

**ADDENDUM NO. 1**

**NEAR-TERM WATER IMPORVEMENTS  
PROJECT NO. 24171 & 24173**

This addendum is hereby made a part of the project contract documents. It shall be the responsibility of the general contractor to inform any affected sub-bidder of the content of this addendum.

The contract documents are modified/clarified as follows:

**1. Proposal**

*Replace the Bid Proposal in its entirety with attached, revised Bid Proposal.*

**2. Project 24171 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions – BID ITEM 1 – Mobilization**

**Payment:**

*Add:*

Payment calculations will be based upon the Total Bid Amount for the Contract.

**3. Project 24171 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions – BID ITEM 21 – NOT USED**

*Replace in its entirety with:*

**Bid Item No. 21 - Utility Potholes**

A. Measurement for this Bid Item shall be made per each utility pothole, which shall be deemed complete upon successful locating of the utility and backfilling and restoring of the surface.

B. Payment for potholes shall be made at the unit price bid for Bid Item No. 21. For completion of each approved pothole from alignment and profile verification process as specified in the Special Provisions and as determined by the City. Payment under this Bid Item shall be considered full compensation for the work described and shall include but not be limited to furnishing all labor and equipment and material required to request utility locating; mark out and receive approval for potholes; sawcut pavement; remove existing pavement; excavate and stockpile soil material; identify and document existing utility; locate the utility horizontally and vertically; place and compact backfill material; restore pavement and hardscape or landscape surfaces; and related work required to complete the

work as specified per the Contract Documents. This bid item also includes repairing damage, making modifications to or replacing existing utilities damaged by the Contractor's operations.

**4. Project 24171 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions – BID ITEM 81 – Install Package Booster Pump Station**

*Replace in its entirety with:*

Measurement: No measurement shall be made for this bid item.

Payment: The contract lump sum (LS) price paid for installing the package booster pump station furnished by others shall include all work associated with offloading and installing the station including remobilization to site; traffic control and coordination with the supplier on placement of stub outs and delivery of the unit; anchoring station to foundation pad; pipe connections; coating of pipe installed by Contractor; and electrical connections. Contractor will be responsible for offloading and placing station with estimated dimensions of 35'x18'x10' and estimated weight of 90,000 lbs. and for coordinating and assisting the pump station supplier with startup testing.

**5. Project 24171 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions – Bid Item - 94 Electrical System**

*Replace in its entirety with:*

**Bid Item 94 - Electrical System**

Measurement: No measurement shall be made for these bid item

Payment: The contract lump sum paid for furnishing and installing site electrical improvements shall include all work associated with demolition and disposal of existing electrical equipment; relocation of existing City RTU; protection of Zone 7 RTU and traffic signal box, in place; conduits; stub-ups for prepackaged booster station; conductors; handholes; modifications inside the flouride building; turnout vault systems; wiring from new booster station to site; installing new grounding systems, junction box, and power system study, as detailed on sheets E-1 through E-6 of the Contract Plans and these Special Provisions. This pay item includes all excavation; backfill; pavement, hardscape, or landscape restoration for new conduits and boxes; and all necessary labor and incidentals to provide electrical site improvements complete and in place for fully functional booster pump station.

6. **Project 24171 Special Provision Section 14-02B Ductile Iron Pipe**

*Replace the second sentence in its entirety with:*

Refer to City Standard Specification Section 14-02B Ductile Iron Pipe.

7. **Project 24171 Special Provision Section 25-01 General**

*Delete the following:*

Add: See Technical Specification 02675

8. **Project 24173 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions Bid Item No. 1 - Mobilization**

*Replace in its entirety with:*

**Bid Item No. 1- Utility Potholes**

A. Measurement for this Bid Item shall be made per each utility pothole, which shall be deemed complete upon successful locating of the utility and backfilling and restoring of the surface.

B. Payment for potholes shall be made at the unit price bid for Bid Item No. 21. For completion of each approved pothole from alignment and profile verification process as specified in the Special Provisions and as determined by the City. Payment under this Bid Item shall be considered full compensation for the work described and shall include but not be limited to furnishing all labor and equipment and material required to request utility locating; mark out and receive approval for potholes; sawcut pavement; remove existing pavement; excavate and stockpile soil material; identify and document existing utility; locate the utility horizontally and vertically; place and compact backfill material; restore pavement and hardscape or landscape surfaces; and related work required to complete the work as specified per the Contract Documents. This bid item also includes repairing damage, making modifications to or replacing existing utilities damaged by the Contractor's operations.

9. **Project 24173 Special Provision Section 1-33A Bid Item Measurement and Payment Descriptions Bid Item No. 6 - Sta 30+00.00 BORE AND JACK CASING AND CARRIER PIPE**

*Add to the end of 2<sup>nd</sup> paragraph:*

All work as specified in Section 02320 –Auger Boring.

10. **Project 24173 Special Provision Section 11-03A Excavation**

*Replace the first paragraph with:*

Soil; aggregate subbase; and aggregate base spoils can be disposed of by Contractor at Pleasanton Community Park site as shown on Contract Plans. Spoils pile shall be graded and hydroseeded at the completion of the project. The Contractor shall follow the designated truck route shown on the Project Plans and shall provide any required SWPPP measures and adequate measures to prevent tracking.

**11. Technical Specification 02320 – Jack and Bore**

*Delete Section 2.2 Casing Seals in its entirety.*

*Delete Section 2.5 Grout Connections in its entirety.*

*Replace Section 3.3L in its entirety with:*

2.4B Interior of Casing (between carrier pipe and casing): Interior of casing shall be filled with sand.

*Replace Section 3.3L in its entirety with:*

Interior of Casing (between carrier pipe and casing) shall be completely filled with sand.

**12. Technical Specification 02675 – Fusible PVC Pipe**

*Delete this specification in its entirety.*

**13. Technical Specification 09900 – Paintings and Coatings**

*Replace Technical Specification 09900 in its entirety with attached revised Technical Specification 09900 – Painting and Coatings.*

**14. Technical Specification 15446 – Sump Pumps**

*Add attached Technical Specification 15446 and Sump Pump Cut Sheet*

**15. Technical Specification 16001 – Electrical - General Provisions**

*Replace pages 3 and 4 in their entirety with attached revised pages 3 and 4.*

**16. Project 24171 Plan Sheet PP-4**

*No revised sheet provided. Replace Note 4 in its entirety with:*

CONTRACTOR SHALL ANTICIPATE 6.5" OF ASPHALT CONCRETE ON STONERIDGE AND 10" TO 12" ON HOPYARD. REPLACE WITH 6.5" OF HOT MIX ASPHALT.

**17. Project 24171 Plan Sheet C-1**

*Replace Sheet with attached, revised Sheet C-1.*

Modified Construction Note 12; Added Note 26 with associated callout.

Added Sheet Note 8 with associated callout.

**18. Project 24171 Plan Sheet C-2**

*Replace Sheet with attached, revised Sheet C-2.*

Modified Construction Notes 38 and 46.

Added Notes 4 and 5.

Removed eight (8) bollards.

**19. Project 24171 Plan Sheet C-6**

*Replace Detail 7 Thrust Block Table with the following:*

MINIMUM THRUST BLOCK BEARING AREAS IN SQUARE FEET					
PIPE SIZE	AREA				
	A	B	C	D	E
6"	4	6	3	2	3
8"	7	10	5	3	5
10"	11	15	8	4	8
12"	15	22	12	6	11
14"	21	29	16	8	15
16"	27	38	21	12	19
18"	34	48	26	13	25
20"	42	60	32	16	30
24"	60	85	46	24	44

NOTE: VALUES SHOWN ARE BASED ON 1500 PSF SOIL BEARING PRESSURE AND 200 PSI TEST PRESSURE. AREAS MAY BE INCREASED BY THE ENGINEER IF FIELD CONDITIONS WARRANT.

**20. Project 24171 Plan Sheet C-10**

*Replace Sheet with attached, revised Sheet C-10.*

Replaced Note 3. Added Note 4.

**21. Project 24171 Plan Sheet S-1**

*Replace Sheet with attached, revised Sheet S-1.*

Replaced Note 13.

**22. Project 24173 Plan Sheet L-1**

*Replace Sheet with attached, revised Sheet L-1.*

Changed existing pipe callout to 24" DIP.

**23. Project 24173 Plan Sheet L-2**

*No revised sheet provided.*

Sta. 30+66.00 change cross to 20X16 CRS (FLxFL w/ BF)

**24. Project 24173 Plan Sheet CD-1**

*Replace Sheet with attached, revised Sheet CD-1.*

Changed existing pipe callout to 24" DIP.

**25. Project 24173 Plan Sheet CD-2**

*No revised sheet provided.*

Sta. 30+66.00 change cross to 20X16 CRS (FLxFL w/ BF)

All other items of work in the contract document remain unchanged. Acknowledgement and a signed copy of this Addendum shall be included in the Bid Proposal.



\_\_\_\_\_  
Adam M. Nelkie  
City Engineer

**ACKNOWLEDGED:**

\_\_\_\_\_  
Company

Date: \_\_\_\_\_

By: \_\_\_\_\_

Title: \_\_\_\_\_

END OF ADDENDUM NO. 1

# BID PROPOSAL

## Near-Term Water Improvements Project No. 24171 & 24173

DATE: \_\_\_\_\_

Proposal of \_\_\_\_\_ (hereinafter called "Bidder") a \_\_\_\_\_ organized and existing under the laws of the State \_\_\_\_\_, doing business as \_\_\_\_\_, to the City of Pleasanton, City Clerk, 123 Main Street, Pleasanton, California (hereinafter called "City").

Ladies and Gentlemen:

The Bidder, in compliance with the invitation for bids for the **NEAR-TERM WATER IMPROVEMENTS, PROJECT NO. 24171 & 24173**, City of Pleasanton, having examined the Plans and Specifications and related documents and the premises of the proposed work, and being familiar with all of the conditions surrounding the construction of the proposed project including the availability of materials and supplies, declares that this proposal is made without collusion with any other person, firm or corporation and agrees to construct the project in accordance with the contract documents, within the time set forth therein, and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Bid Proposal is a part.

### Work Completion

For Project No. 24171:

Bidder shall complete all work designated as Phase 1 by June 30, 2024.

Bidder shall complete all work designated as Phase 2 within one-hundred-and-ten (110) working days after the start of work.

Bidder will be given separate "Notice to Proceed" to start Phase 3 dependent on prepacked booster station fabrication and shall commence work within fifteen (15) calendar days of notification. Notification is expected to be given between February and May, 2025.

Bidder shall complete all work designated as Phase 3 within sixty (60) working days after start of Phase 3 work.

For Project No. 24173:

Bidder shall complete all work within one-hundred-and-seventy (170) working days after the start of work.

### Liquidated Damages

For Project No. 24171:

Bidder shall pay as liquidated damages in the sum of **\$2,000** per calendar day should the successful bidder fail to complete the work designated as Phase 1 by June 30, 2024.  
 Bidder shall pay as liquidated damages in the sum of **\$4,500** per calendar day should the successful bidder fail to complete the work designated as Phase 2 within one hundred ten (110) working days.  
 Bidder shall pay as liquidated damages in the sum of **\$2,000** per calendar day should the successful bidder fail to complete the work designated as Phase 3 within sixty (60) working days.

For Project No. 24173:

Bidder shall pay as liquidated damages in the sum of **\$4,500** per calendar day should the successful bidder fail to complete the work within one hundred seventy (170) working days.

Liquidated damages will accrue separately and are additive for failure to complete the work or phases of work within the above time limits.

Bidder acknowledges receipt of the following addendum:

<u>No.</u>	<u>Date</u>	<u>No.</u>	<u>Date</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Bidder to perform all of the work described in the Contract Documents for the total bid amount entered.

Bid Table on Next Page



**Project No. 24171**

<b>Item No.</b>	<b>Quantity (Approximate)</b>	<b>Unit of Measure</b>	<b>Item Description</b>	<b>Unit Price</b>	<b>Total</b>
1	1	LS	Mobilization		
2	1	LS	Traffic Control		
3	1	LS	Site Demolition, Finished Site Work and Grading		
4	1	LS	Trench Shoring		
5	1	LS	Zone 7 Connection		
6	1	EA	Turnout 9' x 13' Precast Concrete Vault with Access Hatch		
7	1	EA	8" Sch 40 PVC Vent Pipe and Fittings with 2' Cover		
8	1	EA	12" Diameter x 36" High Armorcast Standpipe Vent with 24 Vent Slots, Model P6002712, or equal		
9	1	LS	Concrete Slab for Package Pump Station – Size and Reinforcement per Foundation Plan		
10	1	LS	Fluoride Improvements (New 500-gallon Fluoride Chemical Tank and Fittings, Containment Curb Modifications, New Fluoride Vault, and Removal of Old Equipment)		
11	2	EA	14" FLG x PE DI Spool		
12	1	EA	14" FLG x FLG Gate Valve		
13	2	EA	Rosemount Model 8712E Pressure Transmitter with 125/150 FLG Drilling		
14	1	EA	14" FLG x FLG Rosemount Flow Meter, Model 8705		
15	1	EA	14" Dezurik VPB V-Port Ball Valve with ANSI 150 Flanges, Rotork Electric Motor, and Operator IQTM2000 Modulating 480 Vac Main Voltage		
16	1	EA	14" FLG x FLG DI Spool		
17	1	EA	Water Sampling Tap		
18	1	EA	14" Dismantling Joint, Romac Model DJ400 or Equal with Tie Rods		

Item No.	Quantity (Approximate)	Unit of Measure	Item Description	Unit Price	Total
19	1	EA	14" Combination Pressure Reducing Check Valve, Cla-Val Model 94-01		
20	3,200	LF	24" C900 DR18 (Class 235) FPVC Discharge Piping		
21			Not Used		
22	210	LF	18" DIP, Class 350		
23	200	LF	16" DIP, Class 350		
24	35	LF	24" DIP, Class 350		
25	1	EA	6" Gate Valve, FLG x MJ		
26	2	EA	12" Gate Valve, FLG x FLG		
27	2	EA	12" Gate Valve, FLG x RMJ		
28	2	EA	16" Gate Valve, FLG x MJ		
29	2	EA	16" Gate Valve, FLG x RMJ		
30	4	EA	18" Gate Valve, FLG x RMJ		
31	1	EA	Install City Furnished 24" Gate Valve, FLG x RMJ		
32	1	EA	24" x 16" DIP Reducer, FLG x MJ		
33	1	EA	12" x 6" DIP Reducer		
34	1	EA	16" x 14" FLG x FLG DI Concentric Reducer with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		
35	1	EA	18" x 14" FLG x FLG DI Concentric Reducer with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		
36	2	EA	24" x 12" FLG x FLG DIP Reducer		
37	1	EA	24" x 16" DIP Reducer FLG x FLG		
38	1	EA	24" x 18" DIP Reducer FLG x FLG		
39	4	EA	16" Res Solid Sleeve		
40	3	EA	12" Transition Coupling		
41	1	EA	12" MJ DI 45° Elbow with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		
42	1	EA	16" 45° Elbow, FLG x FLG		
43	1	EA	18" MJ DI 45° Elbow with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		

Item No.	Quantity (Approximate)	Unit of Measure	Item Description	Unit Price	Total
44	1	EA	18" MJ DI 90° Elbow with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		
45	2	EA	18" DI 45° Elbow RMJ		
46	1	EA	18" FLG x MJ DI 45° Elbow with MJ Restraint for DIP, EBAA Iron Series 1100 or Equal		
47	3	EA	24" DI 45° Elbow FLG		
48	4	EA	24" DI 11.25° Elbow RMJ		
49	1	EA	18" x 12" Tee FLG		
50	2	EA	16" Tee FLG x FLG x RMJ		
51	1	EA	16" x 16" x 12" Tee with Blind Flange		
52	1	EA	24" Tee FLG		
53	1	EA	24" x 12" MJ x FLG Tee		
54	1	EA	24" DIP Cross		
55	1	EA	18" x 16" DIP Cross		
56	1	EA	18" x 12" DIP Cross		
57	1	EA	12" FL x PE 5' Spool		
58	1	EA	12" FLG x PE Spool with Transition CPLG		
59	1	EA	16" FCA ACP OD		
60	4	EA	16" Solid Sleeve RMJ		
61	3	EA	16" FLG x PE DI Spool		
62	2	EA	12' DI Spool 5'		
63	1	EA	16" DI Spool 8'		
64	1	EA	16" DI Spool 3'		
65	4	EA	16" FLG x MJ Adapter		
66	3	EA	18" DIP Spools – var. lengths		
67	1	EA	18" FLG x PE Spool – 2'		
68	1	EA	24" FLG x MJ Adapter		
69	5	EA	2" Combination Air Valve Assembly		
70	1	EA	Fire Hydrant Assembly per City Std. No 307		
71	3	EA	Pipe Supports		
72	1	LS	Jack and Bore Crossing (including 24" FPVC installed, 42" Steel Casing, and Jacking and Receiving Shafts pipe and fittings)		
73			Not used		
74	1	LS	Striping/Markings		

<b>Item No.</b>	<b>Quantity (Approximate)</b>	<b>Unit of Measure</b>	<b>Item Description</b>	<b>Unit Price</b>	<b>Total</b>
75	1	LS	Water Main Abandonment		
76	1	LS	Remove Pipe		
77	1	LS	BMPs/Storm Water Pollution Control Plan		
78	12	EA	Cathodic Test Stations		
79	41	EA	30# or 18# Anode Bags		
80	1	LS	Flushing Station (Gooseneck and Inlet Box)		
81	1	LS	Install Package Booster Pump Station Furnished by Supplier		
82	1000	LF	24" FPVC Vertical Depth Adjustments (0FT to 2FT)		
83	100	LF	24" FPVC Vertical Depth Adjustments (2FT to 4FT)		
84	10	LF	24" FPVC Vertical Depth Adjustments (4FT to 6FT)		
85	10	LF	24" FPVC Vertical Depth Adjustments (6FT to 8FT)		
86	100	LF	18" DIP Vertical Depth Adjustments (0FT to 2FT)		
87	50	LF	18" DIP Vertical Depth Adjustments (2FT to 4FT)		
88	10	LF	18" DIP Vertical Depth Adjustments (4FT to 6FT)		
89	10	LF	18" DIP Vertical Depth Adjustments (6FT to 8FT)		
90	75	LF	16" DIP Vertical Depth Adjustments (0FT to 2FT)		
91	10	LF	16" DIP Vertical Depth Adjustments (2FT to 4FT)		
92	10	LF	16" DIP Vertical Depth Adjustments (4FT to 6FT)		
93	10	LF	16" DIP Vertical Depth Adjustments (6FT to 8FT)		
94	1	LS	Electrical System		
95	250	LF	PG&E Conduit from transformer to PG&E Tie-In. two 3" conduit and one pull box		

**Project No. 24173**

<b>Item No.</b>	<b>Quantity (Approximate)</b>	<b>Unit of Measure</b>	<b>Item Description</b>	<b>Unit Price</b>	<b>Total</b>
1	1	LS	MOBILIZATION		

Item No.	Quantity (Approximate)	Unit of Measure	Item Description	Unit Price	Total
2	4468	LF	20-inch DIP (HDSS)		
3	68	LF	12-inch DIP (HDSS)		
4	1	LS	Sta 10+00.00 TIE-IN		
5	1	LS	Sta 15+34.15 60" CMP SD CROSSING		
6	1	LS	Sta 30+00.00 BORE AND JACK CASING AND CARRIER PIPE		
7	1	LS	Sta 50+76.23 FLUSHING CONNECTION		
8	1	LS	Sta 54+67.86 TIE-IN		
9	2	EA	12" GATE VALVE		
10	5	EA	20" GATE VALVE		
11	2	EA	20" DIP 22.5° FITTING		
12	4	EA	20" DIP 11.25° FITTING		
13	2	EA	20" X 8" DIP TEE FITTING		
14	3	EA	COMBINATION AIR VALVE		
15	4	EA	CP TEST STATION		
16	300	LF	VERTICAL DEPTH ADJUSTMENTS (0FT TO 2FT)		
17	100	LF	VERTICAL DEPTH ADJUSTMENTS (2FT TO 4FT)		
18	10	LF	VERTICAL DEPTH ADJUSTMENTS (4FT TO 6FT)		
19	10	LF	VERTICAL DEPTH ADJUSTMENTS (6FT TO 8FT)		
20	1	LS	STRIPING/MARKINGS		
21	1	LS	TRAFFIC CONTROL PLAN		
22	1	LS	BMP's/STORM WATER POLLUTION CONTROL PLAN		
23	1	LS	TRENCH SHORING		
<b>TOTAL</b>				<b>\$</b>	

Note: The Bidder acknowledges that the total amount set forth above is for the entire project as represented by the Contract Documents regardless of itemization. Basis of bid comparison will be the Total Bid Amount.

Attached is a bid guaranty bond duly completed by a guaranty company authorized to carry on business in the State of California in the amount of at least ten percent (10%) of the total amount of the bid, or alternately, there is attached a certified or cashier's check payable to the City in the amount of at least ten percent (10%) of the total amount of the bid.

If this Bid Proposal is accepted, bidder agrees to sign the contract and to furnish the performance bond, labor and materials bond, maintenance bond, and the required evidences of insurance within ten (10) working days after receiving written notice of the award of the contract. If bidder fails to contract as provided herein or fails to provide the bonds and/or evidence of insurance, the City may at its option, determine the acceptance thereof shall be null and void, and the forfeiture of such security accompanying this Bid Proposal shall operate and the same shall be the property of the City of Pleasanton.

This Bid Proposal shall be good and may not be modified, withdrawn or canceled for a period of ninety (90) calendar days after the date of the City's opening of bids.

Bidder hereby certifies that the licensing information hereinafter stated is true and correct. Bidder further agrees, if the bid is accepted and a contract for performance of the work is entered into with the City, to so plan work and to prosecute it with such diligence that the work shall be completed within the time stipulated in the agreement. Under the penalty of perjury bidder affirms that, to the best of bidder's knowledge, the representations made in this bid are true.

Bidders are required by law to be licensed and regulated by the contractors' State License Board. Any questions concerning a contractor may be referred to the Registrar, Contractors' State License Board.

It is a misdemeanor for any person to submit a bid to a public agency in order to engage in the business or act in the capacity of a contractor within this state without having a license therefor, except for specific cases outlined in Business and Professions Code, Section 7028.15.

\_\_\_\_\_  
Name of Bidder

\_\_\_\_\_  
Contractor's License Number

\_\_\_\_\_  
Signature of Bidder

\_\_\_\_\_  
Expiration Date

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Address of Bidder

\_\_\_\_\_  
Title of Signatory

\_\_\_\_\_  
( )

\_\_\_\_\_  
State of Incorporation

\_\_\_\_\_  
Telephone Number

\_\_\_\_\_  
DIR Registration Number

\_\_\_\_\_  
Contractor's Email Address

## SECTION 09900 – PAINTING AND COATINGS

### PART 1 GENERAL

#### 1.1 THE REQUIREMENT

- A. The Contractor shall provide protective coatings, complete and in place, in accordance with the Contract Documents.
- B. Definitions
  - 1. The term "paint," "coatings," or "finishes" as used herein, shall include surface treatments, emulsions, enamels, paints, epoxy resins, and all other protective coatings, excepting galvanizing or anodizing, whether used as a pretreatment, primer, intermediate coat, or finish coat.
  - 2. The term "DFT" means minimum dry film thickness.
- C. The following surfaces shall not be protective coated hereunder unless indicated.
  - 1. Finished items including finished hardware, excluding hardware indicated as primed.
  - 2. Acoustical gaskets and weather-stripping at doors.
  - 3. Concrete
  - 4. Stainless steel
  - 5. Machined surfaces
  - 6. Grease fittings
  - 7. Glass
  - 8. Equipment nameplates
  - 9. Platform gratings, stair treads, door thresholds and other walk surfaces
- D. The coating system schedules summarize the surfaces to be coated, the required surface preparation, and the coating systems to be applied. Coating notes on the drawings are used to show exceptions to the schedules, to show or extend the limits of coating systems, or to clarify or show details for application of the coating systems.

#### 1.2 REFERENCES

- A. ASTM International:
  - 1. ASTM D16 - Standard Terminology for Paint, Related Coatings, Materials, and Applications.
  - 2. ASTM D4442 - Standard Test Methods for Direct Moisture Content Measurement of Wood and Wood-Base Materials.
  - 3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- B. Green Seal:
  - 1. GC-03 - Anti-Corrosive Paints.
  - 2. GS-11 - Product Specific Environmental Requirements.
- C. Painting and Decorating Contractors of America:

1. PDCA - Architectural Painting Specification Manual.

D. SSPC: The Society for Protective Coatings:

1. SSPC - Steel Structures Painting Manual.

### 1.3 CONTRACTOR SUBMITTALS

A. General: Submittals shall be furnished in accordance with the City Standard Specifications, as modified by the Special Provisions, unless indicated otherwise below.

B. Submittals shall include the following information and be submitted at least 30 days prior to protective coating work:

1. Coating Materials List: Eight copies of a coating materials list showing the Manufacturer and the coating number, keyed to the coating systems herein. The list shall be submitted prior to or at the time of submittal of samples.

2. Paint Manufacturer's Information: For each coating system to be used, the following data:

- a. Paint Manufacturer's data sheet for each product proposed, including statements on the suitability of the material for the intended use and paint label analysis.
- b. Technical and performance information that demonstrates compliance with the system performance and material requirements.
- c. Paint Manufacturer's instructions and recommendations on surface preparation and application.
- d. Colors available for each product (where applicable).
- e. Compatibility of shop and field applied coatings (where applicable).
- f. Material Safety Data Sheet for each product used.

C. Samples

1. Samples of all paint, finishes, and other coating materials shall be submitted on 8-1/2-inch by 11-inch sheet metal. Each sheet shall be completely coated over its entire surface with one protective coating material, type, and color.

2. Two sets of color samples to match each color selected by the Construction Manager from the Manufacturer's standard color sheets. If custom mixed colors are indicated, the color samples shall be made using color formulations prepared to match the color samples furnished by the Construction Manager. The color formula shall be shown on the back of each color sample.

3. One fifteen pound sample of each abrasive proposed to be used for surface preparation for submerged and severe service coating systems.

D. Operation and Maintenance Manual: Submit data on cleaning, touch-up, and repair of painted and coated surfaces.

### 1.4 SPECIAL CORRECTION OF DEFECTS REQUIREMENTS

A. Warranty Inspection: A warranty inspection may be conducted during the eleventh month following completion of all coating and painting work. The Contractor and a representative of the coating material Manufacturer shall attend this inspection. All defective work shall be repaired in accordance with these specifications and to the satisfaction of the District. The District may, by written notice to the Contractor, reschedule the warranty inspection to another date within the one-year correction



period, or may cancel the warranty inspection altogether. If a warranty inspection is not held, the Contractor is not relieved of its responsibilities under the Contract Documents.

- B. System 104 – Epoxy Wall Liner shall have an extended 5 year warranty for all installation and material defects.

## 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years documented experience.
- B. Applicator: Company specializing in performing work of this section with minimum 5 years experience and by manufacturer.
- C. Where protective coatings are to be performed by a subcontractor, the subcontractor shall possess a valid state license as required for performance of the painting and coating work called for in this specification and] shall provide 5 references which show that the painting subcontractor has previous successful experience with the indicated or comparable coating systems. Include the name, address, and the telephone number for the owner of each installation for which the painting subcontractor provided the protective coating.

## 1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.
- B. Container Label: Include manufacturer's name, type of paint, brand name, lot number, brand code, coverage, surface preparation, drying time, cleanup requirements, color designation, and instructions for mixing and reducing.
- C. Paint Materials: Store at minimum ambient temperature of 45 degrees F and maximum of 90 degrees F, in ventilated area, and as required by manufacturer's instructions.

## 1.7 QUALITY ASSURANCE

- A. Regulatory Requirements: Furnish materials approved for use by applicable air quality management district for limitations of volatile organic compounds for architectural or special coatings as applicable.

# **PART 2 PRODUCTS**

## 2.1 GENERAL

- A. Suitability: The Contractor shall use suitable coating materials as recommended by the Manufacturer.
- B. Compatibility: In any coating system only compatible materials from a single Manufacturer shall be used in the work. Particular attention shall be directed to compatibility of primers and finish coats. If necessary, a barrier coat shall be applied between existing prime coat and subsequent field coats to ensure compatibility.
- C. Containers: Coating materials shall be sealed in containers that plainly show the designated name, formula or specification number, batch number, color, date of

manufacture, and name of manufacturer, all of which shall be plainly legible at the time of use.

- D. Colors: All colors and shades of colors of all coats of paint shall be as indicated or selected by the Construction Manager. Each coat shall be of a slightly different shade, to facilitate inspection of surface coverage of each coat. Finish colors shall be as selected from the manufacturer's standard color samples by the Construction Manager.
- E. Substitute or "Or-Equal" Products
  - 1. To establish equality under Section 01340 – Shop Drawings, Product Data and Samples, the Contractor shall furnish satisfactory documentation from the manufacturer of the proposed substitute or or-equal product that the material meets the indicated requirements and is equivalent or better in the following properties:
    - a. Quality
    - b. Durability
    - c. Resistance to abrasion and physical damage
    - d. Life expectancy
    - e. Ability to recoat in future
    - f. Solids content by volume
    - g. Dry film thickness per coat
    - h. Compatibility with other coatings
    - i. Suitability for the intended service
    - j. Resistance to chemical attack
    - k. Temperature limitations in service and during application
    - l. Type and quality of recommended undercoats and topcoats
    - m. Ease of application
    - n. Ease of repairing damaged areas
    - o. Stability of colors
  - 2. Protective Coating Materials shall be standard products produced by recognized manufacturers who are regularly engaged in production of such materials for essentially identical service conditions. Where requested, the Contractor shall provide the Construction Manager with the names of not less than 10 successful applications of the proposed manufacturer's products which comply with these requirements.
  - 3. The cost of all testing and analyzing proposed substitute products which may be required by the Construction Manager shall be paid by the Contractor at no additional cost to the District. If a proposed substitution requires changes in the Work, the Contractor shall bear all such costs involved and the costs of allied trades affected by the substitution at no additional cost to the District.

## 2.2 INDUSTRIAL COATING SYSTEMS

- A. Material Sources: Each of the following manufacturers is capable of supplying many of the industrial coating materials indicated herein. Where manufacturers and paint numbers are listed, it is to show the type and quality of coatings that are required. Proposed substitute materials will be considered as indicated above. All industrial coating materials shall be materials that have a record of satisfactory performance in industrial plants, manufacturing facilities, and water and wastewater treatment plants.
  - 1. PPG Amercoat
  - 2. Carboline Company
  - 3. ICI - Devoe Coatings Company

4. Tnemec Company
  5. Valspar Corporation
  6. Glidden
- B. System 4 - Aliphatic Polyurethane: Two component aliphatic acrylic polyurethane coating material shall provide superior color and gloss retention, resistance to splash from acid and alkaline chemicals, resistance to chemical fumes and severe weathering and with a minimum solids content of 58 percent by volume. Primer shall be a rust inhibitive two component epoxy coating with a minimum solids content of 68 percent by volume.
1. Prime coat DFT = 4 mils, Ameron 385, Carboline Carboguard 890 , Tnemec 69, or equal.
  2. Finish coat (one or more, DFT = 3 mils), Ameron Amershield, Carboline Carbothane 134 VOC , Tnemec 74, or equal.
  3. Total system DFT = 7 mils.
  4. More than one finish coat shall be applied as necessary to produce a finish with uniform color and texture.
- C. System 7 - Acrylic Latex: Single component, water based acrylic latex with a fungicide additive shall have a minimum solids content of 35 percent by volume. Prime coat shall be as recommended by manufacturer. The coating material shall be available in the ANSI safety colors.
1. Prime coat DFT = 2 mils, as recommended by manufacturer.
  2. Finish coats (2 or more, DFT = 6 mils), Ameron 220, Carboline Carbocrylic 3359, Tnemec 6, or equal.
  3. Total system DFT = 8 mils.

### 2.3 SUBMERGED AND SEVERE SERVICE COATING SYSTEMS

- A. Materials Sources: The manufacturers' products listed in this paragraph are materials which satisfy the material descriptions of this paragraph and have a documented successful record for long term submerged or severe service conditions. Proposed substitute products will be considered as indicated above.
- B. System 100 - Amine Cured Epoxy: High build, amine cured, epoxy resin shall have a solids content of at least 80 percent by volume, and shall be suitable for long-term immersion service in potable water and municipal wastewater. For potable water service, the coating material shall be listed by the NSF International as in compliance with NSF Standard 61 - Drinking Water System Components - Health Effects.
1. Prime coat and finish coats (3 or more, DFT = 16 mils), Carboline Carboguard 891 Series, Ameron 400, Tnemec 139, or equal.
  2. For coating of valves and non-submerged equipment, DFT = 12 mils.
- C. System 102 - Polyamide Cured Epoxy: High build, polyamide epoxy resin shall have a solids content of at least 56 percent by volume, and shall be suitable for long-term immersion in potable water and municipal wastewater. For potable water service, the coating material shall be listed by the NSF International as in compliance with NSF Standard 61.
1. Prime coat and finish coats (3 or more, DFT = 12 mils), Carboline Carboguard 61, Tnemec 20, Valspar 32PWR, or equal.

- D. System 106 - Fusion Bonded Epoxy: The coating material shall be a 100 percent powder epoxy applied in accordance with the ANSI/AWWA C213 - Fusion-Bonded Epoxy Coating for the Interior and Exterior of Steel Water Pipelines, except that the surface preparation shall be as specified in the coating system schedule of this Section. The coating shall be applied using the fluidized bed process.
  - 1. Liquid Epoxy: For field repairs, the use of a liquid epoxy will be permitted, applied in not less than 3 coats to provide a DFT of 15 mils. The liquid epoxy shall be a 100 percent solids epoxy recommended by the powder epoxy manufacturer.
  - 2. Coating DFT = 16 mils, Scotchkote 134 or 206N, or equal.
  - 3. Total system DFT = 16 mils.
  - 4. For coating of valves, DFT - 12 mils.

## 2.4 SPECIAL COATING SYSTEMS

- A. System 200 - PVC Tape: Prior to wrapping the pipe with PVC tape, the pipe and fittings first shall be primed using a primer recommended by the PVC tape manufacturer. After being primed, the pipe shall be wrapped with a 20-mil adhesive PVC tape, half-lapped, to a total thickness of 40 mils.
- B. System 205 - Polyethylene Encasement: Application of polyethylene encasement shall be in accordance with ANSI/AWWA C105 using Method C.
- C. System 206 - Cement Mortar Coating: A 1-1/2-inch minimum thickness mortar coating reinforced with 3/4-inch galvanized welded wire fabric shall be provided. The cement mortar shall contain no less than one part Type V cement to 3 parts sand. The cement mortar shall be cured by a curing compound meeting the requirements of "Liquid Membrane Forming Compounds for Curing Concrete," ASTM C 309, Type II, white pigmented, or by enclosure in an 8-mil thick polyethylene sheet with all edges and joints lapped by at least 6 inches.

## PART 3 EXECUTION

### 3.1 MANUFACTURER'S SERVICES

- A. The Contractor shall require the protective coating manufacturer to furnish a qualified technical representative to visit the project site for technical support as may be necessary to resolve field problems attributable or associated with the manufacturer's products.
- B. For submerged and severe service coating systems, the Contractor shall require the paint manufacturer to furnish the following services:
  - 1. The manufacturer's representative shall provide at least 6 hours of on-site instruction in the proper surface preparation, use, mixing, application, and curing of the coating systems.
  - 2. The manufacturer's representative shall observe the start of surface preparation, mixing, and application of the coating materials for each coating system.

### 3.2 WORKMANSHIP

- A. Skilled craftsmen and experienced supervision shall be used on all Work.

- B. Coating shall be done in a workmanlike manner so as to produce an even film of uniform thickness. Edges, corners, crevices, and joints shall receive special attention to insure thorough cleaning and an adequate thickness of coating material. The finished surfaces shall be free from runs, drops, ridges, waves, laps, brush marks, and variations in color, texture, and finish. The hiding shall be so complete that the addition of another coat would not increase the hiding. Special attention shall be given to insure that edges, corners, crevices, welds, and similar areas receive a film thickness equivalent to adjacent areas, and installations shall be protected by the use of drop cloths or other precautionary measures.
- C. All damage to surfaces resulting from the Work shall be cleaned, repaired, and refinished to original condition.

### 3.3 STORAGE MIXING AND THINNING OF MATERIALS

- A. Manufacturer's Recommendations: Unless otherwise indicated, the coating manufacturer's printed recommendations and instructions for thinning, mixing, handling, applying, and protecting its coating materials, for preparation of surfaces for coating, and for all other procedures relative to coating shall be strictly observed.
- B. All protective coating materials shall be used within the manufacturer's recommended shelf life.
- C. Storage and Mixing: Coating materials shall be stored under the conditions recommended by the Material Safety Data Sheets, and shall be thoroughly stirred, strained, and kept at a uniform consistency during application. Coatings of different manufacturers shall not be mixed together.

### 3.4 PREPARATION FOR COATING

- A. General: All surfaces to receive protective coatings shall be cleaned as indicated prior to application of coatings. The Contractor shall examine all surfaces to be coated, and shall correct all surface defects before application of any coating material. All marred or abraded spots on shop-primed and on factory-finished surfaces shall receive touch-up restoration prior to any coating application. Surfaces to be coated shall be dry and free of visible dust.
- B. Protection of Surfaces Not to be Coated: Surfaces which are not to receive protective coatings shall be protected during surface preparation, cleaning, and coating operations.
- C. All hardware, lighting fixtures, switchplates, machined surfaces, couplings, shafts, bearings, nameplates on machinery, and other surfaces not to be painted shall be removed, masked or otherwise protected. Drop cloths shall be provided to prevent coating materials from falling on or marring adjacent surfaces. The working parts of all mechanical and electrical equipment shall be protected from damage during surface preparation and coating operations. Openings in motors shall be masked to prevent entry of coating or other materials.
- D. Care shall be exercised not to damage adjacent work during blast cleaning operations. Spray painting shall be conducted under carefully controlled conditions. The Contractor shall be fully responsible for and shall promptly repair any and all damage to adjacent work or adjoining property occurring from blast cleaning or coating operations.

- E. Protection of Painted Surfaces: Cleaning and coating shall be coordinated so that dust and other contaminants from the cleaning process will not fall on wet, newly-coated surfaces.

### 3.5 SURFACE PREPARATION STANDARDS

- A. The following referenced surface preparation specifications of the Steel Structures Painting Council shall form a part of this specification:
  - 1. Solvent Cleaning (SSPC-SP1): Removal of oil, grease, soil, salts, and other soluble contaminants by cleaning with solvent, vapor, alkali, emulsion, or steam.
  - 2. Hand Tool Cleaning (SSPC-SP2): Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by hand chipping, scraping, sanding, and wire brushing.
  - 3. Power Tool Cleaning (SSPC-SP3): Removal of loose rust, loose mill scale, loose paint, and other loose detrimental foreign matter, by power tool chipping, descaling, sanding, wire brushing, and grinding.
  - 4. White Metal Blast Cleaning (SSPC-SP5): Removal of all visible rust, oil, grease, soil, dust, mill scale, paint, oxides, corrosion products and foreign matter by blast cleaning.
  - 5. Commercial Blast Cleaning (SSPC-SP6): Removal of all visible oil, grease, soil, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except that staining shall be limited to no more than 33 percent of each square inch of surface area.
  - 6. Brush-Off Blast Cleaning (SSPC-SP7): Removal of all visible oil, grease, soil, dust, loose mill scale, loose rust, and loose paint.
  - 7. Near-White Blast Cleaning (SSPC-SP10): Removal of all visible oil, grease, soil, dust, mill scale, rust, paint, oxides, corrosion products, and other foreign matter, except that staining shall be limited to no more than 5 percent of each square inch of surface area.
  - 8. Surface Preparation of Concrete (SSPC-SP13 / NACE No. 6): This standard gives the requirements for surface preparation of concrete by mechanical, chemical or thermal methods prior to the application of bonded protective coating or lining systems.

### 3.6 METAL SURFACE PREPARATION (UN GALVANIZED)

- A. The minimum abrasive blasting surface preparation shall be as indicated in the coating system schedules included at the end of this Section. Where there is a conflict between these specifications and the coating manufacturer's printed recommendations for the intended service, the higher degree of cleaning shall apply.
- B. Workmanship for metal surface preparation shall be in conformance with the current SSPC Standards and this Section. Blast cleaned surfaces shall match the standard samples available from the National Association of Corrosion Engineers, NACE Standard TM-01-70 - Visual Standard for Surfaces of New Steel Airblast Cleaned with Sand Abrasive and TM-01-75 - Visual Standard for Surfaces of New Steel Centrifugally Blast Cleaned with Steel Grit.
- C. All oil, grease, welding fluxes, and other surface contaminants shall be removed by solvent cleaning per SSPC-SP1 - Solvent Cleaning prior to blast cleaning.
- D. All sharp edges shall be rounded or chamfered and all burrs, and surface defects and weld splatter shall be ground smooth prior to blast cleaning.

- E. The type and size of abrasive shall be selected to produce a surface profile that meets the coating manufacturer's recommendation for the particular coating and service conditions. Abrasives for submerged and severe service coating systems shall be clean, hard, sharp cutting crushed slag. Automated blasting systems shall not be used for surfaces that will be in submerged service. Metal shot or grit shall not be used for surfaces that will be in submerged service, even if subsequent abrasive blasting is planned to be one with hard, sharp cutting crushed slag.
  - F. The abrasive shall not be reused unless an automated blasting system is used for surfaces that will be in non-submerged service. For automated blasting systems, clean oil-free abrasives shall be maintained. The abrasive mix shall include at least 50 percent grit.
  - G. The Contractor shall comply with the applicable federal, state, and local air pollution control regulations for blast cleaning.
  - H. Compressed air for air blast cleaning shall be supplied at adequate pressure from well maintained compressors equipped with oil and moisture separators which remove at least 95 percent of the contaminants.
  - I. Surfaces shall be cleaned of all dust and residual particles of the cleaning operation by dry air blast cleaning, vacuuming, or another approved method prior to painting.
  - J. Enclosed areas and other areas where dust settling is a problem shall be vacuum cleaned and wiped with a tack cloth.
  - K. Damaged or defective coating shall be removed by the specified blast cleaning to meet the clean surface requirements before recoating.
  - L. If the specified abrasive blast cleaning will damage adjacent work, the area to be cleaned is less than 100 square feet, and the coated surface will not be submerged in service, then SSPC-SP2 - Hand Tool Cleaning or SSPC-SP3 - Power Tool Cleaning, may be used.
  - M. Shop applied coatings of unknown composition shall be completely removed before the indicated coatings are applied. Valves, castings, ductile or cast iron pipe, and fabricated pipe or equipment shall be examined for the presence of shop-applied temporary coatings. Temporary coatings shall be completely removed by solvent cleaning per SSPC-SP1 before the abrasive blast cleaning work has been started.
  - N. Shop primed equipment shall be solvent cleaned in the field before finish coats are applied.
- 3.7 SURFACE PREPARATION FOR GALVANIZED FERROUS METAL
- A. Galvanized ferrous metal shall be alkaline cleaned per SSPC-SP1 to remove oil, grease, and other contaminants detrimental to adhesion of the protective coating system to be used.
  - B. Pretreatment coatings of surfaces shall be in accordance with the printed recommendations of the coating manufacturer.

### 3.8 SURFACE PREPARATION OF FERROUS SURFACES WITH EXISTING COATINGS, EXCLUDING STEEL RESERVOIR INTERIORS

- A. General: All grease, oil, heavy chalk, dirt, or other contaminants shall be removed by solvent or detergent cleaning prior to abrasive blast cleaning. The generic type of the existing coatings shall be determined by laboratory testing.
- B. Abrasive Blast Cleaning: The Contractor shall provide the degree of cleaning specified in the coating system schedule for the entire surface to be coated. If the degree of cleaning is not indicated in the schedule, deteriorated coatings shall be removed by abrasive blast cleaning to SSPC-SP6 - Commercial Blast Cleaning. Areas of tightly adhering coatings shall be cleaned to SSPC-SP7 - Brush-off Blast Cleaning, with the remaining thickness of existing coating not to exceed 3 mils.
- C. Incompatible Coatings: If coatings to be applied are not compatible with existing coatings the Contractor shall apply intermediate coatings per the paint manufacturer's recommendation for the indicated coating system or shall completely remove the existing coating prior to abrasive blast cleaning. A small trial application shall be conducted for compatibility prior to painting large areas.
- D. Unknown Coatings: Coatings of unknown composition shall be completely removed prior to application of new coatings.
- E. Water Abrasive or Wet Abrasive Blast Cleaning: Where specified or where job site conditions do not permit dry abrasive blasting for industrial coating systems due to dust or air pollution considerations, water abrasive blasting or wet abrasive blasting may be used. In both methods, paint-compatible corrosion inhibitors shall be used, and coating application shall begin as soon as the surfaces are dry. Water abrasive blasting shall be done using high pressure water with sand injection. In both methods, the equipment used shall be commercially produced equipment with a successful service record. Wet blasting methods shall not be used for submerged and severe service coating systems unless indicated.

### 3.9 PLASTIC, FIBER GLASS AND NONFERROUS METALS SURFACE PREPARATION

- A. Plastic and fiber glass surfaces shall be sanded or brush off blast cleaned prior to solvent cleaning with a chemical compatible with the coating system primer.
- B. Non-ferrous metal surfaces shall be solvent-cleaned SSPC-SP1 followed by sanding or brush-off blast cleaning SSPC-SP7.
- C. All surfaces shall be clean and dry prior to coating application.

### 3.10 SHOP COATING REQUIREMENTS

- A. Unless otherwise indicated, all items of equipment, or parts of equipment which are not submerged in service, shall be shop primed and then finish coated in the field after installation with the indicated or selected color. The methods, materials, application equipment and all other details of shop painting shall comply with this section. If the shop primer requires topcoating within a specified period of time, the equipment shall be finish coated in the shop and then touch-up painted after installation.
- B. All items of equipment, or parts and surfaces of equipment which are submerged or inside an enclosed hydraulic structure when in service, with the exception of pumps and valves, shall have all surface preparation and coating work performed in the field.



- C. The interior surfaces of steel water reservoirs, except for Part A surfaces, shall have all surface preparation and coating work performed in the field.
- D. For certain pieces of equipment it may be undesirable or impractical to apply finish coatings in the field. Such equipment may include engine generator sets, equipment such as electrical control panels, switchgear or main control boards, submerged parts of pumps, ferrous metal passages in valves, or other items where it is not possible to obtain the indicated quality in the field. Such equipment shall be primed and finish coated in the shop and touched up in the field with the identical material after installation. The Contractor shall require the manufacturer of each such piece of equipment to certify as part of its shop drawings that the surface preparation is in accordance with these specifications. The coating material data sheet shall be submitted with the shop drawings for the equipment.
- E. For certain small pieces of equipment the manufacturer may have a standard coating system which is suitable for the intended service conditions. In such cases, the final determination of suitability will be made during review of the shop drawing submittals. Equipment of this type generally includes only indoor equipment such as instruments, small compressors, and chemical metering pumps.
- F. Shop painted surfaces shall be protected during shipment and handling by suitable provisions including padding, blocking, and the use of canvas or nylon slings. Primed surfaces shall not be exposed to the weather for more than 2 months before being topcoated, or less time if recommended by the coating manufacturer.
- G. Damage to shop-applied coatings shall be repaired in accordance with this Section and the coating manufacturer's printed instructions.
- H. The Contractor shall make certain that the shop primers and field topcoats are compatible and meet the requirements of this Section. Copies of applicable coating manufacturer's data sheets shall be submitted with equipment shop drawings.

### 3.11 APPLICATION OF COATINGS

- A. The application of protective coatings to steel substrates shall be in accordance with SSPC-PA1 - Paint Application Specification No. 1.
- B. Cleaned surfaces and all coats shall be inspected prior to each succeeding coat. The Contractor shall schedule such inspection with the Construction Manager in advance.
- C. Blast cleaned ferrous metal surfaces shall be painted before any rusting or other deterioration of the surface occurs. Blast cleaning shall be limited to only those surfaces that can be coated in the same working day.
- D. Coatings shall be applied in accordance with the manufacturer's instructions and recommendations, and this Section, whichever has the most stringent requirements.
- E. Special attention shall be given to edges, angles, weld seams, flanges, nuts and bolts, and other places where insufficient film thicknesses are likely to be present. Use stripe painting for these areas.
- F. Special attention shall be given to materials which will be joined so closely that proper surface preparation and application are not possible. Such contact surfaces shall be coated prior to assembly or installation.

- G. Finish coats, including touch-up and damage repair coats shall be applied in a manner which will present a uniform texture and color matched appearance.
- H. Coatings shall not be applied under the following conditions:
  - 1. Temperature exceeding the manufacturer's recommended maximum and minimum allowable.
  - 2. Dust or smoke laden atmosphere.
  - 3. Damp or humid weather.
  - 4. When the substrate or air temperature is less than 5 degrees F above dewpoint.
  - 5. When air temperature is expected to drop below 40 degrees F or less than 5 degrees F above the dewpoint within 8 hours after application of coating.
  - 6. When wind conditions are not calm.
- I. Dewpoint shall be determined by use of a sling psychrometer in conjunction with U.S. Dept. of Commerce, Weather Bureau psychrometric tables.
- J. Unburied steel piping shall be abrasive blast cleaned and primed before installation.
- K. The finish coat on all work shall be applied after all concrete, masonry, and equipment installation is complete and the work areas are clean and dust free.

### 3.12 CURING OF COATINGS

- A. The Contractor shall maintain curing conditions in accordance with the conditions recommended by the coating material manufacturer or by this Section, whichever is the most stringent, prior to placing the completed coating system into service.
- B. In the case of enclosed areas, forced air ventilation, using heated air if necessary, may be required until the coatings have fully cured.
- C. Forced Air Ventilation of Steel Reservoirs and Enclosed Hydraulic Structures: Forced air ventilation is required for the application and curing of coatings on the interior surfaces of steel reservoirs and enclosed hydraulic structures. During application and curing periods, continuously exhaust air from a manhole in the lowest shell ring, or in the case of an enclosed hydraulic structure, from the lowest level of the structure using portable ducting. After all interior coating operations have been completed, provide a final curing period for a minimum of 10 days, during which the forced ventilation system shall operate continuously.

### 3.13 SHOP AND FIELD INSPECTION AND TESTING

- A. General: The Contractor shall give the Construction Manager a minimum of 3 days advance notice of the start of any field surface preparation work or coating application work, and a minimum of 7 days advance notice of the start of any shop surface preparation work.
- B. All such work shall be performed only in the presence of the Construction Manager, unless the Construction Manager has granted prior approval to perform such work in its absence.
- C. Inspection by the Construction Manager, or the waiver of inspection of any particular portion of the Work, shall not relieve the Contractor of its responsibility to perform the work in accordance with these Specifications.

- D. Scaffolding shall be erected and moved to locations where requested by the Construction Manager to facilitate inspection. Additional illumination shall be furnished to cover all areas to be inspected.
  - E. Inspection Devices: The Contractor shall furnish, until final acceptance of such coatings, inspection devices in good working condition for the detection of holidays and measurement of dry-film thicknesses of protective coatings. Dry-film thickness gages shall be made available for the Construction Manager's use at all times while coating is being done, until final acceptance of such coatings. The Contractor shall furnish the services of a trained operator of the holiday detection devices until the final acceptance of such coatings. Holiday detection devices shall be operated only in the presence of the Construction Manager.
  - F. Holiday Testing: The Contractor shall holiday test all coated ferrous surfaces inside a steel reservoir, other surfaces which will be submerged in water or other liquids, or surfaces which are enclosed in a vapor space in such structures and surfaces coated with any of the submerged and severe service coating systems. Areas which contain holidays shall be marked and repaired or recoated in accordance with the coating manufacturer's printed instructions and then retested.
    - 1. Coatings With Thickness Exceeding 20 Mills: For surfaces having a total dry film coating thickness exceeding 20 mils: pulse-type holiday detector such as Tinker & Razor Model AP-W, D.E. Stearns Co. Model 14/20, or equal shall be used. The unit shall be adjusted to operate at the voltage required to cause a spark jump across an air gap equal to twice the specified coating thickness.
    - 2. Coatings With Thickness of 20 Mills or Less: For surfaces having a total dry film coating thickness of 20 mils or less: Tinker & Razor Model M1 non-destructive type holiday detector, K-D Bird Dog, or equal shall be used. The unit shall operate at less than 75-volts. For thicknesses between 10 and 20 mils, a non-sudsing type wetting agent, such as Kodak Photo-Flo, or equal, shall be added to the water prior to wetting the detector sponge.
  - G. Film Thickness Testing: On ferrous metals, the dry film coating thickness shall be measured in accordance with the SSPC "Paint Application Specification No. 2" using a magnetic-type dry film thickness gage such as Mikrotest model FM, Elcometer model 111/1EZ, or equal. Each coat shall be tested for the correct thickness. No measurements shall be made until at least 8 hours after application of the coating. On non-ferrous metals and other substrates, the coating thicknesses shall be measured at the time of application using a wet film gage.
  - H. Surface Preparation: Evaluation of blast cleaned surface preparation work will be based upon comparison of the blasted surfaces with the standard samples available from the NACE, using NACE standards TM-01-70 and TM-01-75.
- 3.14 CLEAN-UP, PROTECTION AND REPAIR
- A. Clean-Up: During progress of work, remove discarded paint materials, rubbish, cans and rags from site at end of each work day.
    - 1. Clean glass and paint-spattered surfaces immediately by proper methods of washing and scraping, using care not to scratch or damage finished surfaces.
  - B. Protection: Protect work of other trades, whether to be painted or not; correct damage by cleaning, repairing or replacing, and repainting, as acceptable to Construction Manager.

1. Provide "Wet Paint" signs to protect newly-painted finishes.
2. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.

C. Repair: At completion of work of other trades, touch-up and restore damaged

### 3.15 INDUSTRIAL COATING SYSTEM SCHEDULES

A. General

1. Pretreatment coatings, barrier coatings or washes for galvanized ferrous metal surfaces, and the exterior of welded steel tanks, shall be applied as recommended by the coating manufacturer. All galvanized surfaces shall be coated except for the following items which shall be coated only if required by other Sections: (1) floor gratings and frames, (2) handrails, (3) stair treads, (4) chain link fences and appurtenances.
2. Where isolated non-ferrous metal, plastic or fiberglass parts are associated with equipment or piping, the Contractor shall use the coating system for the adjacent connected surfaces. Do not coat handrails, gratings, frames or hatches unless required by other sections. Only primers recommended by the coating manufacturer shall be used.

B. Coating Schedules

1. Coating System Schedule – Submerged or Immersed Surfaces

<u>Item</u>	<u>Surface Prep.</u>	<u>System No.</u>
Ungalvanized ferrous surfaces in water passages of all valves 4-inch size and larger, exterior surfaces of submerged valves	White metal blast cleaning SSPC-SP5	(102)  polyamide-cured epoxy

2. Coating System Schedule – Buried Surfaces

<u>Item</u>	<u>Surface Prep.</u>	<u>System No.</u>
Buried ungalvanized ferrous metal surfaces that are not indicated to be coated elsewhere	Near white metal blast cleaning SSPC-SP10	(100)  amine-cured epoxy

Buried ungalvanized ferrous pipe couplings, valves, fittings and flanged joints (where piping is mortar coated steel or reinforced concrete) including epoxy-coated surfaces	Removal of dirt, grease, oil	(206)  Cement Mortar Coating
Buried galvanized ferrous surfaces	Alkaline cleaning SSPC-SP1 followed by brush-off grade blast cleaning SSPC-SP7	(100)  amine-cured epoxy
Buried non-ferrous metal pipe	Removal of dirt, grease, oil	(200)  PVC tape

3. Coating System Schedule – Exposed Surfaces

<u>Item</u>	<u>Surface Prep.</u>	<u>System No.</u>
Structural ungalvanized steel, miscellaneous metalwork, and supports for roof and fascia support systems for buildings.	Commercial blast cleaning SSPC-SP6	(4)  aliphatic polyurethane
Exposed polyvinyl chloride plastic piping, indoors and outdoors or in structures, not submerged.	Solvent cleaned SSPC-SP1	(7)  acrylic latex
Exposed ferrous metal piping	Commercial blast cleaning SSPC-SP6	(4)  aliphatic polyurethane

END OF SECTION

## SECTION 15446

### SUMP PUMPS

#### PART 1 - GENERAL

##### 1.1 Work Included

A. Materials, testing, and installation of submersible sump pumps.

##### 1.2 Related Work

A. Section 09900: Coatings

##### 1.3 System Description

A. Furnish and install complete operating pumping system including pumps, motors, floats, float switches and necessary appurtenances required by Contract Documents.

B. Furnish and install anchor bolts and appurtenant structural, mechanical, and/or electrical mountings or connections required for compliance with Manufacturer's installation requirements and compliance with applicable building, plumbing, and electrical codes and standards.

C. Pump station control system input control variables shall include:

ITEM	VARIABLE	DESCRIPTION
Input signals (Discrete)	Level switches	High level discrete signal to turn on pump
		Low level discrete signal to turn off pump
Input (Manual)	Operation mode (Selectors)	Hand-off-auto switch on each pump

D. Pump control normal startup and shutdown sequences shall incorporate:

ITEM	VARIABLE	DESCRIPTION
Normal Start Sequence	Normal start signal	High wet well level signal
Normal Stop Sequence	Normal stop signal	Low wet well level signal

##### 1.4 Quality Assurance

A. Factory testing shall include:

ITEM	TEST FOR	TEST STANDARD (ASTM OR OTHER TEST STANDARD)	FREQUEN CY	FIRST TEST PAID FOR BY	RETESTS PAID FOR BY
Pump and Motor Assembl y	Compliance with Purchase Order	Verify impeller, motor rating & electrical connections comply with Contract Documents	1 each pump assembly	Contractor	Contractor
	Motor No-Load Current, Full-ILad Current, Winding Resistance and High Potential	NEMA Standards	1 each motor	Contractor	Contractor
	NEMA Method MGI 12.06	1 each pump assembly	Contractor	Contractor	Dynamic Balance
	Moisture Intrusion in Motor	Verify no moisture intrusion in motor	1 each pump assembly	Contractor	Contractor

ITEM	TEST FOR	TEST STANDARD (ASTM OR OTHER TEST STANDARD)	FREQUEN CY	FIRST TEST PAID FOR BY	RETESTS PAID FOR BY
	Test Run to Verify Wear Ring Clearances and Establish Correct Rotation and Mechanical Integrity	Test run	1 each pump assembly	Contractor	Contractor

- B. Testing shall be performed after final connection of pump and motor and after completion of static and dynamic balancing.
- C. If vibration levels fall outside of acceptable limits established by Hydraulic Institute, shut down pump and correct for vibration before further testing.

### 1.5 References

- A. Reference publications below form part of this specification to extent referenced and are referred to within text by basic designation only.
1. ANSI ABMA 9 Load Ratings and Fatigue Life for Ball Bearings
  2. ANSI B16.1 Cast Iron Pipe Flanges and Flanged Fittings
  3. ASTM A36 Carbon Structural Steel
  4. ASTM A48 Gray Iron Castings
  5. AWWA E101 Vertical Turbine Pumps, Lineshaft and Submersible Types “Section A-6 Factory Inspection and Tests”
  6. California Building Code (CBC)
  7. California Electrical Code (CEC)
  8. California Plumbing Code (CPC)
  9. Hydraulic Institute Standards
  10. NEMA Standards
  11. NEMA/ANSI 250 Enclosures for Electrical Equipment
  12. NFPA 70 National Electric Code (NEC)

### 1.6 Submittals

- A. Furnish the following submittals.

SUBMITTAL	DESCRIPTION	
Shop Drawings	Submit for sump pumps per electrically operated equipment Shop Drawing requirements.	.
	Submit for anchor bolts. Show placement, embedment, and edge distances as required by CBC. Show projections from concrete edges.	
<b>MANUFACTURER'S LITERATURE</b>		
Product Data	Submit per Product Data requirements.	
Motor Data	Submit per motor data requirements of Section 16001 / 16050. Include mounting details	
Installation Instructions	Submit per Installation Instruction requirements.	
<b>CLOSEOUT SUBMITTALS</b>		
O & M Instructions	Submit per operation and maintenance instruction requirements.	
Warranty	Furnish 3-year warranty from date of final acceptance for units. Warranty shall bear appropriate serial numbers.	

### 1.7 Unit Prices

- A. Refer to Special Provisions for measurement and payment clauses for sump pumps.

**PART 2 – PRODUCTS**

**2.1 Acceptable Manufacturers**

A. Acceptable Manufacturers include:

ITEM	MANUFACTURER	MANUFACTURER LOCATION
Submersible Sump Pumps	Aurora Hydromatic	Ashland, OH (419) 289-3042
	FE Myers / Pentair	Ashland, OH (855) 274-8948
	Little Giant Pump Company / Franklin Electric	Fort Wayne, IN (800) 701-7894
	Zoeller	Louisville, KY (502) 778-2731
	Accepted equal	

B. Pumps furnished shall operate throughout their full submitted pump curve driven by motors of horsepower specified below or shown on Plans.

1. Pumps requiring larger motor than specified or shown are unacceptable absent written statement from Owner electrical infrastructure, drives and switchgear can support larger motor.

**2.2 Materials**

- A. Pumps and attached motors shall be constructed of materials conforming to industry
- B. Pumps and attached motors shall be rated for continuous duty and shall operate smoothly throughout their specified pumping range without surging, cavitation or vibration.
- C. Pumps shall be designed to operate safely in reverse direction or rotation should fluid return through pump at shutoff.
- D. Castings shall be free from blow holes, sand holes and other flaws and shall be accurately machined and fitted to close dimensions.
- E. Materials for pumps and motors shall be:

ITEM	MATERIAL	SPECIFICATION
Pump Casing	Cast Iron	Conform to ASTM A48 Class 30
Impeller	Ductile Iron	Conform to ASTM A48 Bore and key impeller without use of steel inserts or lead babbitts
Motor Shaft	Stainless Steel	SAE Type 416
Motor Frames	Cast Iron	NEMA MG-1
Motor Enclosure	Cast Iron	Conform to ASTM A48
Steel Fabrications	Steel	Conform to ASTM A36
Lining and Coating	Fusion-Bonded Epoxy or equivalent	Manufacturer’s standard coating
Fasteners, Bolts, Cap Screws, Anchor Bolts, Nuts, Washers and External Hardware	Stainless Steel	SAE Type 316
Nameplates	Stainless Steel	SAE Type 316 permanently attached to pump frame and motor frame with information impressed, engraved or embossed into plate

- F. Pump nameplates shall show Manufacturer’s name, model and serial number, rpm, horsepower, impeller diameter, capacity, head rating and NPSHR.
- G. Motor nameplates shall show Manufacturer’s name model and serial number, rpm, horsepower, voltage, phase, full load current, locked rotor KVA code, motor type, frame, insulation class, centigrade degree rise and motor connection diagram.
- H. Provide duplicate nameplates to Owner for each pump and motor provided.



**PART 3 - EXECUTION**

**3.1 Preparation**

- A. Make field measurements needed to install pumps including verifying pit diameter and depth before submitting Shop Drawings or ordering.
  - 1. Make minor changes in dimensions and alignments as needed to avoid utilities or structural conflicts.

**3.2 Installation**

- A. Furnish and install pumps at locations shown on Plans and Submittals.
- B. The following installation standards shall be followed:
  - 1. Applicable OSHA and Cal OSHA regulations
  - 2. Applicable building, fire, plumbing, and electrical code requirements
  - 3. Manufacturer’s installation and warranty requirements
- C. Refer variances between above documents and Contract Documents to Owner’s Representative.
- D. Install pumps to tolerances recommended by Manufacturer.
- E. Unless otherwise shown, install pumps true, level, and plumb, using precision gauges and levels.

**3.3 Field Quality Control**

- A. Field testing shall include:

ITEM	TEST FOR	TEST STANDARD (ASTM OR OTHER TEST STANDARD)	FREQUEN CY	FIRST TEST PAID FOR BY	RETESTS PAID FOR BY
Pumps	Field Performance Test	Add water to fill sump five times to activate float controls.	1 test each pump	Contractor	Contractor
	Installation, Vibration & Leakage	Visual inspection of finished installation	1 inspection	Owner	Owner
	11-month Warranty Inspection	Demonstrate compliance to Contract Documents and Manufacturer’s printed Literature	1 test	Owner	Contractor

- B. Provide services of factory authorized representative on-site to witness and inspect startup of pump operation.
  - 1. Before startup, check equipment for proper lubrication, alignment, rotation, freedom from excessive vibration.
  - 2. Factory authorized representative shall notify Contractor and Owner of irregularities of installation which might render Manufacturer’s warrantee null and void.

**END OF SECTION**

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.



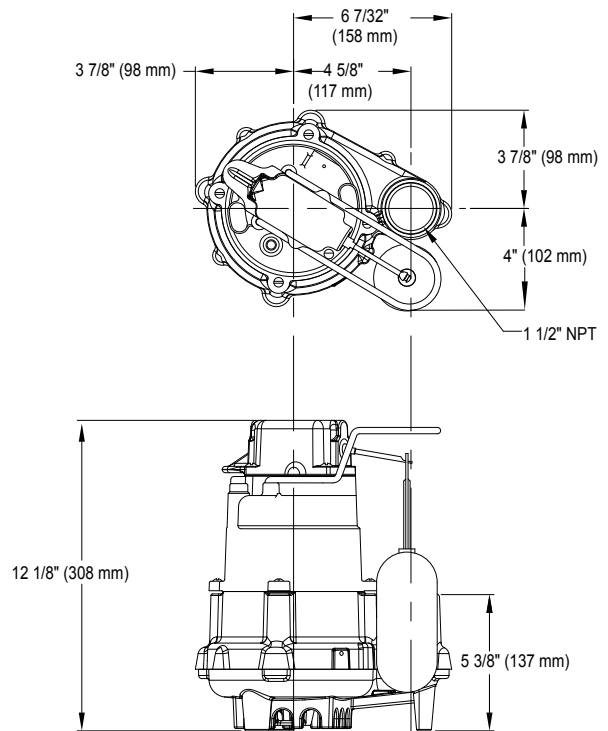
**PUMP COMPANY**

Zoeller Family of Water Solutions™

**TECHNICAL DATA SHEET**  
**PREMIUM SERIES MIGHTY-MATE**  
*Cast Iron Model 95*  
*Submersible Sump / Dewatering Pumps*

**PRODUCT SPECIFICATIONS**

<b>MOTOR</b>	Horse Power	1/2
	Voltage	115
	Phase	1 Ph
	Hertz	60 Hz
	RPM	3450
	Type	Permanent split capacitor
	Insulation	Class B
	Amps	10.5
	Operation	Automatic
<b>PUMP</b>	Auto On/Off Points	9-1/2" (24 cm) / 2-1/2" (6.4 cm)
	Discharge Size	1-1/2" NPT
	Solids Handling	1/2" (12 mm) spherical solids
	Cord Length	15' (4.6 m)
	Cord Type	UL listed, 3-wire, grounded plug
	Max. Head	26' (7.9 m)
	Max. Flow Rate	80 GPM (303 LPM)
	Max. Operating Temp.	130° F (54° C)
	Cooling	Oil filled
	Motor Protection	Auto reset thermal overload
	<b>MATERIALS</b>	Cap
Motor Housing		Cast iron
Pump Housing		Cast iron
Base		Cast iron
Upper Bearing		Sleeve bearing
Lower Bearing		Ball bearing
Mechanical Seals		Carbon and ceramic
Impeller Type		Non-clogging vortex
Impeller		Engineered thermoplastic
Hardware		Stainless steel
Motor Shaft		AISI 1215 cold rolled steel
Gasket	Neoprene	



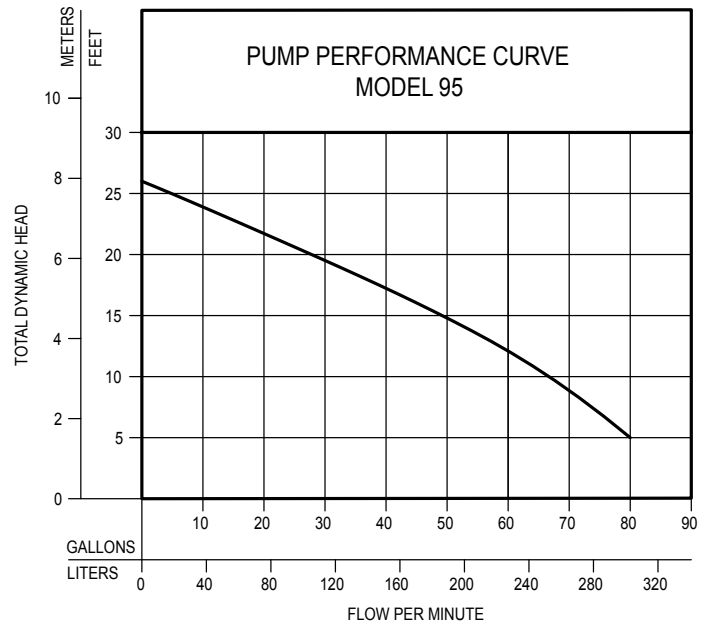
SK3129

NOTE: See model comparison chart for specific details.



**TOTAL DYNAMIC HEAD  
FLOW PER MINUTE**

MODEL		95	
Feet	Meters	Gal.	Liters
5	1.5	80	303
10	3.0	68	257
15	4.6	50	189
20	6.1	28	106
25	7.6	5	19
Shut-off Head:		26.0 ft (7.9 m)	



154422

Model	MODEL COMPARISON											CERTIFICATIONS
	Seal	Mode	Volts	Ph	Amps	HP	Hz	Lbs	Kg	Simplex	Duplex	cCSAus
M95	Single	Auto	115	1	10.5	1/2	60	38	17	1	---	Y

\* Single piggyback switch included.

**SPECIAL MODEL FEATURES**

Has a lighted plug, cast iron switch case, motor and pump housing, a cast iron base, and a thermoplastic impeller.  
Optional pump stand (P/N 10-2421). Integral float-operated electro-mechanical switch, no external control required.

**CAUTION**

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA).

- J. Submit test results as described in Part 3 herein.

#### 1.4 REFERENCE STANDARDS

- A. Electrical equipment, materials and installation shall comply with the National Electrical Code (NEC, NFPA 70) 2011 Edition, including the California Electrical Code (CEC-2013) Amendments. All references to the NEC included in the Contract Documents shall be interpreted to be referenced to this version with the California Amendments as specified. Electrical equipment, materials and installation shall also comply with the latest edition of the following codes and standards:

1. National Electrical Safety Code (NESC)
2. PG&E Electric and Gas Service Requirements (Green Book)
3. California PUC, General Order 128, Rules for Construction of Underground Electric Supply and Communication Systems
4. Occupational Safety and Health Act (OSHA)
5. National Fire Protection Association (NFPA)
6. National Electrical Manufacturers Association (NEMA)
7. Underwriters Laboratories, Inc. (UL)
8. Factory Mutual, Inc. (FM)


- B. Underwriters Laboratories (UL) listing is required for all equipment and materials where such listing is offered by the Underwriters Laboratories. Safety labeling and listing by other organizations, such as ETL Testing Laboratories, may be substituted for UL labeling and listing if approved by the Engineer. Provide UL service entrance labels for all equipment required by the NEC to have such labels.

#### 1.5 SERVICE AND METERING

- A. The power company serving this project is Pacific Gas and Electric (PG&E). All power utility service work shall be coordinated by the City.

~~B. Provide a new service conduit with pull rope from PG&E as shown on the Drawings for the following site:~~

- ~~1. DSRSD/DERWA Flow Control Station — 120/240V, 1 Phase, 3 Wire, 60 Hz~~

- ~~B.  The power company will be responsible for the following work:~~

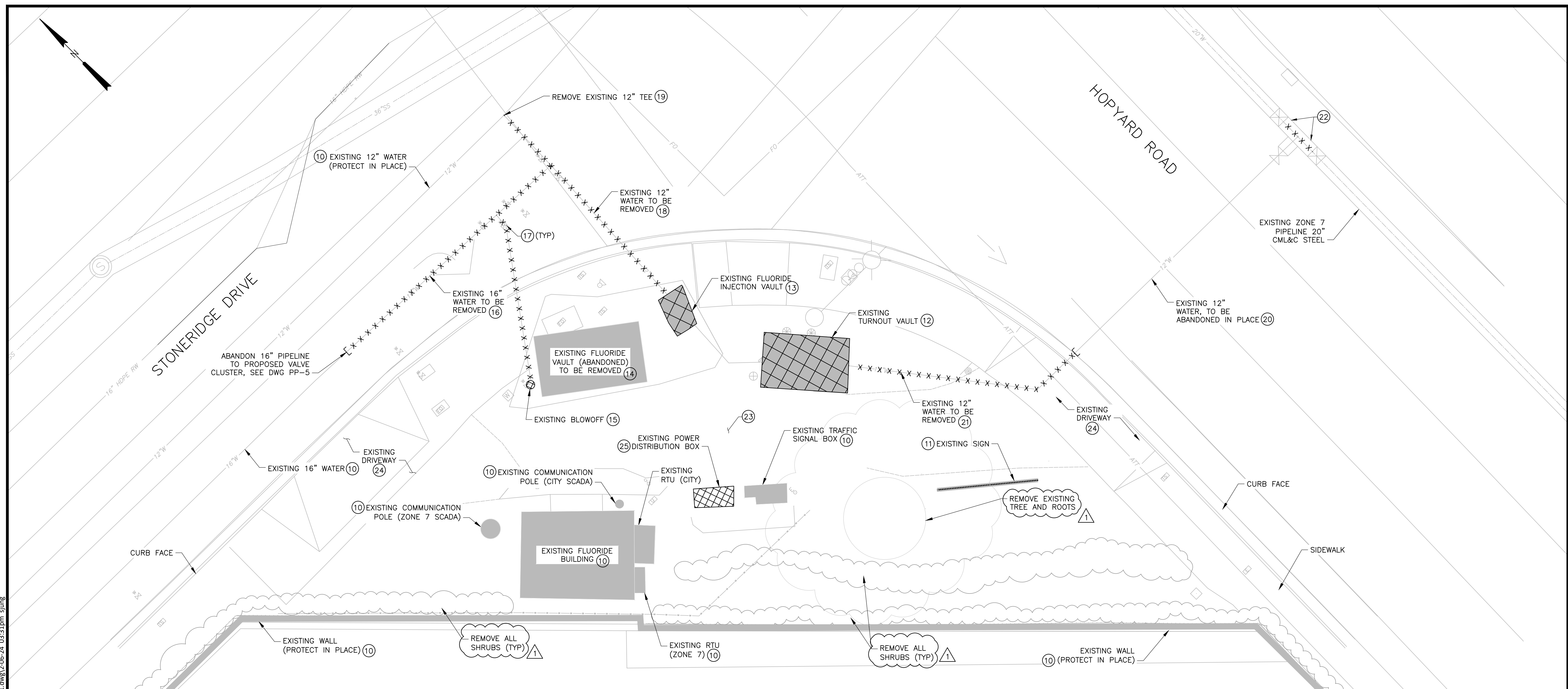
- ~~1. Furnishing and installing the underground conductors as required.~~
- ~~2. Furnishing and installing cables to the DSRSD/DERWA Flow Control Station Control Panel, CP 1.~~
- ~~3. Termination of underground cables at the PG&E transformer and on the line side of the utility disconnecting means.~~
- ~~4. Furnishing meter and meter wiring.~~

1. Furnish, install and terminate conductors from the PG&E vault to the transformer primary connections.
2. Furnish, install and terminate conductors from the secondary of the transformer to the meter.

C. ~~D.~~ The Contractor shall be responsible for:

1. Coordinating the details of equipment layouts and conduit routing as directed by the City.
- ~~2. Furnishing and installing an empty conduit with pull line from padmounted transformer to the meter enclosure as shown on Drawings. Provide pull boxes as required per PG&E. Conduit size, type, and trench installation details shall conform to PG&E Green Book requirements and approved by the power company.~~

2. Install conduits in accordance with supplied drawings from PG&E service vault to primary side of transformer with pull-rope installed. Installation shall be in accordance with PG&E Green Book requirements.
3. Install conduits in accordance with supplied drawings from transformer secondary to meter section of switchboard. Installation shall be in accordance with PG&E Green Book requirements.
4. Install conduits, install and terminate conductors as dictated on drawings with the exception of conductors supplied and terminated by PG&E as described in 1.5B above.



**CONSTRUCTION NOTES:**

- ⑩ PROTECT IN PLACE.
- ⑪ EXISTING SIGN TO BE REMOVED AND RELOCATED.
- ⑫ REMOVE AND SALVAGE EXISTING TURNOUT VAULT INCLUDING PIPING, VALVES, METER, APPURTENANCES, HATCH, TOP SLAB, VAULT WALLS AND FLOOR. SALVAGED ITEMS SHALL BE DELIVERED TO BERNAL AVENUE AT ARROYO DEL VALLE NEAR VINEYARD AVENUE. ⚠
- ⑬ REMOVE FLUORIDE INJECTION VAULT INCLUDING PIPING, HATCH, TOP SLAB, VAULT WALLS AND FLOOR.
- ⑭ REMOVE ABANDONED FLUORIDE VAULT INCLUDING HATCH, TOP SLAB, VAULT WALLS AND FLOOR.
- ⑮ REMOVE BLOWOFF ASSEMBLY.
- ⑯ REMOVE EXISTING 16" WATERLINE FROM NEW CONNECTION TO EXISTING 12" WATERLINE.
- ⑰ REMOVE EXISTING VALVE BOX AND COVER. ABANDON VALVE IN PLACE. TOTAL OF SIX VALVES IN STONERIDGE.
- ⑱ REMOVE EXISTING 12" WATERLINE FROM FLUORIDE INJECTION VAULT TO EXISTING 12" WATER LINE IN STONERIDGE.
- ⑲ REMOVE EXISTING 12" TEE. INSTALL NEW 12" PVC AWWA C900 PIPE (3' MIN.) WITH TRANSITION COUPLINGS.

- ⑳ ABANDON EXISTING 12" WATERLINE IN PLACE. FILL WITH 1-SACK SLURRY FROM 20" WATERLINE TO GUTTER.
- ㉑ REMOVE EXISTING 12" WATER FROM GUTTER TO TURNOUT VAULT.
- ㉒ REMOVE PORTION OF EXISTING 20" WATERLINE (3' MIN.) TEE, AND 20" VALVES (2) FOR REPLACEMENT PER DETAIL 2 ON DWG. NO. C-7.
- ㉓ REMOVE EXISTING PAVEMENT IN PREPARATION FOR NEW ASPHALT PER DWG. NO. C-2.
- ㉔ REMOVE EXISTING DRIVEWAY (2 TOTAL).
- ㉕ REMOVE EXISTING POWER DISTRIBUTION BOX. COORDINATE WITH NEW SERVICE.
- ㉖ REMOVE EXISTING 36-INCH DIAMETER TREE, INCLUDING STUMPS ROOTS. REMOVE TREE IN ACCORDANCE WITH SPECIAL PROVISIONS. PREPARE SURFACE FOR NEW BOOSTER PUMP STATION SLAB PER STRUCTURAL DRAWINGS. ⚠

**SHEET NOTES:**

- 1. CONTRACTOR SHALL PERFORM THIS DEMO WORK IN COORDINATION WITH NEW PUMP STATION AND TURNOUT CONSTRUCTION. ALL DEMO WORK SHALL BE PERFORMED BETWEEN NOVEMBER AND MARCH PER PROJECT SPECIFICATIONS.
- 2. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF WORK.
- 3. ALL EQUIPMENT AND MATERIAL SHALL BE SALVAGED FOR CITY USE. CITY RESERVES THE OPTION TO HAVE THE CONTRACTOR HAUL AWAY ITEMS OF NO USE TO THE CITY. SALVAGED ITEMS SHALL BE DELIVERED TO BERNAL AVENUE AT ARROYO DEL VALLE NEAR VINEYARD AVENUE.
- 4. ABANDONMENT OF EXISTING WATERLINES AND TIE INS NECESSARY FOR REPLACEMENT OF PIPING SHALL BE PHASED WITH THE NEW WORK SUCH THAT IMPACT TO SERVICE IS MINIMIZED.
- 5. SEE SHEET C-2 FOR PROPOSED IMPROVEMENTS.
- 6. SEE ELECTRICAL SHEETS E-1 FOR PROPOSED IMPROVEMENTS.
- 7. VAULTS THAT ARE REMOVED SHALL BE BACKFILLED WITH TRENCH SPOILS. TOP 12" TO BE TOPSOIL OR CLASS 2 AB UNDER HARDSCAPE.
- 8. REMOVE ALL BRUSH, BUSHES, PLANTING IN ACCORDANCE WITH CITY SPECIFICATION SECTION 3 CLEARING AND GRUBBING. THE CONTRACTOR SHALL CAP ALL EXISTING IRRIGATION AT SERVICE CONNECTION. INSTALL NEW IRRIGATION TO PLANTER AREAS. ⚠

PLAN  
1"=6'



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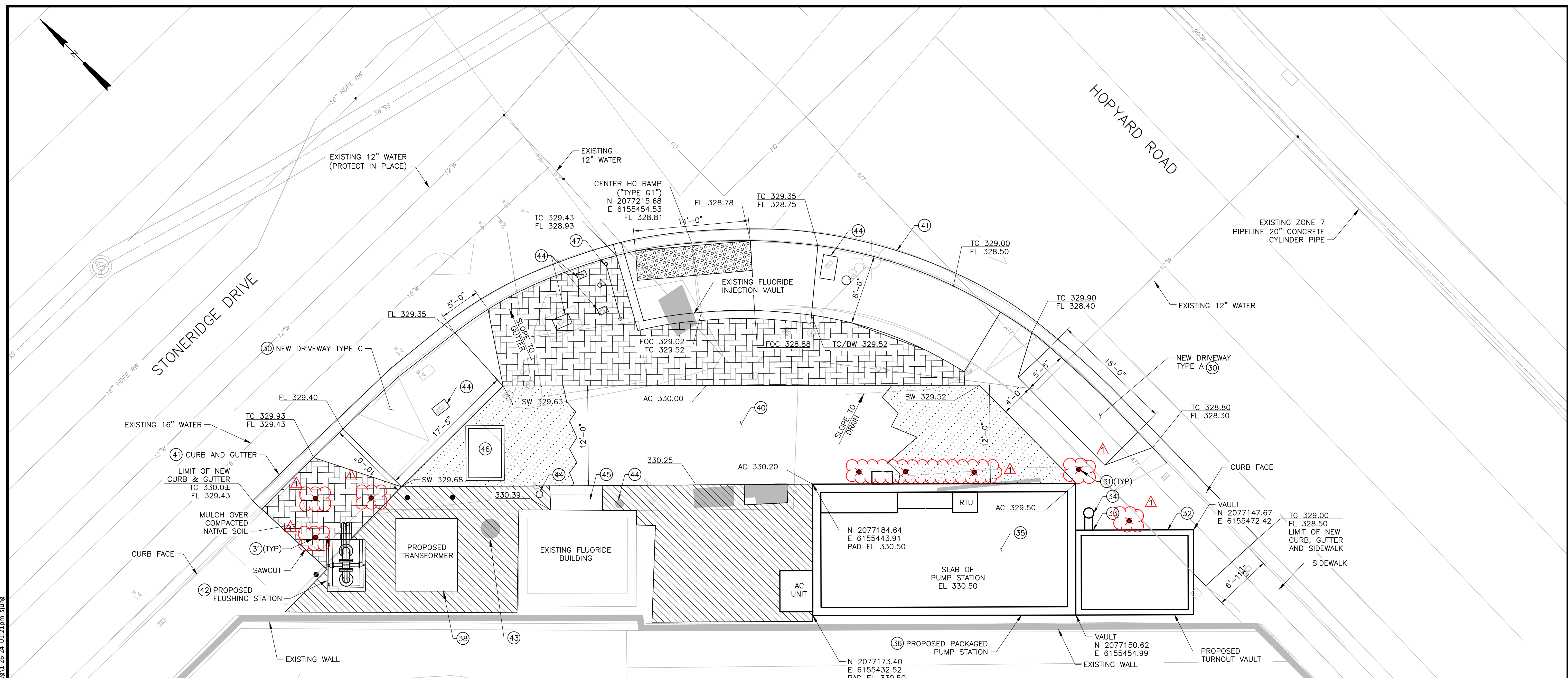
REV.	DATE	DESCRIPTION
A	01/26/24	ISSUE FOR BID
①	02/07/24	ADDENDUM NO. 1

THE CITY OF  
**PLEASANTON**  
CITY OF PLEASANTON  
PUBLIC WORKS DEPARTMENT

**Woodard & Curran**  
2175 N. California Boulevard, Suite 315  
Walnut Creek, California 94596  
925.627.4100 | www.woodardcurran.com

TURNOUT #4 BOOSTER PUMP STATION AND DISCHARGE PIPELINE (F-1 LINE)  
**PUMP STATION DEMOLITION PLAN**

DESIGN:	JS	SCALE:	1"=6'	DWG NO.	
DRAWN:	SJ	PROJECT NO.:	CIP-24171	<b>C-1</b>	
CHECKED:	MM	DATE:	JANUARY 2024	10 OF 40	



**CONSTRUCTION NOTES:**

- (30) TYPE "A" OR "C" DWY PER CITY STD. 105 AND 106.
- (31) INSTALL REMOVABLE BOLLARD PER DETAIL 1 ON DWG C-6.
- (32) CONSTRUCT FLOW METER VAULT PER PLAN AND DWG C-4.
- (33) INSTALL 8" SCH 40 PVC VENT PIPE AND FITTINGS WITH 2' COVER.
- (34) INSTALL 12" DIAMETER x 36" HIGH ARMORCAST STAND PIPE VENT WITH 24 VENT SLOTS, MODEL P6002712, OR EQUAL.
- (35) CONSTRUCT CONCRETE SLAB FOR PACKAGED PUMP STATION. SIZE AND REINFORCEMENT PER FOUNDATION PLAN ON DWG. NO. S-2.
- (36) INSTALL PACKAGED PUMP STATION (FURNISHED BY OTHERS) INCLUDING PUMPS, MOTORS, SUCTION AND DISCHARGE HEADERS, VALVES, SWITCHBOARD, MANUAL TRANSFER SWITCH, PORTABLE GENERATOR TERMINATION, RTU, AC UNIT, AND ENCLOSURE.
- (37) INSTALL NEW FLUORIDE TANK IN EXISTING BUILDING. NEW FLUORIDE TANK SHALL BE 500 GALLONS, NORWESCO MODEL NO. 40148 OR EQUAL, WHITE IN COLOR.
- (38) INSTALL NEW TRANSFORMER AND PAD PER ~~ELECTRICAL DRAWINGS~~ PG&E STANDARD DOCUMENT 045292.
- (40) 4" AC OVER 8" AB IN EXISTING PAVEMENT AREA. PAVEMENT SHALL BE TYPE A PER CITY STANDARDS.

**CONSTRUCTION NOTES:**

- (41) TYPE "A" CURB AND GUTTER PER CITY STD. 101.
- (42) FLUSHING STATION PER SHEET C-9.
- (43) PROTECT ZONE 7 RTU POLE AND ANTENNA IN PLACE.
- (44) ADJUST UTILITY/VALVE BOX TO GRADE.
- (45) CONSTRUCT NEW CONCRETE PAD.
- (46) CONSTRUCT NEW FLUORIDE INJECTION VAULT. PRECAST VAULT 4'-0" X 6'-0" WITH H20 RATED ACCESS HATCH, SEE NOTE 2 AND NOTE 4.
- (47) INSTALL R9 11A SIGN.
- (48) EXISTING PUSH BUTTON TO BE RELOCATED BY OTHERS (COORDINATE WITH CITY).
- (68) GALVANIZED STEEL LADDER WITH WALL BRACKETS ANCHORED INTO VAULT WALL, ALHAMBRA A-3400 OR EQUAL, INCLUDING SAF-T-CLIMB LADDER UP DEVICE.

**LEGEND:**

- 4" AC OVER 8" CLASS 2 AB COMPACTED TO 95% MIN RELATIVE COMPACTION.
- 3" OF MULCH (AVAILABLE FROM CITY) OVER AMENDED SOIL OR IMPORT PER SPECIFICATIONS AND SPECIAL PROVISIONS.
- REMOVE ALL TREE ROOTS AND UNSUITABLE MATERIALS. SCARIFY AND RECOMPACT TOP 6" OF NATIVE SURFACE WITH 4" CLASS 2 AB. SLOPE TO DRIVEWAY.

**NOTES:**

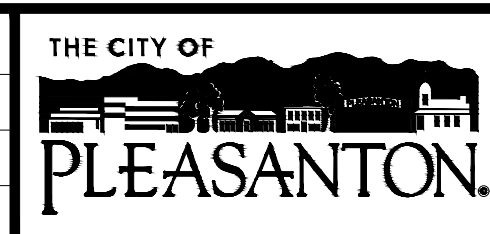
1. ALL TREE ROOTS AND UNSUITABLE SOILS SHALL BE REMOVED. SCARIFY AND RE-COMPACT 12" OF NATIVE, OR IMPORT SOIL PER PROJECT SPECIAL PROVISIONS.
2. NEW FLUORIDE VAULT SHALL HAVE TUBING RE-ROUTED AND CONNECT TO NEW DISCHARGE PIPELINE. REPLACE WITH MATERIALS IN KIND. VAULT SHALL BE PROVIDED WITH LOCKABLE ACCESS HATCH WITH H20 LOAD RATING.
3. ALL CURB GUTTER AND WALK SHALL BE CONSTRUCTED PER CITY OF PLEASANTON CITY STANDARDS.
4. COAT EXPOSED FERROUS PIPING IN FLUORIDE VAULT PER SPEC SECTION 09900 SYSTEM 4.

5. ALL MISCELLANEOUS CONCRETE PADS FOR TRANSFORMER, PANELS, OR ABOVE HVAC UNITS SHALL HAVE SUBGRADE OF 6" CLASS II AB COMPACTED TO 95%.

PLAN  
1"=6'



REV.	DATE	DESCRIPTION
A	01/26/24	ISSUE FOR BID
1	2/7/2024	ADDENDUM NO. 1



**CITY OF PLEASANTON**  
PUBLIC WORKS DEPARTMENT



**TURNOUT #4 BOOSTER PUMP STATION AND DISCHARGE PIPELINE (F-1 LINE)**  
**PUMP STATION SITE PLAN**

DESIGN:	JS	SCALE:	1"=6'	DWG NO.	C-2
DRAWN:	SJ	PROJECT NO.:	CIP-24171		
CHECKED:	MM	DATE:	JANUARY 2024		11 OF 40



PHOTO 1  
NTS

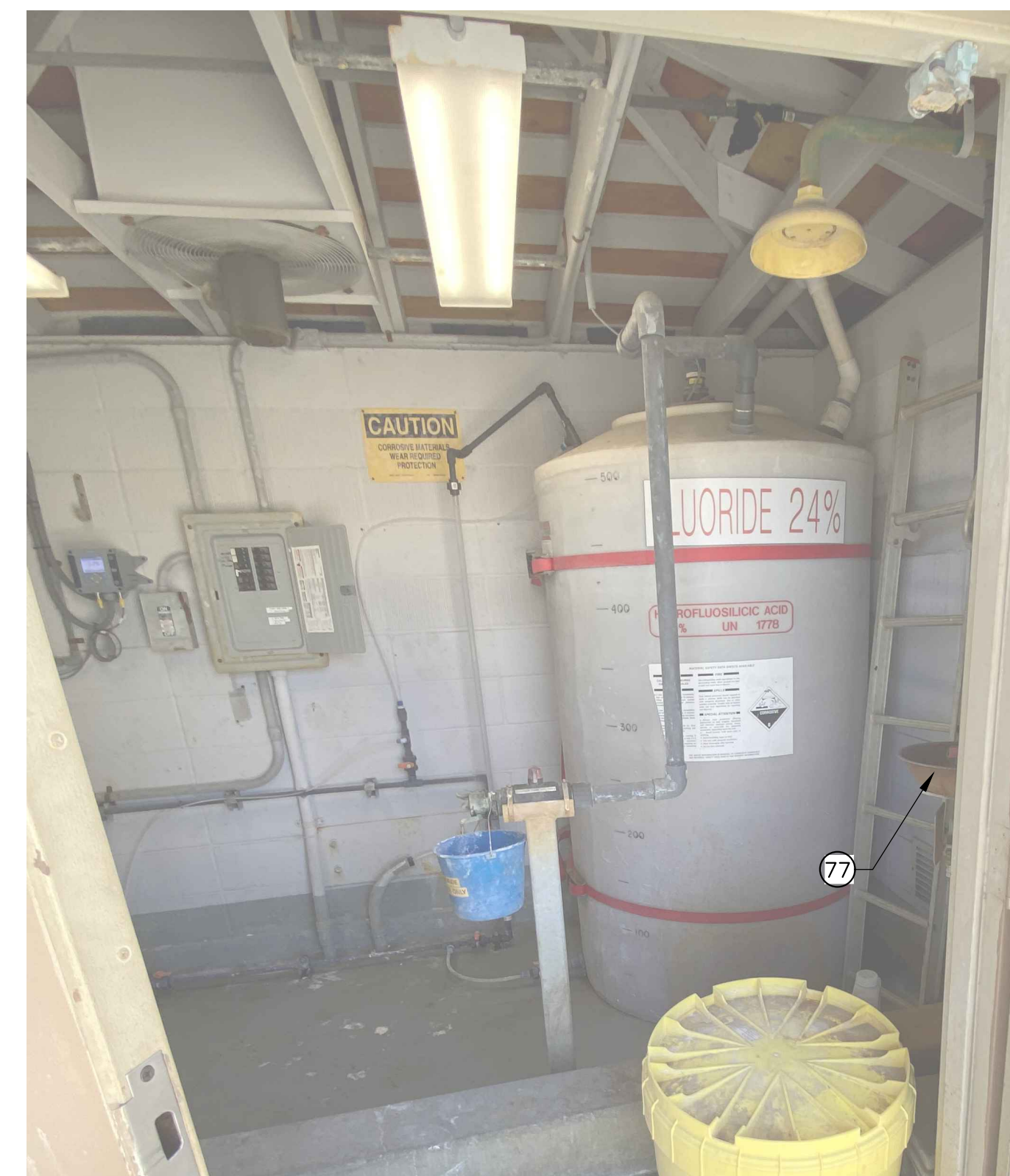


PHOTO 2  
NTS

CONSTRUCTION NOTES:

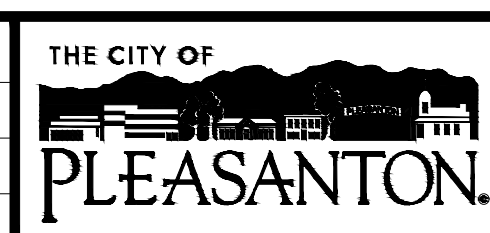
- 74 REMOVE EXISTING CIRCUIT BREAKER AND ELECTRONICS. KEEP EXISTING LIGHTING, PUMP CONTROLS, AND SECURITY ALARM IN PLACE.
- 75 FURNISH AND INSTALL NEW 500-GALLON FLUORIDE CHEMICAL TANK, NORWESCO MODEL OR SIMILAR.
- 76 MODIFY CURB HEIGHT AN ADDITIONAL 6-INCHES. PLACE HYDROPHILIC JOINT STRIP BETWEEN NEW AND EXISTING CONCRETE SURFACES TO ENSURE WATER TIGHT CONTAINMENT AREA.
- 77 EYE WASH STATION TO BE LOCATED OUTSIDE FLUORIDE BUILDING, SEE NOTE 1.
- 78 REMOVE EXISTING VENTS AND PATCH. REPLACE WITH NEW VENTS TO ACCOMMODATE BOTH TANKS. GROUT EXISTING VENT OPENINGS CLOSED, AND CORE NEW VENT OPENINGS. SEE NOTE 2.
- 79 PLUMB EXISTING AND PROPOSED CHEMICAL FEED TANKS TOGETHER. KEEP EXISTING LEVEL INDICATOR TO FUNCTION IN PLACE.
- 80 EXISTING LIGHTING, PUMP CONTROL AND SECURITY ALARM CIRCUIT TO REMAIN.
- 81 CONTRACTOR SHALL PLUMB NEW TANK WITH EXISTING. FLUORIDE LINE SHALL CONNECT TO DISCHARGE PIPELINE IN NEW FLUORIDE VAULT (SEE C-2). CONTRACTOR SHALL USE MATERIALS IN KIND.
- 82 EPOXY COAT CONTAINMENT SURFACES

NOTES:

1. CONTRACTOR SHALL DISCONNECT REMOVE AND DISPOSE EXISTING EYEWASH STATION. CONTRACTOR SHALL INSTALL NEW STAINLESS STEEL EYEWASH STATION ULINE MODEL H-10735 OR EQUAL; OUTSIDE AND ADJACENT TO EXISTING FLUORIDE BUILDING. PROVIDE 3x3 CONCRETE PAD, AND PLUMB TO EXISTING WATER SERVICE.
2. NEW VENT OPENING SHALL BE LOCATED ABOVE SECONDARY CONTAINMENT LEVEL.
3. ~~CONTRACTOR SHALL INSTALL NEW LOCKABLE DOOR WITH MATERIALS IN KIND, GRADE AND LEVEL ENTRY WAY TO DOOR AND INSTALL NEW CONCRETE SURFACES. ADJUST VALVE CANS TO GRADE PER DRAWING C-2.~~
3. CONTRACTOR SHALL REMOVE AND DISPOSE EXISTING METAL DOOR. REPLACE WITH LOCKABLE FRP (FIBER REINFORCED POLYMER) DOOR. REMOVE AND REPLACE CONCRETE SURFACES AT ENTRY AND ADJUST VALVE CANS AND BOXES TO FINISHED GRADE. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING AND FABRICATION OF NEW DOOR. SUBMIT MATERIALS FOR APPROVAL IN ACCORDANCE WITH PROJECT SPECIFICATIONS AND SPECIAL PROVISIONS.
4. DOOR ALARM SHALL BE SENTROL 111-6Y-12J, IP 67 RATING, OR SENTROL 171-6Z OR APPROVED EQUAL.

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REV.	DATE	DESCRIPTION
A	01/26/24	ISSUE FOR BID
△	2/7/2024	ADDENDUM NO. 1



**CITY OF PLEASANTON**  
PUBLIC WORKS DEPARTMENT



TURNOUT #4 BOOSTER PUMP STATION AND DISCHARGE PIPELINE (F-1 LINE)  
**FLUORIDE BUILDING IMPROVEMENTS**

DESIGN:	JS	SCALE:	NTS	DWG NO.	
DRAWN:	SJ	PROJECT NO.:	CIP-24171	<b>C-10</b>	
CHECKED:	MM	DATE:	JANUARY 2024	19 OF 40	





ABBREVIATIONS

Table of abbreviations including symbols like &, L, #, ACI, ADD, ASCE, etc., and their corresponding full names.

NOTE: THIS IS A GENERAL LIST OF SYMBOLS AND ABBREVIATIONS. NOT ALL ITEMS SHOWN HERE APPEAR ON THE CONTRACT DOCUMENTS

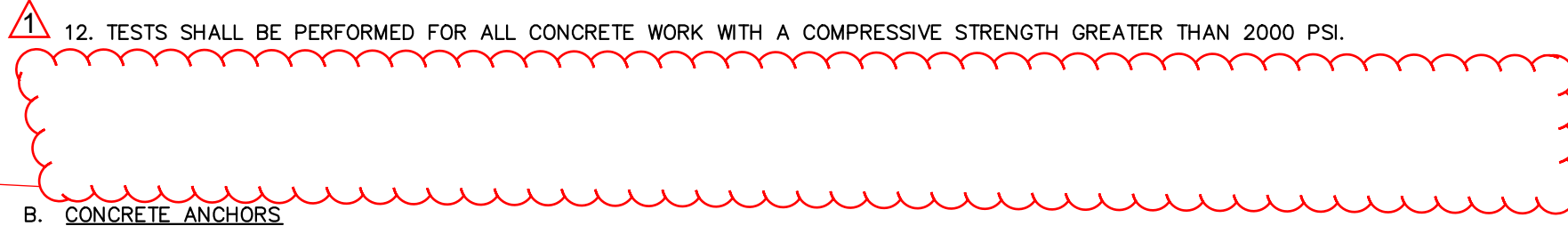
GENERAL STRUCTURAL NOTES:

- A. GENERAL STRUCTURAL NOTES: 1. DESIGN IS IN ACCORDANCE WITH THE 2022 CALIFORNIA BUILDING CODE. 2. THESE NOTES SHALL APPLY TO ALL WORK, EXCEPT AS NOTED OTHERWISE. 3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE DRAWINGS AND SPECIFICATIONS OF ALL DISCIPLINES...

GENERAL CONCRETE NOTES:

- A. GENERAL REQUIREMENTS: 1. DESIGN AND CONSTRUCTION SHALL CONFORM TO AMERICAN CONCRETE INSTITUTE (ACI) "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY" (ACI 318-14), AND "SPECIFICATIONS FOR STRUCTURAL CONCRETE" (ACI 301), LATEST EDITION. 2. GROUT SHALL BE A NON-SHRINK, NON-CORROSIVE, NON-STAINING, NATURAL AGGREGATE (NONMETALLIC) GROUT...

- 5. ALL REINFORCING STEEL THAT IS TO BE WELDED, WHERE INDICATED ON THE CONTRACT DRAWINGS, SHALL BE DEFORMED BARS CONFORMING TO ASTM A706 AND WELDED IN ACCORDANCE WITH AWS D1.4. 6. FIELD BENDING OF REINFORCING STEEL SHALL NOT BE DONE WITHOUT PRIOR AUTHORIZATION OF THE STRUCTURAL ENGINEER. ALL REINFORCEMENT SHALL BE BENT COLD, UNLESS OTHERWISE PERMITTED BY THE ENGINEER...



43. PREPARATION OF SUBGRADE FOR CONCRETE SURFACES SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT INCLUDED IN ATTACHMENT A OF THE SPECIAL PROVISIONS.



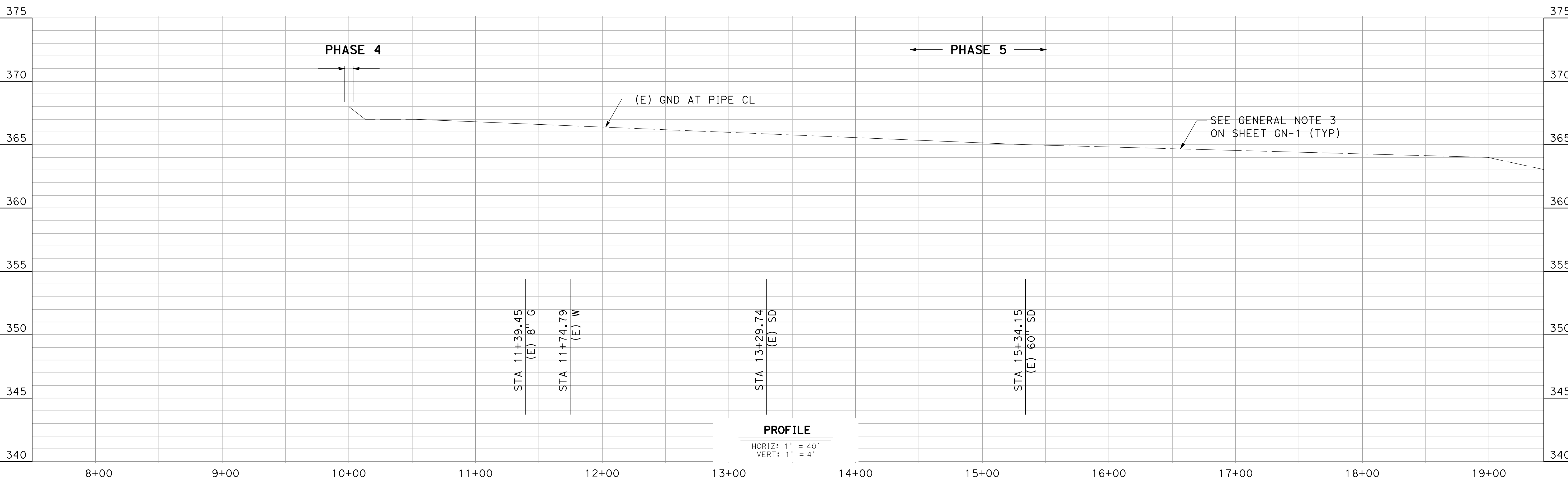
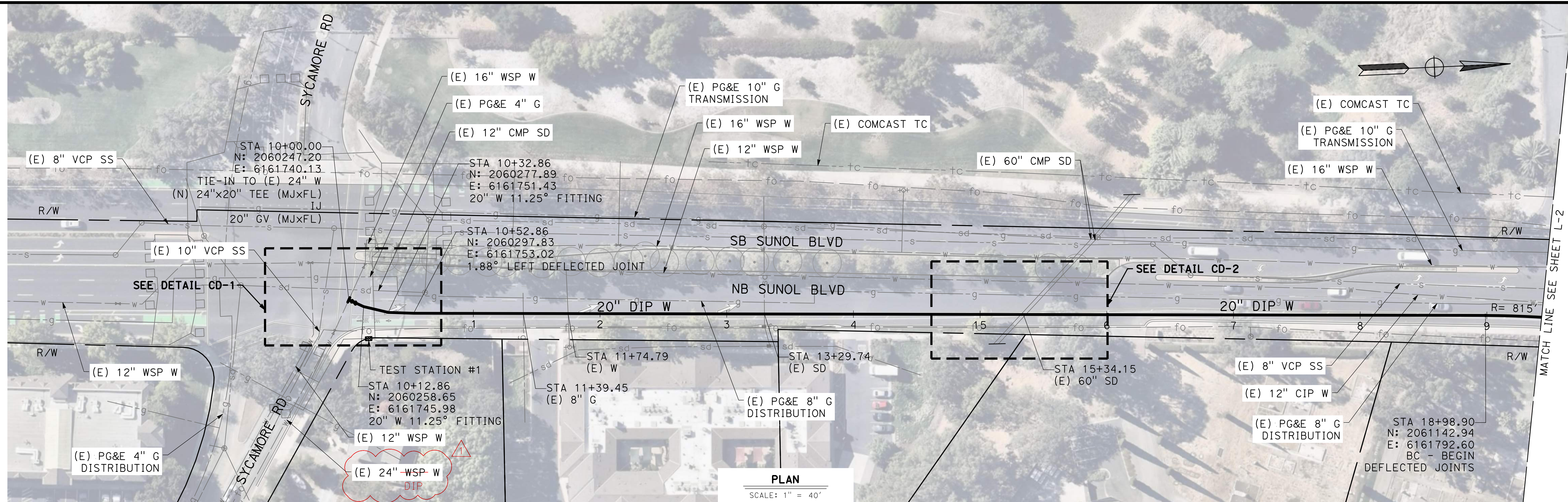
\\woodardcurran.net\shared\Projects\0012541\_00 Pleasanton 2023 T4 Booster Station\wip\8\_Plan\CAD\STRUCTURALS-1.dwg, 1-26-24 01:38pm csbrown

Table with columns: REV., DATE, DESCRIPTION. Row 1: A, 01/26/24, ISSUE FOR BID. Row 2: 2/7/2024, Addendum No. 1.



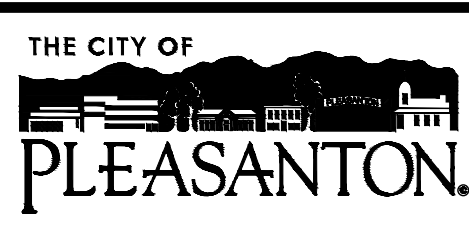
TURNOUT #4 BOOSTER PUMP STATION AND DISCHARGE PIPELINE (F-1 LINE) STRUCTURAL ABBREVIATIONS, GENERAL NOTES & CONCRETE NOTES

Table with columns: DESIGN, DRAWN, CHECKED, SCALE, PROJECT NO., DATE, DWG NO. Values include MMM, CSB, --, CIP-24171, JANUARY 2024, S-1, 31 OF 40.



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REV.	DATE	DESCRIPTION
1	2/6/24	ADDENDUM No. 1



**CITY OF PLEASANTON**  
PUBLIC WORKS DEPARTMENT

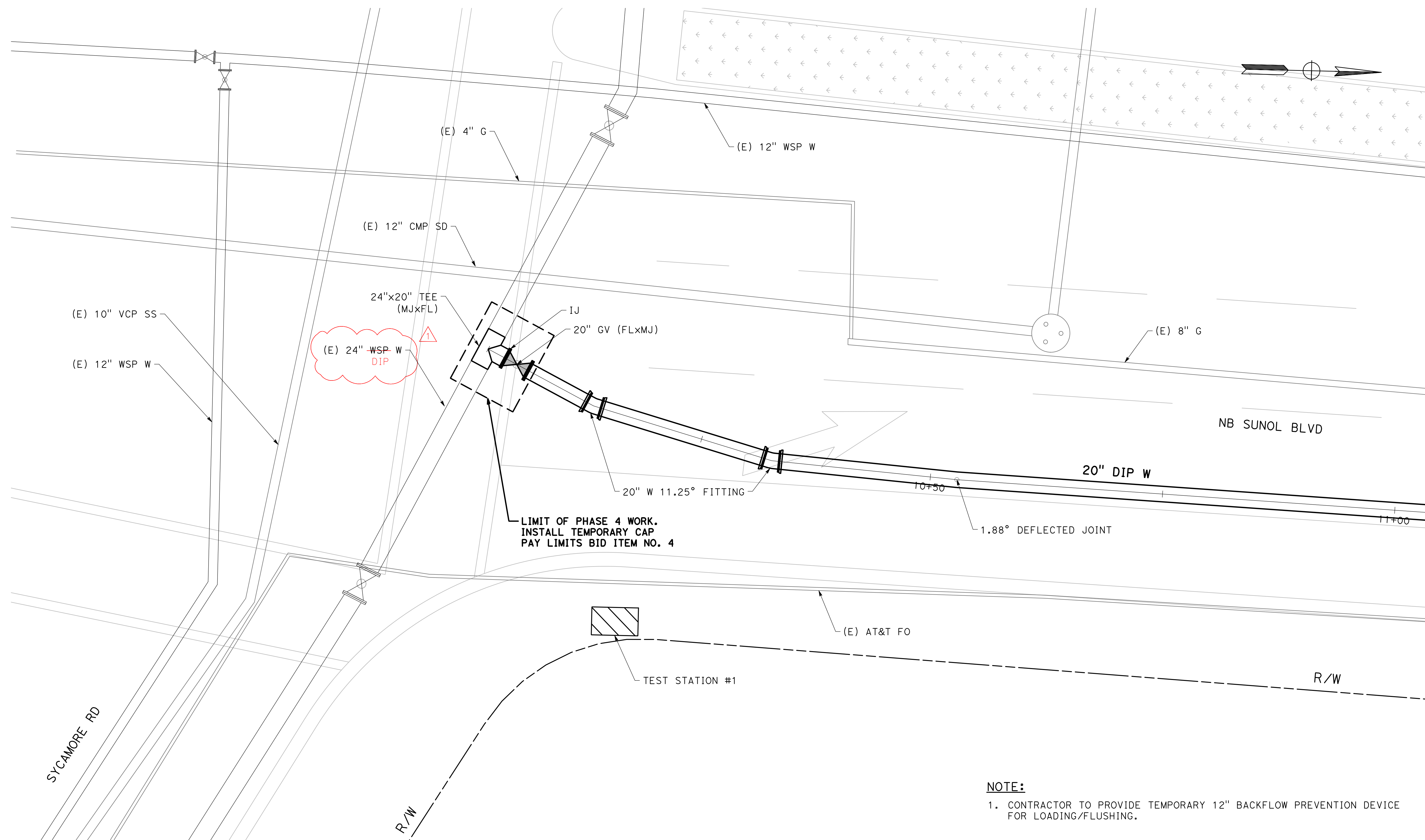


**MARK THOMAS**  
2833 JUNCTION AVE, SUITE 110  
SAN JOSE, CA 95134

**CITY OF PLEASANTON - SUNOL PIPELINE IMPROVEMENTS**  
  
PLAN AND PROFILE

DESIGN:	JLS	SCALE:	1" = 40'	DWG NO.
DRAWN:	MC	PROJECT NO.:	CIP-24173	<b>L-1</b>
CHECKED:		DATE:	01/26/2024	4 OF 15
TRAFFIC ENGINEER:				

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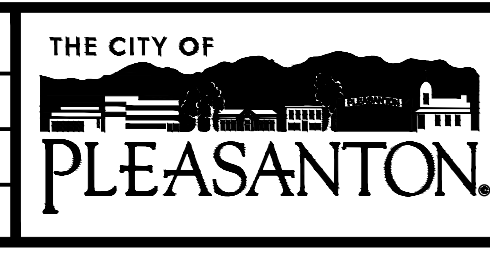


**LIMIT OF PHASE 4 WORK.  
INSTALL TEMPORARY CAP  
PAY LIMITS BID ITEM NO. 4**

**NOTE:**  
1. CONTRACTOR TO PROVIDE TEMPORARY 12" BACKFLOW PREVENTION DEVICE FOR LOADING/FLUSHING.

**PLAN - STA 10+00**  
SCALE: 1" = 5'

REV.	DATE	DESCRIPTION
1	2/6/24	ADDENDUM No. 1



**CITY OF PLEASANTON**  
PUBLIC WORKS DEPARTMENT



**CITY OF PLEASANTON - SUNOL PIPELINE IMPROVEMENTS**  
CONSTRUCTION DETAILS

DESIGN:	JLS	SCALE:	AS SHOWN	DWG NO.
DRAWN:	MC	PROJECT NO.:	CIP-24173	<b>CD-1</b>
CHECKED:		DATE:	01/26/2024	8 OF 15
TRAFFIC ENGINEER:				