Dublin San Ramon Services District
Water, wastewater, recycled water

Hypochlorite Building Rehabilitation

CIP 22-P021

ADDENDUM NO. 3 TO CONTRACT DOCUMENTS

May 21, 2026

Steven Delight

Steven Delight, Senior Engineer

ADDENDUM NO. 3

TO

CONTRACT DOCUMENTS

FOR

HYPOCHLORITE BUILDING REHABILITATION (CIP 22-P021)

May 21, 2026

To: All Plan Holders

The following clarifications, changes, additions and/or deletions are hereby made a part of the Contract Documents for the construction of the above referenced project as fully and completely as if the same were fully set forth therein. Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of 24 pages, including signed cover page.

ATTACHMENTS	**No. of Pages**
Section 40 05 10 PIPING SYSTEMS	19
Revised Drawing Sheet C121	1
Revised Drawing Sheet CD01	1

CHANGES AND ADDITIONS AND/OR DELETIONS TO THE SPECIFICATIONS

1. **SECTION 40 05 10 PIPING SYSTEMS**

   REPLACE, Section 40 05 10 in its entirety.

RESPONSES TO QUESTIONS RECEIVED

Q1: Please provide required spacing or locations for expansion joints along exposed pipelines that are suggested per spec 40 05 10 article 3.01 B.

A1: Per the revised specification Section 40 05 10 included in this addendum, a rubber expansion joint meeting the requirements of Section 40 05 10-2.03.B shall be provided every 100 feet on exposed straight pipe runs exceeding 50 feet in total length.

Q2: Please confirm that detail 03003 on sheet SD-001 does not apply to pour in place concrete installations for structural slabs/walls, as no control joints are currently shown on the plan or section views of structural drawings.
A2: Partial contraction/control joints are not currently shown on the structural plans or sections and are, therefore, not part of the current design intent. If such joints are considered necessary by the Contractor for concrete placement or sequencing, the Contractor shall submit a proposed joint layout and associated details to the EOR for review and written approval prior to placement. Construction joints required for placement sequencing shall comply with Project Drawings and Specification Section 031500, including required waterstop provisions and reinforcement continuity requirements.

Q3: Requesting clarification for requirements presented in Section 00462 for PCSI to have:

a) 20-years or more under the present business name
   and
b) a valid and current California Contractor's License.

A3: All PCSI Subcontractors shall meet both of these requirements listed in Section 00462.

Q4: Section 01310-2.0 requires the responsible scheduling person to be a representative in its firm. Would it be acceptable to use a 3rd party scheduling consultant to prepare and update the P6 schedule?
A4: This is acceptable.

Q5: Would it be acceptable to use Microsoft Project for the CPM schedule?
A5: This is acceptable.

Q6: Sheet C121 the gravel fill area has no existing or new grades to determine the cut fill for that area. It will be difficult to calculate accurately the amount of material that will need to be off hauled if there is a high point in the area. Cannot tell if there is a slope for that area or is it staying the same grade.
A6: Sheets C121 and CD01 have been revised to more clearly show the existing and proposed grades within the gravel fill area to the south of the new chemical storage and metering facility. The revised sheets are included in this addendum.

End of Addendum No. 3

SECTION 40 05 10

PIPING SYSTEMS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Furnish all piping, including fittings, supports, and accessories shown on the Drawings and described herein, to completely interconnect all equipment and valves for a complete and operable system.

1.02 REFERENCED SECTIONS

A. The following Sections are referenced in this Section:

1. Section 01340 – Shop Drawings, Product Data and Samples
2. Section 09 96 00 – High Performance Coatings
3. Section 40 80 02 – Testing Pressure Piping

1.03 REFERENCES

A. The standards listed below are a part of this Section as specified and modified. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.

Reference	Title
ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250 and 800
ASTM A312	Seamless and Welded Austenitic Stainless Steel Pipes
ASTM C76	Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
ASTM D1784	Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80 and 120
ASTM D2467	Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2564	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM D2855	Standard Practice for the Two-Step (Primer and Solvent Cement) Method of Joining Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and Piping Components with Tapered Sockets
ASTM F402	Standard Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings
ANSI B16.12	Cast Iron Threaded Drainage Fittings
AWWA C104	Cement Mortar Lining for Ductile Iron Pipe and Fittings for Water
AWWA C105	Polyethylene Encasement for Ductile Iron Piping
AWWA C110	Ductile-Iron and Gray-Iron Fittings
AWWA C111	Rubber-Gasket Joints for Ductile-Iron and Gray-Iron Pressure Pipe and Fittings
AWWA C115	Flanged Ductile-Iron and Gray-Iron Pipe with Threaded Flanges
AWWA C151	Ductile-Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined Molds, for Water or Other Liquids

Reference	Title
AWWA C153	Ductile-Iron Compact Fittings
AWWA C207	Steel Pipe Flanges for Waterworks Service
AWWA C219	Bolted Sleeve-Type Couplings for Plain-End Pipe
AWWA C606	Grooved and Shouldered Joints

1.04 SUBMITTALS

A. Submittals shall demonstrate full compliance with all aspects of this specification and include, but not be limited to, complete manufactures' data on pipe material fitting, fasteners and hardware, gaskets, linings, and coatings. Comply with Section 01340 and provide the following information:

B. Product Technical Data

1. Submit product data on pipe, fittings, joints and joining materials, gaskets, linings, coatings, hardware, piping connections, piping accessories, and other components.

2. Manufacturers' certifications of compliance with the specified standard.

3. Pipe wall thickness and pressure class

C. Fabrication and/or Layout Drawings

1. Submit schedule of piping systems that will be used and services that they will be used for.

   a. For the Critical Piping Area shown on the Drawings, submit a detailed piping layout plan and profile view, including electrical ducts. The submittal shall also include a sequence of construction for installation of pipe in this area.

2. Before preparation of shop drawings, installation conditions, including existing utilities and structures, shall be verified by excavation, inspection, and measurement. Submit field measurements and photos with shop drawings where exposed conditions differ significantly from the conditions indicated on the Drawings.

3. Submit detailed layout drawings of all piping. Schematics may be submitted for piping 3 inches and smaller. Drawings shall include:

   a. Dimensions of pipe diameter and length

   b. Invert or centerline elevations and sizes of pipe crossings, intersecting ductwork, intersection conduit/conduit racks, or other potential interferences requiring coordination.

   c. Centerline elevations for pressure pipelines and invert elevations for gravity flow pipelines.

   d. Bury depth for buried yard piping.

   e. Location and type of pipe supports and anchors

   f. Location of valves and valve actuator type

g. Location and details of fittings, tapping locations, thrust blocks, joint restraints, couplings, flexible expansion joints, connections to equipment, piping accessories, thermal insulation, and related appurtenances.

h. Line slopes and vents

i. Thrust restraints for restrained joints including materials, sizes, assembly rating and pipe attachment methods.

j. Thrust blocks: concrete quantity, bearing area on pipe, and fitting joint locations.

4. Submit schedule of interconnections with existing piping and method of connection.

D. Test Reports

1. Submit certified test reports as required herein and by the referenced standards specifications.

2. Submit field test reports as required in PART 3.

1.05 QUALITY ASSURANCE

A. Materials and equipment furnished under this Section shall be of manufacturers who have been regularly engaged in the design and manufacture of the materials and equipment for a period of at least five (5) years.

B. Factory Quality Control: The Contractor shall test all products as noted herein and by the reference specifications.

C. Field Quality Control:

1. The Contractor shall:

a. Perform leakage tests.

b. Be responsible for the costs of additional inspection and retesting by the Owner resulting from noncompliance.

PART 2 - PRODUCTS

2.01 GENERAL

A. Pipe sizes are nominal inside diameter unless otherwise noted. All sizes of pipe shall be as called out on the Drawings and specified herein.

B. All pipe and fittings delivered to the job site shall be clearly marked to identify the material, class, thickness, and manufacturer.

C. All material shall be new and free of blemishes.

D. Where only one type of pipe is called out, no substitutions shall be allowed.

E. Piping materials of like kind shall be the product of one manufacturer.

F. The Contractor is responsible for furnishing and installing all items necessary to make a complete and workable piping system. This includes, but is not limited to, valve boxes, insulating couplings and gaskets, piping specialties, and all other items required by the nature of the installation. Any item not specified herein but required by the installation shall be of first quality, equal in grade to similar materials specified herein, and shall comply with all applicable reference standards listed herein.

G. All materials (pipe, fittings, gaskets, linings, etc.) in contact with the potable water or process water to be treated to potable water shall be lead-free and NSF 61 certified.

H. Paint exposed pipe in conformance with requirements of Section 09 96 00.

2.02 PIPE MATERIALS

A. Pipe and Fitting Designation:

1. Piping materials are identified by a "Type" designation in these specifications.

2. Specific piping materials and other pertinent information is summarized for each pipe type.

3. Pipelines are designated on the Drawings by a two-element code, the first representing the nominal pipe diameter and the second an abbreviation indicating the piping system.

4. The following schedules, except where indicated otherwise on the Drawings, identify pipe type to be used for each piping system. Where the pipe type is not specifically identified on the Drawings, materials shall be selected based on the pipe service as listed in the following schedule and specified in subsequent articles of this specification.

B. Pipe Type Schedule:

Process Fluid Abbr.	System	Size	Service (a)	Pipe Type	Notes
Process					
D	Drain	2" – 4"	B, E	PVC	
WD	Wash Down	6"	B, E	DIP-R	
CAP	Cap Water Line	6"	B	PVC	
Chemicals					
OF	Overflow	4"	E	PVC	
NaOCl	NaOCl - Temporary Fill Station to Existing Facility	3"	E	PVC (PVC)	
	NaOCl – Permanent Fill Station to Containment Structure	3"	E	PVC (PVC)	
	NaOCl – Inside Containment Structure	0.5" – 4"	E	PVC	
	NaOCl – Containment Structure to Dosing Points	0.75" – 1.5"	E	TUB (PVC)	
Water					
1W	Plant Water (Potable)	All	B, E	PVC	(b)
3W	Plant Water (Non-potable)	All	B, E	PVC	(b)

a) Service: B=Buried; E=Exposed; C=Concrete Encased; S=Submerged

b) All materials and components in contact with process fluid shall comply with requirements of NSF / ANSI 61 and NSF / ANSI 372.

C. Ductile Iron Pipe – Restrained (DIP-R)

1. General: For all connections, provide restrained joints for pipe and fittings that create a change in pipe size and on fittings that result in a change of direction, whether the change is in the horizontal plane or a vertical plane.

2. Pipe

   a. Non-flanged Pipe: Fabricate in conformance with AWWA C151.

   b. Pressure Class 350 psi

   c. Fittings:

   d. Push-on or Mechanical Joints: Conform to AWW C111.

   e. Manufacturers

      1) Push-on Joints

         a) Fastite Joint by ACIPCO

         b) Tyton Joint by US PIPI

         c) Pacific States CIPCO

      2) Restrained Push-on Joints

         a) TR Flex, by US PIPE

         b) Thrust Lok by Pacific State Cast Iron Pipe Company

         c) Flex Ring or Lok-Ring by ACICO

      3) Restrained (Flexible) Mechanical Joint

         a) Lock Mechanical by Pacific States Cast Iron Pipe Co.

         b) MJ Coupled Joint by ACIPCO

         c) EBBA Iron, Megalug by US PIPE

3. Gaskets

   a. Synthetic rubber compound in which the elastomer is nitrile or neoprene, conforming to AWWA C111. Lubricant for push-on joint piping shall be the pipe manufacturer's standard.

4. Bolts and Nuts

   a. Buried, for mechanical joints: Type 304 Stainless Steel.

5. Lining and Coatings

   a. Lining:

      1) Ceramic epoxy lined with Protecto 401 or equal for INF.

      2) Cement lined

   b. Coatings:

      1) For exposed piping coat per Section 09 09 96

      2) For buried piping, wrap pipe in polyethylene per AWWA C105.

D. Polyvinyl Chloride – PVC

1. Buried Pipe: Schedule 80 as listed, Class 12454-B, rigid, unplasticized pipe made from polyvinyl chloride (PVC) in accordance with ASTM D1784 and D1785

2. Exposed Pipe: Schedule 80 rigid chlorinated polyvinyl chloride (CPVC) pipe, ASTM D1784 Class 23447 and ASTM F441. Exposed pipe shall receive UV resistant coating per manufacturer's recommendations.

~~2.~~3. Fittings: Schedule 80 to match pipe, of the same material as the pipe, conforming to ASTM D2467 for PVC and ASTM F439 for CPVC.

~~3.~~4. Joints: Joints shall be solvent weld or true union, except that threaded or flanged joints are to be used where required at specific locations as shown on Drawings or specified herein. Flanged joints shall be provided at rubber expansion joints.

5. Flexible Couplings: For straight pipe runs exceeding 50 feet, provide one rubber expansion joint meeting the requirements of Section 2.03B every 100 feet.

~~4.~~6. Cement: Solvent weld connections shall be made in strict accordance with the pipe manufacturer's recommendations using a solvent cement and primer (if recommended) meeting ASTM D2564 for PVC and ASTM F493 for CPVC.

~~5.~~7. Primer shall be IPS P-70 primer or approved equal.

~~6.~~8. Solvent cement: IPS 724 CPVC solvent cement or approved equal selected for compatibility with applicable chemical service(s).

~~7.~~9. Pipe Cleaner: In accordance with the pipe manufacturer's recommendations compatibility with applicable chemical service(s).

~~8.~~10. Gasket: PTFE

~~9.~~11. Installation: In compliance with manufacturer's instruction and ASTM D2321.

E. Polyvinyl Chloride Double Containment – PVC (PVC)

1. Pre-engineered and fabricated double containment system consisting of a rigid PVC carrier pipe supported inside a rigid CPVC containment pipe with slide-on centralizer brackets.

2. Carrier Pipe ~~and Containment Pipe~~: Schedule 80 as listed, Class 12454-B, rigid, unplasticized pipe made from polyvinyl chloride in accordance with ASTM D1784 and D1785.

~~2.~~3. Containment Pipe: Schedule 80 rigid chlorinated polyvinyl chloride (CPVC) pipe, ASTM D1784 Class 23447 and ASTM F441. Exposed pipe shall receive UV resistant coating per manufacturer's recommendations.

~~3.~~4. Centralizer brackets: Polypropylene position positioned and held in place with adhesive.

~~4.~~5. Carrier and Containment Fittings: Schedule 80 to match pipe, of the same material as the pipe, conforming to ASTM D2467 for PVC and ASTM F439 for CPVC. Carrier fittings shall be equipped with extender couplings for installation inside carrier pipe and fittings.

~~5.~~6. Termination fittings shall be provided at the start and stop of containment pipes.

~~6.~~7. Closure fittings shall be provided for joining two sections of containment pipes.

~~7.~~8. Joints: Joints shall be solvent weld, unless noted otherwise. Flanged joints shall be provided at flexible couplings.

9. Flexible Couplings: For straight pipe runs exceeding 50 feet, provide one rubber expansion joint meeting the requirements of Section 2.03B every 100 feet.

~~8.~~10. Cement: Solvent weld connections shall be made in strict accordance with the pipe manufacturer's recommendations using a solvent cement and primer (if recommended) meeting ASTM D2564 for PVC and ASTM F493 for CPVC.

~~9.~~11. Primer shall be IPS P-70 primer or approved equal.

~~10.~~12. Solvent cement: IPS 724 CPVC solvent cement or approved equal selected for compatibility with applicable chemical service(s).

~~11.~~13. Pipe Cleaner: In accordance with the pipe manufacturer's recommendations compatibility with applicable chemical service(s).

~~12.~~14. Gasket: PTFE

~~13.~~15. Installation: In compliance with manufacturer's instruction and ASTM D2321.

F. Flexible Tubing/Polyvinyl Chloride Double Containment – TUB (PVC)

1. Double containment system consisting of flexible tubing installed in a rigid PVC carrier pipe.

2. Flexible Tubing Carrier Pipe

   a. HDPE flexible tubing, Field Environmental Instruments Inc., Professional Plastics, or approved equal.

   b. Supply in continuous lengths such that tubing joints are only made in buildings, chemical pull boxes / containment manholes, or discharge locations and not inside containment pipe.

   c. Pressure rating: 150 psi at 73 deg F for sizes 1-inch and smaller.

   d. Fittings: HDPE barbed fittings with proprietary Barblock coupling inserts with outside closure collar. Polypropylene coupling and collar, Saint Gobain or approved equal.

3. Rigid CPVC Containment Pipe

   a. Pipe: ~~Schedule 80 as listed, Class 12454-B, rigid, unplasticized pipe made from polyvinyl chloride in accordance with ASTM D1784 and D1785~~Schedule 80 rigid chlorinated polyvinyl chloride (CPVC) pipe, ASTM D1784 Class 23447 and ASTM F441. Exposed pipe shall receive UV resistant coating per manufacturer's recommendations.

   b. Fittings: Schedule 80 to match pipe, of the same material as the pipe, conforming to ASTM ~~D2467~~F439.

   c. Joints: Joints shall be solvent weld or true union, except that threaded or flanged joints are to be used where required at specific locations as shown on Drawings or specified herein. Flanged joints shall be provided at flexible couplings.

   d. Flexible Couplings: For straight pipe runs exceeding 50 feet, provide one rubber expansion joint meeting the requirements of Section 2.03B every 100 feet.

~~d.~~e. Cement: Solvent weld connections shall be made in strict accordance with the pipe manufacturer's recommendations using a solvent cement and primer (if recommended) meeting ASTM F493~~D2564~~.

~~e.~~f. Primer shall be IPS P-70 primer or approved equal.

~~f.~~g. Solvent cement: IPS 724 CPVC solvent cement or approved equal selected for compatibility with applicable chemical service(s).

~~g.~~h. Pipe Cleaner: In accordance with the pipe manufacturer's recommendations compatibility with applicable chemical service(s).

~~h.~~i. Gasket: PTFE

~~i.~~j. Installation: In compliance with manufacturer's instruction and ASTM D2321.

2.03 MISCELLANEOUS PIPING CONNECTIONS

A. Flexible Couplings and Flanged Coupling Adapters (FCAs)

1. Furnish and install flexible couplings and flanged coupling adapters where shown on the Drawings or required by installation.
2. All couplings shall be restrained and suitable for a minimum working pressure of 150 psi.
3. Longitudinal movement and angular defections capabilities shall meet AWWA C219.
4. Materials
   a. Sleeves: Galvanized steel or have a fusion bonded coating suitable for potable water.
   b. Followers: Cast iron, ductile iron, or steel.
   c. Sleeve Bolts: Type 304 SS.
   d. Gaskets: Synthetic rubber suitable for potable water.
5. Manufacturers
   a. Steel pipe or steel pipe sizes with identical outside diameters: Smith-Blair Type 411; Dresser Style 38; or equal.
   b. Cast or ductile iron pipe with identical outside diameters: Smith-Blair Type 441; Dresser Style 138; or equal.
   c. Connecting pipes with slightly different outside diameters: Rockwell Type 413 or R441; Dresser Style 62; or equal.

B. Rubber Expansion Joints

1. Type: Built-up ~~single~~ double arch expansion joints with full flanges and retainer rings. Provide filled arch type for services with solids.
2. Materials: EDPM cover over reinforced nylon or polyester body and EDPM tube with galvanized steel retainer ring. Cover shall have protective coating where installed outdoors.
3. Pressure and Temperature Rating

a. Up to 12-inch-diameter: 190 psi, 250°F

b. Larger than 12-inch-diameter: 80 psi, 250°F

4. Manufacturers: Proco Series 230; Garlock Style 204HP

5. Provide galvanized steel control rod-compression sleeve assemblies for all rubber expansion joints, except where specifically omitted in Drawings. The number and size of the control rods shall be as required for the test pressure of the pipe system or 50 psi, whichever is greater.

6. Provide full size intermediate metal pipe flanges where rubber spool connects with wafer-style valves, lug-style valve, or other items that do not have full face metal flanges.

2.04 MISCELLANEOUS PIPING ACCESSORIES

A. Dielectric Flange Kits

1. Components

a. Dielectric Gasket: 1/8-inch thick, full faced, phenolic, non-asbestos

b. Bolt Sleeves: 1/32-inch wall thickness

c. Insulating Washers: 1/8-inch thick, phenolic

2. Pressure and Temperature Rating: 175 psi, 210°F

3. Manufacturers

a. PSI;

b. George Fischer;

c. Or equal.

B. Dielectric Unions

1. Connections: Screwed end

2. Pressure and Temperature Rating: 175 psi, 210°F

3. Manufacturers

a. Epco;

b. George Fischer;

c. Or equal.

C. Polyethylene Encasement

1. The surfaces of all buried metallic pipe, fittings, and couplings shall be encased with two sheets of 8-mil minimum thickness polyethylene to form a continuous and all-encompassing layer of polyethylene between the piping and surrounding earth or backfill material.

2. Polyethylene material shall conform to the requirements of AWWA C105. Material shall be 8 mil, linear low density polyethylene (LLDPE) and shall be marked at two foot intervals with manufacturer's name, year of manufacture, AWWA C105, film thickness and material, pipe size, and repair warning.

D. Plastic Warning Tape

1. Provide a single line of plastic warning tape 2.5 feet above the centerline of each buried pipe. Spread tape flat with message side up before backfilling.
2. Print two messages on the tape with bold letters approximately 2" high. Messages shall be repeated at maximum intervals of 2 feet.
    a. First message: CAUTION
    b. Second message: BURIED PIPE BELOW
3. Dimension: 6-inch wide; 0.5 mil thick.
4. Material: Inert plastic material suitable for direct burial.
5. Color: Colors shall meet the APWA Color-Code standard for identification of buried utilities.
6. Manufacturers
    a. Brady;
    b. Seton;
    c. Or equal.

E. Link Seals

1. Where shown on the plans, provide link seals and compatible wall sleeves with weep ring for wall penetrations.
2. Use manufacturers recommended service designation unless noted otherwise.
3. Type: Linked rubber sealing elements and pressure plates tightened together with stainless steel bolts.
4. Manufacturers
    a. Thunderline Corporation;
    b. Calpico;
    c. Or equal.

F. Service Saddles: Service saddles shall be required for tapping small diameter pipe connections into larger diameter pipes.

1. Bronze or Brass Saddle with Stainless Steel Four Bolt Straps, IP Thread Outlet for Sizes 1" and 2" for pipe sizes 4" through 12".
2. Gasket: Nitrite (Buna –N)
3. Manufacturer: Ford, Smith Blair, Mueller or equal.

G. Tapping Sleeves: Tapping sleeve shall be required for connecting 12 inch and smaller diameter pipe to pipes larger than 12 inch diameter

1. Material: Carbon steel, ASTM A283 Grade C.
2. Flange: AWWA C207 Class D, ANSI 150 lb. drilling.
3. Finish: Fusion bonded epoxy.
4. Gasket: Grade 60 concave wedge gasket.
5. Bolts and Nuts: 316 stainless steel.

6. Manufacturer: Ford, Smith Blair, Mueller or equal.

H. Pressure Gauges

1. Gauges shall comply with ANSI B40.1, Grade A. Gauges shall incorporate the following features:

   a. Side or rear blowout relief.

   b. Pressure tight.

   c. 270-degree arc with adjustable pointer.

   d. 1/4 –inch stem connection, unless otherwise indicated.

   e. Dial size 3-1/2 inches, unless otherwise indicated.

   f. Liquid filled, silicone or glycerine.

   g. Gauge range should be approximately two times the normal operating pressure or 133% of the maximum pressure, whichever is higher.

   h. Materials of construction: Gauges shall be constructed of stainless steel in compliance with AISI 316. The gauge window shall be acrylic plastic and the dial face aluminum with clear baked acrylic coating.

   i. Nipples for connecting gauges to piping shall be brass, regular weight, per ASTM B 43. Threaded fittings shall be bronze, Class 250, per ANSI B16.15. Size of nipple shall match the gauge connection size.

   j. Provide two gauge tool kits, each containing a hand jack set, screwdriver, five reamers (minimum), two pin vise holders, wiggler, tweezer and carrying case.

   k. Gauge cocks shall be two-way or as shown on the Drawings. Gauge cocks shall be brass or bronze, ASTM B 61 or B 62. End connections shall be NPT, female. Cocks shall be Lunkenheimer 1178 equal.

   l. Manufacturers: Ashcroft, Crosby, Marshalltown, Marsh or equal.

I. Diaphragm Seal

1. Provide fill/bleed screw to permit filling of instrument and diaphragm seal.

2. Instrument Connection: 1/2-inch NPT.

3. Diaphragm material must be compatible with fluid in process piping.

4. Process Connection: 1/2-inch NPT.

5. Working Pressure Rating: Equal to or greater than the line pressure of the pipe the gauge is mounted on as shown in the Pipe Type Table in this section.

6. Bolting Materials: Type 316 stainless steel.

7. 1/4-inch NPT flushing connection.

8. Filling Fluid: Silicone Oil

9. Provide a clean-out ring which holds the diaphragm captive in the upper housing to allow the upper housing assembly to be removed for recalibration or cleaning of the process side housing without the loss of filling liquid or change in calibration.

10. Construction Features:

a. Top Housing: Type 316 stainless steel.

b. Diaphragms, O-rings and Gaskets: Material must be compatible with fluid.

c. Process Side Housing Material: 316 SS for metallic piping; PVC or CPVC to match non-metallic piping. Material must be compatible with fluid.

11. Assembly and Calibration:

a. The complete diaphragm seal assembly, including gage, switch or transmitter, shall be factory assembled, filled and calibrated to the ranges and switch set-points specified prior to shipment.

b. System Supplier Manufacturer shall be responsible for assuring that fill volumes and sensitivities of the supplied seals and diaphragms are suitable to provide the required gage, switch or transmitter accuracy over the specified measurement range or at switch set-points.

c. Location and orientation of the gages, switches and seal assemblies shall be coordinated with the actual piping and equipment installations so that gages and indicators shall be easily read and accessed for maintenance by plant personnel.

d. Where field mounting and orientation conflicts arise due to incomplete coordination with field changes in the process piping and equipment installation, assemblies shall be relocated, re-oriented, re-assembled and re-calibrated as directed by ENGINEER.

12. Product and Manufacturer: Provide diaphragm seal assemblies of one of the following:

a. Type R, as manufactured by Ametek USA

b. Type 100, as manufactured by Ashcroft

c. Or equal.

PART 3 - EXECUTION

3.01 INSTALLATION OF PIPE

A. General

1. All pipes shall be carefully placed and supported at the proper lines and grades and, where possible, shall be sloped to permit complete drainage. Piping runs shown on the Drawings shall be followed as closely as possible, except for minor adjustments to avoid architectural and structural features. If major relocations are required, they shall be approved by the Engineer.

2. Wherever a pipe three inches in diameter and larger passes from concrete to earth, two flexible pipe couplings, shall be installed within 1 foot of the concrete. Particular care shall be taken to ensure a full support of the pipe in the earth between and beyond the joints.

3. When installing buried PVC pipe, it shall be “snaked” in the trench. In addition, PVC pipe shall not be laid when temperature is 32°F, or below. Piping shall be

installed without springing or forcing the pipe in a manner which would set up stresses in the pipe, valves, or connected equipment.

4. Provide labels for all pipes. See Section 10 40 01.

B. Exposed Pipe

1. Exposed pipe shall mean any pipe not buried or encased in concrete. In erecting exposed pipe a sufficient number of screw unions, flanged or grooved end type joints shall be used to allow any section or run of pipe to be disconnected without taking down adjacent runs. Flanges and grooved couplings shall be employed on pipes 2-1/2 inches and larger. The provision of an adequate number of appropriate take-down fittings must be rigidly adhered to whether or not such fittings are indicated on the Drawings. Take-down fittings shall also be provided within two feet of threaded valves and other appurtenances. Where piping passes through concrete or masonry walls, take-down fittings shall be employed within 3 feet of the wall.

2. All exposed pipelines shall accommodate expansion and contraction forces by the use of expansion joints, anchors, and pipe guides. Where pipes cross structure expansion joints, rubber spherical molded type pipe expansion joints with restraining rods shall be installed whether specifically shown or not.

3. All unrestrained joints in pressure pipelines, including bell and spigot, flexible couplings, expansion joints and flange adapters shall have tension bars (tie rods) provided in accordance with AWWA M11 Design Manual, Figures 19.15 and 19.16, and Tables 19.7 and 19.8. Thrust protection shall be for 1-1/2 times the specified test pressure for the pipe.

C. Buried Pipe

1. General

a. All buried pipes shall be prepared as herein before specified and shall be laid on the prepared granular base and bedded to ensure uniform bearing. No pipe shall be laid in water or when, in the opinion of the Engineer, trench conditions are unsuitable. Joints shall be made as herein specified for the respective types. Take all precautions necessary to prevent uplift and floating of the pipe prior to backfilling.

b. Piping under slabs and structures shall be encased in concrete unless otherwise directed by the Engineer.

2. Gravity Lines

a. Laying of gravity pipelines shall proceed upgrade with the spigot ends pointing in the direction of flow. Each piece shall be laid true to line and grade and in such manner as to form a close concentric joint with the adjoining pipe and to prevent sudden offsets in the flow line. As the work progresses, the pipe interior shall be cleared of all dirt and debris of every description. Where clearing after laying is difficult because of small pipe size, a suitable swab or squeegee shall be kept in the pipe and pulled forward past each joint immediately after jointing has been completed. Pipe shall not be laid when the condition of the trench or the weather is

unsuitable. At times when work is not in progress, open ends of pipe and fittings shall be closed.

3. Corrosion Protection

   a. All buried metal parts such as valves and bolt-ups not cement mortar coated shall be coated with two coats of bitumastic in accordance with Section 09 96 00, and encased with two sheet of 8-mil minimum thickness polyethylene to form a continuous and all-encompassing layer of polyethylene between the protected metal and surrounding earth. All polyethylene shall be secured in place with 10-mil polyethylene tape.

4. Dielectric Connections

   a. Where pipes of dissimilar metals are connected, a dielectric insulator shall be provided. Where copper pipe is supported from hangers, it shall be insulated from the hangers; or copper plated hangers shall be used.

   b. Dielectric insulators shall be installed on the first exposed flanges or couplings of pipes which are connected to buried piping. For this purpose, an insulating joint or connection shall be provided on exposed existing and new piping which requires cathodic protection, within ten feet of each point of burial. Where connections are made between existing ferrous metal piping and new piping, which is to receive cathodic protection, a dielectric insulator shall be installed.

   c. Insulating flange gasket sets shall be installed at the specified locations. All insulating components shall be cleaned of all dirt, grease, oil and other foreign materials immediately prior to assembly. Bolt holes in mating flanges shall be properly aligned at the time bolts and insulating sleeves are inserted to prevent damage to the insulation. After flanged bolts have been tightened, each insulating washer shall be inspected for cracks or other damage. All damaged washers shall be replaced. After assembly, resistance between each bolt and flange shall be measured with an approved ohmmeter, and the minimum resistance shall be 50,000 ohms. All insulating flanged joints shall be coated as shown.

   d. Insulating unions shall be installed at the specified locations. Joint compound or thread tape shall be applied to male threads only. Piping shall be worked into place without springing or forcing. Backing off to permit alignment of threaded joints will not be permitted. Threads shall be engaged so that no more than 3 threads remain exposed.

5. Locating Wire

   a. All runs of water pipe, including services, shall have a No. 10 gauge solid soft drawn copper wire laid along the pipe to facilitate locating the pipe at a later date. The wire shall be stubbed up inside each valve box. Continuity test shall be conducted on each splice at all locations.

3.02 MODIFICATIONS AND CONNECTIONS TO EXISTING PIPING

A. Coordinate with the Owner of the existing pipeline to be connected to prior to making connection.

B. Perform demolition of existing pipelines and yard piping as shown or necessary to make connection. Preserve, in undamaged condition, piping that is to remain and where connections are to be made as part of the Work.

C. Modify and connect to existing piping in accordance with the materials, joint requirements, welding, coatings, linings, and other provisions of this Section. Where specific details are indicated on the Drawings, provide the pipe connections, joints, fittings, and appurtenances as indicated.

D. Coordinate with the Owner to have the pipeline de-energized. Affect lock-out/tag-out procedures as necessary to prevent the accidental use of the pipeline.

E. Carefully cut existing pipe using saws and cutting equipment acceptable to Engineer. Do not torch cut metallic pipe for preparation of pipe at connections.

F. Grind ends of steel pipe to remove corrosion and foreign materials where sleeve couplings are to be installed. Power tool clean and epoxy coat pipe ends prior to assembly for sleeve and grooved end-type couplings.

G. Use pipe fittings for modifications and connections. Do not use saddle-type connections unless specifically indicated on the Drawings.

H. Complete pressure testing and obtain Owner's approval prior to making connections to existing piping systems, unless otherwise indicated.

3.03 INSTALLATION OF PIPE CONNECTIONS

A. Flexible Couplings and FCAs

1. Prior to installation, thoroughly clean oil, scale, rust, and dirt from the pipe to provide a clean seat for the gasket. Wipe gaskets clean before they are installed.

2. If necessary, flexible couplings and flanged coupling adapter gaskets may be lubricated with soapy water or manufacturer's standard lubricant before installation on the pipe ends.

3. Install in accordance with the manufacturer's instructions and recommendations.

4. Tighten bolts progressively, drawing up bolt on opposite sides a little at a time until all bolts have a uniform tightness. Workers tightening bolts shall be equipped with torque-limiting wrenches.

B. Flexible Expansion Joints

1. Install in accordance with the manufacturer's instructions and recommendations.

2. Connect expansion joints only to full-face metal flanges.

3. Install control rod-compression sleeve assemblies with control rod nuts snug, to relieve stress on adjacent pipe, except at buried locations. Comply with manufacturer's instructions.

4. Paint buried galvanized steel retainer rings, bolts and other appurtenances in accordance with Section 09 96 00.

C. Dismantling Joints

1. Install in accordance with the manufacturer's instructions and recommendations.

2. Flanged Spool: AWWA C207 Class D Steel Ring Flange, compatible with ANSI Class 125 and 150 bolt circles. Pipe is STD Weight Class per ASTM A53.

3. End Ring and Body: The end ring and body are made from ASTM A536 65-45-12 Ductile Iron

4. Gaskets: Compounded for water and sewer servic4e meeting the requirements of ASTM D 2000

5. Bolts and nuts: Stainless Steel 316.

6. Coating: Fusion bonded epoxy.

7. Manufacturer: ROMAX DJ 400 or equal

3.04 INSTALLATION OF PIPE ACCESSORIES

A. Polyethylene Encasement

1. All polyethylene encasements shall be secured in place with 10-mil polyvinyl tape. Installation shall conform to requirements of AWWA C105, Method A. Excess slack width in the polyethylene tube shall be taken up to make a snug, but not a tight fit, and secured with an adhesive tape wrapping around the pipe at the quarter points of each pipe length.

2. Any rips, punctures or other damage to the polyethylene sleeve shall be repaired with two layers of adhesive tape or a short length of polyethylene tube cut open, wrapped around the pipe, and secured in place.

3.05 INSTALLATION OF THERMAL INSULATION

A. General

1. Apply over clean, dry surfaces.

2. For double layer insulation, where specified or required to achieve the specified surface temperature, provide with staggered section joints.

B. Pipe Supports and Shields

1. Unless otherwise specified, provide thermal pipe hanger shields install during pipe support installation.

2. Where thermal pipe hanger shields are used, apply 3” wide vapor barrier tape or band over the butt joints.

C. Protection

1. Protect insulation and jackets from crushing, denting, and similar damage during construction.

2. Do not penetrate or otherwise damage vapor barriers.

3. If insulation, jacket, and vapor barriers are damaged during construction, then remove damage material and install new material.

D. Piping Insulation

1. Continuously insulate along entire length including all in-line devices such as valves, fittings, flanges, couplings, strainers and other piping appurtenances.

2. Unless otherwise specified, provide with aluminum jackets.

3. Butt firmly together and provide jacket laps and joint strips with lap adhesive.

4. Provide jackets with their seams located on the underside of pipe.

5. Except for flexible blanket type, seal insulation ends with end joint strips and held in place by waterproof adhesive.

E. Fittings, Connections, Flanges and Valves:

1. Except where soft covers are specified, provide rigid insulation with rigid aluminum covers.

2. Mechanically secure by corrosion-resistant tacks pushed into the overlapping throat joint.

3. Overlap the adjoining pipe insulation and jackets.

4. Provide with their seams located on the underside of fittings and valves.

F. Mechanical Equipment Insulation:

1. General:

a. Unless otherwise specified, fit insulation to the contours of equipment and secure with 1/2 by 0.015 inch galvanized steel bands.

b. Weld pins or stick clips with washers may be used for flat surfaces and spaced a maximum 18 inches apart.

c. Stagger joints and fill voids with insulating cement.

d. Unless otherwise specified, provide insulation with laminated jackets specified in Paragraph 2.03 A.

e. Cover and cement joints in place with 4-inch-wide strips of the same material as the laminated jackets specified in Paragraph 2.03 A.

f. Equipment to be insulated is indicated on the drawings.

G. Flashing

1. Provide at jacket penetrations and terminations. Provide clearance for flashing between insulation system and piping supports.

2. Sealant

a. Trowel a heavy tack coat of sealant over the insulation, extending over the jacket edge 1-inch and over the pipe or protrusion 2 inches.

b. Stretch reinforcement over the tack coat after clipping to fit over pipe and jacket.

c. Strap clipped reinforcing with a continuous band of reinforcing to prevent curling.

d. Trowel sealant over the reinforcement to a minimum thickness of 1/8--inch.

3. Provide aluminum caps, formed to fit, over the adjacent jacketing and to completely cover coated insulation. Hold cap in place with a jacket strap.

3.06 CLEANING

A. The interior of all pipelines shall be thoroughly cleaned of all dirt, loose scale, sand, and all foreign material prior to connection of pipe to equipment, control and regulating devices, and instrumentation and prior to testing. Pump suction lines shall be cleaned prior to operation of pumps.

B. Cleaning shall be accomplished by flushing with water at a velocity of at least 3 feet per second or by pulling a tightly fitting cleaning ball or swab through the pipe.

C. No test shall commence until the pipeline is completely cleaned to the satisfaction of the Engineer.

3.07 FIELD TESTING

A. All pipelines installed in this project shall be subject to field and acceptance tests as specified in Section 40 80 02.

END OF SECTION

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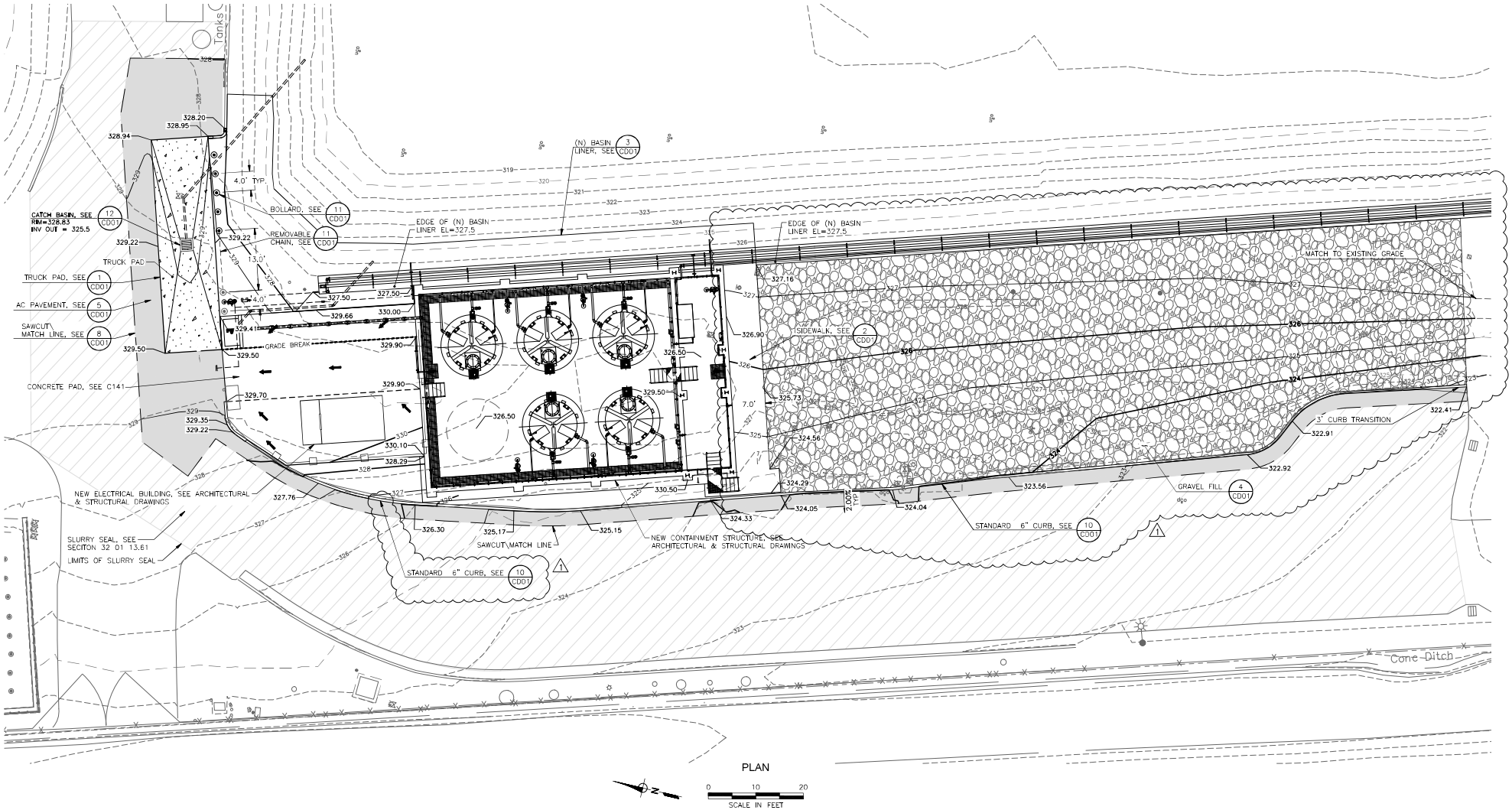


PLAN

N

0 10 20

SCALE IN FEET

LINE IS 2 INCHES AT FULL SCALE

IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
DRAWN BY	SMB	PLNNG./DEVL.	
DESIGN BY	DS	FIELD OPS.	
CHECKED BY	XXX	WWTP OPS.	
PROJ. MGR.	JC	MECH./MAINT.	
RECOM'D	DSRSD PRINCIPAL ENGINEER	ELECT./INSTR.	
		SCALE AS SHOWN	DATE

NO.	DATE	REVISIONS AND RECORD OF ISSUE	BY	CK	APP
	05/2026	ADDENDUM NO. 3			

REGISTERED PROFESSIONAL ENGINEER
WILLIAM JAMES SCHILLING
No. 75959
Exp. 6-30-26
CIVIL
STATE OF CALIFORNIA

WEST YOST
Water. Engineered.

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

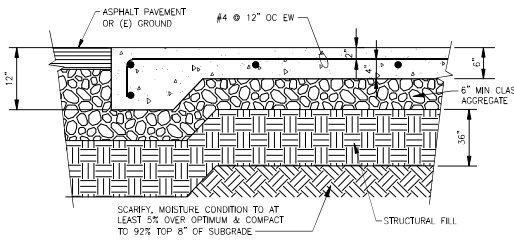
HYPOCHLORITE BUILDING REHABILITATION

GRADING AND PAVING PLAN

CIP NO. 22-P021

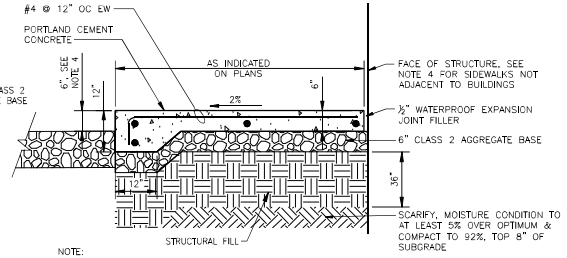
C121

12 | 97



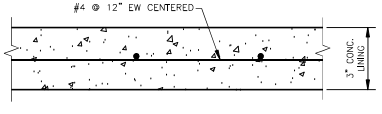
NOTES:
1. PROVIDE ½" ROUND FILLET OR CHAMFER ON ALL EDGES.
2. SURFACE FINISH SHALL BE LIGHT BROOM FINISH.
3. 4000 PSI CONCRETE.
4. PROVIDE SCORED JOINTS AT AN ASPECT RATIO OF 1:1 TO 1:.5 AND 10' MAX SCORED JOINTS SHALL BE AT LEAST ⅓ SLAB THICKNESS.
5. CONTRACTOR SHALL PROVIDE PROPOSED CONCRETE PAVING DESIGN INCLUDING LAYOUT OF THE CONTROL JOINTS FOR REVIEW APPROVAL.

CONCRETE PAVEMENT
DETAIL 1/VAR
NOT TO SCALE

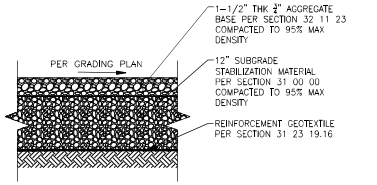


NOTE:
1. PLACE EXPANSION JOINTS 1/2" THICK AT 25' MAXIMUM INTERVALS. SEE DETAIL 14.
2. PLACE SCORE MARKS AT 4' INTERVALS SCORE MARKS SHALL BE 1/4" DEEP AND TRUE TO LINE.
3. APPLY LIGHT TRANSVERSE BROOM FINISH.
4. SIDEWALKS NOT ADJACENT TO BUILDINGS SHALL HAVE THICKENED 12" EDGE ON BOTH SIDES AND SHALL MATCH GRADE OF FINISHED SURFACE ON BOTH SIDES.

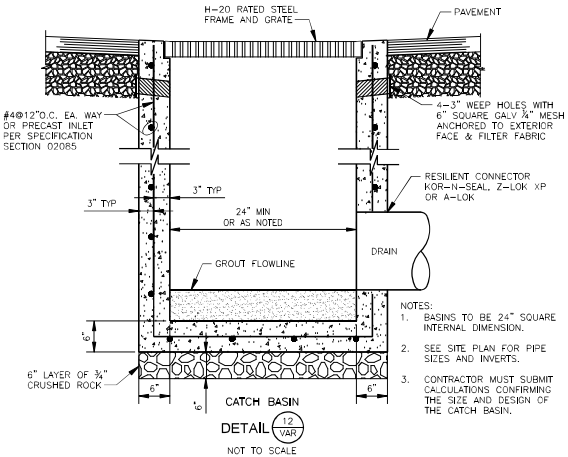
CONCRETE SIDEWALK
DETAIL 2/VAR
NOT TO SCALE



BASIN LINER
DETAIL 3/VAR
NOT TO SCALE

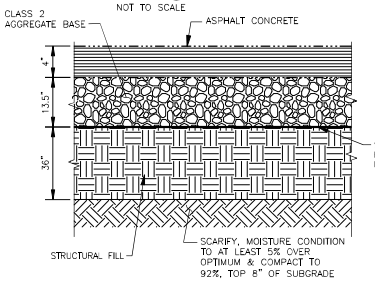


GRAVEL SECTION
DETAIL 4/VAR
NOT TO SCALE

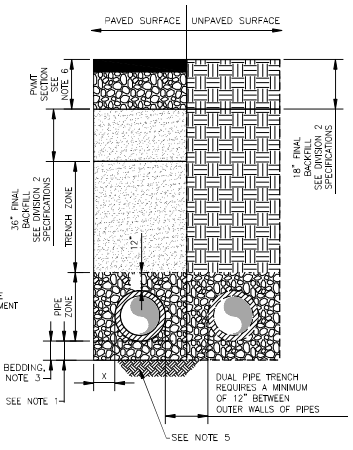


NOTES:
1. BASINS TO BE 24" SQUARE INTERNAL DIMENSION.
2. SEE SITE PLAN FOR PIPE SIZES AND INVERTS.
3. CONTRACTOR MUST SUBMIT CALCULATIONS CONFIRMING THE SIZE AND DESIGN OF THE CATCH BASIN.

CATCH BASIN
DETAIL 12/VAR
NOT TO SCALE

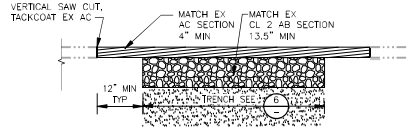


ASPHALT CONCRETE PAVEMENT
DETAIL 5/VAR
NOT TO SCALE



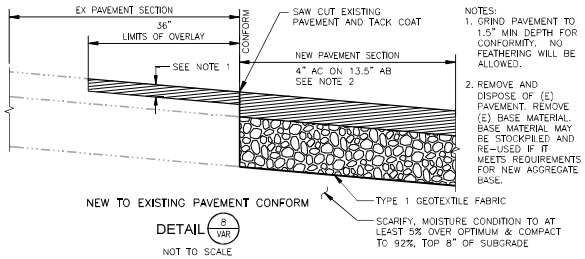
PIPE TRENCH
DETAIL 6/VAR
NOT TO SCALE

PIPE TRENCH NOTES:
1. BEDDING DIMENSION "Y" SHALL BE A MINIMUM OF 12" FOR PIPE SIZES GREATER THAN 24 INCHES AND A MINIMUM OF 6" FOR PIPES LESS THAN OR EQUAL TO 24 INCHES.
2. CLEARANCE DIMENSION "X" SHALL BE A MINIMUM OF 18" FOR PIPE SIZES GREATER THAN 36 INCHES AND A MINIMUM OF 6" AND A MAXIMUM OF 12" FOR PIPES LESS THAN OR EQUAL TO 36 INCHES.
3. PLACE BEDDING MATERIAL, COMPACT TO 95% RELATIVE COMPACTION FOR FIRM & UNIFORM BEDDING, & BRING TO GRADE OF THE BOTTOM OF PIPE.
4. BEDDING, PIPE ZONE AND TRENCH ZONE MATERIAL PER DIVISION 2 SPECIFICATIONS.
5. IF TRENCH BOTTOM IS WET, PLACE 12" MINIMUM LAYER OF 3/4" CRUSHED ROCK WRAPPED IN FILTER FABRIC IN SUB BEDDING ZONE AS NECESSARY TO MAINTAIN A FIRM AND STABLE BASE AND MAINTAIN THE GROUND WATER LEVEL BELOW PIPE LAYING OPERATIONS.
6. FOR PAVEMENT REPAIR FOR TRENCHES THROUGH EX PAVEMENT SEE DETAIL 7/—



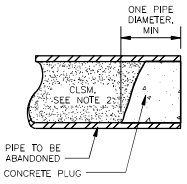
TRENCH PAVEMENT REPAIR NOTES:
1. FOR GRAVEL PAVEMENT MATCH EXISTING GRAVEL PAVEMENT SECTION.
2. FOR AREAS OUTSIDE OF PAVEMENT TOP 12" OF TRENCH TO BE NATIVE MATERIAL.

TRENCH PAVEMENT REPAIR
DETAIL 7/VAR
NOT TO SCALE



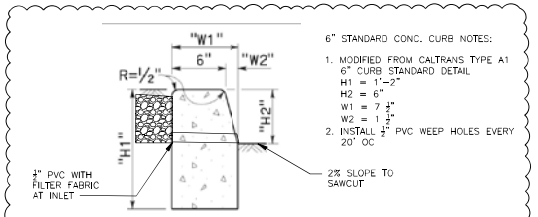
NOTES:
1. GRIND PAVEMENT TO 1.5" MIN DEPTH FOR CONFORMITY. NO FEATHERING WILL BE ALLOWED.
2. REMOVE AND DISPOSE OF (E) PAVEMENT. REMOVE (E) BASE MATERIAL. BASE MATERIAL MAY BE STOCKPILED AND RE-USED IF IT MEETS REQUIREMENTS FOR NEW AGGREGATE BASE.

NEW TO EXISTING PAVEMENT CONFORM
DETAIL 8/VAR
NOT TO SCALE



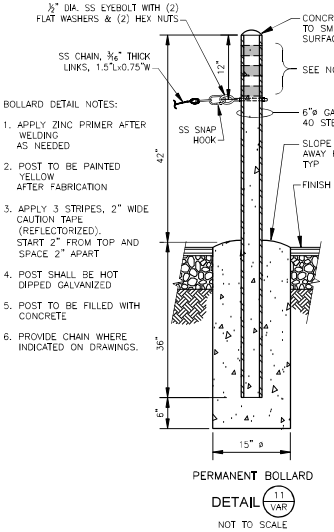
NOTES:
1. PLUG AND ABANDON PIPING WHERE INDICATED ON DWG's.
2. COMPLETELY FILL PIPE WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) PER SPEC SECTION 02081.

ABANDONED PIPE & PIPE PLUGS
DETAIL 9/VAR
NOT TO SCALE



6" STANDARD CONC. CURB NOTES:
1. MODIFIED FROM CALTRANS TYPE A1 6" CURB STANDARD DETAIL
   H1 = 1'-2"
   H2 = 6"
   W1 = 7 ½"
   W2 = 1 ½"
2. INSTALL ½" PVC WEEP HOLES EVERY 20' OC

TYPE A1 CURBS
6" STANDARD CONC. CURB
DETAIL 10/VAR
NOT TO SCALE



BOLLARD DETAIL NOTES:
1. APPLY ZINC PRIMER AFTER WELDING AS NEEDED
2. POST TO BE PAINTED YELLOW AFTER FABRICATION
3. APPLY 3 STRIPES, 2" WIDE CAUTION TAPE (REFLECTORIZED). START 2" FROM TOP AND SPACE 2" APART
4. POST SHALL BE HOT DIPPED GALVANIZED
5. POST TO BE FILLED WITH CONCRETE
6. PROVIDE CHAIN WHERE INDICATED ON DRAWINGS.

PERMANENT BOLLARD
DETAIL 11/VAR
NOT TO SCALE

LINE IS 2 INCHES AT FULL SCALE
IF NOT 2 INCHES, SCALE ACCORDINGLY

DESIGN		REVIEW	
DRAWN BY	SMB	PLNNG./DEVL.	
DESIGN BY	TS	FIELD OPS.	
CHECKED BY	AMS	WWTP OPS.	
PROJ. MGR.	JC	MECH./MAINT.	
RECOM'D	DSRSD PRINCIPAL ENGINEER	ELECT./INSTR.	
		SCALE AS SHOWN	DATE

DATE	REVISIONS AND RECORD OF ISSUE	NO.	BY	CK	APP
05/2026	ADDENDUM NO. 3	1	KME		

REGISTERED PROFESSIONAL ENGINEER — WILLIAM JAMES SCHILLING — No. 75959 Exp. 6-30-26 — CIVIL — STATE OF CALIFORNIA

WEST YOST
Water. Engineered.

DUBLIN SAN RAMON SERVICES DISTRICT
7051 Dublin Blvd., Dublin, CA 94568 (925) 828-0515

HYPOCHLORITE BUILDING REHABILITATION

CIVIL DETAILS

CIP NO. 22-P021

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