

SECTION 00902

ADDENDUM NO. 2

1. GENERAL

Scope

This addendum modifies the Contract Documents dated March 17, 2020, for the San Lorenzo Valley Water District Lyon and Big Steel Pipelines Improvements Project, and the work shall be accomplished in accordance with such modifications. This Addendum includes two (2) pages plus six (6) attachments (total of 27 pages).

The Addenda includes Contractor Information Items, responses to questions, changes to the Bid and Contract Documents, followed by attachments.

Note: The Bid Date is January 26, 2023.

Acknowledgment

Bidders must acknowledge this addendum as part of the bid submission by completing bidder's acknowledgment of addenda (Section 00300). Failure to acknowledge the addendum may constitute grounds for rejection of the bid.

2. CONTRACTOR INFORMATION ITEMS

- A. None.

3. RESPONSES TO QUESTIONS

- A. Is it possible to add a bid item for slurry seal with an estimated quantity? Not having a bid item leaves this scope open to interpretation and may not allow for an apples-to-apples bid comparison.
- a. Yes. A bid item for Type II Slurry Seal is added. Bid items that include trench repaving shall still include the associated cost of asphalt concrete.
- B. There are two PRV items; item 18, PRV Station in Pine St., and item 19, PRV Station in Lorenzo St. I am only seeing the PRV station in Pine. I do not see a PRV station in Lorenzo. Can you clarify?
- a. Sheet C4.9 is revised to add a callout for the PRV station in Lorenzo Stret. The PRV station is detailed on sheet C5.3.
- C. Please clarify the requirements of Spec Section 32 12 16 ASPHALT PAVING AND SEALS. Are we to HMAC Pave or repave all road surfaces within the public Right of Way, etc., or are we to provide a Slurry Seal? Or both?
- a. Trench repairs require hot mix asphalt concrete for the trench and trench cap. Slurry seal of the trench cap and adjacent pavement is required to the limits set in the encroachment permit. The County's most recent encroachment permit detailed are attached.
- D. Please clarify the screenings and the double seal coat verbiage in Spec Section 32 12 16, 1.05 SLURRY SEAL COAT.

- a. Slurry seal consists of asphaltic emulsion, aggregate screenings, set-control additives and water. The specification is revised to removed the double seal coat requirement and add the screenings gradation requirement.

4. CHANGES TO VOLUME 1, CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS

The following sections are amended as noted:

- A. Section 01 20 00, Measurement and Payment, is reissued with the following changes:
 - a. Bid Item 42, Type II Slurry Seal is added.
 - b. Bid Items 4, 5 and 6 are revised to state that slurry sealing is paid separately.
- B. Section 32 12 16, Asphalt Paving and Coatings, is reissued with the following changes:
 - a. The requirement for double seal slurry coating is removed.
 - b. The reference for aggregate screenings gradation is added.

5. CHANGES TO VOLUME 2, BID FORMS

- A. Section 00300, Bid Proposal, is reissued with the following corrections:
 - a. Bid Item 42, Type II Slurry Seal is added.

6. CHANGES TO CONTRACT DRAWINGS

The following sheets are amended as noted, and provided as attachments:

- A. Sheet C4.9, Detail P is revised to call out the Lorenzo Street PRV Vault. The changed sheet is attached.
- B. Sheets C6.2 and C6.3 are revised to add the latest Santa Cruz County Encroachment Permit Details. The changed sheets are attached.

END OF SECTION 00901

SECTION 00300

BID PROPOSAL

San Lorenzo Valley Water District
13060 CA-9
Boulder Creek, CA 95006

Ladies and Gentlemen:

The undersigned hereby proposes to perform all Work for which a Contract may be awarded him/her and to furnish any and all plant, labor, services, materials, tools, equipment, supplies, transportation, utilities, water, and all other items and facilities necessary therefore as provided in the Contract Documents, and to do everything required therein for the Work as set forth in the documents entitled:

Lyon & Big Steel Zone Pipeline Improvements

Together with appurtenances thereto, all as set forth on the Bid Package and other Contract Documents; and he/she further proposes and agrees that, if this Bid is accepted, he/she will contract in the form and manner stipulated to perform all the Work called for by Drawings, Specifications, and other Contract Documents, and to complete all such Work in strict conformity therewith within the time limits set forth therein, and that he/she will accept as full payment therefore the prices set forth in the Bid Schedule forming a part hereof.

It is understood and agreed that:

1. The undersigned has carefully examined all the Contract Documents which will form a part of the Contract; and all additions, deletions, modifications, appendices, and all Addenda as prepared prior to the date of bid opening setting forth any modifications or interpretations of any of said documents.
2. The undersigned has by investigation of the site of the Work and otherwise satisfied himself/herself as to the nature and location of the Work and has fully informed himself/herself as to all conditions and matters which can in any way affect the Work or the cost thereof;
3. The undersigned fully understands the scope of the Work and has checked carefully all words and figures inserted in the Bid and he/she further understands that SLVWD will in no way be responsible for any errors or omissions in the preparation of this Bid;
4. The undersigned will execute the Contract Agreement and furnish the required proof of insurance coverage within ten (10) work days (not including Sundays and holidays) after Notice of Award to him/her of acceptance of his/her Bid by SLVWD.
5. The undersigned Bidder further agrees that if he/she shall fail to complete the Work within the Contract Time and any authorized extension thereof, he/she shall pay liquidated damages in the amount specified in the Contract Agreement to SLVWD for each calendar day of unauthorized delay in completion of the Work, until the Work is

completed unless another amount is agreed to and stated in the Contract Agreement.

6. The undersigned hereby certifies that this proposal is not made in the interest of; or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.
7. In conformance with current statutory requirements of Section 1860, et seq., of the Labor Code of the State of California, the undersigned confirms the following as his/her certification; I am aware of the provision of Section 3700 of the Labor Code which require every employer to be insured against liability for workmen's compensation or to undertake self insurance in accordance with the provisions before commencing the performance of the Work of this Contract.
8. SLVWD has obtained from the Director of the Department of Industrial Relations ("DIR") the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work in the locality in which the Public Work is to be performed for each craft, classification or type of workman needed to execute this Contract. (Copies of the wage determination are on file and may be obtained by interested parties at the office of SLVWD). The Contractor and all Subcontractors shall comply with all requirements and provisions of Section 1775 and 1776 of the California Labor Code. The Contractor shall forfeit, as a penalty to SLVWD, two-hundred dollars (\$200.00), for each calendar day, or portion thereof, for each worker paid less than stipulated prevailing rates for Work done under the Contract Agreement by him, or any Subcontractor under him, in violation of the provisions of the California Labor Code. Copies of these wage determinations shall be posted and maintained at the job site by the successful bidding Contractor.
 - a. Subject to the provisions of Section 1810 to 1815, inclusive, of the California Labor Code, the time of service of any laborer, workman, or mechanic employed on the Work shall be limited and restricted to eight (8) hours during any one (1) calendar day and forty (40) hours in any one (1) calendar week, except as otherwise provided in said sections, and the Contractor shall forfeit to SLVWD as a penalty, twenty-five dollars (\$25.00) for each laborer, worker, or mechanic employed in the execution of the Work by him or any Subcontractor under him for each calendar day during which such laborer, worker, or mechanic is required

- or permitted to labor more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of provisions of the California Labor Code.
- b. The Contractor and all Subcontractors shall conform to all the requirements of Sections 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any Subcontractor under him. The Contractor shall provide SLVWD with a copy of the contract award information at the time that information is submitted to the applicable apprenticeship program. Within sixty (60) calendar days after concluding the Work pursuant to this Contract, the Contractor shall submit, and require each Subcontractor under him to submit, to SLVWD and the apprenticeship program a verified statement of the journeyman and apprentice hours performed on the Contract.
 - c. Contractor and all Subcontractors shall comply with Sections 1776 and 1771.4(a)(3) of the California Labor Code, regarding payroll records, and shall be subject to penalties for violation thereof. The Contractor shall cause a clause identical to Section 00800CA, Paragraph K to be included in every subcontract for Work pursuant to this Contract.
 - d. Contractor shall not perform work with a Subcontractor who is ineligible to perform work on a public works project pursuant to Sections 1777.1 or 1777.7 of the California Labor Code.
9. In compliance with Section 1725.5 of the California Labor Code, Contractor must be, and must require all Subcontractors be, registered with the DIR prior to execution of the Contract Agreement. Contractor and all Subcontractors who bid or work on, and/or who are awarded the Contract Agreement, must be registered with and pay an annual fee to the DIR. Neither Contractor nor any Subcontractors may be listed on this Bid Proposal unless registered with the DIR pursuant to Section 1725.5 of the Labor Code. Neither Contractor nor any Subcontractors may be awarded the Contract Agreement unless registered with the DIR pursuant to Section 1725.5 of the Labor Code. This project is subject to compliance monitoring and enforcement by the DIR. Contractor shall submit proof of current DIR registration, and shall require all Subcontractors to submit proof of current DIR registration, to SLVWD prior to commencing work on this project.
10. In compliance with the provisions of Section 4100-4114 of the Public Contract Code of the State of California, and any amendments thereof, the undersigned Bidder has set forth below the name and the location of the place of business of each Subcontractor who will perform work or labor or render service to the Contractor in or about the construction of the Work to be performed under the Contract Documents in which this Bid is responsive, and where the portion of the Work which will be done by each Subcontractor for each subcontract is in excess of one-half of one percent (0.5%) of the Total Bid. The undersigned Bidder understands that if he/she fails to specify a Subcontractor for any portion of the Work or specifies more than one subcontractor for any portion of the Work, he/she shall be deemed to have agreed to perform such portion himself/herself and that he/she shall not be permitted to sublet or subcontract that portion of the Work except in cases of public emergency or

necessity, and then only after a finding is reduced to writing as a public record of SLVWD setting forth the facts constituting the emergency or necessity.

11. Receipt is hereby acknowledged of addenda number(s) _____ through _____.
12. The undersigned is licensed in accordance with the Laws of the State of California:
License Number _____ Class _____,
Expiration Date _____.
13. The undersign is registered with the California Department of Industrial Relations,
DIR Registration Number: _____.
14. If the Bidder is a partnership, corporation, or joint venture, the undersigned certifies that he/she is entitled to execute and submit this Bid proposal on behalf of bidder.
15. In signing below, the Bidder certifies that its Total Bid includes funds sufficient to allow the Bidder to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided under the Contract. Furthermore, the Bidder hereby indemnifies SLVWD for liabilities and penalties for violations of Section 2810 of the California Labor Code.

NOW: In compliance with all the provisions herein before stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the entire Work for the prices set forth in the attached Schedule(s) upon which Award of Contract is made. (A duly authorized officer of the company may sign on the president's behalf.)

Individual Name: _____

Contractor Address: _____

Partnership Name: _____

Business Address: _____

Phone No.: _____

By: _____, Partner

Other Partners: _____

Corporation: Name: _____

Business Address: _____

Business Address: _____

Phone No.: _____

Name: _____,

Title: _____,

Organized under the laws of the State of _____.

Date: _____

(Place

By: _____

Signature

Seal

Here)

(Print Name and Title)

**LYON & BIG STEEL ZONE PIPELINE IMPROVEMENTS
BID SCHEDULE**

ITEM NO.	ITEM/DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
1	Mobilization/Demobilization	1	LS		
2	Sheeting, Shoring and Bracing	1	LS		
3	Traffic Control	1	LS		
4	12" Ductile Iron Water Main	11,200	LF		
5	8" Ductile Iron Water Main	660	LF		
6	6" Ductile Iron Water Main	130	LF		
7	Connect to Existing 8" at Big Steel Tank	1	LS		
8	Connect to Existing 12" Lyon Zone Valve at Big Steel Tank Site	1	LS		
9	Connect to Existing 6" Main at Boulder Brook Drive STA 207+25	1	LS		
10	Connect to Existing 4" Main at Boulder Brook Drive STA 100+93	1	LS		
11	Connect to Existing 8" Big Steel Zone Pipe STA 107+75	1	LS		
12	Connect to Existing 6" Main at Paone Drive	1	LS		
13	Blackstone 2" PRV at STA 123+41	1	LS		
14	Connect to Existing 2" Main at Hazel Ave. & Davidson Ave.	1	LS		
15	Connect to Existing 2" Main in Laurel St.	1	LS		
16	Connect to Existing 2" Main in Oak St.	1	LS		
17	Connect to Existing 8" Main in Big Basin Way at Pine Street	1	LS		
18	PRV Station in Pine Street	1	LS		
19	Connect to Existing 8" in HWY 9 at Lorenzo St.	1	LS		
20	PRV Station in Lorenzo Street	1	LS		
21	Connect to Existing 6" & 4" Mains at Lomond St. and Pine St. Intersection	1	LS		
22	Connect to Existing 8" Main in HWY 9 at Forest St.	1	LS		

Revised per Addenda No. 1 and 2

ITEM NO.	ITEM/DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
23	Connect to Existing 8" Main in HWY 9 at Lomond St.	1	LS		
24	Connect to Existing 12" Main at Lomond St. & East Lomond St.	1	LS		
25	Connect to Existing 2" Main at Railroad Ave.	1	LS		
26	Connect to Existing 2" Main at Junction Ave.	1	LS		
27	Connect to Existing 6" Main at Middleton Ave.	1	LS		
28	Connect to Existing 6" Main at Fairview Ave.	1	LS		
29	Connect to Existing 12" Main in Irwin Way	1	LS		
30	Lomond Street/Irwin Way Bridge Pipe Hanger Installation	1	LS		
31	Bear Creek Zone & Reader Zone Inter-tie Valving	1	LS		
32A	1" Water Service	71	EA		
32B	1" Water Lateral	3500	LF		
33A	2" Water Service	6	EA		
33B	2" Water Lateral	300	LF		
<u>34</u>	2" Air-Vac Valve	4	EA		
35	Blow-Off Valve	4	<u>EA</u>		
36	Fire Hydrants	12	EA		
37	Abandon Existing Water Main, each site	23	EA		
38	Remove Existing 12" Pipe Crossing Over San Lorenzo River at E. Lomond St to Irwin Way	1	LS		
39	Additional AC Paving	100	SY		
40	Additional Slurry Backfill	100	CY		
41	Permits Allowance	1	ALW	\$60,000	\$60,000
<u>42</u>	<u>Type II Slurry Seal</u>	<u>15,000</u>	<u>SY</u>		
TOTAL BID PRICE:				\$	
Units: ALW=Allowance, CF=Cubic Foot, CY=Cubic Yard, DY=Day, HR=Hour, LF=Linear Foot, LS=Lump Sum. SF=Square Foot. SY=Square Yard. VLF=Vertical Linear Foot					

TOTAL BID (in words): _____

END OF SECTION 00300

SECTION 01 20 00

MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Methods of Measurement
- B. Description of Bid Items

1.02 METHODS OF MEASUREMENT

- A. Materials and items of work which are to be paid for on the basis of measurement shall be measured in accordance with the method stipulated in the particular sections involved. In determining quantities, all measurements shall be made in a horizontal plane unless otherwise specified.
- B. Measurements shall be in accordance with U.S. Standard Measures. A pound is an avoirdupois pound. A ton is 2,000 pounds avoirdupois. The unit of liquid measure is the U.S. gallon. The unit of length is feet. The unit of volume is cubic yards.
- C. Material not used from a transporting vehicle shall be determined by the ENGINEER and deducted from the certified tag.
- D. When material is to be measured and paid for on a volume basis and it would be impractical to determine the volume, or when requested by the CONTRACTOR in writing and approved by the ENGINEER in writing, the material will be weighed and converted to volume measurement for payment purposes. Factors for conversion from weight measurement to volume measurement will be determined by the ENGINEER and shall be agreed to by the CONTRACTOR before such method of measurement of pay quantities will be adopted.
- E. Full compensation for all expense involved in conforming to the above requirements for measuring and weighing materials shall be considered as included in the unit prices paid for the materials being measured or weighed and no additional allowances will be made therefore.
- F. Quantities of material wasted or disposed of in a manner not called for under the Contract; or rejected loads of material, including material rejected after it has been placed by reason of failure of the CONTRACTOR to conform to the provisions of the Contract; or material not unloaded from the transporting vehicle; or material placed outside the lines indicated on the plans or given by the ENGINEER; or material remaining on hand after completion of the Contract, will not be paid for and such quantities will not be included in the final total quantities. No compensation will be allowed for hauling rejected material.
- G. Bid items include all work necessary to complete the specific item described and not otherwise included in other bid items. The CONTRACTOR shall include in each bid item

all costs required to construct the work in accordance with the Contract Documents and as identified below.

1.03 DESCRIPTION OF BID ITEMS

A. Bid Item 1: Mobilization/Demobilization.

1. The lump sum bid price for this item shall constitute full compensation for mobilization and demobilization including but not limited to equipment shipping and delivery, equipment set up, materials shipping and delivery, utility coordination, permitting including the Santa Cruz County Construction Permit, removal of equipment, and project closeout. The Mobilization/Demobilization bid item shall not be in excess of five percent (5%) of the total bid schedule. Twenty-five percent (25%) of the total Mobilization/Demobilization bid price shall be considered the cost of Demobilization and will not be paid until completion of the work.

B. Bid Item 2: Sheeting, Shoring and Bracing.

1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide sheeting, shoring and bracing of excavations, trenches and grading as required in the Contract Documents. Cost shall include any engineering or geotechnical investigations performed by the CONTRACTOR.

C. Bid Item 3: Traffic Control

1. The lump sum bid price for this item shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide traffic control for the Work as required in the Contract Documents. Price shall include, but is not limited to, signage, flagmen, lights and barricades.

D. Bid Item 4: 12" Ductile Iron Water Main.

1. The unit price per linear foot shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide 12-inch ductile iron water main. Price shall include, but is not limited to, pipe, fittings, thrust restraints, temporary caps or plugs, disinfection, pressure testing, final connection to system, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. Include the cost of hydrant laterals and hydrant gate valves in the bid item for hydrants.
3. Include the cost of branch valves and fittings in the bid item for the associated lateral pipeline connection.
4. Slurry sealing the trench repair is paid separately.
5. Measurement shall be along the final installed alignment, as measured in the field.

E. Bid Item 5: 8" Ductile Iron Water Main.

1. The unit price per linear foot shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide 8-inch ductile iron water main. Price shall include, but is not limited to, pipe, fittings, thrust restraints, temporary caps or plugs, disinfection, pressure testing, final connection to system, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. Include the cost of hydrant laterals and hydrant gate valves in the bid item for hydrants.

3. Include the cost of branch valves and fittings in the bid item for the associated lateral pipeline connection.
 4. Slurry sealing the trench repair is paid separately.
 5. Measurement shall be along the final installed alignment, as measured in the field.
- F. Bid Item 6: 6" Ductile Iron Water Main.
1. The unit price per linear foot shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide 6-inch ductile iron water main. Price shall include, but is not limited to, pipe, fittings, thrust restraints, temporary caps or plugs, disinfection, pressure testing, final connection to system, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
 2. Include the cost of hydrant laterals and hydrant gate valves in the bid item for hydrants.
 3. Include the cost of branch valves and fittings in the bid item for the associated lateral pipeline connection.
 4. Slurry sealing the trench repair is paid separately.
 5. Measurement shall be along the final installed alignment, as measured in the field.
- G. Bid Item 7: Connect to existing 8" Valve at Big Steel Tank
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing 8" outlet valve on the Big Steel Tank. Price shall include, but is not limited to, 8-to-12-inch reducer, elbows, pipe, thrust restraint, excavation, backfill, compaction, repaving, removal and disposal of the existing pipe and fittings and all other work or appurtenances required for a complete installation.
- H. Bid Item 8: Connect to existing 12" Lyon Zone Valve at Big Steel Tank Site
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing 12" valve at the Big Steel Tank Site. Price shall include, but is not limited to, fittings, thrust restraint, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- I. Bid Item 9: Connect to existing 6" Main at Boulder Brook Drive, STA 207+25
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- J. Bid Item 10: Connect to existing 4" Main at Boulder Brook Drive, STA 100+93
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

K. Bid Item 11: Connect to existing 8" Big Steel Pipeline, STA 107+75

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

L. Bid Item 12: Connect to existing 6" Main at Paone Drive

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

M. Bid Item 13: Blackstone 2" PRV, STA 123+41

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" Lyon Zone water main to the existing 2" Blackstone Zone water main through a 2-inch pressure reducing valve (PRV), as shown on the Drawings. Price shall include, but is not limited to, the 8x2 tee, 2-inch valves, 2-inch PE tubing, fittings, valves, angle stops, PRV, traffic-rated valve box, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. Pay item includes potholing the existing Big Steel main, disconnecting the existing 2-inch service and providing a plug or cap on the existing main.
3. Pay item includes adding 2" valve and Reader Zone connection at Park Avenue and Upland Drive.

N. Bid Item 14: Connect to existing 2" Main at Hazel Ave & Davidson Ave

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

O. Bid Item 15: Connect to existing 2" Main at Laurel Street

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

P. Bid Item 16: Connect to existing 2" Main at Oak Street

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited

to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

Q. Bid Item 17: Connect to existing 8" Main in Big Basin Way at Pine Street Intersection

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing 8" water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

R. Bid Item 18: PRV Station in Pine Street

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a dual 8-inch/2-inch pressure reducing valve station in Pine Street as shown on the Drawings. Price shall include, but not be limited to, pressure reducing valve, concrete vault and base, lid, gate valves, fittings, thrust restraint, disinfection, pressure testing, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

S. Bid Item 19: Connect to existing 8" Main at Hwy 9 and Lorenzo Street

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

T. Bid Item 20: PRV Station in Lorenzo Street

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a dual 8-inch/6-inch pressure reducing valve station in Lorenzo Street as shown on the Drawings. Price shall include, but not be limited to, pressure reducing valves, concrete vault and base, lid, gate valves, fittings, thrust restraint, disinfection, pressure testing, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. This item includes removing the existing 8" check valve, manhole and associated valves and tees in Hwy 9, replacing it with an 8" pipe, and backfilling and repaving the trench, as shown on the Drawings.

U. Bid Item 21: Connect to existing 6" and 4" Mains at Lomond and Pine Streets Intersection

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

V. Bid Item 22: Connect to existing 8" Main at Forest Ave and Hwy 9

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- W. Bid Item 23: Connect to existing 8" Main at Hwy 9 and Lomond Street
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- X. Bid Item 24: Connect to existing 12" Main at Lomond and East Lomond Streets
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- Y. Bid Item 25: Connect to existing 2" Main at Railroad Avenue
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- Z. Bid Item 26: Connect to existing 2" Main at Junction Avenue
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- AA. Bid Item 27: Connect to existing 6" Main at Middleton Ave
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
- BB. Bid Item 28: Connect to existing 6" Main at Fairview Ave
1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the

existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

CC. Bid Item 29: Connect to existing 12" Main in Irwin Way

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to connect the new 12" water main to the existing water main, as shown on the Drawings. Price shall include, but is not limited to, fittings, valves, pipes, thrust restraint, potholing to locate existing pipe, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

DD. Bid item 30: 12-inch Pipeline on Lomond Street/Irwin Way Bridge.

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a 12-inch steel pipeline attached to the Lomond Street/Irwin Way Bridge. Price shall include, but is not limited to, schedule 40 galvanized steel pipe and fittings, pipe hangers, concrete anchors, dielectric couplings, concrete pipe supports and all other work or appurtenances required for a complete installation.
2. Pay item includes all Work from the first buried elbow outside the west bridge wing wall to the first buried elbow outside the east bridge wingwall.
3. Pay item include removal of the existing 6-inch water main on the bridge face when no longer in service.

EE. Bid item 31: Bear Creek & Reader Zones Inter-tie Valve.

1. The lump sum bid price shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide an 8-inch check valve on the existing 8-inch water main in Bear Creek Road. Price shall include, but is not limited to, fittings, valves, valve cans, flexible couplings, excavation, thrust restraint, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

FF. Bid Item 32A: 1" Water Service.

1. The unit bid price per service shall constitute full compensation for all material, labor, equipment, tools, and services necessary to replace existing water service laterals and meters. Price shall include, but is not limited to, tapping saddle, corporation stop, meter setter or angle stop, meter box, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. The cost of the 1-inch PE service lateral is paid separately under item 32B.
3. Item includes pot-holing the existing main, shutting off and plugging the existing connection at the corporation stop.
4. Item includes customer notifications with signage and door hangers.
5. Owner shall furnish replacement water meters, if needed.

GG. Bid Item 32B: 1" Water Lateral.

1. The unit bid price per linear foot shall constitute full compensation for all material, labor, equipment, tools, and services necessary to replace existing water service laterals.

Price shall include the 1-inch PE water service lateral and associated excavation, backfill, compaction, repaving and all other work required for a complete installation.

HH. Bid Item 33A: 2" Water Service.

1. The unit bid price per service shall constitute full compensation for all material, labor, equipment, tools, and services necessary to replace existing water service laterals and meters. Price shall include, but is not limited to, tapping saddle, 2-inch gate valve, threaded nipples, corporation or angle stop, meter box, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.
2. The cost of the 2-inch PE service lateral is paid separately under item 33B.
3. Item includes pot-holing the existing main, shutting off and plugging the existing connection at the corporation stop.
4. Item includes customer notifications with signage and door hangers.
5. Owner shall furnish replacement water meters, if needed.

II. Bid Item 33B: 2" Water Lateral.

1. The unit bid price per linear foot shall constitute full compensation for all material, labor, equipment, tools, and services necessary to replace existing water service laterals. Price shall include the 2-inch PE water service lateral and associated excavation, backfill, compaction, repaving and all other work required for a complete installation.

JJ. Bid Item 34: 2" Air-Vac Valve.

1. The unit price per valve shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a combination air-relief and vacuum breaker valve as shown on the Drawings. Price shall include, but not be limited to, tapping saddle, corporation stop, piping, concrete pedestal, valves, enclosure, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

KK. Bid Item 35: Blow Off Valve

1. The unit price per valve shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a dead-end blow-off as shown on the Drawings. Price shall include, but not be limited to, eccentric reducer, 2-inch gate valve, 2-inch pipe and fittings, mechanical restraints, valve cans, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

LL. Bid Item 36: Fire Hydrants.

1. The unit bid price per hydrant shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide a fire hydrant. Price shall include, but not be limited to, tee fitting, gate valve, ductile iron hydrant lateral, hydrant bury, break-away check valve, residential hydrant, concrete support block and collar, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

MM. Bid Item 37: Abandon Existing Water Mains, Each Location

1. The unit bid price per location shall constitute full compensation for all material, labor, equipment, tools, and services necessary to abandon existing water mains as shown on the Drawings. Price shall include, but not be limited to, exposing, cutting and draining

the pipe, providing mechanical caps or grout plugs, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

NN. Bid Item 38: Remove Existing 12” Pipe Crossing Over San Lorenzo River at E. Lomond Street to Irwin Way

1. The unit bid price per location shall constitute full compensation for all material, labor, equipment, tools, and services necessary to abandon existing water mains as shown on the Drawings. Price shall include, but not be limited to, exposing, cutting and draining the pipe, removing the exposed portion of the pipeline above the river, plugging the remaining pipeline segments and providing caps on the existing water mains to remain, excavation, backfill, compaction, repaving and all other work or appurtenances required for a complete installation.

OO. Bid Item 39: Additional AC Paving

1. The unit bid price per square yard shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide additional asphalt concrete paving, 4-inches thick, outside the limits of the T-cut for trench restoration.
2. Measurement shall be in-place limits of the additional pavement (length x width).
3. This Bid Item establishes a unit rate for additional unforeseen work.

PP. Bid Item 40: Additional Slurry Backfill

1. The unit bid price per cubic yard shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide additional 2-sack slurry backfill outside the limits of the pipe trench and to dispose of unsuitable native material.
2. Measurement shall be in-place limits of the additional trench (length x width x depth).
3. This Bid Item establishes a unit rate for additional unforeseen work.

QQ. Bid Item 41: Permits Allowance

1. This allowance is for the reimbursement of the permit fees charged by the County of Santa Cruz and/or Caltrans for Encroachment Permits. The value of this allowance is pre-entered in the Bid Form.
2. Payment under this item shall be for the actual cost of the permit fees, as reflected on the issuing agency invoices. Contractor’s costs with respect to obtaining permits shall be included under other Bid items, as applicable.

RR. Bid item 42: Type II Slurry Seal

1. The unit bid price per square yard shall constitute full compensation for all material, labor, equipment, tools, and services necessary to provide Type II slurry seal over repaved trenches and adjacent areas, as required under the encroachment permits.
2. Measurement shall be in-place limits of the applied slurry seal (length x width).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 32 12 16

ASPHALT PAVING AND SEALS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes:
- B. Asphalt Paving
- C. Fog Seal
- D. Slurry Seal
- E. Related Sections:
 - 1. Section 31 23 00 – Trenching, Backfilling and Compacting

1.02 REFERENCES

- A. Standard Specifications, State of California, Department of Transportation (CalTrans), 2015 Edition (State Standard Specifications)

1.03 DESCRIPTION

- A. The Contractor shall pave or repave all road surfaces within public Right-of -Ways, private right-of-ways, driveways, drainage courses, and other surfaces as provided for in the Contract Documents. Except as provided for in the Contract Documents, all paving materials shall be constructed of asphalt concrete or an asphaltic emulsion, with or without aggregate.
- B. Paint binder (tack coat) shall be applied to the vertical surface of all structures to which new asphalt concrete will abut. Additionally, where the Contract Documents provide for the placement of new asphalt concrete over existing pavement surfaces, a tack coat shall be applied to the surface of the old pavement. Where called for in the Contract Documents, the surface of aggregate base shall receive a prime coat of liquid asphalt immediately prior to commencing paving operations.
- C. Miscellaneous areas shall be those areas or structures called for in the Contract Documents to be surfaced or constructed of asphalt concrete. Such areas shall include but not be limited to, drainage ditches, equipment pads, walkways, and asphalt dikes.
- D. Asphalt Dikes - Asphalt dikes shall be constructed to the line and grade provided for in the Contract Documents. Asphalt dikes whose continuous length exceeds 5 linear feet shall be constructed by the use of an extrusion machine.

1.04 FOG SEAL

- A. Where provided for in the Contract Documents or required under an encroachment permit, the Contractor shall apply a fog seal that covers the repaved trench section and the adjacent street pavement. The Engineer shall determine the limits of the fog seal application. Such fog seal shall be constructed in accordance with the provisions of Section 37, "Bituminous Seals" of the State Standard Specifications. The exact proportion of water to asphaltic emulsion shall be determined by the Contractor up to a maximum of one part water to one part asphaltic emulsion.

1.05 SLURRY SEAL COAT

- A. Where provided for in the Contract Documents or required under an encroachment permit, the Contractor shall construct a seal coat of asphaltic emulsion and screenings that covers the repaved trench section and the adjacent street pavement. The Engineer shall determine the limits of the seal coat application. Such seal coat shall be constructed in accordance with the provisions of Section 37, "Bituminous Seals" of the State Standard Specifications ~~for a double seal coat. A Certificate of Compliance shall be submitted for all materials used in constructing the double seal coat.~~

1.06 SUBMITTALS

- A. Provide submittals in accordance with Section 01 30 00, Contractor Submittals.
- B. Submit certificates of compliance for materials provided under this section.

PART 2 - PRODUCTS

2.01 ASPHALT CONCRETE PAVEMENT

- A. Asphalt concrete pavement shall be in accordance with the provisions of Section 39, "Hot Mix Asphalt" of the State Standard Specifications and this Section. Except as provided for in the Contract Documents, a Certificate of Compliance shall be submitted in lieu of the testing and reporting requirements of the State Standard Specifications.
- B. Aggregate - Except as provided for in the Contract Documents, all asphalt concrete used in the construction of asphalt concrete pavements shall be Type "B" meeting the gradation requirements for ½-inch maximum, medium of Section 39-1.02E, "Aggregate" of the State Standard Specifications.
- C. Asphalt Binder - Asphalt binder for asphalt concrete shall be a steam refined asphalt, Grade PG 64-10, conforming with the requirements of Section 92, "Asphalts" of the State Standard Specifications. The percentage of asphalt binder in asphalt concrete pavement shall be between 5-½ percent and 6 percent by weight.
- D. Asphalt Concrete for Miscellaneous Areas - The gradation of aggregate for surfacing of miscellaneous areas shall be the same as for other areas. The percentage of asphalt binder shall be increased by 1-percent by weight over that percentage for asphalt concrete placed in roadways.

2.02 COLD-MIX ASPHALT CONCRETE

- A. General - Cold-mix asphalt concrete used in temporary paving applications shall be a plant mixed product conforming with the requirements of this Section. Cold-mix may be supplied directly from the batch plant or stockpiled on the job-site.

- B. Aggregate - Aggregate shall meet the following gradation requirements:

Sieve Size	Percentage Passing
½-inch	100
¼ - inch	95-100
No. 4	58-72
No. 8	34-48
No. 30	18-32
No. 50	13-23
No. 200	2-9

- C. Asphalt Binder - Asphalt binder for cold-mix asphalt shall be Type SC-800 in accordance with the requirements of Section 93, "Liquid Asphalts" of the State Specifications. The percentage of asphalt binder shall be between 4.8 and 7.5 percent.

2.03 PAINT BINDER AND PRIME COAT

- A. Paint Binder (Tack Coat) - Paint binder shall be Type RS-1 asphaltic emulsion conforming with the provisions of Section 94, "Asphaltic Emulsions" of the State Standard Specifications.
- B. Prime Coat - Prime coat shall be Type SC-70 liquid asphalt conforming with the provisions of Section 93, "Liquid Asphalts" of the State Standard Specifications.

2.04 SLURRY SEAL

- A. Slurry seal shall consist of asphaltic emulsion, aggregate, set-control additives, and water. Submit the mix design per Section 01 30 00.
- B. Unless specified otherwise on the encroachment permit, aggregate gradation and slurry application rates shall be for Type II per Caltrans Section 37-3.

PART 3 - EXECUTION

3.01 ASPHALT PAVING

- A. Upon completion of all underground construction, including but not limited to trench backfill and aggregate base, the Contractor shall construct the final asphalt concrete surface. Such asphalt concrete surface shall be of the same depth, or greater, as the existing surface material. In no case shall the new asphalt concrete be less than 2-inches in depth.
- B. All valve boxes, manholes, monument boxes, and other adjustable structures shall be brought to grade prior to placing the final lift of asphalt concrete. Where the distance between the edge of the new pavement and the existing edge of pavement, existing curb or gutter lip, or asphalt dike is less than 2 linear feet, the existing pavement shall be removed and replaced to the edge of pavement, existing curb or gutter lip or asphalt dike.

- C. All temporary paving material, loose aggregate base, and other deleterious material shall be removed from the trench of the underlying surface. The surface of the aggregate base or sand cement slurry backfill and all abutting surfaces shall be prepared by spraying with a paint binder at a rate of 0.25 gallons per square yard. The Contractor shall prevent overspray onto adjacent pavement surfaces and other surfaces not scheduled to be paved. Paint binder shall not be tracked out of the work area by vehicles or equipment.
- D. Hot asphalt concrete shall be placed in the area to be paved and compacted by the use of rollers or vibratory plate type compaction equipment. The use of vibratory plate compaction equipment shall be limited to projects whose area totals less than 100 square feet and/or those areas where insufficient space is available for the operation of vibratory rollers. All spreading and compacting operations shall be in accordance with the provisions of Section 39, "Hot Mix Asphalt" of the State Standard Specifications except that tolerances for trench repairs will be measured by the use of a straight edge of sufficient length to span the full width of the trench plus 2-feet on each side of the trench line.
- E. If the total depth of asphalt paving exceeds 2-½ inches, the asphalt shall be laid in a minimum of 2 lifts with the maximum lift equaling 2-½ inches. The minimum thickness of any lift of asphalt concrete shall be equal to twice the maximum size aggregate in the asphalt concrete mix. Each lift shall be fully compacted and finished prior to placing the next lift except that the grade tolerances shall apply for the final lift only.
- F. All new asphalt concrete surfaces shall be abutted to adjoining surfaces along a neat sawcut line. In no case shall new asphalt be feathered over existing surface material, placed against damaged surfaces, or over or against any material not adequately prepared as defined herein. The final surface of the asphalt concrete shall be no more than ¼-inches above the adjacent existing surface nor shall the final surface be below the level of the adjacent surface. In areas of paving other than trench repairs, the plane of the surface shall not vary more than ¼-inches above or below the average plane of the surface when measured with an 8-foot straight edge.
- G. Skin patching shall not be considered an acceptable method of achieving the tolerances herein. Skin patching is hereby defined as a mix of asphaltic concrete whose maximum aggregate size is less than or equal to the No. 4 sieve used to fill depressions in the pavement plane.
- H. The final lift of asphalt concrete shall be placed in one continuous operation as the final order of work for the project. Where trenches do not form an unbroken line throughout the project, asphalt concrete may be placed in one continuous operation for each continuous trench, subject to the prior approval of the Engineer.
- I. All paving not conforming with the provisions of these specifications, the Contract Documents, or any public agency having jurisdiction over the work shall be immediately removed and replaced in accordance with the provisions of these specifications, the Contract Documents, and the directions of such agencies having jurisdiction over the work.

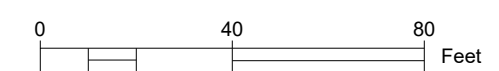
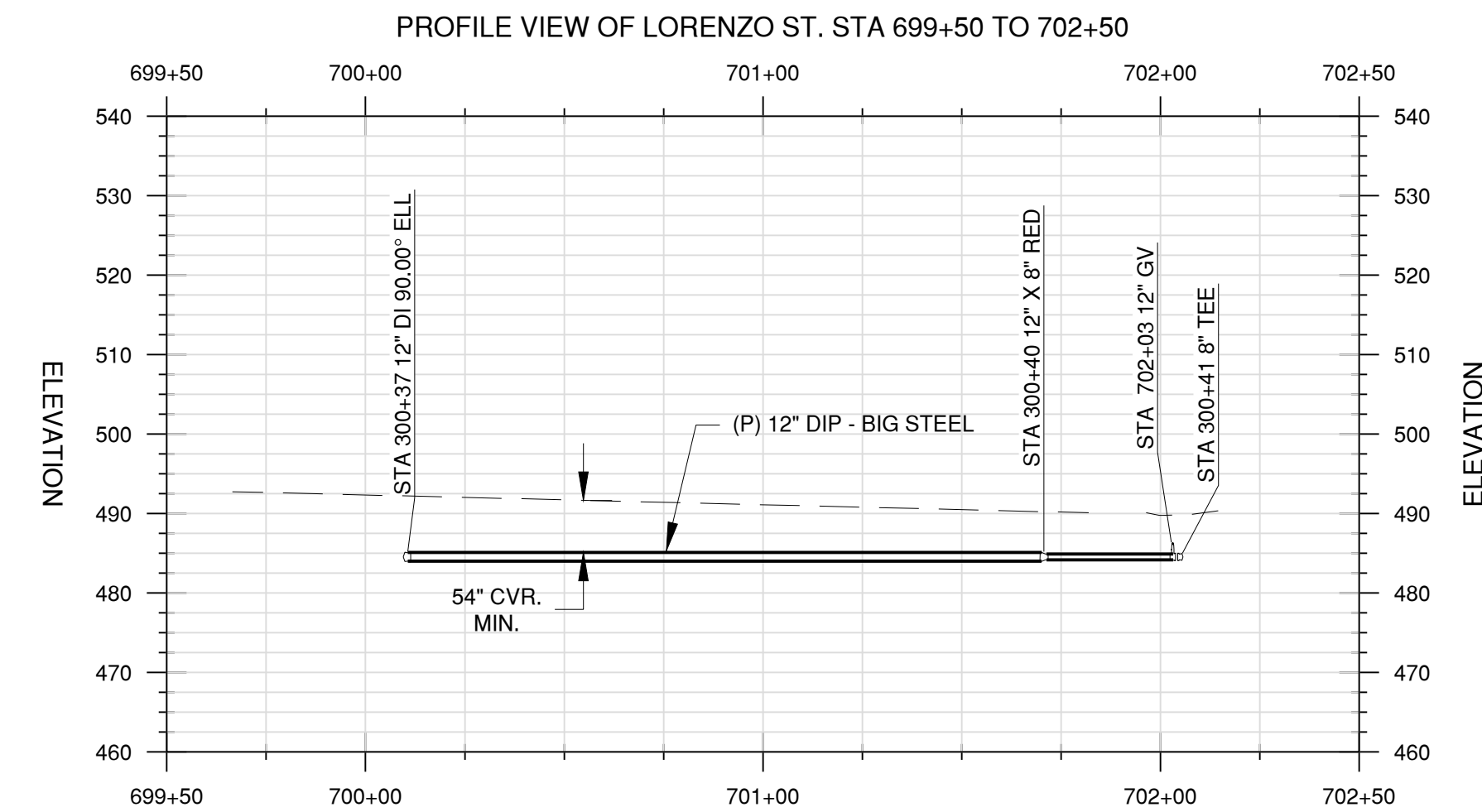
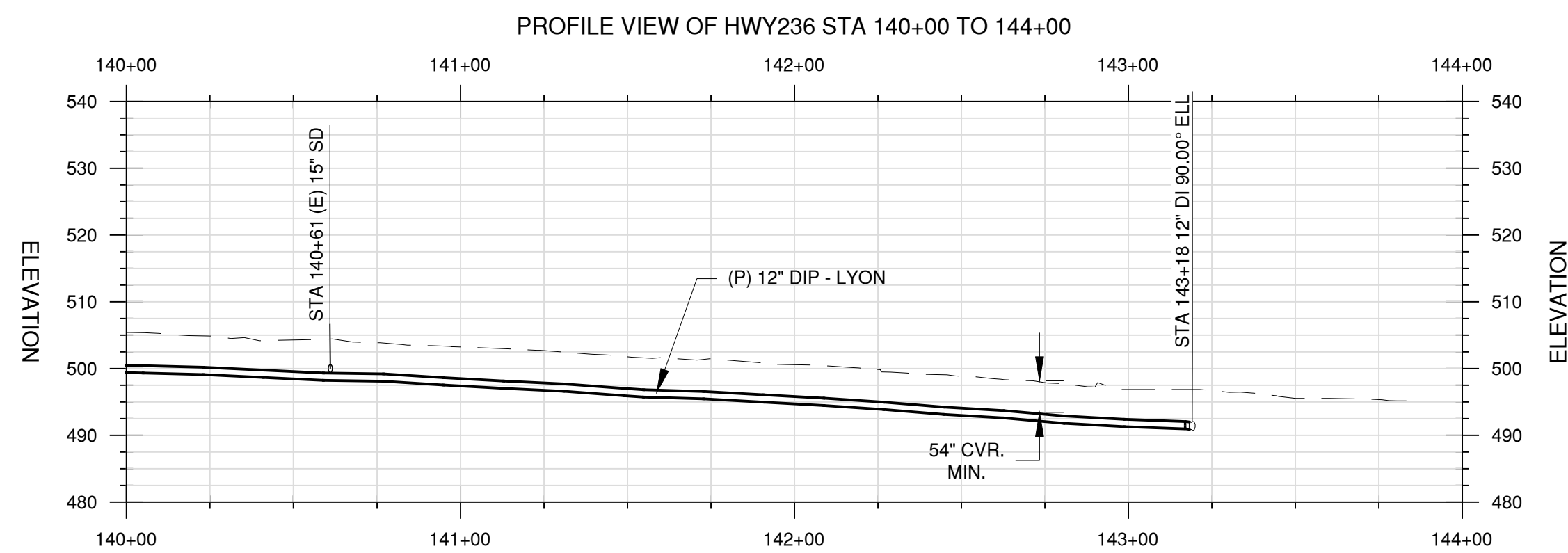
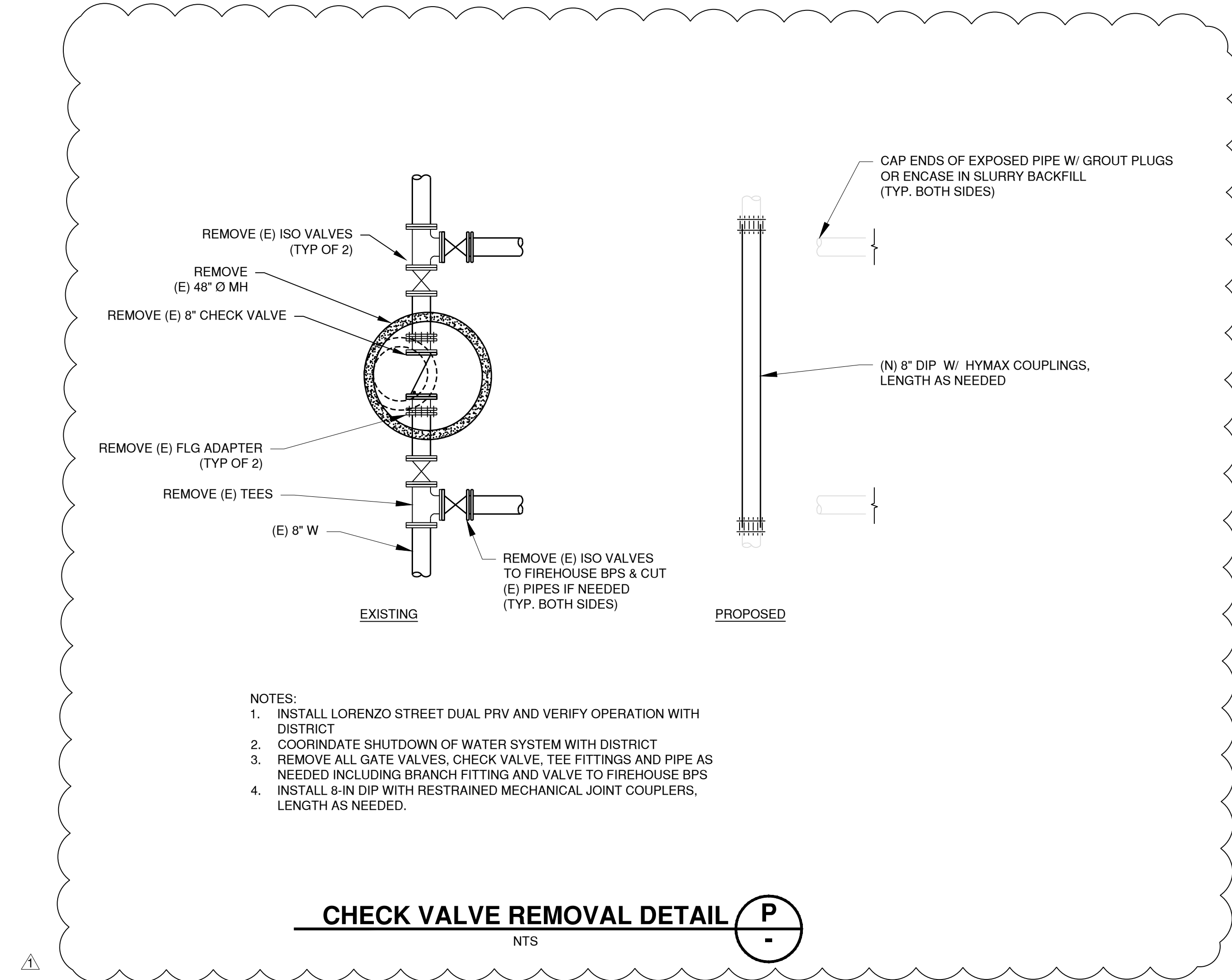
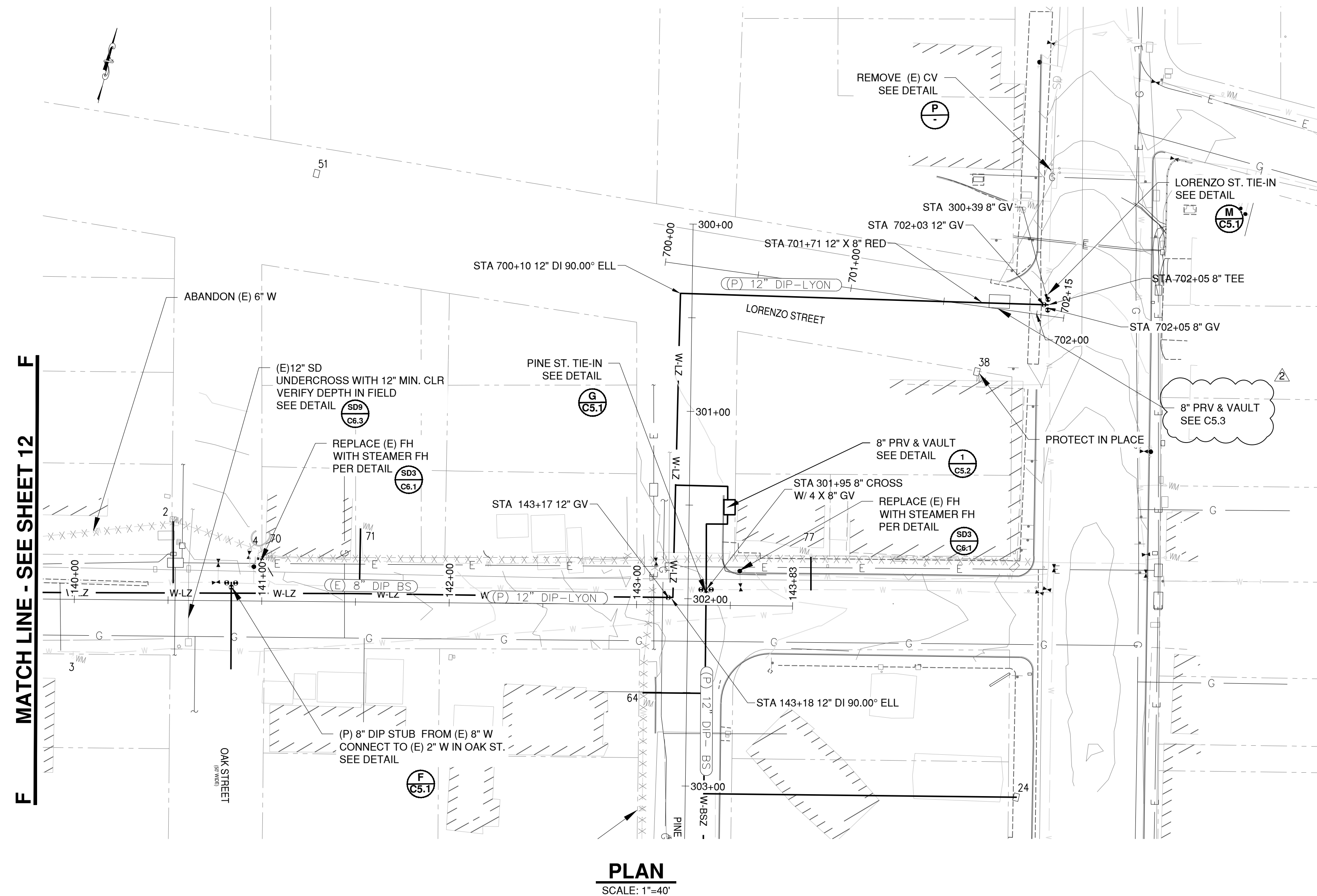
3.02 FOG SEALING


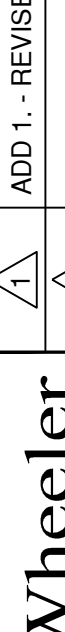
- A. Fog seal shall be constructed in accordance with the provisions of Section 37, "Bituminous Seals" of the State Standard Specifications, to the limits shown on the Drawings, listed in the Encroachment Permit, or as indicated by the Engineer.

3.03 SLURRY SEALING

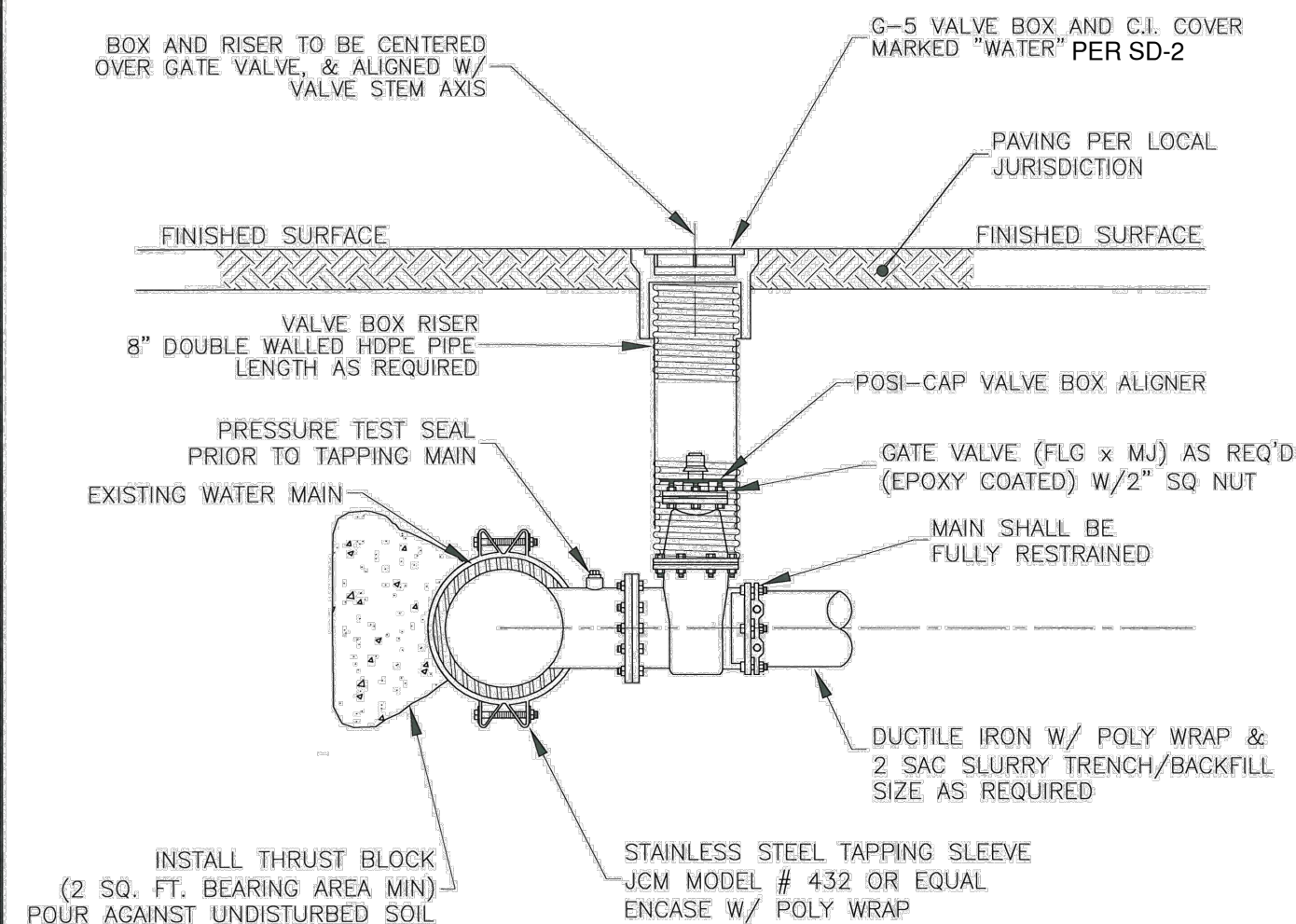
- A. Slurry seal coat shall be constructed in accordance with the provisions of Section 37, "Bituminous Seals" of the State Standard Specifications for a double seal coat, to the limits shown on the Drawings, listed in the Encroachment Permit, or as indicated by the Engineer.

END OF SECTION



		<p>LYON & BIG STEEL ZONE PIPELINE IMPROVEMENTS HWY 236 140+00 TO 146+00</p>				<p>Schaaf & Wheeler CONSULTING CIVIL ENGINEERS 3 Quail Run Circle, Suite 101 Salinas, CA 95007-2348 (831) 883-4846</p>	
DESIGNED BY:	JCT	DATE:	9/20/2022	REV. NO.	△	DESCRIPTION	
DRAWN BY:	JCT	DATE:	9/20/2022		△	ADD 1. - REVISED DETAIL P	
QC CHECKED BY:	JCT	DATE:	9/20/2022		△	ADD CALLOUT	
PROJECT NO.:					△		
SCALE:	1"=40'				△		
SUBMITTAL:	100% SUBMITTAL				△		

- 1) DISTRICT INSPECTOR SHALL BE ONSITE DURING HOT TAP.
- 2) BACKFILL TO BE 2 SACK CONCRETE/SAND SLURRY.
(TAGS REQUIRED)
- 3) FOLLOW ALL JURISDICTIONAL PERMIT REQUIREMENTS.
ALL OTHER INFORMATION ON DRAWING OR SPECIFICATIONS
ARE SUPERCEDED BY THE CONSTRUCTION PERMIT REQUIREMENTS



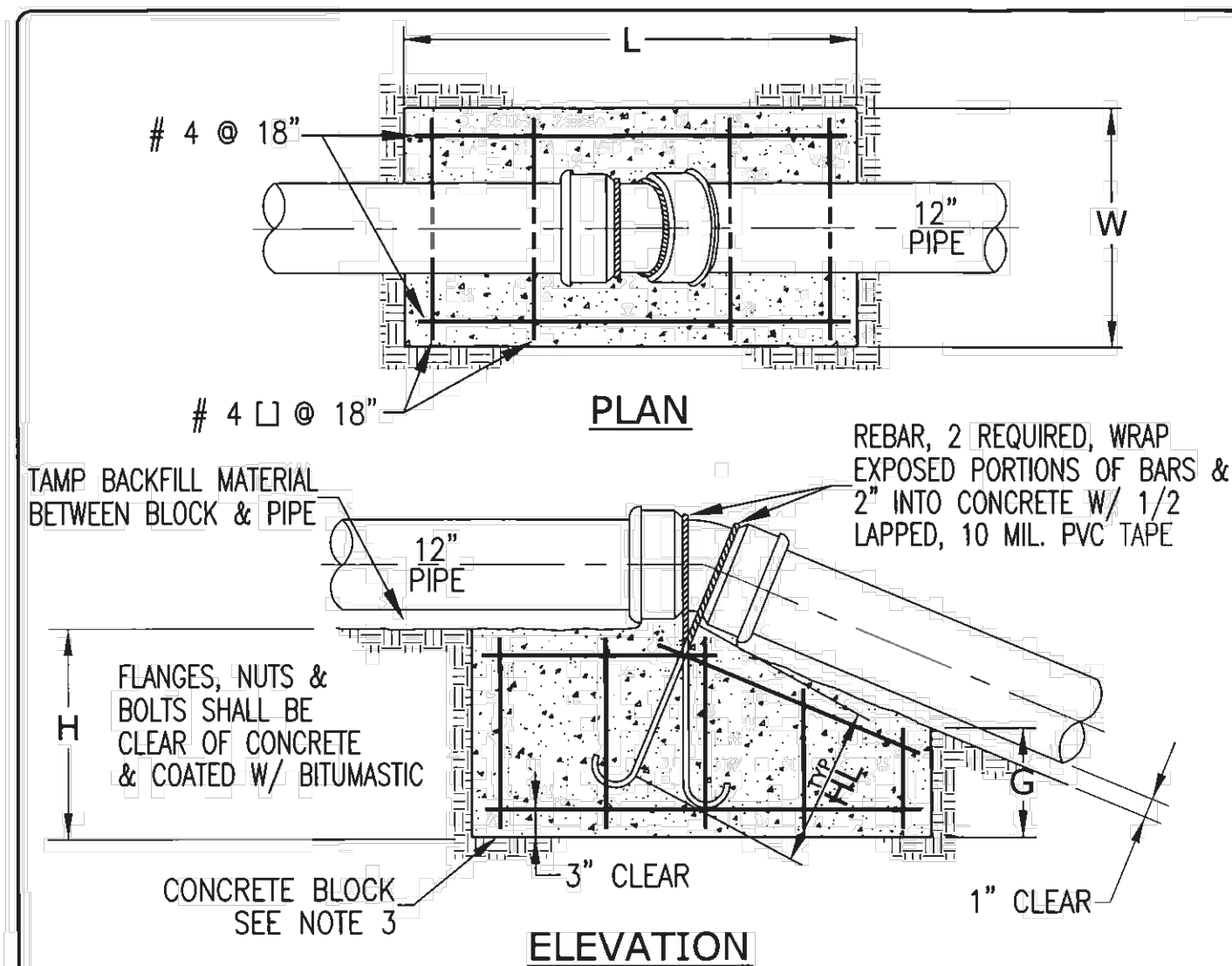
San Lorenzo Valley Water District
Serving the San Lorenzo Valley Since 1941
13050 Highway 9
Boulder Creek, California 95006
Phone: (831) 338-2153 Fax: (831) 338-7986
www.SLVWD.com

Standard Hot Tap Detail

DRAWN BY:
R. Menzies

DATE DRAWN:
FEB 2016

DWG. NUMBER:
SD-14



THRUST BLOCK DIMENSIONS - UPWARD THRUST																		
PIPE SIZE	11-1/4" BEND						22-1/2" BEND						45° BEND					
	L	W	H	G	BAR	HL	L	W	H	G	BAR	HL	L	W	H	G	BAR	HL
6"	3.5	2	2.0	1	4	14	4.5	2	2.7	1	4	14	4.5	4	2.8	1	4	14
8"	3.5	3	2.3	1	4	14	4.5	4	3.0	1.5	4	14	5.5	5	3.2	1.5	5	18
10"	4	3.5	2.7	1	4	14	5	4	3.8	1.5	4	14	6	5	4.6	1.5	6	22
12"	4	3.5	3.9	1	4	14	5	4	5.4	2	5	18	6.5	5	6.2	2.5	7	32

NOTES

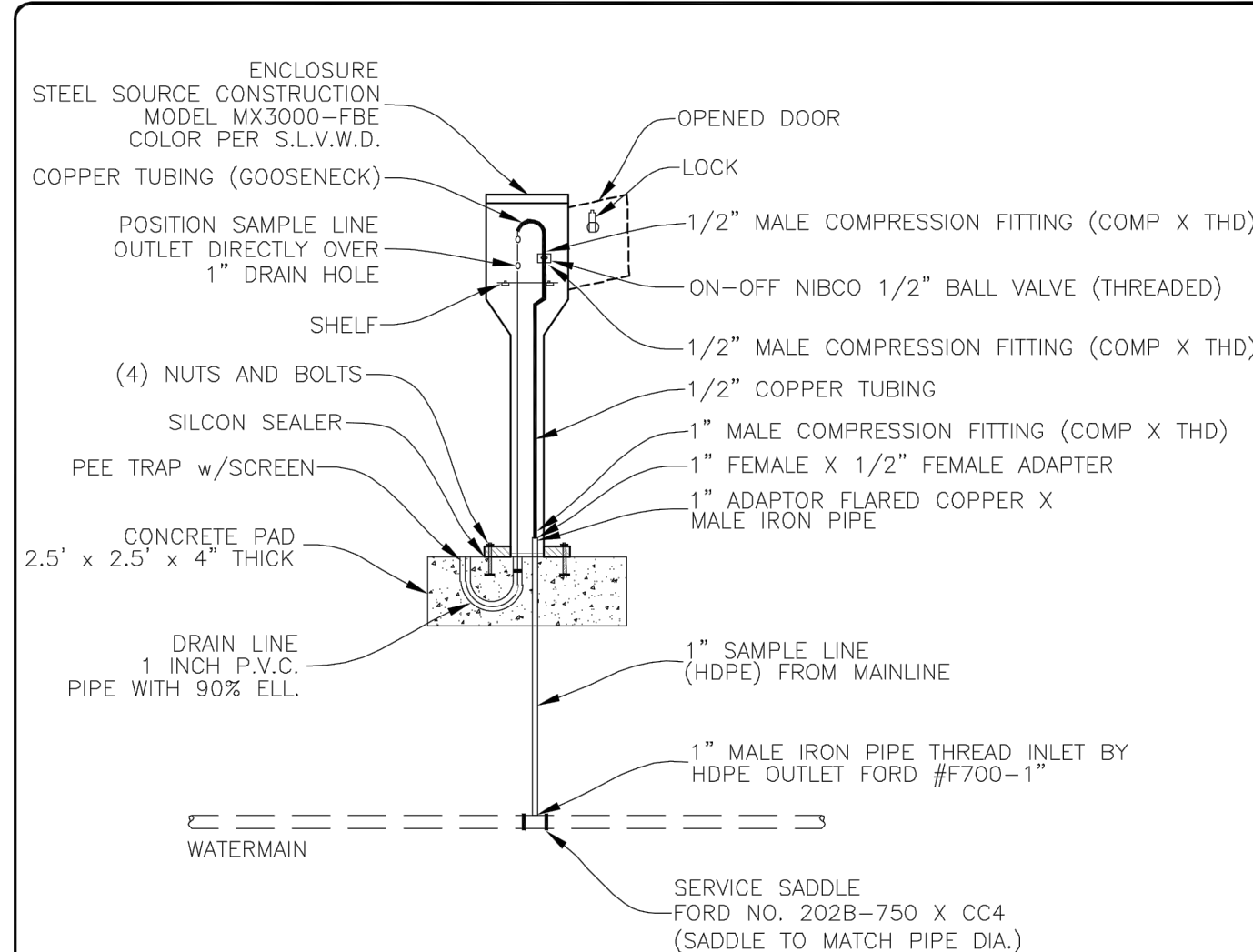
- 1) ENCASE ALL BURIED METALLIC SURFACES WITH POLYETHYLENE WRAP AS SPECIFIED IN ANWA C105.
- 2) RESTRAINED JOINT DUCTILE IRON PIPE MAY BE USED IN PLACE OF THRUST BLOCK, CONTACT SLYWD FOR APPROVAL AND DETAILS.
- 3) DIMENSIONS L, W, H, G ARE IN FEET.
- 4) THRUST BLOCK DIMENSIONS BASED ON 250 PSI TEST PRESSURE AND CONCRETE SHALL BE 2500 PSI MIN, 28 DAY COMPRESSIVE STRENGTH



San Lorenzo Valley Water District
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13060 Highway 9
Boulder Creek, California 95006
Phone: (831) 338-2153 Fax: (831) 338-7986
www.SLWVD.com

Standard
Reverse (Upward) Thrust Block

DRAWN BY:	R. Menzies
DATE DRAWN:	DEC 2014
DWG. NUMBER:	SD-21



NOTES:

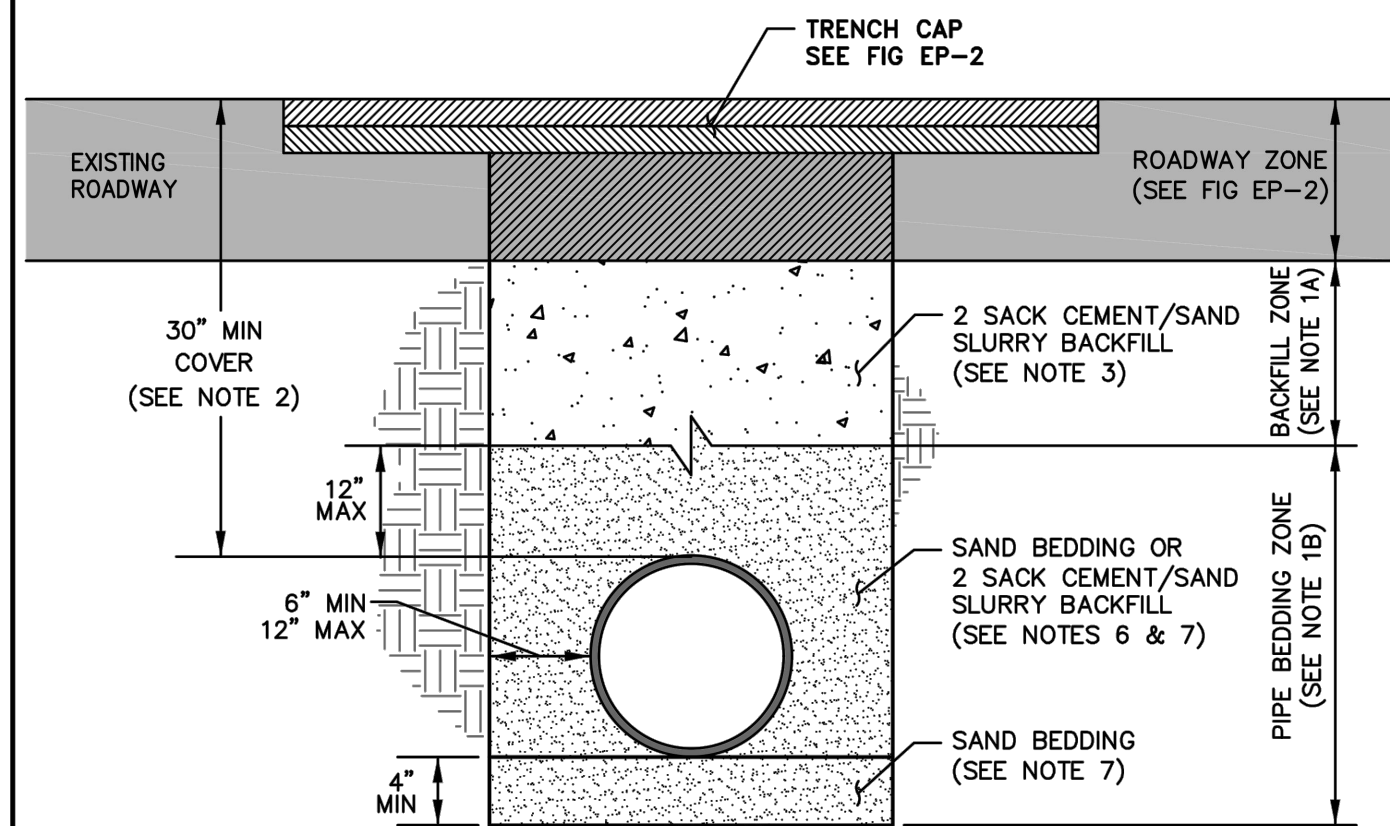
- 1) WHEN INSTALLING WATER SAMPLER, 1" HDPE WILL BE APPROXIMATELY 6" ABOVE CONCRETE SLAB.
- 2) INSERT COPPER TUBING INTO GROOVED FOOTING, THE COPPER TUBING MAY NEED TO BE CUT TO FIT INSIDE THE WATER SAMPLER.
- 3) PLACE WATER SAMPLER CASE OVER BOTH THE COPPER TUBING AND THE 1" DRAIN HOLE.
- 4) ATTACH THE GOOSENECK COPPER TUBING AND COMPRESSION FITTINGS.
- 5) A SCREEN WILL BE PLACED MANUALLY IN THE PEE TRAP.



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13060 Highway 9
Boulder Creek, California 95006
Phone: (831) 338-2153 Fax: (831) 338-7986
www.SLVWD.com

STANDARD Water Sampling Station

DRAWN BY:	RM & DM
DATE DRAWN:	Mar 2020
DWG. NUMBER:	2074 - B



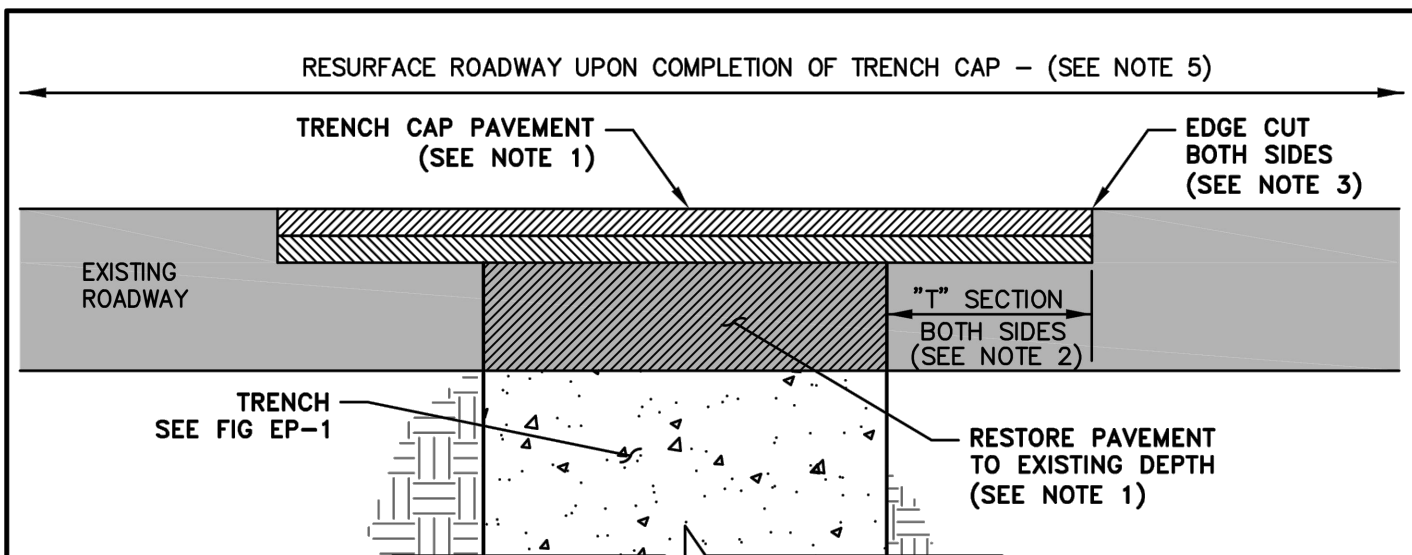
NOTES

1. TRENCH ZONES:
 - A. WITHIN BACKFILL ZONE, THIS AND OTHER COUNTY EP DETAILS SHALL GOVERN.
 - B. WITHIN PIPE BEDDING ZONE, APPLICABLE STANDARDS OF THE UTILITY AGENCY MAY BE USED IN PLACE OF THIS DETAIL.
2. ALL UNDERGROUND UTILITIES SHALL HAVE A MINIMUM COVER OF 30" FROM FINISH GRADE TO TOP OF UTILITY PIPE, WITH AUTHORIZATION FROM THE DIRECTOR, COVER MAY BE REDUCED TO AVOID INTERFERING WITH EXISTING UTILITIES, IN THIS CASE ADDITIONAL REQUIREMENTS MAY APPLY.
3. BACKFILL ZONE UNDER ROADWAYS SHALL CONSIST OF 2 SACK CEMENT/ SAND SLURRY BACKFILL, 1 SACK CEMENT/ SAND SLURRY MAY BE ALLOWED UNDER ROADWAYS AT THE DISCRETION OF THE COUNTY.
4. SPECIAL CONDITIONS (SUCH AS SAND ENCASEMENT) MAY BE REQUIRED WITHIN THE BACKFILL ZONE LOCATIONS WHERE THE TRENCH CROSSES OTHER UNDERGROUND UTILITIES, IN SUCH CASE CROSSING SHALL BE CONSTRUCTED TO COMPLY WITH THE STANDARDS OF THE UTILITY BEING CROSSED.
5. BACKFILL ZONE OUTSIDE OF ROADWAYS MAY USE ENGINEERED FILL IN UEU OF SLURRY, ENGINEERED FILL SHALL BE COMPACTED TO 90% MINIMUM RELATIVE COMPACTION, AND GROUND AT TOP OF TRENCH SHALL BE RESTORED TO PRE-PROJECT CONDITIONS OR AS OTHERWISE DIRECTED BY THE COUNTY.
6. 2 SACK CEMENT/SAND SLURRY SHALL BE MIXED IN A TRANSIT MIXER (CERTIFICATION TAGS REQUIRED) AND CONSIST OF 188 LB OF CEMENT FOR EACH CUBIC YARD OF MATERIAL.
7. SAND BEDDING SHALL CONSIST OF CLEAN SAND COMPACTED TO 95% RELATIVE COMPACTION MAY BE USED FOR PIPE BEDDING AND ENCASEMENT WITHIN PIPE BEDDING ZONE.
8. ANY EXCEPTIONS TO THIS DETAIL MUST BE APPROVED BY THE DIRECTOR.

TRENCH SECTION

REV 10/22 SANTA CRUZ COUNTY STANDARD DETAIL

209 | Page



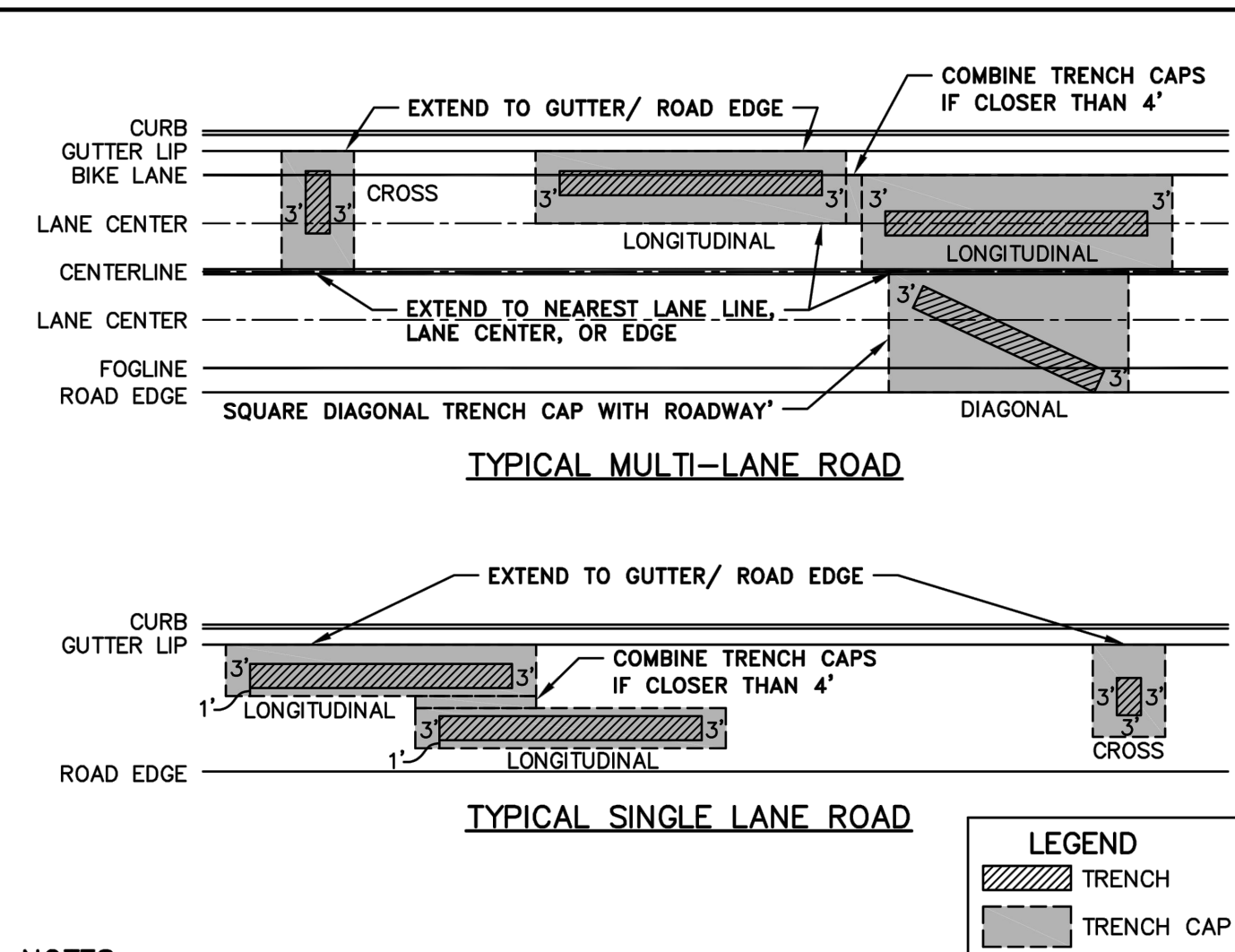
NOTES:

1. TRENCH PAVEMENT SECTION REQUIREMENTS:
 - A. ASPHALT PAVED ROADS — TRENCH CAP SHALL CONSIST OF 4" AC, TYPE A, 1/2" MAXIMUM MEDIUM GRADATION, PLACED IN 2" LIFTS, IF EXISTING PAVEMENT DEPTH IS GREATER THAN 4". ADDITIONAL ASPHALT SHALL BE PLACED IN TRENCH TO MATCH EXISTING PAVEMENT SECTION THROUGHOUT. THIS MASS TACK COAT SHALL BE APPLIED AT A MINIMUM RATE OF 106-GALLONS PER SQUARE YARD TO ALL CONTACT SURFACES TO RECEIVE ASPHALT PAVING, INCLUDING EXISTING PAVEMENT BELOW TRENCH CAP, SIDES OF TRENCH CAP, AND BETWEEN LIFTS OF ASPHALT PAVING.
 - B. CONCRETE PAVED ROADS — TRENCH CAP SHALL CONSIST OF 6" CONCRETE, 6 SACK 3000 PSI, REINFORCED WITH #4 REBAR SPACED AT 24" ON CENTER BOTH WAYS. REPLACEMENT SHALL OCCUR AT THE CLOSEST EXISTING JOINT LINE, IN NO CASE SHALL CONCRETE BE REPLACED WITH ASPHALT.
 - C. GRAVEL ROADS — PLACE MINIMUM 6" OF COMPACTED CLASS 2 AB AT TOP OF TRENCH, NO T-SECTION REQUIRED.
2. TRENCH CAP MINIMUM T-SECTION WIDTH SHALL BE 1' BEYOND TRENCH EDGE FOR LONGITUDINAL TRENCHES (RUNNING PARALLEL WITH ROADWAY) AND 3' BEYOND TRENCH EDGE FOR CROSS TRENCHES (RUNNING ACROSS ROADWAY). DIAGONAL TRENCHES SHALL HAVE TRENCH CAP SQUARED WITH ROADWAY. THE REQUIRED WIDTH MAY BE GREATER THAN THESE DIMENSIONS BASED ON ROADWAY ALIGNMENT REQUIREMENTS NOTED IN FIGURE EP-3.
3. EXISTING PAVEMENT SHALL BE CUT TO PRODUCE A STRAIGHT VERTICAL FACE AGAINST WHICH TO BUTT THE TRENCH CAP PAVEMENT. FOR TRENCHES IN ROADS WITH AN EXISTING ASPHALT SECTION GREATER THAN 4", TRENCH CAP CUT SHALL BE ACHIEVED BY GRINDING ONLY. SAWCUTTING MAY BE USED IF EXISTING PAVEMENT SECTION IS 4" OR LESS, HOWEVER CUTS SHALL BE SQUARE TO TRENCH CAP AND SHALL NOT EXTEND BEYOND CORNER OF CAP (NO OVER CUTS).
4. TRENCH CAP SHALL BE CONSTRUCTED FLUSH WITH ADJACENT PAVEMENT PER FIG EP-4. IF TRENCH CAP FAILS TO MEET REQUIRED TOLERANCES, CORRECTIVE ACTION SHALL BE TAKEN AS DIRECTED BY THE AUTHORITY. FOR MATERIAL OR COMPACTOR ISSUES, OR IF CLASS 2 AB WAS PLACED TOO LOW, CORRECTIVE ACTION WILL LIKELY REQUIRE REMOVAL AND REPLACEMENT OF AFFECTED SECTIONS. FOR CASES WHERE TRENCH CAP WAS PLACED TOO HIGH BUT OTHERWISE MEETS SPECIFICATIONS, PROFILE GRINDING MAY BE ALLOWED AS A REPAIR OPTION AT THE DISCRETION OF THE COUNTY.
5. RESURFACING REQUIREMENTS:
 - A. FOR TRENCHES LESS THAN 500': APPLY FOG SEAL 1' BEYOND EDGE OF TRENCH CAP.
 - B. FOR TRENCHES 500' OR GREATER: APPLY TYPE 2 SLURRY SEAL OVER LENGTH OF TRENCH, WIDTH OF SEAL TO BE TO THE NEAREST LANE LINE OR ROAD EDGE BEYOND TRENCH CAP. FOR SINGLE LANE ROADS, SLURRY SEAL SHALL BE APPLIED TO THE ENTIRE ROAD WIDTH ALONG TRENCH ALIGNMENT.DUE TO EXISTING ROAD SURFACE CONDITIONS, THE DEPARTMENT MAY REQUIRE AN ALTERNATE RESURFACING METHOD IN PLACE OF TYPE 2 SLURRY SEAL, ALTERNATE RESURFACING METHOD MAY INCLUDE MICROSURFACING, CHIP SEAL, CAPE SEAL, OR ASPHALT CONCRETE OVERLAY.
6. ANY EXCEPTIONS TO THIS DETAIL MUST BE APPROVED BY THE DIRECTOR.

TRENCH CAP SECTION

REV 10/22 SANTA CRUZ COUNTY STANDARD DETAIL

210 | Page



NOTES:

1. REFERENCE DIAGRAMS ABOVE REPRESENT TYPICAL ROADWAY SCENARIOS, FIELD CONDITIONS MAY VARY.
2. TRENCH CAP MINIMUM T-SECTION WIDTH SHALL BE 1' BEYOND TRENCH EDGE FOR LONGITUDINAL TRENCHES (RUNNING PARALLEL WITH ROADWAY) AND 3' BEYOND TRENCH EDGE FOR CROSS TRENCHES (RUNNING ACROSS ROADWAY). DIAGONAL TRENCHES SHALL HAVE TRENCH CAP SQUARED WITH ROADWAY. THE REQUIRED WIDTH MAY BE GREATER THAN THESE DIMENSIONS BASED ON ROADWAY ALIGNMENT REQUIREMENTS NOTED IN THIS DETAIL.
3. TRENCH CAP SHALL EXTEND 3' BEYOND END OF TRENCH, OR TO NEAREST LANE LINE, LANE CENTER, OR ROAD EDGE IF LESS THAN 3'.
4. TRENCH CAP SEAMS SHALL EXTEND TO NEAREST LANE LINE, LANE CENTER, OR ROAD EDGE. THIS CONDITION SHALL NOT APPLY TO SINGLE LANE ROADS, HOWEVER TRENCH CAP SHALL BE EXTENDED TO ROAD EDGE IF CLOSER THAN 2', AND PLACEMENT OF SEAM IN VISIBLE WHEELPATH SHALL BE AVOIDED. IN NO CASE SHALL A LONGITUDINAL TRENCH CAP SEAM BE PLACED IN A WHEEL PATH OR A BIKE LANE.
5. IF SEPARATE TRENCH CAPS ARE CLOSER THAN 4', TRENCH CAPS SHALL BE COMBINED.
6. IF PAVEMENT IS DAMAGED BEYOND STANDARD TRENCH CAP LIMITS DUE TO PROJECT ACTIVITIES, OR DUE TO EXISTING TRENCH SETTLEMENT OF THE UTILITY UNDERGOING WORK IN THIS PROJECT, TRENCH CAP SHALL BE EXTENDED TO INCLUDE THE DAMAGED AREA. IF PROJECT IS REPLACING AN EXISTING TRENCH AT THE SAME GENERAL LOCATION, NEW TRENCH CAP SHALL REPLACE THE ENTIRETY OF THE ORIGINAL TRENCH CAP.
7. TRENCH CAP LAYOUT SHALL BE INSPECTED AND APPROVED BY COUNTY PRIOR TO GRINDING OR SAWCUTTING.

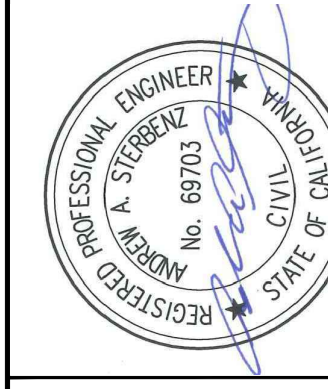
TRENCH CAP LAYOUT

REV 10/22 SANTA CRUZ COUNTY STANDARD DETAIL

211 | Page

REV. NO.	DESCRIPTION	BY	DATE
1	REVISED COUNTY DETAILS	JCT	1/4/23
2			
3			
4			
5			

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3 Quail Run Circle, Suite 101
Salinas, CA 93907-2348
(831) 883-4848

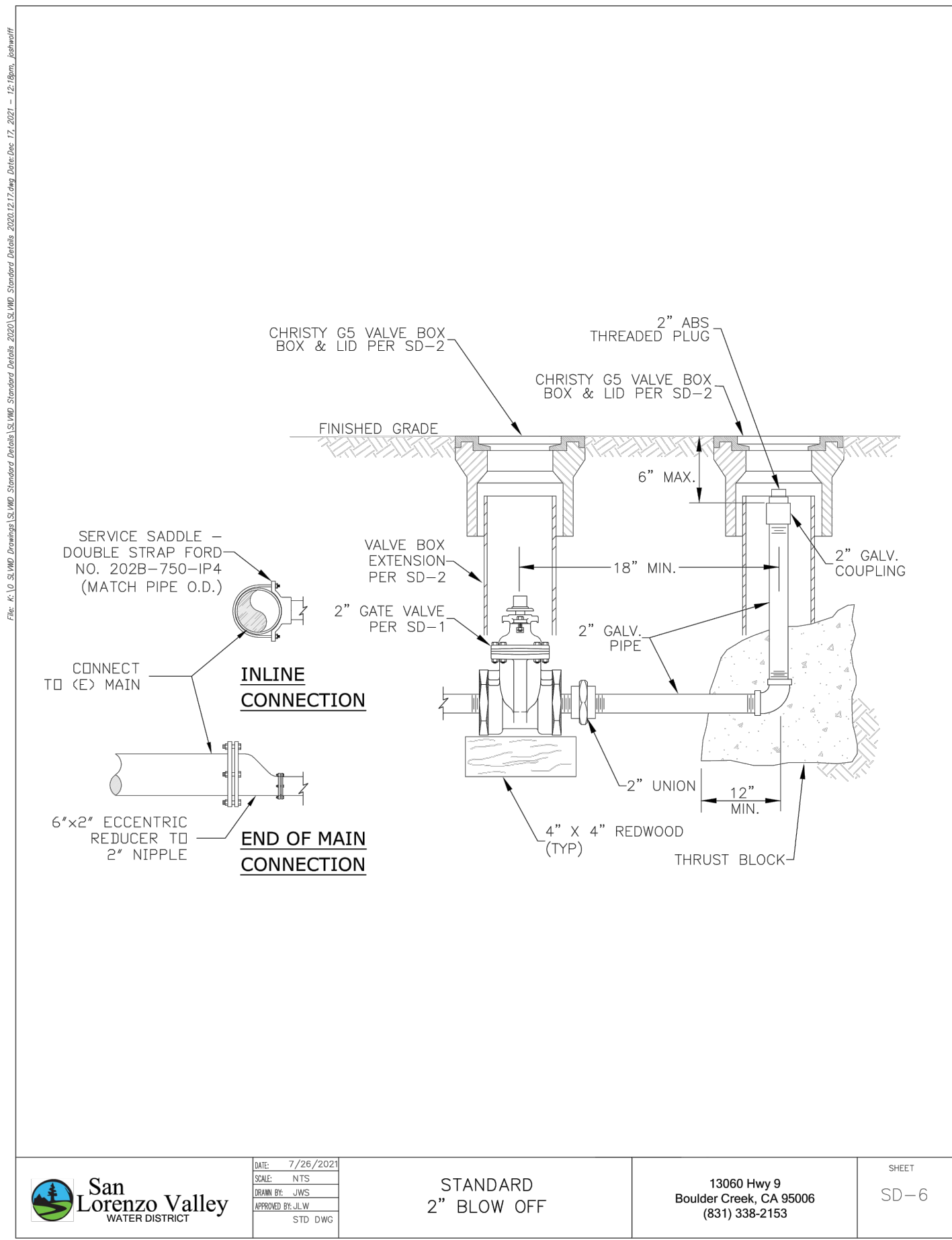
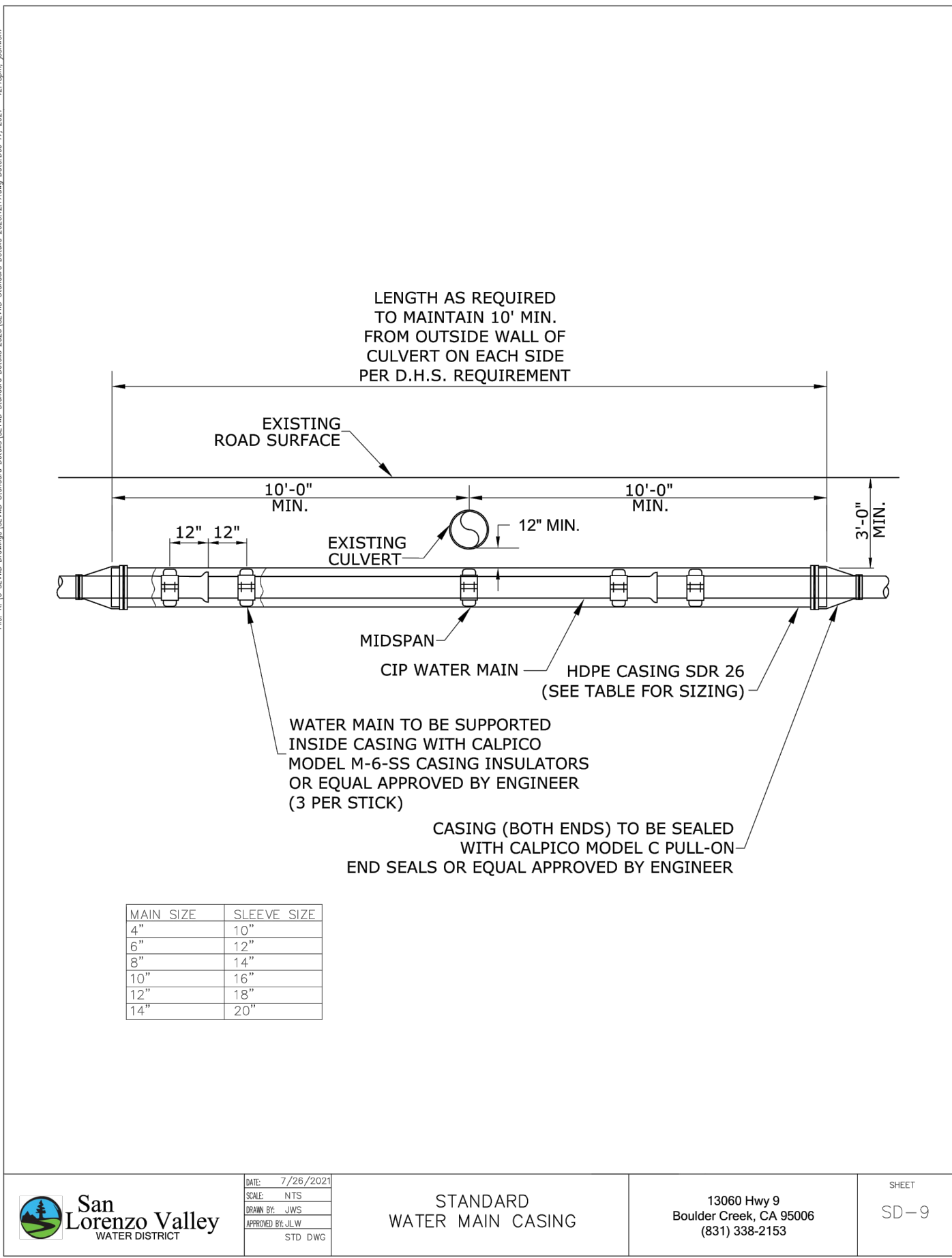


LYON & BIG STEEL ZONE PIPELINE IMPROVEMENTS STANDARD DETAILS II

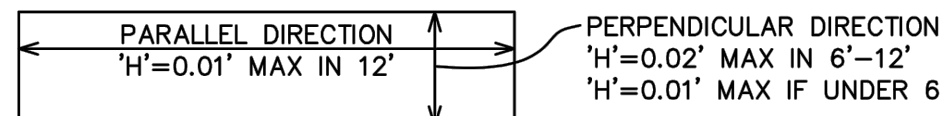


DESIGNED BY:	JCT	DATE: 9/20/2022
DRAWN BY:	JCT	DATE: 9/20/2022
QC CHECKED BY:	AAS	DATE: 9/20/2022
PROJECT NO.:		
SCALE:	AS SHOWN	
SUBMITTAL:	100% SUBMITTAL	

C6.2
SHEET 24 OF 27

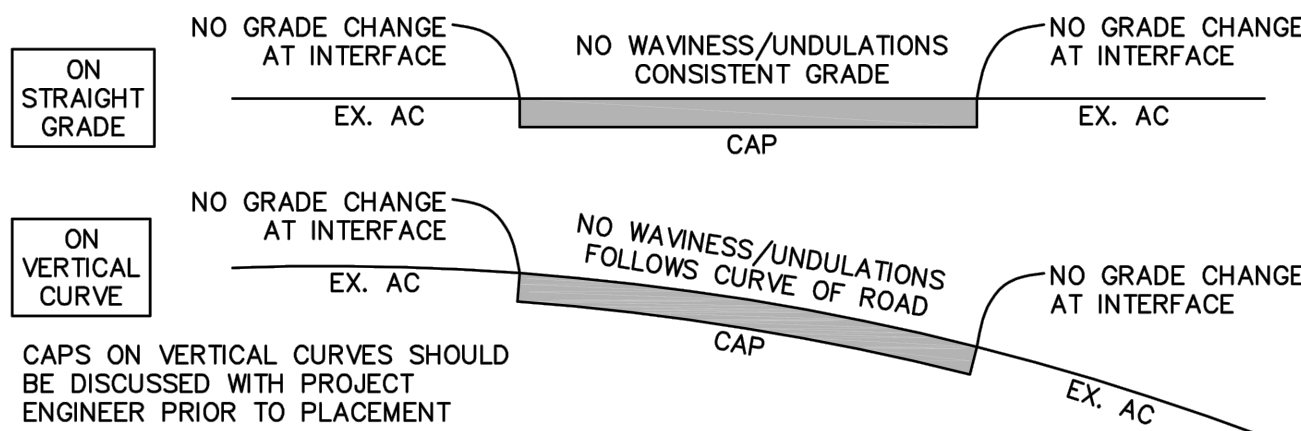


- ASPHALT TRENCH CAP TOLERANCE MEASUREMENT:**
- PER CALTRANS SPECIFICATIONS, A 12' STRAIGHT EDGE IS TO BE USED FOR TOLERANCE MEASUREMENT, CAP AND ALL INTERFACES WITH EXISTING AC SHALL MEET TOLERANCES.
 - FOR THE PURPOSES OF THIS EXHIBIT, 'H' INDICATES GRADE DIFFERENCE (RAISE OR DROP) 'H' SHALL NOT EXCEED:
 - PARALLEL WITH ROAD: 0.01' MAX (1/8"±) IN 12'
 - PERPENDICULAR WITH ROAD: 0.02' MAX (1/4"±) IN 12' OR 0.01' (1/8"±) FOR ANY DIMENSIONS UNDER 6'

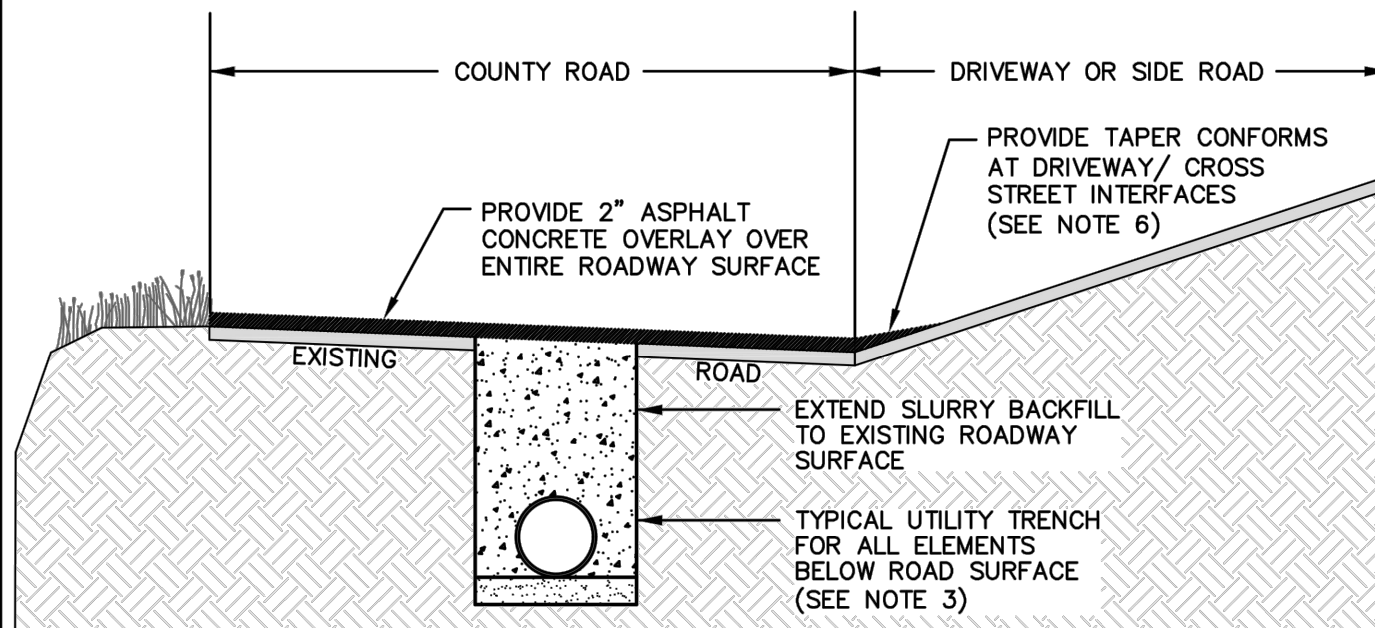
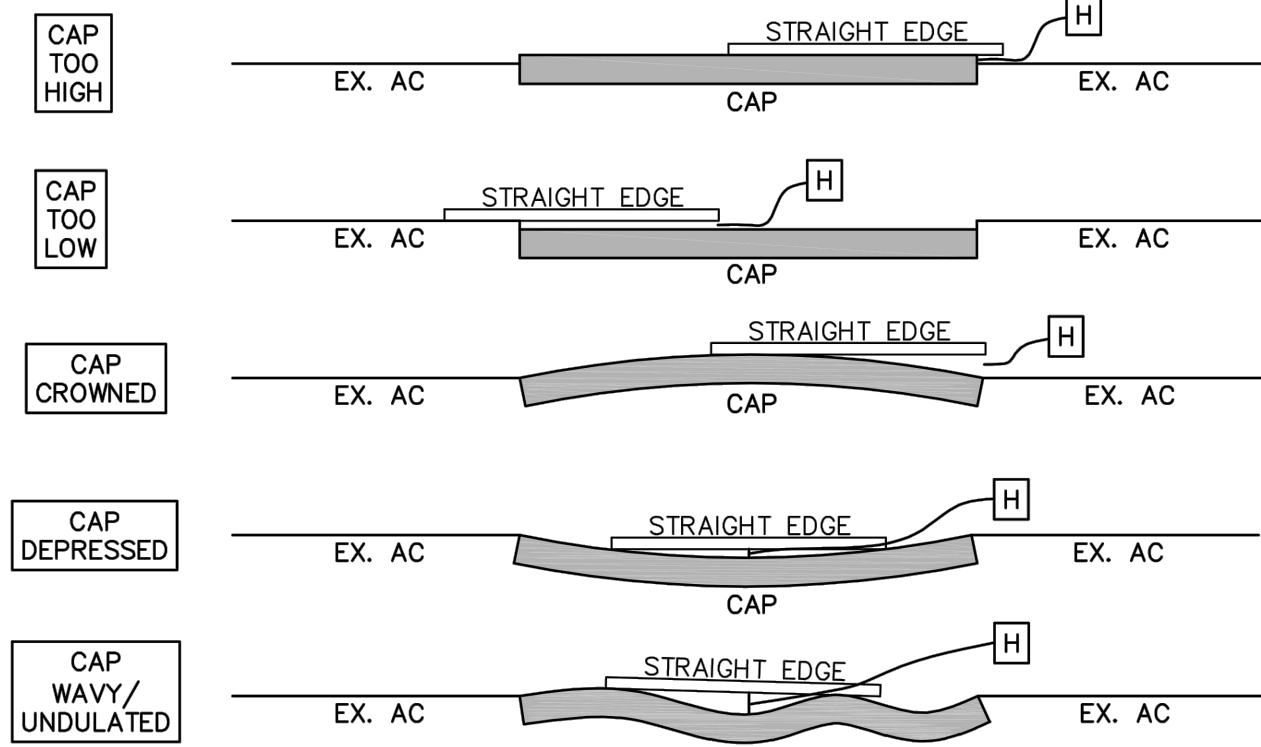


TIP: IF CAP CAN BE HEARD OR FELT WHEN DRIVING OVER INTERFACE, CAP IS OUT OF SPEC.

EXAMPLES OF CORRECTLY DONE TRENCH CAPS:

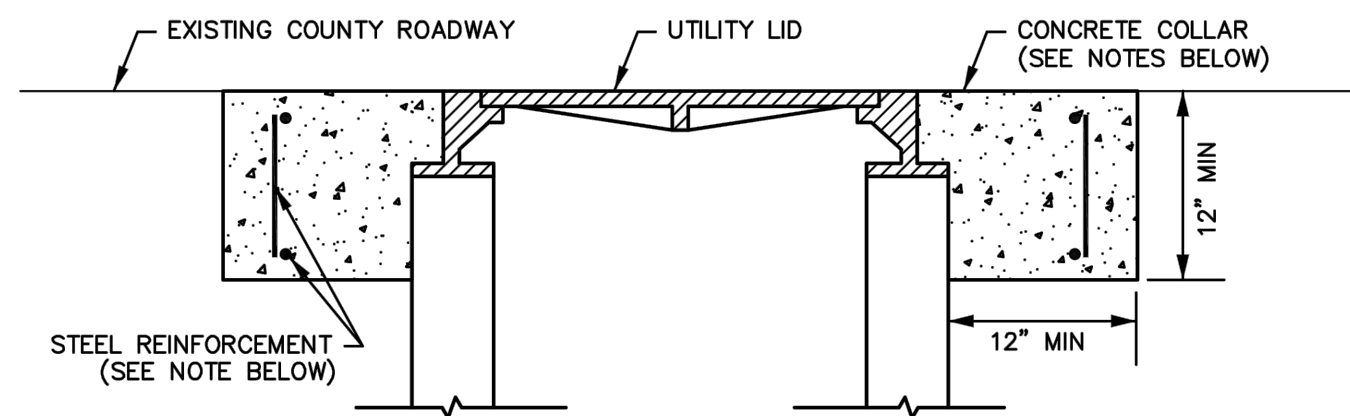


EXAMPLES OF INCORRECTLY DONE TRENCH CAPS ('H' EXCEEDS TOLERANCES):



NOTES:

- THIS DETAIL IS MEANT FOR SPECIAL CIRCUMSTANCES WHERE THE EXISTING CONDITION IS A SINGLE LANE ROAD WITHOUT CURB & GUTTER. THIS DETAIL SHALL ONLY BE USED IF DIRECTED BY THE COUNTY. STANDARD TRENCH PAVING DETAILS (FIGURES EP-2 & EP-3) SHALL OTHERWISE APPLY.
- FOR ROAD SECTIONS WHERE THIS DETAIL IS APPLIED, PAVEMENT LIFE PERFORMANCE WARRANTY OVER THAT ROAD SECTION SHALL BE WAIVED FOR THE UTILITY AGENCY PERFORMING THIS WORK, THIS WAIVER TO REMAIN IN EFFECT AS LONG AS THE ROADWAY REMAINS UNDISTURBED BY THE UTILITY AGENCY. SHOULD THE UTILITY AGENCY EXCAVATE INTO SOME PORTION OF THIS SECTION OF ROADWAY AT A FUTURE TIME FOR WORK ON THEIR FACILITIES, PAVEMENT LIFE PERFORMANCE WARRANTY WAIVER WILL BE VOIDED FOR ANY AFFECTED PORTIONS.
- FOR ALL TRENCH ELEMENTS BELOW EXISTING ROAD PAVEMENT, SEE FIGURE EP-1. FOR ALL ELEMENTS ABOVE EXISTING ROAD PAVEMENT, THIS DETAIL SHALL SUPERCEDE TRENCH PAVING DETAILS EP-2 AND EP-3.
- SAND-CEMENT SLURRY BACKFILL SHALL EXTEND TO SURFACE OF EXISTING ROADWAY.
- FULL WIDTH OF ROADWAY SHALL BE PAVED WITH 2" OF TYPE A HOT MIX ASPHALT, 1/2" MAXIMUM MEDIUM GRADATION.
- TAPER CONFORMS SHALL BE PLACED AT ALL EXISTING DRIVEWAYS, CROSS STREETS, AND AT STOP/START OF WORK. SEE FIGURE ST-10, DETAIL B.
- PERMITTEE SHALL NOTIFY THE COUNTY PRIOR TO CONSTRUCTING ASPHALT PAVEMENT UPON COMPLETION OF SLURRY BACKFILL, AS COUNTY MAY ELECT TO PERFORM SELECT BASE REPAIRS ON ROADWAY PRIOR TO PAVING.



NOTES:

- THIS DETAIL SHALL APPLY TO MANHOLES, VAULTS, VALVE BOXES, MONUMENT WELLS, OR ANY OTHER UTILITY LID STRUCTURES LOCATED WITHIN COUNTY MAINTAINED ROADWAYS. EXCEPTIONS MUST BE APPROVED BY THE COUNTY.
- CONCRETE COLLAR SHALL BE ROUND FOR CIRCULAR UTILITY LIDS AND RECTANGULAR FOR RECTANGULAR LIDS.
- CONCRETE COLLAR SHALL EXTEND TO BE FLUSH WITH ADJACENT ROADWAY SURFACE, NO ASPHALT SHALL BE PLACED OVER TOP.
- CONCRETE SHALL USE TYPE III HIGH-EARLY STRENGTH CEMENT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5000 PSI.
- BROADCAST 1 LB OF LAMPBLACK PIGMENT ON CONCRETE SURFACE DURING CURE TO ACHIEVE DARKENED APPEARANCE.
- CONCRETE COLLAR SHALL BE PROTECTED FROM TRAFFIC USING TRENCH PLATES OR OTHER ACCEPTABLE MEANS. CONCRETE SHALL NOT BE REOPENED TO TRAFFIC UNTIL A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI HAS BEEN ACHIEVED.
- CONCRETE SHALL BE REINFORCED HORIZONTALLY WITH #4 REBAR HOOP AROUND GRADE RING AT TOP & BOTTOM, AND VERTICALLY WITH #4 REBAR TIES SPACED AT 12". REBAR SHALL BE KEPT A MINIMUM OF 2" CLEAR FROM ALL EDGES.