, physical, approval) and the timeline for each step.	**The Buckeye Fire Department accepts applications for recruit firefighter for 30 days; applications are submitted online through NEOGOV.com software. During that 30-day application period, applicants must complete a written test through the National Testing Network (NTN); once the application and testing period close, the NTN sends a spreadsheet to Human Resources containing candidate scores. Buckeye Fire then invites the most qualified candidates for first-round** **interviews. The Buckeye Fire Department understands the importance of having a fire department that reflects the community's demographics, so it seeks qualified candidates of all ages, gender, and races. The number of interviews is based on five applicants per potential vacant position. First-round interviews are usually conducted three weeks after applications close. First-round boards are made up of a Captain, an Engineer, and a Firefighter. The first-round consists of open-ended questions focused on candidates'**

	character. Second-round interview boards have the identical rank make-up as the first round, but questions are based on identifying candidates suitable for a twenty-five-year investment. After second-round interviews, candidates are placed on a hiring list, ranked by the second-round panel members then submitted to Human resources for final approval. Once a job offer is made, candidates must show proof of a current Emergency Medical Technician certification, a Candidate Physical Ability Test (CPAT), successful completion of a background check performed by Buckeye's Human Resources, and a medical physical performed by 1582. The physicals provide by 1582 meet all standards set in NFPA 1582. After completing the regional fire academy mandated by the Automatic Aid IGA, probationary firefighters complete a one-year probationary period. For persons not initially hired, the firefighter list remains in operation for one to two years at the discretion of the fire chief and staffing needs.
How many recruits can be trained in one academy class?	**60**
How long after award will the department be able to start a recruit class?	**The tentative 2022 Buckeye Fire Department Recruit Firefighter testing timeline is as follows. Apps and written 9/1-9/30 First-round 10/18-10/22 Second round 11/16-11/17 The timeline for the hiring of firefighters can be changed. Buckeye can also use qualified candidates on the 2021 list. The Buckeye Fire Department's goal is to have the SAFER funded positions in a training academy no later than January 2023. January is the goal to have the 15 new firefighters operational and send 15 other members to specialty schools like paramedic, Technical Rescue, and Hazardous Materials schools before the opening of station 7. Completing this training will significantly** **enhance the service to Buckeye's community. Buckeye will meet the default 180-day recruitment goal, most likely completing recruit significantly faster.**
How often are your recruit classes held?	**In compliance with the Intergovernmental Agreement (IGA) with the Phoenix Regional**

	Automatic Aid system, Buckeye sends the successful candidates primarily to regional training academies in Glendale or Phoenix, Arizona. The academies are 14-weeks in length, and typically there are three recruit classes per year. Academy generally starts in January, June, and October. The question's simple answer is the recruits will be in an academy within the default 180-day recruitment period.
Does the department need governing body approval to accept and implement the award?	**Yes**
Provide details on the timeline needed to accept the grant award.	**It is tentatively scheduled on the next City Council consent agenda in March, and it is expected to pass. So technically, we can accept on the day of the award. If it is necessary to have Council Actions again after award notification, it will be completed within 45 days.**
Is your request for hiring firefighters based on a risk analysis, staffing needs analysis, or an Insurance Services Office (ISO) rating?	**Yes**
Describe how the analysis was conducted and the outcome of the analysis or ISO rating.	**There have been three. The first was in 2005 by Elliot D. Pollack, a population and development analysis of Buckeye's 30 master-planned communities to assist with future planning. The study led the Blue Horizons development company under the direction of the Buckeye Fire Chief to donate land for the proposed fire station. The study became obsolete after the 2009 recession. In 2020, a second internal study was completed using up-to-date population and growth estimates to calculate response time per NFPA Standard 1710. It determined that the first unit response to the area of the new fire station would decrease from 10 to 4 minutes, and a full response down from 14 to 10 minutes. A third study is underway by an outside party, ORH, a data analysis company, and is 30% complete. Early indicators are that the station is ideally located to respond to emergencies in the primary response area.**
Does your department currently have a policy in place to recruit and hire veterans?	**Yes**
Please provide a brief description of the policy in	**Section 220, Article 5 of the Employment Process in the Buckeye Policy Manual states**

place.

Process in the Buckeye Policy Manual states, **"In the event (2) candidates possess equal qualifications, preference in entrance examinations shall be granted to the qualified persons who have been members of the armed forces of the United States and who seek to enter the classified service of the City within (5) years of honorable discharge from military service."**

Narrative statements

The narrative statements must provide all the information necessary for you to justify your needs and for FEMA to make an award decision. A panel of peer reviewers will perform the second phase of the applications' evaluations by using the narrative statements below to determine the worthiness of the request for an award.

Please ensure that your narrative clearly addresses each of the following evaluation criteria elements to the best of your ability with detailed but concise information. Provide only the information being requested for each element; if you provided information pertaining to the narrative elements elsewhere in the application you must still include it below. Failure to provide the information being requested may result in a lower score or the application not being funded.

Project description

Why does the department need the positions requested in this application?

The City of Buckeye has been experienced tremendous growth since 2010. Buckeye's population has grown 56.6%, ranking it the second fastest-growing city in America. In the last month, 800 construction permits were granted in Buckeye to construct new homes. This growth in Buckeye has been consistent and sustained since the recovery from the recession in 2009. The City of Buckeye Fire/Medical/Rescue department has remained unchanged in the last eleven years regarding the number of stations, six, adding only six firefighters, mostly rovers, in that time. During that time, the population has increased from 45,000 to 104,000, and the call volume has risen from 3,300 to nearly 9,600 emergency calls per year. Buckeye has .95 firefighters per 1000

citizens below the national average of 1.09 as determined for the western region in a 2019 report by the NFPA U.S Fire Department profile. The new firefighters would raise the Buckeye average to 1.09, to the western average. Station 7, the new fire station, is a part of a master plan community designed by the City of Buckeye

	Leadership, its fire management, and developers to service the first due area and Buckeye and Automatic Aid partners. As previously mentioned, the City of Buckeye has developed in clusters and has a Mountain range located in its center, making response difficult to some areas. Fire Station 7 will be built on the eastern convergence of the two largest and busiest clusters in the Southeast of the White Tank Mountains, an area responsible for 84% of the City of Buckeye emergency call volume. Station 7's location will be on the western edge of the City of Goodyear, roughly the same size but with a higher population density and call volume. Due to the existing Automatic Aid IGA, station seven will enhance Buckeyes', Buckeye Valley Fire District, and the City of Goodyear's ability to meet NFPA Standard 1710. Station 7 will reduce response time for its primary response area from 10-14 minutes for the first arriving unit to 2-6 minutes, depending on the location of the incident. The location of the new fire station will not only enhance the primary response area but will reduce the call volumes of two of the busiest station by 30%, leaving them available for calls in the primary areas, further reducing response times during high call volume times and reducing firefighter fatigue improving the overall health of firefighters.
How will the positions requested in this application be used within the department? (e.g., 4th on engine, open a new station, eliminate browned out stations, reduce overtime)?	**The requested positions will be two-fold for the City of Buckeye Fire/Medical/Rescue. Twelve firefighters will provide the human resources for a new fire station in eastern Buckeye. The station design is complete, and the site plans are 20% done. They should be completed by June of 2022. Final council action will be taken in July, and construction will begin in September of 2022, with a completion date of mid-2023. The new station will relieve call volume and reduce response times for two Buckeye firehouses. Due to its location on the eastern edge of Buckeye's busiest areas, Firehouse #7 will significantly enhance response time in its area and the other areas of Buckeye, the City of Goodyear, and the Buckeye Valley Fire District. The additional three firefighters will provide one additional, for**

	a total of three roving firefighters on each of Buckeye's three shifts. The City of Buckeye is committed to four-person staffing for all its units; a commitment solidified twenty years ago by Buckeye signing the IGA for Automatic Aid, which stipulates four-person staffing as the minimum for engines and ladders. The three additional firefighters will enhance Buckeye's ability to meet minimum staffing requirements consistently, thereby lowering response time, allowing Buckeye to have 15 firefighters on scene in less than eight minutes at a higher frequency. The addition of station seven will enhance the Automatic Aid system by adding an additional resource to the 27-cities in the consortium. The above-stated information translates to saved lives and decreased property damage to Buckeye and its Automatic Aid partners. When more personnel can arrive at the emergency scene faster, it equates to safer operations for firefighters, more efficient work, and ultimately a safer community. The 15 firefighters will be hired and out of the fire academy before Station 7 opens. The 15 will supplant current staff to send 15 firefighters to paramedic and Special operations schools during that time. This will prevent staffing shortages and overtime costs generally associated with these training schools. Buckeye will soon be short on both specialties without using this opportunity to train new medics and technicians due to retirements and promotions. Once training for specialties is complete and if the station is not completed, Engine 7 will be put into service at a station adjacent to the primary response area.
What specific services will the requested positions provide to the fire department and community?	**SAFER funded positions will provide 365 days a year, 24 hours a day advanced life support Engine company to station #7 in a developing area of Buckeye. The Engine will provide a minimum of two Emergency Medical Technicians (EMT) paramedics and two EMT-Basics to service the area's emergency medical needs. The company will provide fire suppression to its first-due area and other areas in Buckeye and other cities both in automatic and mutual aid. With the proximity to the I-10, Engine #7 will have extrication**

capability to work with and support an adjacent Ladder Company. Engine 7 would enhance Buckeye Fire's average full attendance response times by several minutes in the unit's primary response area. Engine 7 will have the equipment necessary to mitigate vegetation/brush fires common to the area as well as a limited amount of Wildland suppression equipment for larger fires, not common to the first-due, but needed because of the large urban interface area around the City of Buckeye's 639 square miles of the response area. Station #7 would be ideal for a type 6 fire unit (Brush truck) staffed in conjunction with the Engine by SAFER's human resources, enhancing response to smaller bush/grass/vegetation fires common in the area. Engine 7 will have limited special operation capability for Hazardous Materials and Technical Rescue response at the responder level. The station's Haz/Mat capability will be enhanced from the standard responder for Carbon monoxide and Radiological monitoring. To the community, this new unit will provide faster response times to its primary response area and reduce call volume to adjacent stations, leading to a more efficient response. The opening of this station will enhance Buckeye and Automatic Aid partner's ability to provide full attendance to NFPA 1710 and meet time requirements at a higher rate, equating to saved lives and reduced property damage, leading to a more resilient community.

Describe how funds awarded through this grant would enhance the department's ability to protect critical infrastructure within the primary response area.

Twelve SAFER positions will be human resources for Fire Station #7, with the other three serving as rovers for all Buckeye Fire stations. Critical infrastructure directly impacted within the 6-minute response area are four schools, two high schools, and two elementary education schools. One of the high schools is West MEC, a career training center for high school students, teaches trades to young adults, and the curriculum includes using dangerous gasses and liquids. Station #7 primary response area is home to Arizona's Public Service (APS) Palo Verde Energy Education Center. This 32,000 square foot

facility serves as a base for emergency operations in a crisis at the Palo Verde Nuclear Generating Station, located 22 miles to the west. During non-emergency times, the building serves as a technical training and education facility. It includes an emergency operations room equipped with the most critical communication technologies: a 222-seat auditorium, which can be used for public briefings or training purposes; four additional training spaces; food preparation and serving area; and offices. Station #7 will service about 2-3 miles of Interstate-10, including two bridge overpasses and a Railway track of a similar distance. The track routinely carries Hazardous Materials. Near the freeway and rail lines are two small water treatment plants and a recycling plant that routinely has fires on the property, including the plant itself. It also includes several miles of high voltage transmission lines and sub-stations for Arizona Public Service (APS) and Salt River Project (SPR), two of Arizona's largest energy providers. The area includes an electrical transfer station, a women's state prison, and an auxiliary/emergency landing field for Luke Airforce Base. Station #7 also has Buckeye Fire and Police Department Administration building and Buckeye Municipal Courthouse. It will also be home to two sizeable big-box warehouse stores/distributorships. Several million square feet of warehouses are planned within eight-minute of fire station #7. Station seven will have a full-service hospital built on 27 acres of purchased land in the next three years. The hospital will serve the westside of Phoenix and is of critical importance to the community. Due to Buckeye's participation in the Phoenix Regional Automatic Aid Program, where the closest unit responds regardless of jurisdictional boundary, Buckeye can and has responded to all 27 member cities for emergency calls for service. Any additional station to Buckeye is an addition to the Automatic Aid system and an additional response unit for all of the critical infrastructure in Maricopa County.

Impact on daily operations

Explain how the community and the current firefighters employed by the department are at risk without the positions requested in this application.

Without the 15 positions provided by SAFER funding, the City of Buckeye will continue to experience extended response times to the new fire station's area, including other adjacent areas of the city. Buckeye's population has increased at an average of 12% over the past five years, increasing 18.8% in the last year. National reports state that Buckeye is America's second fasted growing city with a population increase of 57% since 2015. This trend is showing no signs of weakening soon. Buckeye's population should increase to 155,000 in the next five years. The subsequent population increase will lead to higher call volume and increased response times. Internal estimates conclude call volume should rise 30-40% in the next five years. Considering Buckeye's current response capabilities using response modeling from like communities, it would indicate Buckeye's first unit response time would increase 30-40 seconds from the current ten-minute response to the primary response area for station seven. A complete unit response would increase from 13:51 to nearly 16 minutes using the same information. The Phoenix Regional Dispatch System, Automatic Aid program, defines a full complement as three engines, one ladder, one rescue, and one Battalion command vehicle. An increase in response time would significantly increase the risk to the community for the loss of life and property. With the increased population and call volume, estimated as high as 40% in the next three years, not adding new response units or firefighters will create an unhealthy situation for Buckeye's current firefighters. The situation will lead to a higher fatigue rate for on-duty firefighters, increasing the chance of injury, death, and mental health issues. The issues mentioned above are compounded by a large response area, 639 square miles incorporated into Buckeye. Buckeye is also the farthest west Automatic Aid department; several smaller fire districts west of Buckeye depend on our resources to respond to and mitigate large-scale incidents. Mutual Aid response west occurs 60 times per

	year or five times a month, involves multiple Buckeye units for several hours, and most of the units are taken from Buckeye's busiest areas. An additional station located on the eastern edge of Buckeye, like the new station, would aid response to Buckeyes' busiest areas during mutual aid responses west. With all of the challenges faced by Buckeye regarding population and call volume growth, Buckeye has managed to keep firefighter and civilian fire-related deaths to sufficiently low numbers. Obtaining funding from the Assistance to Firefighters SAFER grant program for 15 additional firefighters is a critical step forward to maintain low levels of injuries and death to Buckeye firefighters and civilians.
How will that risk be reduced if awarded?	**If awarded, the 15 positions would open a new fire station, greatly enhancing the first unit response from ten minutes or more to four minutes or less to a growing area of Buckeye. Patients would receive lifesaving efforts sooner, leading to more positive outcomes, and fires could be dealt with earlier, improving property loss. Station seven would lower the call volume of two busier stations in Buckeye by 30%, decreasing firefighter fatigue and increasing all firefighters' mental and physical well-being.**

Cost benefit

Describe the benefits (e.g., quantifying the anticipated savings and/or efficiencies) the department and community will realize if awarded the positions requested in this application.	**The SAFER-funded positions would create a unique opportunity for the City of Buckeye. In 2005, the Buckeye Fire department experienced tremendous growth and doubled its workforce. During that time, Buckeye trained several classes of paramedics to meet the growing need; also, it started, trained, and maintained special operation programs for both Technical Rescue (TRT) and Hazardous Materials (HMT). Training for paramedics and special operations technicians waned during the recession and has been as needed for the last five years. Presently 60% of paramedics and technicians will be eligible to retire in the next five years. This, coupled with tremendous growth, creates a dire need to train paramedics and special operation technicians to meet future needs. The**

opportunity to train up to 15 firefighters as paramedics and special operations techs will maximize benefit while minimizing overtime costs and impact on daily operations. There will be a six to nine-month delay between the SAFER funding award and the opening of Fire station seven. In that time, once the SAFER firefighters complete academy training and enter operations, up to 15 current firefighters will be sent to paramedic and specialty schools. The training opportunity will not impact the opening of station seven. If the training is completed early, Engine seven will be put into service at an adjacent station to service the Buckeye community. Special operation classes run several times throughout the fall and spring and are five weeks long. Paramedic school will be seven months in length; with the first four months, the students will be removed from operations and attend school 40 hours a week, Monday through Friday. Following the didactic portion, the students will complete three weeks of clinical evaluations in a hospital setting before returning to duty for the final three-month mentorship period before becoming certified paramedics. The only costs will be the classes, which will be negated by the savings of overtime coverage generally associated with training of this kind. No overtime costs will be incurred during the training of these specialties creating a savings of over $673,596. This was calculated with ($20.79*1.5*15*240*6) or Hourly rate at mean*Overtime*# of trainees*hours per month*number of months in training. The number of months includes four months of didactic training, three weeks of clinical evaluation, and five-week of specialty school. When the didactic portion of paramedic school is complete, and if the station is not completed, Engine seven will be put into service at fire station three adjacent to Station sevens' area. Once in-service, Engine seven will bring emergency and fire services to an area needing emergency services. It will enhance Buckeye's and our Automatic Aid partners' ability to save lives and property.

Additional information

If you have any additional information you would like to include about the department and/or this application in general, please provide below.

A copy of the third-party analysis by ORH will be available in May of 2022 and will be made available upon request. The Phoenix Regional Automatic Aid IGA is also available upon request. Any other requests for information in this grant will be provided as well.

Grant request summary

Is your proposed project limited to one or more of the following activities : Planning and development of policies or processes. Management, administrative, or personnel actions. Classroom-based training. Acquisition of mobile and portable equipment (not involving installation) on or in a building.
Yes

Budget summary

Budget summary

Object class categories	Year 1	Year 2	Year 3	Total
Personnel	$758,214.00	$795,903.00	$835,809.00	$2,389,926.00
Fringe benefits	$566,901.00	$617,922.15	$673,535.10	$1,858,358.25
Travel	$0.00	$0.00	$0.00	$0.00
Equipment	$0.00	$0.00	$0.00	$0.00
Supplies	$0.00	$0.00	$0.00	$0.00
Contractual	$0.00	$0.00	$0.00	$0.00
Construction	$0.00	$0.00	$0.00	$0.00
Other	$0.00	$0.00	$0.00	$0.00
Total direct charges	$1,325,115.00	$1,413,825.15	$1,509,344.10	$4,248,284.25
Indirect charges	$0.00	$0.00	$0.00	$0.00
TOTAL	$1,325,115.00	$1,413,825.15	$1,509,344.10	$4,248,284.25

Object class categories	Year 1	Year 2	Year 3	Total
Non-federal resources				
Applicant				$0.00
State				$0.00
Other sources				$0.00
Remarks				
Total Federal and Non-federal resources				
Federal resources	$1,325,115.00	$1,413,825.15	$1,509,344.10	$4,248,284.25
Non-federal resources	$0.00	$0.00	$0.00	$0.00
TOTAL	$1,325,115.00	$1,413,825.15	$1,509,344.10	$4,248,284.25
Program income				$0.00

Contact information

No

Secondary point of contact

Please provide a secondary point of contact for this grant.

The Authorized Organization Representative (AOR) who submits the application will be identified as the primary point of contact for the grant. Please provide one secondary point of contact for this grant below. The secondary contact can be members of the fire department or organizations applying for the grant that will see the grant through completion, are familiar with the grant application, and have the authority to make decisions on and to act upon this grant application. The secondary point of contact can also be an individual who assisted with the development, preparation, or review of the application.

Bill Stockley Assistant Chief	**Primary phone** 6236950597 Mobile	**Additional phones** 6233496719 Work
	Fax	
bstockley@buckeyeaz.gov		

Assurance and certifications

Loading

RESOLUTION NO. 25-22

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF BUCKEYE, ARIZONA, RATIFYING THE SUBMISSION OF A SAFER GRANT APPLICATION TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY, AND AUTHORIZING THE MAYOR TO ACCEPT, EXECUTE, AND DELIVER ANY RESULTING GRANT AWARD OR AGREEMENT.

WHEREAS, the City of Buckeye (the "City") continues to experience rapid population growth, which leads to increased demand for critical public services including those of the Buckeye Fire-Medical-Rescue department (the "BFD"), with fire call volume more than doubling since 2015; and

WHEREAS, the City is working to meet this rising demand by investing in the professional workforce of the BFD and by constructing a seventh fire station, Station 707, which will be located in the Blue Horizons community; and

WHEREAS, to adequately staff Fire Station 707, the City needs to hire and train 15 additional firefighters, at a significant cost; and

WHEREAS, the BFD has identified potential grant funding from the Federal Emergency Management Agency (FEMA) in the form of a Staffing for Adequate Fire and Emergency Response (SAFER) grant, which would assist with three years of staffing costs for Fire Station 707;

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF BUCKEYE, ARIZONA, as follows:

Section 1. The recitals above are hereby incorporated as if fully set forth herein.

Section 2. FEMA SAFER grant application EMW-2021-FF-00001 is hereby ratified.

Section 3. The Mayor is hereby authorized to accept, execute, and deliver any grant award or agreement resulting from application EMW-2021-FF-00001.

Section 4. The Mayor, the City Manager, the City Attorney, and the Fire Chief are hereby authorized and directed to take any and all steps necessary to carry out the purpose and intent of this Resolution.

PASSED AND ADOPTED by the Mayor and City Council of the City of Buckeye, Arizona, this 1st day of March, 2022.

_____
Eric W. Orsborn, Mayor

ATTEST:

_____
Lucinda J. Aja, City Clerk

APPROVED AS TO FORM:

_____
Shiela B. Schmidt, City Attorney

JAG:jag 4372233.1 2/14/2022