

**CONTRACT SPECIFICATIONS
FOR
CONSTRUCTION OF 6-INCH AND 12-INCH WATER
MAIN ON THE 2600-2700 BLOCKS OF ORANGE AVE.
AND THE 5000 BLOCK OF EL ADOBE LN.**

E-1046
Project No.



\$895,300
Engineer's Estimate

**Approved by Crescenta Valley Water District
The 13th day of December 13, 2022**

A handwritten signature in blue ink, which appears to read "Brook Yared", is written over a horizontal line.

**Brook Yared, M.S., P.E.
Director of Engineering and Operations**

**Prospective bidders may obtain one set of contract documents for \$75.00 from
Crescenta Valley Water District
Located at
2700 Foothill Boulevard, La Crescenta, California 91214**

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NOTICE INVITING BIDS

For construction of new 6-inch and 12-inch water distribution main, water services and fire hydrants on the 2600-2700 block of Orange Avenue and the 5000 block of El Adobe Lane within unincorporated Los Angeles County, California.

N-1 NOTICE IS HEREBY GIVEN that sealed bids will be received by the Crescenta Valley Water District (hereinafter "Owner"), for furnishing all plant, labor, services, materials, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefor, as provided in the Contract Documents and Specifications for the construction of the Work described in Section N-4, together with all appurtenances thereto, in strict accordance with the specifications and drawings on file at the office of Crescenta Valley Water District located at 2700 Foothill Blvd. La Crescenta, California, 91214.

N-2 DATE OF OPENING BIDS. Bids will be received at the office of Crescenta Valley Water District, located at 2700 Foothill Blvd. La Crescenta, CA 91214, until **2:00 P.M. on February 7, 2023** at which time and place the bids will be publicly opened and read aloud. Bids shall be submitted in sealed envelopes marked as directed in Section N-13. Bids received after the deadline specified will be returned unopened to the bidder.

N-3 LOCATION OF THE WORK. The work to be constructed hereunder is located on the 2600-2700 block of Orange Ave. and the 5000 block of El Adobe Ln., within unincorporated Los Angeles County, California.

DESCRIPTION OF WORK Installation of 6-inch and 12-inch steel water mains on the 2600-2700 block of Orange Ave. and the 5000 block of El Adobe Ln. within unincorporated Los Angeles County, California.

N-4 Work shall include excavation, backfill, trench resurfacing, installation of water mains, water services, fire hydrants, traffic control, and other appurtenant work.

N-5 MANDATORY PRE-BID CONFERENCE – A mandatory Pre-Bid conference will be conducted in front of 2606 Orange Ave. at **10:00 A.M. on January 31, 2023**. **Contractors must attend this meeting to qualify to submit a bid for this project. Any bid submitted from a contractor who has not attended this meeting shall be rejected and returned unopened.**

N-6 CLASSIFICATION OF CONTRACTORS' LICENSES; REGISTRATION WITH DEPARTMENT OF INDUSTRIAL RELATIONS. Contractors submitting a proposal shall possess, at the time the contract is awarded, the following classes of contractor's license C34. The Contractor shall certify that the license(s) specified are the classification(s) required to perform the Work contemplated under the Contract Documents. Contractor shall provide Owner with their Contractor's license number and expiration date as provided in the Proposal and shall present satisfactory evidence that they are licensed in good standing.

Contractors submitting proposals shall be registered with the Department of Industrial Relations, as provided in Labor Code Section 1725.5, and shall include evidence that they are so registered with their proposal.

N-7 AWARD OF CONTRACT. The Owner reserves the right, after opening bids, to reject any or all bids, or to make award to the lowest responsible bidder and reject all other bids. Bids will be compared on the basis of the Engineer's estimate of the quantities of the several items of

work as shown on the Bid Sheet(s). A good faith determination by the Owner as to whether a bid is responsive or whether a bidder is responsible shall be final, conclusive and binding, and shall not be the basis of a claim for lost profits or other damages by a bidder to whom the contract is not awarded. The Owner reserves the right to waive or seek correction of immaterial errors in a bid, in its sole discretion. The Owner's determination that an error is immaterial shall be final, conclusive and binding on all bidders.

N-8 SITE CONDITIONS. Each bidder shall carefully examine the drawings, read the specifications and the forms of the contract documents, and shall visit the site of the proposed Work so as to be fully informed as to all existing conditions and limitations that may affect the execution of work under the contract, including the location of underground facilities in the area, and shall include in the prices bid the cost of all incidentals and appurtenances. The failure or omission of any bidder to receive or examine any form, instrument, addendum, or other document, or their failure to visit and become acquainted with conditions at the construction site, shall in no respect relieve them from any obligation imposed by their bid or by the contract. The submittal of a bid shall be taken as prima facie evidence of compliance with all instructions contained herein.

N-9 BID SECURITY AND BONDS. (a) Each bid shall be under sealed cover and must be accompanied by cash, a certified or cashier's check, or by a corporate surety bond on the form furnished by the Owner (hereinafter "Bid Security"), as a guaranty that the bidder will, if awarded the contract in accordance with the terms of their bid, promptly secure worker's compensation insurance, liability insurance, and any other insurance required by the Contract Documents, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the contract and for the payment of claims of all persons supplying labor and materials for the construction of the work. The Bid Security shall be in an amount not less than ten percent (10%) of the amount of the bid. The Faithful Performance Bond and Payment Bond shall each be not less than one-hundred percent (100%) of the total amount of the bid price named in the contract.

(b) The Owner reserves the right to reject any bond if, in the opinion of the Owner, its Engineer or Attorney, the Surety's acknowledgement is not legally sufficient. All sureties utilized by bidders shall be an admitted surety insurance carrier in the State of California, shall comply with such other requirements as may be established by the state or its subdivisions, and shall furnish such reports as to their financial condition, from time to time, as may be requested by the Owner, including the Financial Statement of Bonding Company furnished with the bonds. The premiums for all said bonds shall be paid by the bidder. If any surety becomes unacceptable to Owner in the absolute judgment and discretion of Owner, then the bidder/contractor shall promptly furnish at its own expense such additional bonds as may be required by the Owner to protect the Owner's interests and the interests of persons supplying labor or materials in the prosecution of the Work contemplated by these Contract Documents.

(c) In the event of any conflict between the terms of the Contract Documents and the terms of the bonds, the terms of the Contract Documents shall control, and the bonds shall be deemed to be amended thereby. The Owner shall be entitled to exercise any and all rights granted by the Contract Documents in the event of default, without control by the surety, provided that Owner promptly notifies the surety at the time or before the exercise of such rights. The exercise by Owner of such rights shall not affect the liability of the surety under the bonds.

(d) The Bid Security of unsuccessful bidders shall be returned to the bidder within sixty (60) days of the time the award of contract is made.

N-10 CONTRACT RETENTION. At the request and expense of the Contractor and pursuant to Public Contract Code Section 22300, securities equivalent to any amount withheld by Owner to ensure the Contractor's performance under the contract shall be deposited with the Owner, or, at the Contractor's request, with a state or federally chartered bank as the escrow agent. Alternatively, and upon approval of the Owner, retention monies earned may be deposited directly with an escrow agent licensed under Division 6 (commencing with Section 17000) of the Financial Code. Escrow instructions shall conform to the requirements of Public Contract Code Section 22300. All securities deposited pursuant to this Section N-9 shall be accompanied by an unconditional assignment of such securities executed by the Contractor which will permit the Owner or the escrow agent to liquidate such securities in accordance with the provisions of said section 22300.

N-11 WAGE RATES. Bids shall be made in accordance with the prevailing hourly rate of per diem wages for this locality and project as determined by the Director of Industrial Relations pursuant to Labor Code Section 1770 et seq, a copy of which wage rate schedule is on file at the Office of Owner and by this reference incorporated herein. The Contractor shall post a copy of said document at each job site. The Contractor and any of its subcontractors shall pay not less than the specified prevailing rate of per diem wages for general, holiday and overtime work to all workers employed in the execution of this contract. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Job site notices required by Labor Code Section 1771.4 shall be posted. Contractors failing to comply with the prevailing wage requirement are subject to debarment by the Labor Commissioner, as provided in Labor Code Section 1777.1. Debarred contractors are declared ineligible to perform work on any public works project, either as the prime contractor or as a subcontractor.

N-12 USE OF APPRENTICES. If the project requires the employment of workers in any apprenticeable craft or trade, once awarded, the Contractor or Subcontractors must apply to the Joint Apprenticeship Council unless already covered by local apprenticeship standards under Labor Code Section 1777.5

N-13 CONTRACT DOCUMENTS. (a) The Contract Documents shall consist of this Notice Inviting Bids, the Instructions to Bidders, the accepted Proposal, the Bid Sheets, the Contractor's Licensing Statement, the List of Subcontractors, the applicable Bid Security Form and the Non-Collusion Affidavit (Bidder) attached to the Proposal, the Agreement, the Faithful Performance Bond, the Payment Bond, the Non-Collusion Affidavits (Subcontractors), the Notice to Proceed, the General Provisions, the Special Provisions, the Specifications and Drawings, and any change order or addenda and the Specifications and Drawings listed therein, all of which documents are on file in the office of the Owner and are hereby referred to and made a part of this Notice Inviting Bids.

(b) A full set of drawings and specifications is available for inspection without charge at the office of the Owner.

(c) Complete sets of said Contract Documents may be obtained from: Crescenta Valley Water District, 2700 Foothill Blvd., La Crescenta, California 91214, for the price of \$75.00 and \$7.50 for mailing. No refund will be made of any charges for complete sets of Contract Documents.

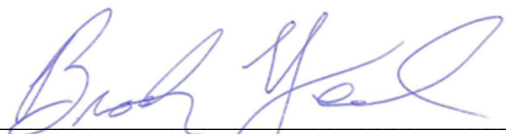
N-14 ADDRESS AND MARKING OF PROPOSAL. The envelope enclosing the proposal shall be sealed and addressed as follows:

Crescenta Valley Water District
2700 Foothill Blvd.
La Crescenta, CA 91214

The envelope shall be plainly marked in the upper left-hand corner with the name and address of the bidder, shall bear the words "Proposal for", followed by the title of the specifications for the work and the date and hour for opening of bids, and shall be delivered or mailed to the Owner. The Bid Security shall be made payable to or for the benefit of the Owner, and shall be enclosed in the same envelope with the proposal.

Dated: 12/13/22

CRESCENTA VALLEY WATER DISTRICT

By: 

Brook Yared, M.S., P.E.
Director of Engineering and Operations

INSTRUCTIONS TO BIDDERS

I-1 FORM OF BID AND SIGNATURE - (a) The Proposal shall be submitted on the form attached hereto and shall be enclosed in a sealed envelope marked and addressed as provided in the Notice Inviting Bids.

(b) Each bidder shall state the unit price or the specific sums, as the case may be, for which they propose to supply the labor, materials, supplies, or equipment, and perform the Work required by the Contract Documents. If the unit price and the total amount named by a bidder for any items are not in agreement, the unit price times the estimated quantity will be considered as representing the bidder's intention and the totals will be corrected to conform thereto.

(c) If the Proposal is made by an individual, it shall be signed and his or her full name and his or her address shall be given; if it is made by a partnership firm, it shall be signed with the partnership name by a partner of the firm, who shall also sign his or her own name, and the name and address of each partner shall be given; and if it is made by a corporation, the Proposal shall be signed on behalf of the corporation by its duly authorized officer or officers and attested by the corporate seal.

I-2 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS - If any person or entity contemplating the submittal of a bid for the proposed contract is in doubt as to the true meaning of any requirement of the Contract Documents, or they find any discrepancies in or omissions from the Contract Documents, they shall submit to the Engineer a written request for an interpretation or correction thereof. The written request must be received at least five calendar days prior to the date fixed for opening of bids. The person or entity making the request will be responsible for its prompt delivery. Interpretations or corrections will be made only by addenda to specifications or by dated revisions of drawings with a copy of each addition or change being furnished, through the Owner, to each prospective bidder.

I-3 PREPARATION OF THE PROPOSAL - (a) Blank spaces in the Proposal and Bid Sheet(s) shall be properly filled. The wording of the Proposal must not be changed, and no additions shall be made to the items mentioned therein. Unauthorized conditions, limitations, or provisos attached to a Proposal will render it informal or nonresponsive and may cause its rejection. Alterations by erasure or interlineation must be noted and initialed by the bidder. Alternative Proposals will not be considered unless specifically requested.

(b) Any bidder may withdraw their Proposal before the hour fixed for opening bids by submitting a written request to the Owner, and their Proposal will be returned or mailed unopened to the bidder. No Proposal may be withdrawn after the hour fixed for opening of bids without rendering the Bid Security subject to retention by Owner as liquidated damages, and not as a penalty. Unless otherwise stated herein, all bids shall be valid for a period of forty-five (45) days after the opening date, notwithstanding any award of the contract to another bidder.

(c) No Proposal received after the time named or at any place other than the place stated in the Notice Inviting Bids will be considered. All Proposals will be opened and declared publicly. Bidders, their representatives, and others interested are invited to be present at the opening. The Owner reserves the right to waive any informality in any Proposal, to reject any or all Proposals, to reject one part of a Proposal and accept the other, and to make award to the lowest responsible bidder as the interest of the Owner may require. Each bid shall identify the surety or sureties which have agreed to furnish the required bonds.

I-4 REGISTRATION OF CONTRACTORS - Before submitting bids, Contractors shall be licensed in accordance with the provisions of Division 3, Chapter 9, of the Business and Professions Code of the State of California and shall provide proof of current licensing status as provided in the Proposal. The Contractor shall maintain the required license in good standing throughout the course of the Work. Contractors shall also be registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

I-5 CONTRACTORS EXPERIENCE - Contractors shall submit, along with their proposal, an all-inclusive list of projects performed by the Contractor within the past thirty-six (36) month period. This list shall include the size of the project in dollars, the agency or client for whom the work was performed and the name and title of the agency or client contact person. The list must include at least three (3) jobs similar in size and scope to that contemplated herein. Failure to submit a complete list or to have that list include at least three (3) jobs similar in size and scope to that contemplated herein, will render a proposal informal or nonresponsive and may result in its rejection by Owner.

I-6 LIST OF SUBCONTRACTORS FILED WITH BID - In accordance with the provisions of Sections 4100 through 4114, inclusive, of the Public Contract Code of the State of California, each Proposal shall include the name and business address of each proposed subcontractor who will perform work or labor or render service to the principal Contractor in an amount greater than one-half of one percent (0.5%) of the principal Contractor's bid, and shall state the portions of the work which will be done by each such subcontractor. Each subcontractor shall be registered pursuant to Labor Code Section 1725.5 and shall provide satisfactory evidence that they are currently registered and qualified to perform public work. Any additional information required by the Owner regarding listed subcontractors may be provided by the bidder up to 24 hours after the hour set for opening bids. The Contractor shall not enter into any subcontract with a subcontractor which has been debarred by the Labor Commissioner pursuant to Sections 1777.1 and 1777.7 of the Labor Code.

I-7 BIDDERS INTERESTED IN MORE THAN ONE BID - No person, firm, or corporation shall make, file, or be interested in more than one Proposal for the same work; provided, however, that a person, firm, or corporation who has submitted a sub-proposal to a bidder, or who has quoted prices of materials to a bidder, is not hereby disqualified from submitting a sub-proposal or quoting prices to other bidders.

I-8 LOWEST RESPONSIBLE BIDDER - In selecting the lowest responsible bidder, consideration will be given to the general competency of the bidder for the performance of the work covered by the bid. To receive favorable consideration, a bidder shall be required to present evidence that they or their associates are personally competent to manage the proposed undertaking and to carry it forward to a successful conclusion. Professional integrity and honesty shall be essential requirements. The Owner shall have absolute discretion as to the evaluation of past work performance of any bidder, and its decision relating thereto shall be deemed correct and shall be conclusive and binding.

I-9 BID SECURITY - Each bidder shall submit with their bid cash, an unconditional certified or cashier's check, or a bidder's bond with a responsible corporate surety, on the form attached to the proposal. The Bid Security shall be in a sum not less than ten percent (10%) of the amount of the bid, and shall be made payable to or for the benefit of the Owner as a guaranty that the bidder will, if an award is made to them in accordance with the terms of their Proposal, promptly execute a contract in the required form, secure payment of worker's compensation, and

furnish satisfactory Performance and Payment Bonds and proof of insurance coverage, and such other information as may be required of bidder.

I-10 LOCAL CONDITIONS - (a) Bidders shall read the specifications, examine the drawings, and make their own estimates of the existing facilities and the difficulties which will attend the execution of the work called for by the proposed contract, including local conditions, uncertainty of weather, and all other contingencies. Bidders shall make such investigation and review such records and drawings as they deem necessary to satisfy themselves that they are familiar with the condition and location of existing underground facilities and other potential sources of interference with the work contemplated under the Contract Documents. By providing access to drawings or other records in its possession, the Owner makes no representations or guarantees as to the accuracy of such drawings or records.

(b) Bidders shall satisfy themselves by personal examination of the location of the proposed work and by such other means as they may choose as to actual conditions and requirements and as to the accuracy of the quantities stated in the Bidding Sheet(s). Information derived from the maps, plans, specifications, profiles, or drawings, or from the Engineer or its assistants, shall not relieve the bidder of this responsibility, and the interpretation of the data disclosed by borings or other preliminary investigations is not guaranteed by the Owner.

(c) The quantities of work or material stated in the unit-price items of the Bidding Sheet(s) are supplied only to give an indication of the general scope of the work; the Owner does not expressly or by implication agree that the actual amount of work or material will correspond therewith, but reserves the right to increase or decrease the amount of any unit-price item of the work by an amount up to and including twenty-five percent (25%) of any bid item(s), or to omit portions, or all of such work as may be deemed necessary or expedient by the Engineer without a change in the unit price. The Owner, likewise, reserves the absolute right to delete quantities of work or material which are the subject of "lump sum" bids.

(d) Bidders shall not at any time after the submittal of a bid make or have any claim for damages or anticipated profits or loss of profit or otherwise because of any difference between the quantities of work actually done and material furnished and those stated in said unit-price items or lump sum items of the Bidding Sheet(s).

I-11 EXECUTION OF CONTRACT - A bidder to whom award is made shall execute the form of Agreement provided in the Contract Documents, secure the payment of worker's compensation, furnish bonds as required herein, provide evidence of insurance, and provide a financial statement or other information requested by Owner pursuant to the Contract Documents, within ten business days, or such additional time as may be allowed by the Owner, from the date the Owner mails notice to the bidder that their proposal has been accepted. The failure or refusal of a bidder to whom award is made to enter into contract or otherwise perform hereunder will result in damages being sustained by the Owner. Such damages are impracticable and extremely difficult to ascertain. In the event of such failure or refusal to comply with the requirements of the Contract Documents, the Bid Security shall become the property of the Owner as liquidated damages and not as a penalty, and the award will be revoked. At the discretion of the Owner, a new award may be made to the second lowest responsible bidder and such bidder shall fulfill the requirements set forth herein as if they were the party to whom the first award was made. A corporation to which an award is made shall be required, before the contract is finally executed, to furnish evidence of its corporate existence, of its right to do

business in California, and of the authority of the officer signing the contract and bonds for the corporation.

I-12 BONDS - (a) In conformance with the Notice Inviting Bids, a bidder to whom the contract is awarded shall, within the time specified in Section I-11 above, furnish a bond with a responsible corporate surety or corporate sureties conditioned upon the faithful performance of said bidder of all covenants and stipulations in the Contract Documents. Said bond, hereinafter referred to as the Faithful Performance Bond, shall be on the mandatory form included as a part of these Contract Documents, and shall be in an amount that is not less than one hundred percent (100%) of the total amount payable under the Contract Documents.

(b) Within the time specified in Section I-11 hereof, the bidder to whom the contract is awarded shall also furnish a Payment Bond, approved by the Owner, in accordance with the provisions of Civil Code Sections 3225-3228, inclusive, and Sections 3247-3252, inclusive. Said Payment Bond shall be in a sum not less than one hundred percent (100%) of the total amount payable under the Contract Documents. The form of Payment Bond set forth in these Contract Documents is a mandatory form.

(c) The surety or sureties on all bonds furnished must be satisfactory to the Owner. Any power of attorney provided, evidencing the authority of the person executing the bonds to bind the surety, shall be an unrevoked power. If during the continuance of the contract any of the sureties in the sole discretion of the Owner are or become insufficient, the Owner may require additional sufficient sureties which the Contractor shall furnish to the satisfaction of the Owner within fifteen (15) days after written notice, and in default thereof the contract may be suspended and the work completed as provided in the General Conditions. The party required to furnish bonds pursuant to these instructions shall furnish such bonds at their own cost and expense.

I-13 LIABILITY INSURANCE

(a) A bidder to whom the contract has been awarded shall furnish to the Owner a policy or certificate of protective liability insurance in which the Owner, the Owner's Engineer and the Owner's Representative shall be named as additional insureds with the bidder. Where requested by the city, county or other governmental agency in whose jurisdiction the work is being performed, or in the discretion of the Owner, the city, county or other governmental agency shall be named as an additional insured. The policy shall insure the Owner, the Engineer and the Owner's Representative and each of their officers, employees, and agents as additional named insureds; the bidder, its employees and its subcontractors and each of their employees, and their heirs, agents, and employees, while acting within the scope of their duties, against all claims arising out of or in connection with the Work to be performed and shall remain in full force and effect until the Work is accepted by the Owner. The bidder shall also provide such additional named insured endorsements [Insurance Services Office (ISO) Form Number CG 2010 11 85 or equivalent] as may be required by the Owner, in the Owner's sole discretion.

The Owner, the Engineer and the Owner's Representative and each of their directors, officers, employees, and agents are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor; premises owned, occupied or used by the Contractor; or automobiles owned, leased, hired or borrowed by the Contractor. The coverage shall contain no special limitations on the scope of protection afforded the additional insureds.

(b) The above-referenced insurance policy (or policies) shall be furnished at the bidder's expense, in a form and with insurance companies authorized to do business and have an agent for service of process in California and have a "A-" policyholder's rating and a Financial Size Category rating of at least VII in accordance with the most recent Best's Insurance Guide or other comparable rating service, or as otherwise approved by the Owner. Such insurance, in addition to the multiple additional named insured endorsements set forth above, shall be commercial general liability insurance in the amounts set forth below, and shall contain additional endorsements as follows: (i) Providing blanket contractual liability coverage for the bidder's indemnification obligations to Owner and others pursuant to the Contract Documents; (ii) Providing coverage for explosion, collapse, underground excavation and removal of lateral support; (iii) Providing that the insurance may not be canceled or reduced except with notice to the Owner and its Engineer have actually received written notice of such cancellation or reduction; (iv) Providing that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability; and (v) Providing that any other insurance maintained by Owner, the Engineer or any other named insured is excess insurance, and not contributing insurance with the insurance required herein. The amount of coverage shall be no less than the following:

- (1) General bodily injury and property damage -- \$5,000,000 per occurrence.
- (2) Automobile bodily injury and property damage -- \$5,000,000 per occurrence, including owned, non-owned and hired autos, and providing coverage for loading and unloading.

The bidder shall, within the time specified in Section I-11 hereof, file with the Owner evidence of insurance from an insurer or insurers certifying to the coverage of all required insurance. Such evidence shall include original copies of the ISO CG 2010 (or insurer's equivalent) signed by the insurer's representative and certificate(s) of insurance (Accord Form 25 or equivalent) reflecting the existence of the required insurance. If required by the Owner, the bidder shall furnish a complete copy of the policy or policies, and all endorsements thereto. Commercial general liability insurance must include Owner's and Contractor's Protective Coverage, Products - Completed Operations Coverage, Premises - Operations Coverage, and must provide for coverage of Owner's facilities during the course of construction. Notwithstanding the foregoing, bidder is not hereby required to provide insurance with respect to liability for damages resulting solely from error or omission in design which is not due to or contributed to by negligence or fault of the contractor, its subcontractors, agents, employees or officers.

I-14 ASSIGNMENT OF CONTRACT - The Contractor shall not assign the Contract Documents or any part thereof, or any funds to be received thereunder, without the prior written approval of both the Owner and Surety. Notwithstanding the foregoing, and to the extent permitted by law, Owner has the absolute right to refuse, on any ground or no grounds, any and all assignments or attempted assignments of the Contract Documents or of any rights to payment pursuant thereto.

I-15 NON-COLLUSION AFFIDAVITS - In accordance with the provisions of Section 7106 of the Public Contract Code, each bidder shall execute and submit with their bid a Non-Collusion Affidavit in the form attached to the Proposal. Additionally, the principal contractor shall secure from each proposed subcontractor a Non-Collusion Affidavit in the form attached to the Agreement.

I-16 FINANCIAL STATEMENT - In the course of evaluating the capacity and competence of a bidder to perform the Work, the Owner may require any bidder to furnish a recent statement of their financial condition or such other evidence of their qualifications as may be requested by the Owner. If a bidder fails to promptly furnish the information requested, it shall be considered sufficient grounds for rejection of such bidder's entire bid.

PROPOSAL

BIDDER'S DECLARATION

Gentlepersons:

The undersigned hereby proposes to perform all work for which a contract may be awarded them and to furnish any and all plant, labor, services, material, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefor as provided in the Contract Documents, and to do everything required therein for the construction of **6-inch and 12-inch Water Mains on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln.,** as specifically set forth in documents entitled **Construction of 6-inch and 12-inch Water Mains on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** together with addenda thereto, all as set forth on the drawings and in the specifications and other Contract Documents (hereinafter the "Work"); and they further propose and agree that, if this Proposal is accepted, they 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 they will accept as full payment therefore the prices set forth in the Bid Sheet(s) forming a part hereof.

(check one)

- | | |
|--------------------------|-----------------|
| ☐ | Cash |
| ☐ | Cashiers check |
| ☐ | Certified check |
| ☐ | Bid Bond |

properly made payable to Crescenta Valley Water District, hereinafter designated as the Owner, for the sum of \$_____, which amount is not less than 10 percent of the total amount of this bid, is attached hereto and is given as a guarantee that the undersigned will execute the Agreement and furnish the required bonds and insurance if awarded the contract and, in case of failure to do so within the time provided, the

(check one)

- | | |
|--------------------------|---|
| ☐ | Cash shall be retained as liquidated damages by the Owner |
| ☐ | Proceeds of said check shall be retained as liquidated damages by the Owner |
| ☐ | Surety's liability to the Owner for the face amount of the Bond shall be considered as established. |

It is understood and agreed that:

1. The undersigned has carefully examined all the Contract Documents, as defined in Section N-12 of the Notice Inviting Bids, including, but not limited to, the bid quantities, any specifications regarding materials to be used, the contract provisions relating to payment for extra work and the procedures for seeking extensions of time;

2. The undersigned, by investigation at the site of the work, by review of any records available for inspection at the offices of utilities in the area affected by the Work, at any applicable public works departments, and otherwise, is satisfied as to the nature and location of the work and is fully informed as to all conditions and matters which can in any way affect the work or the cost thereof, including the location of all underground facilities in the area affected by the Work;

3. The undersigned fully understands the scope of the Work and has checked carefully all words and figures inserted in this Proposal and further understands that the Owner will in no way

be responsible for any errors or omissions in the preparation of this Proposal;

4. The undersigned will execute the Agreement and furnish the required Performance and Payment Bonds and proof of insurance coverage within ten (10) days (not including Sundays and holidays) after Owner's notice of acceptance of this Proposal; and further, that, unless otherwise specified in the Special provisions, this Proposal may not be withdrawn for a period of forty-five (45) days after the date set for the opening thereof, notwithstanding the award of contract to another bidder. If the undersigned bidder withdraws this Proposal within said period, said bidder shall be liable under the provisions of the Bid Security, or said bidder and their surety shall be liable under the Bid Bond, as the case may be.

5. The undersigned hereby certifies that this Proposal is genuine and not sham or collusive or made in the interest or in behalf of any person not herein named, and the undersigned has not directly or indirectly induced or solicited any other bidder to put in a sham bid, or any other person, firm, or corporation to refrain from bidding; the undersigned has not in any manner sought by collusion to secure for themselves an advantage over any other bidder.

6. In conformance with current statutory requirement of the Labor Code of the State of California, the undersigned certifies as follows:

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

Now, in compliance with the Notice Inviting Bids and all the provisions hereinbefore stipulated, the undersigned, with full cognizance thereof, hereby proposes to perform the entire work for the prices set forth in the attached Bid Sheet(s) upon which award of contract will be made.

The undersigned bidder declares that the license held by them is theirs, is current and valid, and is in a classification appropriate to the work to be undertaken.

The undersigned declares under penalty of perjury under the laws of the State of California that the foregoing is true and correct. Executed at _____, California.

Dated _____ 20 _____

Bidder: _____

By: _____

Title: _____

Bidder's post-office address:

Telephone No.: _____

Facsimile No.: _____

Corporation organized under the laws
of the State of _____

Contractor's License(s): _____

Expiration Dates: _____

Surety or sureties:

CONTRACTORS ARE REQUIRED BY LAW TO BE LICENSED AND REGULATED BY THE CONTRACTORS' STATE LICENSE BOARD WHICH HAS JURISDICTION TO INVESTIGATE COMPLAINTS AGAINST CONTRACTORS IF A COMPLAINT IS FILED WITHIN THREE YEARS OF THE DATE OF THE ALLEGED VIOLATION. ANY QUESTIONS CONCERNING A CONTRACTOR MAY BE REFERRED TO THE REGISTRAR, CONTRACTORS' STATE LICENSE BOARD, P.O. BOX 26000, SACRAMENTO,CALIFORNIA 95826.

PROPOSAL BID SHEET
CONSTRUCTION OF 6-INCH AND 12-INCH WATER MAIN
ON THE 2600-2700 BLOCKS OF ORANGE AVE. AND THE 5000 BLOCK OF EL
ADOBE LN.,
PROJECT E-1046.

Item No.	Description	Quantity	Unit Cost	Item Amount
1.	Excavation and backfill (pipeline, laterals & appurtenances)	3,400 Linear feet	_____	_____
2.	Trench Resurfacing	10,200 Square feet	_____	_____
3.	Install 12" CML & CMC steel water pipeline and appurtenant construction*	1,900 Linear Feet	_____	_____
4.	Install 6" CML & CMC steel water pipeline and appurtenant construction	600 Linear Feet	_____	_____
5.	Install 4" CML & CMC steel water pipeline and appurtenant construction	40 Linear Feet	_____	_____
6.	Install approximately 40 LF of 12" CML&CMC steel water pipeline and appurtenant construction across Eagle Canyon Channel	Lump Sum	_____	_____
7	Install 6" and 2" Highline System	Lump Sum	_____	_____
8.	Install 6" Fire Hydrant and steel water pipe laterals and appurtenant construction*	5 Each	_____	_____
9.	Install 1" water services including fittings and appurtenances, including 2-2" water services*	39 Each	_____	_____
10.	Install 1" sample station including fittings and appurtenant construction	1 Each	_____	_____
11.	Install meter box (Parkhaven Circle)	6 Each	_____	_____
12.	Install 8" fire service for Monte Vista School	1 Each	_____	_____
13.	Provide traffic control for the Project	Lump Sum	_____	_____
14.	<i>Additive amount if replacement of existing Shutdown valve is required by Owner</i>	<i>2 Each</i>	_____	_____

Grand Total
Of Items 1 – 13 _____

***See Appendix B for all material to be provided by CVWD.**

All other fittings and materials shall be provided by Contractor.

Please Note: This is a unit price contract. Final payment will be based on actually constructed unit quantities.

INFORMATION REQUIRED OF BIDDER

EQUIPMENT/MATERIAL SOURCE INFORMATION

The bidder shall indicate opposite each item of equipment or material listed below, the name of the manufacturer or supplier of the equipment or material proposed to be furnished under the bid. **Failure to comply with this requirement will render the proposal informal and may cause its rejection.** Awarding of a contract under this bid will not imply approval by the Owner of the manufacturers or suppliers listed by the bidder. No substitution will be permitted after award of contract unless equipment or material of the listed manufacturer or supplier cannot meet the specifications.

<u>Equipment/Material</u>	<u>Manufacturer/Supplier</u>
Crushed Miscellaneous Base	
Water Materials Supplier	
Slurry Backfill	

INFORMATION REQUIRED OF BIDDER

SITE INSPECTION AND UNDERGROUND UTILITIES REVIEW -- Describe when, by whom, and in what manner (a) the site for this proposed work was inspected and (b) records of local utility providers were reviewed on behalf of the bidder (NOTE: Failure to demonstrate diligent effort in ascertaining local conditions which may affect the Work will render this Proposal informal or nonresponsive and may result in its rejection):

COMPARABLE PROJECT EXPERIENCE -- In accordance with Section I-5 of the Instructions to Bidders, describe at least six (6) comparable projects completed by bidder within past thirty-six (36) month period, including dates completed, location of work, size of project in dollars, names, addresses, and phone numbers of persons in charge of project construction, and the name and address of the public agency or firm for whom the project was constructed (NOTE: Failure to include at least six (6) jobs similar in size and scope to that contemplated under the Contract Documents will render this Proposal informal or non-responsive and may result in its rejection):

CONTRACTOR'S LICENSING STATEMENT

The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number(s), Type(s) and Expiration Date(s): _____

Expiration Date: _____

Name of Individual Contractor (print or type): _____

Signature of Owner: _____

Business Address: _____

or

Name of Partnership or Firm: _____

Business Address: _____

Signature, name, title and address of partners signing on behalf of the partnership:

Signed: _____ Name: _____

Title: _____ Address: _____

Signed: _____ Name: _____

Title: _____ Address: _____

Signed: _____ Name: _____

Title: _____ Address: _____

or

Name of Corporation: _____

Business Address: _____

Corporation organized under the laws of the State of _____

SEAL

Signature of the President of Corporation

Signature of Secretary of Corporation

NOTE: CURRENT COPIES OF ALL APPLICABLE LICENSES MUST BE ATTACHED TO THIS PROPOSAL.

LIST OF SUBCONTRACTORS

The bidder is required to furnish the following information in accordance with the provisions of Sections 4100 to 4114, inclusive, of the Public Contract Code of the State of California.

Subcontractors must be listed if they will provide work, labor or service in an amount in excess of one-half (1/2) of one percent (1%) of the total bid.

THAT PORTION OF THE WORK TO BE PERFORMED BY SUBCONTRACTORS SHALL, IN THE AGGREGATE, NOT EXCEED 40% OF ALL WORK PERFORMED, BASED UPON THE TOTAL DOLLAR VALUE OF THE WORK.

Subcontractor	License No. & Type	Main Office Address	% of Total Dollar Value Work	Description of Subcontract
Highline				

(NOTE: THE FOLLOWING FORM SHALL BE USED IN CASE CHECK OR CASH ACCOMPANIES BID.)

BID SECURITY FORM

(Check or Cash to Accompany Bid)

Accompanying this Proposal is

(check one)

B Cash

B Certified check payable to the order of Crescenta Valley Water District ("Owner")

B Cashier's check payable to the order of Crescenta Valley Water District ("Owner")

in the amount of \$_____, this amount being not less than ten percent (10%) of the total amount of the bid (hereinafter referred to as "Bid Security").

The Bid Security shall become the property of the Owner provided this Proposal is accepted by the Owner through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required Performance and Payment Bonds, proof of insurance coverage, and other information requested and set forth in the Instructions to Bidders within the time set forth in the Contract Documents; otherwise, the Bid Security shall be returned to the undersigned. The Bid Security shall also become the property of the Owner if the undersigned withdraws their bid within forty-five (45) days after the date set for bid opening, and notwithstanding the award of the contract to another bidder.

BIDDER

(NOTE: IF THE BIDDER DESIRES TO USE A BOND INSTEAD OF CHECK OR CASH, THE BID BOND FORM ON THE FOLLOWING PAGES SHALL BE EXECUTED -- THE SUM OF THIS BOND SHALL BE NOT LESS THAN 10 PERCENT OF THE TOTAL AMOUNT OF THE BID.)

MANDATORY FORM

(NOTE: THE FOLLOWING FORM SHALL BE USED WHERE THE BIDDER DESIRES TO FURNISH A BOND INSTEAD OF CHECK OR CASH.)

BID SECURITY FORM

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as principal
and _____ as surety, are held and firmly bound
unto Crescenta Valley Water District (hereinafter "Owner,") in the sum of \$_____, to be paid to the
Owner, its successors, and assigns, for which payment, well and truly to be made, we bind ourselves, our heirs,
executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that if the certain Proposal of the above Principal for
the **Construction of 6-inch and 12-inch water mains on the 2600-2700 blocks of Orange Ave. and the 5000
block of El Adobe Ln.,** as specifically set forth in documents entitled **Construction of 6-inch and 12-inch water
mains on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** all in
accordance with the Contract Documents, including specifications and drawings on file at the offices of the Owner, is
not withdrawn within the period of 45 days after the date set for the opening of bids or as otherwise provided in the
Special Provisions, notwithstanding the award of the contract to another bidder, and that if said Proposal is accepted by
the Owner through action of its legally constituted contracting authorities and if the above bound principal, its heirs,
executors, administrators, successors and assigns, shall duly enter into and execute a contract for such construction and
shall execute and deliver the required

MANDATORY FORM

Performance and Payment Bonds and proof of insurance coverage within ten (10) days (not including Sundays and holidays) after the date of notifications by and from said Owner, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

IN WITNESS WHEREOF, we hereunto set our hands and seals this

day of _____, 20 ____

(Principal) (SEAL)

By _____

(Surety) (SEAL)

By _____

NOTE:

- (1) This bid bond form is a **mandatory form**.
- (2) The bid bond form should specify an exact number of dollars which shall not be less than ten percent (10%) of the total amount of the bid.
- (3) The bid bond form must be acknowledged before notary publics, and a legally sufficient power of attorney must be attached to the bid bond to verify the authority of the party signing on behalf of the surety.

STATE OF CALIFORNIA)
)SS
COUNTY OF _____)

[NAME]

the party submitting a bid for a contract covering _____

that such a bid is not made in the interest of or on behalf of any undisclosed person, partnership, company, association, organization, or corporation; that such bid is genuine and not collusive or sham; that said 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, nor that anyone shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communications or conference with anyone to fix the bid price of said bidder or any other bidder, nor to fix any overhead, profit, or cost element of such bid price, nor of that of any other bidder, nor to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not, directly or indirectly, submitted their bid price or any breakdown thereof, nor the contents thereof, nor divulged information or data relative thereto, nor paid and will not pay any fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, nor to any member or agent thereof, nor to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in their general business.

Signed: _____

Subscribed and sworn to before me this ____ day of _____, 20____, by

Notary Public

PROPOSAL
P-13

AGREEMENT

THIS AGREEMENT, made and entered into this ____ day of _____ in the year 20 ____ by and between Crescenta Valley Water District, a public corporation organized and existing under the provisions of the Water Code of the State of California, hereinafter referred to as "Owner," and _____, hereinafter referred to as "Contractor."

The parties hereto mutually covenant and agree as follows:

1. The Contract Documents, as that term is defined in Section N-13 of the Notice Inviting Bids, are hereby incorporated in and made a part of this Agreement as though fully set forth herein.

2. In consideration of the payments and agreements to be made and performed by the Owner as set forth in said Contract Documents, the Contractor agrees with the Owner to construct **6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln.** as specifically set forth in said Contract Document entitled **6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** for which award of contract was made; to furnish at its own proper cost and expense all plant, labor, services, materials, tools, equipment, supplies, transportation, utilities, and all other items and facilities necessary therefor, as provided in the Contract Documents, and to do everything required therein. In accordance with the provisions of Section 3700 of the Labor Code, the Contractor will secure payment of compensation of its employees by acquisition of workers' compensation insurance or by qualification as a self-insurer.

3. The Contractor shall provide for payments on all required insurance policies and shall obtain all necessary permits and licenses. The Contractor shall furnish and remove all plant, temporary work or structures, tools, and equipment necessary to accomplish the Work contemplated in this Agreement and the Contract Documents, and shall be responsible for all loss and damage arising out of the nature of the Work during its progress and prior to Owner's acceptance, from the action of the elements and from any unforeseen difficulties which may arise or be encountered in the prosecution of the Work, and for all other risks of any description connected with the Work. The Contractor shall also be responsible for all expenses incurred by or in consequence of the suspension or discontinuance of Work, except where the Contract Documents expressly stipulate otherwise. In consideration of the foregoing, and for completing the Work within the stipulated time and in the manner set forth in the Contract Documents and in accordance with the requirements of the Engineer, the Owner shall pay, and the Contractor shall receive in full compensation therefor, the prices set forth in the accepted Proposal. The total compensation to be paid shall be computed on the basis of the units of work actually performed in accordance with the requirements of the Contract Documents and paid for at the prices stated by the Contractor in the Bid Sheet(s) for completion of the Work. All time limits stated in the Contract Documents are of the essence of this Agreement.

4. The Owner agrees to employ, and does hereby employ, Contractor to provide the materials and to do the Work according to the terms and conditions herein contained and referred to, for the price aforesaid, and hereby contracts to pay the same at the time, in the manner, and upon the conditions set forth in the Contract Documents.

5. No work, services, material, or equipment shall be performed or furnished under this Agreement unless and until a Notice to Proceed has been given to the Contractor by the

Owner. The Work under this Agreement shall be completed to the approval and entire satisfaction of the Owner and its Engineer.

6. To the fullest extent permitted by law, Contractor shall immediately defend and indemnify and hold harmless the Owner, and its Engineer and their respective directors, officers, employees, agents and volunteers, and each of them from and against:

a. Any and all claims, demands, causes of action, damages, costs, expenses, losses or liabilities, in law or in equity, of every kind and nature whatsoever for, but not limited to, injury to or death of any person including, the Owner, the Engineer, and/or the Contractor, or any of their directors, officers, employees, agents or volunteers, and damages to or destruction of property of any person, including but not limited to, the Owner, the Engineer and/or the Contractor and any of their directors, officers, employees, agents or volunteers, arising out of or in any manner directly or indirectly connected with the Work to be performed under this Agreement, however caused, regardless of any negligence of the Owner, its Engineer or any of their directors, officers, employees, or agents (including passive negligence), except the sole negligence or willful misconduct or active negligence of the Owner, its Engineer, or any of their directors, officers, employees, agents or volunteers; upon tender by the Owner, Contractor shall immediately defend, at Contractor's own cost, expense and risk, any and all such claims, suits, actions or other legal proceedings of every kind that may be brought or instituted against Owner, its directors, officers, agents, employees or volunteers, notwithstanding whether Contractor's liability is or can be established.

b. Any and all actions, proceedings, damages, costs, expenses, penalties or liabilities, in law or in equity, of every kind or nature whatsoever, arising out of, resulting from or on account of the violation of any governmental law or regulation, compliance with which is the responsibility of Contractor.

c. Contractor shall defend, at the Contractor's own cost, expense and risk, any and all such aforesaid suits, actions or other legal proceedings of every kind arising out of or connected with the Work that may be brought or instituted against the Owner, its Engineer or any of their directors, officers, employees, or agents.

d. Contractor's obligation to indemnify shall survive the termination or completion of the Work for the full period of time allowed by law and shall not be restricted by the insurance requirements of these Contract Documents or to insurance proceeds, if any, received by the Owner, or its directors, officers, employees, agents or volunteers.

e. Contractor's defense and indemnity obligation herein includes, but is not limited to, damages, fines, penalties, attorney's fees and costs arising from claims under the Americans with Disabilities Act (ADA) or other federal or state disability access or discrimination laws arising from Contractor's work during the course of construction of the improvements or after the Work is complete, as the result of defects or negligence in Contractor's construction of the improvements.

f. Contractor shall pay and satisfy any judgment, award or decree that may be rendered against the Owner, its Engineer or any of their directors, officers, employees, or agents, in any such suit, action or other legal proceeding.

g. Contractor shall reimburse the Owner, its Engineer or any of their directors, officers, employees, and/or agents, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

h. Contractor agrees to carry insurance for this purpose as set out in the specifications. See Section I-13 of the Instructions to Bidders, entitled LIABILITY INSURANCE, and Article 7 of the General Provisions, entitled CONTRACTOR'S INSURANCE, for insurance specifications and coverage. Contractor's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by the Owner, its Engineer or any of their directors, officers, employees, and/or agents.

7. If any provision of this Agreement is found by a court of competent jurisdiction to be invalid, void or unenforceable for any reason, the remaining provisions shall continue in full force and effect without being impaired or invalidated in any way.

8. In employing Contractor to perform the Work contemplated under the Contract Documents, the Owner has relied on the experience, expertise and integrity of the Contractor. The rights and obligations of the Contractor under this Agreement shall therefore not be assignable without the prior express written consent of the Owner.

9. This Agreement constitutes the entire Agreement of the parties, and no amendment or modification of its terms is binding except by written amendment approved by the parties.

10. This Agreement shall be governed by the laws of the State of California. Venue for all purposes shall be deemed to lie within Los Angeles County, California.

IN WITNESS WHEREOF: The parties hereto have caused this Agreement to be executed as of the day and year first above written.

"OWNER"

By: _____
Its _____
[TITLE]

By: _____
Its _____
[TITLE]

"CONTRACTOR"

License No(s). _____
Expiration Date(s) _____

By: _____
Its _____
[TITLE]

NOTE: Contractor shall furnish, to the satisfaction of Owner and the Owner's Attorney, verification that the persons signing this Agreement as Contractor or on behalf of the Contractor have authority and legal authorization to bind the Contractor.

FAITHFUL PERFORMANCE BOND

Bond No. _____

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, hereinafter referred to as "Contractor," as principal, and _____, as surety, are held and firmly bound unto Crescenta Valley Water District, hereinafter referred to as "Owner," in the sum of \$ _____, lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and/or assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that,

WHEREAS, said Contractor has been awarded and is about to enter into a contract with Owner for the **Construction of 6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** as specifically set forth in documents entitled and is required under the terms of the Contract Documents to give this bond in connection with the execution of said contract:

NOW THEREFORE, if said Contractor shall well and truly do and perform all of the covenants and obligations of said contract on its part to be done and performed at the times and in the manner specified herein, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect;

PROVIDED, that any alterations in the work to be done, or the material to be furnished, which may be made pursuant to the terms of said contract, shall not in any way release either the Contractor or the surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such alterations or extensions of the contract is hereby waived by the surety.

FURTHER PROVIDED, that, as provided in Section 6-19 of the General Provisions entitled "Termination for Breach," and upon termination in accordance with said Section 6-19, if the direct and indirect costs of completing the Work, including, but not limited to, all costs to Owner arising from professional services and attorneys' fees and all costs generated to insure or bond the work of substituted contractors or subcontractors utilized to complete the Work, exceed the balance due the Contractor, on failure of Contractor to pay, the Surety shall pay on demand by Owner. Any portion of such difference not paid by Surety within thirty (30) days following the mailing of a demand for such costs by Owner shall earn interest at the rate of ten percent (10%) per annum or the maximum rate authorized by California law, whichever is lower.

If any action is brought upon this bond by said Owners and judgment is recovered (or settlement is made which is favorable to Owner), then said surety shall pay all costs incurred by said Owners in such action, including a reasonable attorney's fee.

WITNESS our hands this _____ day of _____, 20____.

Contractor: _____ Surety: _____

By: _____ By: _____

Title: _____ Title: _____

By: _____ Home Office Address: _____

Title: _____ _____

Phone: _____

Attorney-in-Fact: _____

Address: _____

SEAL

Phone: _____

NOTE: This bond must be acknowledged before notary publics, and a legally sufficient power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____, hereinafter referred to as "Contractor," as principal, and _____, as surety, are held and firmly bound unto Crescenta Valley Water District, hereinafter referred to as "Owner," in the sum of \$ _____, lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and/or assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that, _____

WHEREAS, said Contractor has been awarded and is about to enter into a contract with Owner for the **Construction of 6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** as specifically set forth in documents entitled **Construction of 6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046** and is required under the terms of the Contract Documents to give this bond in connection with the execution of said contract:

NOW, THEREFORE, if Contractor or any of its subcontractors, fails to pay for any materials, equipment, or other supplies, or for rental of same used in connection with the performance of work contracted to be done or for work or labor thereon of any kind, or fails to pay any of the persons named in Section 3181, California Civil Code or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant or for any amounts required to be deducted, withheld and paid to the Employment Development Department from the wages of employees of the Contractor and its subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor and all other applicable laws of the state of California and rules and regulations of its agencies, then said Surety will pay for the same in an amount not exceeding the sum specified above. This bond shall inure to the benefit of any persons named in Civil Code Section 3181, so as to give a right of action to them or their assigns in any suit brought upon this bond. This bond shall be subject to and include all of the provisions of Title XV of Part 4 of Division 3 of the Civil Code of the State of California relating to Payment Bond for Public Works, including but not limited to Civil Code Sections 3225-3226 and 3247-3252, inclusive.

PROVIDED, that any alterations in the work to be done, or the material to be furnished, which may be made pursuant to the terms of said contract, shall not in any way release either the Contractor or the surety thereunder, nor shall any extensions of time granted under the provisions of said contract release either the Contractor or the surety, and notice of such alteration or extensions of the contract is hereby waived by the surety.

WITNESS our hands this _____ day of _____, 20 ____.

Contractor: _____ Surety: _____

By: _____ By: _____

Title: _____ Title: _____

By: _____ Home Office Address: _____

Title: _____ _____

Phone: _____

Attorney-in-Fact: _____

Address: _____

SEAL

Phone: _____

NOTE: This bond must be acknowledged before notary publics, and a legally sufficient power of attorney must be attached to the bond to verify the authority of any party signing on behalf of a surety.

NON-COLLUSION AFFIDAVIT

AGREEMENT
A-8

NOTICE TO PROCEED

TO: XXXXX
XXXXX
XXXXX

Attn: _____

**FROM: Board of Directors
 Crescenta Valley Water District
 2700 Foothill Blvd.
 La Crescenta, CA 91214**

NOTICE IS HEREBY GIVEN that you are authorized and directed to proceed with the following project in accordance with the Contract Documents: **Construction of 6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., Project E-1046.**

The documents checked off below have been received and are on file with the General Manager of the Crescenta Valley Water District:

Agreement, fully executed	☒
Payment Bond (100%)	☒
Faithful Performance Bond	☒
Worker's Compensation Insurance Certificate	☒
Liability Insurance Policy or Certificate, w/ Endorsements	☒
Non-Collusion Affidavits	☒

A copy of the Award of Contract has been mailed by this District to the California Division of Apprenticeship Standards, Department of Industrial Relations.

Under the terms of the Contract Documents, work is to start within fifteen (15) calendar days after the date set forth below and is to be completed within the time set forth in the Special Provisions.

CRESCENTA VALLEY WATER DISTRICT

Dated: _____

By: _____

Title: _____

GENERAL PROVISIONS

ARTICLE 1. DEFINITIONS, TERMS, AND ABBREVIATIONS

1-1 DEFINITIONS

Whenever used in the Contract Documents, the following terms shall be interpreted as follows:

ACCEPTANCE, FINAL ACCEPTANCE. The formal action by the Owner accepting the work as being complete.

ACCEPTED BID. The bid (proposal) accepted by the Owner.

ADDENDUM. Written or graphic instrument issued prior to the opening of bids which clarifies, corrects, or changes the bidding or Contract Documents.

BID (PROPOSAL). The set of documents submitted by a bidder on the forms provided as part of the Contract Documents, setting forth the amount for which the bidder is willing to perform the work contemplated under the Contract Documents, and including a price breakdown by contract item as shown on the Bid Schedule. The terms "Bid" or "Proposal" are used interchangeably throughout the Contract Documents, and each shall carry the same meaning.

BIDDER. Any individual, partnership, corporation, joint venture, or other combination thereof submitting a proposal for the work contemplated, acting directly or through an authorized representative.

CLAIM. A separate demand by the Contractor for (A) a time extension, (B) payment of money or damages arising from work done by or on behalf of the Contractor which is not otherwise expressly provided for or the Contractor is not otherwise entitled to, or (C) an amount the payment of which is disputed by the Owner.

CONTRACT. The written agreement executed between the Owner and the Contractor covering the performance of the work.

CONTRACTOR. The individual, partnership, corporation, joint venture, or other combination thereof that has entered into the contract with the Owner for the performance of the work. The term "Contractor" means the Contractor or his authorized representative.

CONTRACT DOCUMENTS. The Contract Documents set forth in Section N-12 of the Notice Inviting Bids; also any and all supplemental agreements amending or extending the work contemplated, including contract change orders.

DAYS. Unless otherwise specified, days shall mean consecutive calendar days.

ENGINEER. The engineer identified as such in the Notice Inviting Bids and its subsidiaries. The term "Engineer" means the Engineer or his authorized representative.

OWNER. The public entity identified as such in the Agreement. The term "Owner" means the Owner or its authorized representative.

OWNER'S REPRESENTATIVE. The person or firm or employee of the Owner authorized by the Owner to represent it during the performance of the work by the Contractor. The Owner's Representative means the Owner's Representative or its assistants, and includes those identified as "inspector" by the Owner.

PLANS, DRAWINGS. The plans (drawings), or reproductions thereof, which show the location, character, dimensions, and details of the work to be done.

SPECIAL PROVISIONS. Additions, deletions, and changes to the Notice Inviting Bids, the Instructions to Bidders, and the General Provisions.

SPECIFICATIONS. The directions, provisions, and requirements contained in the General Provisions and Special Provisions as supplemented by the Detailed Specifications and drawings.

SUBCONTRACTOR. An individual, partnership, corporation, joint venture, or other combination thereof that has a contract with the Contractor to perform any of the work at the site. Subcontractor also means an individual, partnership, corporation, joint venture, or other combination thereof that has a contract with another subcontractor to perform any of the work at the site.

UTILITY. Public or private fixed works for the transportation of fluids, gases, power, signals, or communications.

WORK. Any and all obligations, duties, and responsibilities necessary to complete the construction assigned to, or undertaken by, the Contractor pursuant to the Contract Documents.

TERMS

Wherever the terms "required", "permitted", "ordered", "designated", "prescribed", or terms of like import are used, it shall be understood that the requirements, permission, order designation, or prescription of the Owner's Representative is intended. Similarly, the terms "acceptable", "satisfactory", "or equal", or terms of like import shall mean acceptable to or satisfactory to the Owner's Representative, unless otherwise expressly stated. The word "provide" shall be understood to mean furnish and install.

ABBREVIATIONS

Wherever the following abbreviations are used, they shall have the meanings indicated:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AGA	American Gas Association
AI	The Asphalt Institute
AIA	American Institute of Architects
AIEE	American Institute of Electrical Engineers
AISC	American Institute of Steel Construction
AISI	American Iron & Steel Institute
ANSI	American National Standards Institute (formerly USASI, USAS, ASA)
API	American Petroleum Institute
APWA	American Public Works Association
AREA	American Railway Engineering Association
ASA	American Standards Association (Now ANSI)
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CRSI	Concrete Reinforcing Steel Institute
IEEE	Institute of Electrical and Electronics Engineers
NBFU	National Board of Fire Underwriters
NEMA	National Electrical Manufacturers Association
PCA	Portland Cement Association

State Specification	California Standard Specifications, State of California, Department of Transportation, Division of Highways
SSPC	Steel Structures Painting Council
UBC	Uniform Building Code, Pacific Coast Building Officials Conference of the International Conference of Building Officials
U/L or UL	Underwriters' Laboratories, Inc.

CITATIONS

Whenever reference is made in the Contract Documents to specific statutes, regulations, orders or other cited materials, such reference shall be read to incorporate any subsequent statutes, regulations, orders or other cited materials which amend, modify or supersede such originally cited reference.

ARTICLE 2. PROPOSAL REQUIREMENTS AND CONDITIONS

2-1 CONTRACT DOCUMENTS

The Notice Inviting Bids, the Instructions to Bidders, the Proposal and Bid Schedule, the General Provisions, the Special Provisions, the Specifications and the Drawings, together with the Bonds and Agreement, constitute the contract. Anything shown in the drawings and not in the specifications, or in the specifications and not in the drawings, or neither in the specifications nor in the drawings but necessary to properly complete the structure in accordance with the law and governmental rules and regulations, shall be performed by the Contractor as though shown in both the drawings and the specifications. In the event of a conflict between one portion of the Contract Documents and another, the more particular shall prevail over the more general

2-1 LICENSE

No bid will be accepted from a bidder who is not licensed to conduct business in the state of California and licensed to perform the class of work defined by the Contract Documents, as specified in the Notice Inviting Bids. In the event between the time of bid and the award of the contract the successful bidder is no longer licensed in good standing to perform the class of work defined by the Contract Documents, that bidder's Bid Security shall be forfeited to the Owner as liquidated damages and the Contract shall be awarded to the next lowest responsible bidder. Should the Contractor's license status change or their license expire after construction of the work has begun, the Contractor shall immediately terminate all activity on the work, except that necessary to ensure the safety of persons or property. In such event, the Agreement shall be deemed terminated and the provisions of Section 6-19, entitled TERMINATION FOR BREACH, shall Apply.

2-2 PROPOSALS

Bids shall be made upon the bid form furnished by the Owner and a part of the Contract Documents. All items in the bid form should be filled in; the signatures of all persons signing shall be in longhand. Erasures, interlineations, or other corrections shall be authenticated with the initials of a person signing the bid.

2-3 ADDENDA

Addenda issued by the Owner before the time set for opening bids shall be included in the bid and shall be made a part of the contract. However, where any addendum to the Contract Documents includes a material change in, addition to or deletion from the bid specifications, as defined in Public Contract Code Section 4104.5, and that addendum is issued later than seventy-two (72) hours prior to the bid opening date, the bid opening date will be extended by at least seventy-two (72) hours. Notification of such extension of the bid opening date will be included in the addendum.

2-4 EXISTING CONDITIONS AND EXAMINATION OF CONTRACT DOCUMENTS

The bidder represents that they have carefully examined the Contract Documents and the site where the Work is to be performed and that they have familiarized himself with all local conditions and federal, state and local laws, ordinances, rules, and regulations that may affect in any manner the performance of the Work. The bidder further represents that they have studied all surveys and investigation reports about subsurface and latent physical conditions pertaining to the area affected by the Work, including the location of underground facilities, that they have performed such additional surveys and investigations as they deem necessary to complete the Work at their bid price, and that they have correlated the results of all such data with the requirements of the Contract Documents.

The submittal of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, including locality, uncertainty of weather and all other contingencies, and as to the character, quality, quantities, and scope of the Work.

The plans and specifications for the Work show subsurface conditions or otherwise hidden conditions as they are supposed or believed by the Engineer to exist; but it is not intended or to be inferred that the conditions as shown thereon constitute a representation that such conditions are actually existent. Except as otherwise specifically provided in the Contract Documents, the Owner, the Engineer, and their consultants shall not be liable for any loss sustained by the Contractor as a result of any variance of such conditions as shown on the plans and the actual conditions revealed during the progress of the Work or otherwise.

Where the Owner or the Engineer or their consultants have made investigations of subsurface conditions in areas where the Work is to be performed, such investigations were made only for the purpose of study and design. The conditions indicated by such investigations apply only at the specific location of each boring or excavation at the time the borings or excavations were made. Where such investigations have been made, bidders or Contractors may inspect the records as to such investigations subject to and upon the conditions hereinafter set forth. The inspection of the records shall be made at the office of the Engineer.

When a log of test borings showing a record of the data obtained by the investigation of subsurface conditions by the Owner, the Engineer, or their consultants is included with the plans or other documents, it is expressly understood and agreed that said log of test borings does not constitute a part of the contract, represents only the opinion of the Owner or the Engineer or their consultants as to the character of the materials encountered by them in the test borings, is included in the plans or other documents only for the convenience of bidders, and its use is subject to all of the conditions and limitations set forth in this article.

The records of such investigations are not a part of the contract and are shown solely for the convenience of the bidder or Contractor. It is expressly understood and agreed that the Owner, the Engineer, and their consultants assume no responsibility whatsoever in respect to the sufficiency or accuracy of the investigations; the records thereof; or of the interpretations set forth therein or made by the Owner's consultants, the Engineer or its consultants in the use thereof by the Engineer, and there is no warranty or guarantee, either express or implied, that the conditions indicated by such investigations or records thereof are representative of those existing throughout such areas, or any part thereof, or that unlooked-for developments may not occur, or that materials other than, or in proportions, densities, or other characteristics different from, those indicated may not be encountered.

The availability or use of information described in this Section 2-5 is not to be construed in any way as a waiver of the provisions of the first paragraph in this Section and a bidder or Contractor is cautioned to make such independent investigations and examination as they deem necessary to satisfy themselves as to conditions to be encountered in the performance of the work.

No information derived from such inspection of records of investigations or compilation thereof made by the Owner, the Engineer, or their consultants will in any way relieve the bidder or Contractor from any risk or from properly fulfilling the terms of the contract nor entitle the Contractor to any additional compensation, except as otherwise provided in Section 3-5, entitled UTILITIES.

ARTICLE 3. SCOPE OF WORK

3-1 WORK TO BE DONE

The work to be done consists of furnishing all transportation, labor, materials, tools, equipment, services, permits, utilities and all other items which are necessary or appurtenant to construct and complete the entire project and construct the project designated in the Contract Documents, in accordance with the plans and specifications and subject to the requirements of the Contract Documents, and to leave the grounds in a neat and presentable condition.

3-2 CHANGES IN THE WORK

The Owner may require changes in, additions to, or deductions from the Work, including complete termination thereof. Adjustment, if any, in the amounts to be paid to the Contractor by reason of any such change, addition, or deduction shall be determined as set forth in Article 8 hereof, entitled ESTIMATES AND PAYMENTS.

The Owner's Representative may order minor changes in the Work not involving an increase or decrease in the contract amount, not involving a change in the time for completion, and not inconsistent with the purposes for which the Work is being constructed. If the Contractor believes that any order for minor changes in the Work involves changes in the contract amount or time for completion, they shall not proceed with the minor changes so ordered and shall within seven days of the receipt of such order notify the Owner's Representative in writing of their estimate of the changes in the contract amount and time for completion they believe to be appropriate.

No payment for changes in the Work will be made and no change in the time for completion by reason of changes in the Work will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor's proceeding with the changed Work. Changes in the Work shall not constitute the basis for a claim for damages or anticipated profits due to an increase or diminution in work done.

Any dispute between the Owner and the Contractor regarding payment for changes in the work or a change in the time for completion shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS.

3-3 EXTRA WORK

The Owner may determine, in the Owner's sole discretion, that it is necessary or desirable for the proper completion of the contract to order work done or materials or equipment furnished which in the opinion of the Owner are not susceptible of classification under the unit-price items named in the Bid Schedule, and are not included in any item for which a lump sum is bid. The Contractor shall do and perform such work and furnish such materials and equipment. Such labor, materials, and/or equipment will be classed as extra work and shall be ordered in writing before such work is started. No extra work shall be paid for unless ordered in writing.

Extra work and material will be paid for at a lump sum or unit price agreed on in writing by the Owner and the Contractor before the extra work shall be ordered. Performance of any extra work or the furnishing of any extra materials which in the judgment of the Owner is of like character to and susceptible of classification under the unit-price items of the contract shall, at Owner's discretion, be paid for at the unit price named for such work in the Bid Schedule.

Whenever, in the Owner's sole discretion, such extra work or such extra material, is not of like character to and susceptible of classification under the unit-price items of the contract as specified, and it is impracticable to fix the price before the extra work order shall be issued, extra work and material, when furnished by the Contractor, shall be paid for at actual necessary cost of materials, supplies, labor, on a cost-plus basis, as provided in Section 8-1 entitled PAYMENT FOR CHANGES IN THE WORK.

Any extra work performed hereunder shall be subject to all of the provisions of the contract and the Contractor's sureties shall be bound with reference thereto as under the original contract.

Any dispute regarding payment for extra work shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS.

3-4 OBSTRUCTIONS

The Contractor shall remove and dispose of all structures, debris, or other obstructions of any character necessary to accommodate the Work. Where such obstructions consist of improvements required by law, they shall be removed, maintained and permanently replaced by the Contractor at the Contractor's expense except as otherwise specifically provided in the Contract Documents.

3-5 UTILITIES

Prior to excavation, the Contractor shall contact the appropriate regional notification center, such as Underground Service Alert, as provided in Government Code Sections 4216 et. seq.

In case it should be necessary to remove, relocate, protect, or temporarily maintain a utility because of interference with the Work, the work on such utility shall be performed and paid for as follows:

When it is necessary to remove, relocate, protect, or temporarily maintain an existing main or trunkline utility facility not indicated in the plans and specifications with reasonable accuracy, the Owner will compensate the Contractor for the costs of locating, for the costs of repairing damage not due to the failure of the Contractor to exercise reasonable care, for the costs of removing, relocating, protecting, or temporarily maintaining such utility facilities, and for the costs for equipment on the project necessarily idled during such work. These costs, the work to be done by the Contractor in location, removing, relocating, protecting, or temporarily maintaining such utility facilities shall be covered by a written change order conforming to the provisions herein pertaining to changes in the Work. The Owner may make changes in the alignment and grade of the Work to obviate the necessity to remove, relocate, protect, or temporarily maintain such utility facilities or to reduce the costs of the work involved in removing, relocating, protecting, or temporarily maintaining such utility facilities. Changes in alignment and grade will be ordered in accordance with the provisions herein pertaining to changes in the Work.

When it is necessary to remove, relocate, protect, or temporarily maintain a utility (other than [1] existing main or trunkline utility facilities not indicated in the plans and specifications with reasonable accuracy, or [2] existing service laterals or appurtenances when their presence cannot be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of the Work) the cost of which is not required to be borne by the owner thereof, the Contractor shall bear all expenses incidental to the work on the utility or damage thereto. The work on the utility shall be done in a manner satisfactory to the owner thereof; it being understood that the owner of the utility has the option of doing such work with its own forces or permitting the work to be done by the Contractor.

No representations are made that the obligations to remove, relocate, protect, or temporarily maintain any utility and to pay the cost thereof is or is not required to be borne by the owner of such utility, and it shall be the responsibility of the Contractor to investigate to find out whether or not said cost is required to be borne by the owner of the utility.

The Contractor shall not be assessed liquidated damages for delay in completion of the Work, when such delay was caused by the failure of the Owner, the Engineer or the owner of the utility to provide for removal or relocation of utility facilities.

3-6 PLANS AND SPECIFICATIONS FURNISHED BY THE OWNER

The Owner will furnish to the Contractor free of charge all copies of plans and specifications reasonably necessary for the execution of the Work. The Contractor shall keep one set of plans and specifications in good order available to the Owner's Representative at the site of the Work.

3-7 FINAL CLEANUP

Upon completion and before making application for acceptance of the Work, the Contractor shall clean all rights-of-way, streets, borrow pits, and all other grounds occupied in connection with the Work of all rubbish, excess materials, temporary structures, and equipment, and all parts of the Work and grounds occupied shall be left in a neat and presentable condition. In the event the Contractor fails to clean up as specified herein, clean up may be performed by the Owner at the Contractor's expense.

3-8 PROTESTS

If the Contractor considers any work required by the Owner to be outside the requirements of the Contract Documents, or if the Contractor considers any record or ruling of the Owner, the Owner's Representative or any governmental inspector to be unfair, the Contractor shall immediately upon such work being demanded or such record or ruling being made, ask for written instructions or decision, and within ten (10) days after receipt thereof file a written protest with the Owner, setting forth each objection and the reasons therefor. The Contractor shall, whether or not a written protest will be filed, immediately upon receipt of written instructions or decision proceed without delay to perform the work or conform to the record or ruling. The Contractor hereby agrees that, unless a specific objection or protest has been made as provided herein, the Contractor waives all grounds for protests or objections to the records, rulings, instructions, or decisions of the Owner or the Owner's Representative, and further agrees that as to all matters not included in such objections or protests the records, instructions and decisions of the Owner or Owner's Representative shall be final and conclusive. Such protests shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS.

3-9 CLAIMS

As provided in Public Contract Code Sections 20104, et seq., claims by the Contractor shall be in writing and include the documents necessary to substantiate the claim. Prior to submitting a claim under this Section 3-9, the Contractor shall comply with all applicable notification requirements under the Contract Documents. All claims must be filed with the Owner on or before the date of final payment.

For claims of less than fifty thousand dollars (\$50,000.00), the Owner shall respond in writing to any written claim within forty-five (45) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim any additional documentation supporting the claim or relating to defenses to the claims the Owner may have against the Contractor.

The Owner's written response to the claim shall be submitted to the Contractor within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the Contractor in producing the additional information, whichever is greater.

For Claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the Owner shall respond in writing to all written claims within sixty (60) days of receipt of the claim, or may request, in writing, within thirty (30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the Owner may have against the Contractor. The Owner's written response to the claim shall be submitted to the Contractor within thirty (30) days after receipt of the further documentation, or within a period of time no greater than that taken by the claimant in producing the additional information or request documentation, whichever is greater.

If the Contractor disputes the Owner's written response, or the Owner fails to respond within the time prescribed, the Contractor may so notify the Owner, in writing, either within fifteen (15) days of receipt of the Owner's response or within fifteen (15) days of the Owner's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the Owner shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute. Except as provided in Section 8-3 entitled PROGRESS PAYMENTS, Section 8-4 entitled FINAL ESTIMATE AND PAYMENT, and Section 8-5 entitled OWNERS' RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF, the Owner shall pay that portion of the claim which it has determined to be undisputed.

If following the meet and confer conference the claim or any portion remains in dispute, the Contractor may file a claim pursuant to Government Code Sections 900 et seq. and a lawsuit on the claim may thereafter be filed in the appropriate state court. The court is to order non-binding mediation, unless waived by both parties within sixty (60) days following the filing of responsive pleadings. The parties are to select a mediator and the mediation must be commenced within thirty (30) days of the submittal. These time requirements may be extended upon a showing of good cause to the Court, or by stipulation of the parties.

If the matter remains in dispute, the parties may agree to submit the matter to binding arbitration, on such terms as may be established by stipulation. Otherwise, the case shall be submitted to judicial (non-binding) arbitration pursuant to Code of Civil Procedure Section 1141.10 et seq. Fees and expenses shall be paid equally by the parties, unless the arbitrator finds good cause for a different division of fees and expenses. If either party objects to the arbitrator's award, the matter can then go to trial de novo in the trial court, subject to the usual rules of litigation.

Should the party requesting trial de novo fail to obtain a more favorable result, in addition to the payment of costs and fees under the arbitration provision of the Code of Civil Procedure, such party shall pay to the other party the attorney's fees arising out of trial de novo.

ARTICLE 4. QUALITY OF THE WORK

4-1 AUTHORITY OF THE OWNER'S REPRESENTATIVE

The Owner's Representative shall decide any and all questions which may arise as to the interpretation of the plans and specifications and shall have authority to disapprove or reject materials and equipment furnished and work performed which, in its opinion, is not in accordance with the Contract Documents, and its decision shall be binding and conclusive.

4-2 SUPPLEMENTAL DRAWINGS

The plans may be supplemented by drawings as necessary to define the Work adequately. All drawings provided by the Owner constitute written instructions to the Contractor. If the Contractor believes that any supplemental drawings call for changes in the Work for which the contract amount or time for completion should be changed, the Contractor shall not proceed with the changes and shall within seven (7) days of the receipt of the supplemental drawings notify the Owner's Representative in writing of their estimate of the changes in the contract amount and time for completion they believe to be appropriate.

4-3 CONFORMITY WITH THE CONTRACT DOCUMENTS AND ALLOWABLE DEVIATIONS

The Work shall conform to the lines, grades, dimensions, tolerances, and material and equipment requirements shown on the plans or set forth in the specifications. Although measurement, sampling, and testing may be considered evidence as to such conformity, the Owner's Representative shall be the sole judge as to whether the work or materials deviate from the plans and specifications, and its decision as to any allowable deviations therefrom shall be final.

If specific lines, grades, and dimensions are not shown on plans, those furnished by the Owner's Representative shall govern.

4-4 MANUFACTURER'S INSTRUCTIONS

All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable manufacturer, fabricator, supplier or distributor, except as otherwise specifically provided in the Contract Documents.

4-5 INTERPRETATION OF PLANS AND SPECIFICATIONS

Figured dimensions on drawings shall govern, but work not dimensioned shall be as directed. Work not particularly shown or specified shall be the same as similar parts that are shown or specified. Large scale details shall take precedence over smaller scale drawings as to shape and details of construction. Specifications shall govern as to materials and workmanship. Drawings and specifications are intended to be fully complementary and to agree. The specification calling for the higher quality material or workmanship shall prevail. Materials or work described in words which so applied have a well-known technical or trade meaning shall be deemed to refer to such recognized standards. In the event of any discrepancy between any drawings and the figures thereon, the figures shall be taken as correct. In the event of any doubt or question arising respecting the true meaning of the plans or specifications, the Contractor shall, within five (5) days of discovering such doubt or question, request clarification of the matter from the Owner's Representative, who shall respond within two (2) working days (Saturdays, Sundays and holidays excluded) after receipt of the request. The decision of the Owner's Representative shall be final.

4-6 ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR

It is the duty of the Contractor to promptly notify the Owner's Representative in writing of any design, materials, or specified method that the Contractor believes may prove defective or insufficient. If the Contractor believes that a defect or insufficiency exists in design, materials, or specified method and fails to notify the Owner's Representative in writing of this belief within three (3) days of discovering the defect or insufficiency, the Contractor waives any right to assert that defect or insufficiency in design, materials, or specified method at any later date in any legal or equitable proceeding against the Owner, or in any subsequent arbitration or settlement conference between the Owner and the Contractor. The Owner's Representative, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after they come to the belief that a defect or insufficiency exists in design, materials, or specified method which is directly or indirectly affected by such alleged defect or insufficiency in design, materials, or specified method will be at the Contractor's own risk and they shall bear all cost arising therefrom.

If the Contractor, either before commencing work or in the course of the Work, finds any discrepancy between the specifications and the plans or between either of them and physical conditions at the site of the Work or finds any error or omission in any of the plans or in any survey, the Contractor shall promptly notify the Owner's Representative of such discrepancy, error, or omission. If the Contractor observes that any plans or specifications are at variance with any applicable law, ordinance regulation, order, or decree, they shall promptly notify the Owner's Representative in writing of such conflict. The Owner's Representative, on receipt of any such notice, will promptly investigate the circumstances and give appropriate instructions to the Contractor. Until such instructions are given, any work done by the Contractor after their discovery of such error, discrepancy, or conflict which is directly or indirectly affected by such error, discrepancy, or conflict will be at the Contractor's own risk and they shall bear all cost arising therefrom.

4-7 SUPERVISION AND SUPERINTENDENCE

The Contractor shall supervise and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. The Contractor shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but the Contractor shall not be solely responsible for the negligence of others in the design or selection of a specific means, method, technique, sequence, or procedure of construction which is indicated in and required by the Contract Documents except as otherwise provided in Section 4-6, entitled ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR.

The Contractor shall be responsible to see that the completed Work complies with the Contract Documents.

The Contractor shall designate and keep on the Work at all times during its progress a competent superintendent, who shall not be replaced without written notice to the Owner's Representative. The superintendent will be the Contractor's representative at the site and shall have authority to act on behalf of the Contractor. All communications given to the superintendent shall be as binding as if given to the Contractor. During periods when the Work is suspended, the Contractor shall make appropriate arrangements for any emergency work which may be required.

Whenever the superintendent is not present on any particular part of the Work where the Owner's Representative may desire to inform the Contractor relative to interpretation of the plans and specifications or to disapproval or rejection of materials or work performed, the Owner's Representative may so inform the foreman or other worker in charge of the particular part of the Work in reference to which the information is given. Information so given shall be as binding as if given to the superintendent.

4-8 SHOP DRAWINGS

Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures, and other data which are prepared by the Contractor or any subcontractor, manufacturer, supplier, or distributor and which illustrate some portion of the Work.

The Contractor shall review, mark as approved, and submit for review by the Owner's Representative, shop drawings as called for in the Special Provisions and Standard Specifications or requested by the Owner's Representative. Drawings shall be submitted in sextuplet to the Owner's Representative with a list of the drawings submitted. Drawings shall show the name of the project, the name of the Contractor, and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted with promptness and in orderly sequence so as to cause no delay in prosecution of the Work.

Shop drawings shall be complete in all respects. If the shop drawings show any deviations from the requirements of the plans and specifications because of standard shop practices or other reasons, the deviations and the reasons therefor shall be separately set forth.

Within 30 days after receipt of said drawings, the Owner's Representative will return two of the copies of the drawings to the Contractor with any comments noted thereon. If so noted by the Owner's Representative, the Contractor shall correct the drawings and resubmit them in the same manner as specified for the original submittal. The Contractor shall identify any revisions other than the corrections requested by the Owner's Representative on previous submittals.

The review by the Owner's Representative is for the limited purpose of ensuring general conformity with the design concept of the project, and general compliance with the plans and specifications only.

No portion of the Work requiring a shop drawing submittal shall be commenced until the submittal has been reviewed by the Owner's Representative and returned to the Contractor with a notation indicating that resubmittal is not required.

If the Contractor believes that any shop drawing or communication relative thereto calls for changes in the Work for which the contract amount or time for completion should be changed, they shall not proceed with the changes in the Work so called for and shall promptly submit to the Owner's Representative a written estimate of the changes in the contract amount and time for completion the Contractor believes to be appropriate.

4-9 QUALITY AND SAFETY OF MATERIALS AND EQUIPMENT

All equipment, materials, and supplies to be incorporated in the Work shall be new, unless otherwise specified. All equipment, materials, and supplies shall be produced in a good and workmanlike manner. When the quality of a material, process, or article is not specifically set forth in the plans and specifications, the best available quality of the material, process, or article shall be provided.

Whenever any material, process, or article is indicated or specified by grade, patent or proprietary name, or by name of manufacturer, such specification is for the purpose of facilitating description of the materials, process, or articles desired and the Contractor may offer any material, process, or article which shall be substantially equal or better in every respect to that indicated or specified; provided, however, that if the material, process, or article offered by the Contractor is not, in the sole discretion of the Owner's Representative, equal or better in every respect to that specified, then the Contractor must furnish the material, process, or article specified or one that in the sole discretion of the Owner's Representative is the substantial equal or better in every respect. In the event that the Contractor-furnished material, process, or article is more expensive than that specified, or involves additional labor or other cost, such difference in cost shall be borne by the Contractor.

In accordance with Section 3400 of the Public Contract Code, the Contractor shall submit data substantiating requests for substitution of "equal" items within thirty-five (35) days after award of the contract. This 35-day period of time is included in the number of days allowed for the completion of the Work.

All materials, equipment, and supplies provided shall, without additional charge to Owner, fully conform with all applicable state and federal safety laws, rules, regulations, and orders, and it shall be Contractor's responsibility to provide only such materials, equipment, and supplies notwithstanding any omission in the Contract Documents therefor or that a particular material, equipment, or supply was specified.

4-10 STANDARDS, CODES, SAMPLES, AND TESTS

Wherever reference is made to a standard, code, specification, or test and the designation representing the date of adoption or latest revision thereof is omitted, it shall mean the latest revision of such standard, code, specification, or test in effect on the day the Notice Inviting Bids is dated.

Tests shall be made in accordance with commonly recognized procedures of technical organizations and such special procedures as may be prescribed elsewhere in the plans and specifications. The Contractor shall furnish without charge such samples for testing as may be required by the Owner's Representative.

4-11 OBSERVATION OF WORK BY OWNER'S REPRESENTATIVE

The Owner's Representative shall at all times have access to the Work during construction and shall be furnished with every reasonable facility for ascertaining full knowledge respecting the progress, workmanship, and character of materials and equipment used and employed in the Work.

Whenever the Contractor varies the normal period during which work or any portion of it is carried on each day, as provided in the construction progress schedule submitted by the Contractor pursuant to Section 5-2 entitled CONTRACTOR'S CONSTRUCTION SCHEDULE AND COST BREAKDOWN, they shall give timely notice to the Owner's Representative so that the Owner's Representative may, if desired, be present to observe the work in progress. If the Contractor fails to obtain prior authorization, any work done in the absence of the Owner's Representative will be subject to rejection. Where the Contractor performs any part of the Work on a Saturday, Sunday, or holiday designated by the Owner, or for more than eight (8) hours in a workday, the Contractor shall, upon demand by the Owner, reimburse the Owner for the cost of employing inspectors or otherwise providing inspection of the Work. The Owner shall be entitled to withhold such costs from payments due the Contractor.

The Contractor shall give timely notice to the Owner's Representative in advance of backfilling or otherwise covering any part of the Work so that the Owner's Representative may, if desired, observe such part of the Work before it is concealed.

The observation, if any, by the Owner's Representative of the Work shall not relieve the Contractor of any of their obligations to fulfill the contract as prescribed. Defective work shall be made good, and materials and equipment furnished and work performed which is not in accordance with the Contract Documents may be rejected notwithstanding the fact that such materials, equipment, and work have been previously observed by the Owner's Representative or that payment therefor has been included in an estimate for payment.

4-12 REMOVAL OF DEFECTIVE AND UNAUTHORIZED WORK

Any work which does not conform to the requirements of the Contract Documents shall be remedied or removed and replaced by the Contractor, together with any other work which may be displaced in so doing, and no compensation will be allowed for such removal, replacement, or remedial work. All nonconforming materials shall be immediately removed from the site.

Any work done beyond the lines and grades shown on the plans or established by the Owner's Representative or any changes in, additions to, or deductions from the work done without written authority will be considered as unauthorized and will not be paid for. Work so done may be ordered remedied, removed, or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply promptly with any order of the Owner's Representative made under the provisions of this article, the Owner's Representative shall have authority to cause nonconforming materials, rejected work, or unauthorized work to be remedied, removed, or replaced at the Contractor's expense and to deduct the costs from any monies due or to become due the Contractor.

4-13 ONE-YEAR GUARANTEE

In addition to guarantees otherwise required, the Contractor shall and hereby does guarantee the Work against defects in workmanship or materials for a period of one year after the Owner's acceptance of the Work, except for any portion of the Work that is utilized or placed into service by the owner in accordance with the provisions of Section 5-6, entitled USE OF COMPLETED PORTIONS. The guarantee period for portions of the Work so utilized or placed into service shall be one year from the date of written notification to the Contractor described in said Section 5-6. The Contractor shall repair or remove and replace any and all such work, together with any other work which may be displaced in so doing, that is found to be defective in workmanship and/or materials within said one year period, without expense whatsoever to the Owner, ordinary wear and tear and unusual abuse or neglect excepted. In the event of a failure to comply with the above-mentioned conditions within seven (7) days after being notified in writing, the Owner is hereby authorized to proceed to have the defects remedied and made good at the Contractor's expense. The Contractor agrees to pay all such expenses immediately on demand therefor by the Owner. Such action by the Owner will not relieve the Contractor of the guarantees required by this article or elsewhere in the Contract Documents.

The performance bond and the payment bond shall continue in full force and effect for the guarantee period.

If, in the opinion of the Owner, defective work creates a dangerous condition or requires immediate correction or attention to prevent further loss to the Owner or to prevent interruption of its operations,

the Owner will attempt to give the notice required by this article. If the Contractor cannot be contacted or does not comply with the Owner's request for correction within a reasonable time as determined by the Owner, the Owner may, notwithstanding the provisions of this article, proceed to make such correction or provide such attention; and the costs of such correction or attention shall be charged against the Contractor, and shall be paid immediately upon demand therefor by the Owner. Such action by the Owner will not relieve the Contractor of the guarantees required by this article or elsewhere in the Contract Documents.

This article does not in any way limit the guarantee on any items for which a longer guarantee is specified or on any items for which a manufacturer or supplier gives a guarantee for a longer period. The Contractor agrees to act as a co-guarantor with such manufacturer or supplier and shall furnish the Owner all appropriate guarantee or warranty certificates upon completion of the project. No guarantee period, whether provided for in this article or elsewhere, shall in any way limit the liability of Contractor or his sureties or insurers under the indemnity or insurance provisions of the Contract Documents.

ARTICLE 5. PROSECUTION AND PROGRESS

5-1 SUBCONTRACTING

Subcontracts may be permitted to such extent as shall be shown to be necessary or definitely advantageous to the Contractor in the prosecution of the Work, in the sole discretion of the Owner. The Contractor shall not enter into any subcontract with a subcontractor which has been debarred by the Labor Commissioner pursuant to Sections 1777.1 and 1777.7 of the Labor Code, or which has not registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5. In the event the Contractor subcontracts any part of this contract, the Contractor shall be as fully responsible to the Owner for the acts and omissions of each subcontractor and anyone either directly or indirectly employed by them as the Contractor is responsible to the Owner for the acts and omissions of their employees. Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the Owner. The Contractor shall include in every subcontract a provision incorporating the terms and conditions of the Contract Documents into the subcontract. All subcontracts must be in writing.

5-2 CONTRACTOR'S CONSTRUCTION SCHEDULE AND COST BREAKDOWN

Within ten days after execution of the contract, the Contractor shall deliver to the Owner's Representative a construction progress schedule and cost breakdown in bar chart form showing the proposed dates of commencement and completion and cost of each of the various parts of the Work and the anticipated amount of each monthly payment that will become due the Contractor in accordance therewith. The construction progress schedule shall specify the normal period during which work will be carried on each day, and whether any overtime, weekend or holiday work is anticipated.

5-3 TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY

The Contractor shall begin and complete all or any designated portion of the Work called for under the contract within the time set forth in the Special Provisions. Time is of the essence in this contract.

Failure of the Contractor to perform any covenant or condition contained in the Contract Documents within the time period specified shall constitute a material breach of this contract entitling the Owner to terminate the contract unless the Contractor applies for, and receives, an extension of time in accordance with the procedures set forth in this article and Section 5-5 entitled EXTENSION OF TIME.

Failure of the Owner to insist upon the performance of any covenant or condition within the time period specified in the Contract Documents shall not constitute a waiver of the Contractor's duty to complete performance within the designated periods.

The Owner's agreement to waive a specific time provision or to extend the time for performance shall not constitute a waiver of any other time provisions contained in the Contract Documents. Failure of the Contractor to complete performance promptly within the additional time authorized in the waiver or extension of time agreement shall constitute a material breach of this contract entitling the Owner to terminate.

In accordance with Government Code 53069.85, Contractor agrees to forfeit and pay Owner the amount per day set forth in the Special Provisions for each and every day of delay which shall be deducted from any payments due or to become due the Contractor.

The Contractor shall not be deemed in breach of this contract and no forfeiture due to delay shall be made because of any delays in the completion of the Work due to unforeseeable causes beyond the control and without the fault or negligence of the Contractor provided the Contractor requests an extension of time in accordance with the procedures set forth in this article and in Section 5-5 entitled EXTENSION OF TIME. Delays caused by actions or neglect of Contractor or its agents, servants, employees, officers, subcontractors, directors, or of any party contracting to perform part or all of the Work or to supply any equipment or materials shall not be excusable delays. Excusable delays (those beyond Contractor's control) shall not entitle the Contractor to any additional compensation. The Contractor's sole remedy shall be to request an extension of time.

5-4 SUSPENSION OF WORK

The Work may be suspended in whole or in part when determined by the Owner's Representative or the Engineer that the suspension is necessary in the interests of the Owner. The Contractor shall comply immediately with any written order of the Owner, the Owner's Representative or the Engineer to suspend the Work. The Contractor shall be responsible for taking reasonable steps to protect the Work in progress, any materials and equipment on the site of the Work, and any materials delivered to the Contractor which are to be incorporated into the Work during the period of the suspension. Such suspension shall not form the basis of any claim by the Contractor against the Owner, except as provided in Section 5-5 entitled EXTENSION OF TIME.

5-5 EXTENSION OF TIME

The time specified for completion of all or any part of the Work may be extended only by a written change order executed by or on behalf of the Owner.

Requests for an extension of time must be delivered to the Owner's Representative within ten (10) days of the occurrence which caused the delay. The request must be in writing and must state the cause of the delay, the date of the occurrence causing the delay, and the amount of additional time requested. Requests for extensions of time shall be supported by all evidence reasonably available or known to the Contractor. Requests for extensions of time which fail to include the specified information or which are untimely may be rejected by Owner.

Requests for a time extension due to weather or other conditions beyond the Contractor's control shall include daily reports describing such weather or conditions and specifying the work which, but for such weather or conditions, the Contractor would otherwise have performed.

When the Contractor has submitted a request for an extension of time, the Owner will ascertain the facts and extent of the delay and extend the time for completing the Work if, in its judgment, the circumstances justify such an extension. Should the Contractor disagree with the Owner's decision, the Contractor may appeal that decision to the governing body of the Owner, which shall review the basis for the decision of its staff and make appropriate findings regarding the Contractor's request for an extension of time. The findings of facts by the governing body of the Owner shall be final and conclusive.

Any extension of time shall not release the sureties upon any bond required under the contract.

Any further dispute regarding an extension of time shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS, provided, however, that the Contractor first has exhausted its remedies pursuant to the procedure set forth in this Section 5-5.

5-6 USE OF COMPLETED PORTIONS

When the Work or any portion of it is sufficiently complete to be utilized or placed into service, the Owner shall have the right, upon written notification to the Contractor, to utilize such portions of the Work and to place the operable portions into service and to operate same.

Once the Owner has given notice and commenced utilization or operation of any part of the Work, the Contractor shall be relieved of the duty of maintaining the portions so utilized or placed into operation; provided, however, that nothing in this article shall be construed as relieving the Contractor of the full responsibility for completing the Work in its entirety, for making good defective work and materials, for protecting the Work from damage, and for being responsible for damage and for the Work as set forth in the General Provisions and other Contract Documents; nor shall such action by the Owner be deemed final acceptance, and such action shall not relieve the Contractor, their sureties, or insurers of the provisions of Article 7, entitled CONTRACTOR'S INSURANCE, and Section 6-10, entitled INDEMNITY.

5-7 CHARACTER OF WORKERS

None but skilled workers shall be employed where the Work requires special qualifications. When required in writing by the Owner, the Contractor or any subcontractor shall discharge any person who is, in the sole discretion of the Owner, incompetent, unfaithful, disorderly or otherwise unsatisfactory, and shall not again employ such discharged person on the Work except with the prior written consent of the Owner.

5-8 ENFORCEMENT OF ORDER

The Contractor shall be responsible for maintaining good order at all locations where work is performed under this contract and to that end shall employ such watchmen or other persons as may be required. Unauthorized persons shall be excluded from any of the sites affected by the Work.

5-9 USE OF OWNER'S PROPERTY DURING CONSTRUCTION

Where necessary for the prosecution of the Work, and upon approval by the Owner, the Contractor may use property or facilities of the Owner for storage of equipment or materials, to fabricate materials to be incorporated into the Work, or for any other reason related to the prosecution of the Work.

In the event the Contractor is afforded the use of the Owner's property as provided herein, the Contractor shall be responsible for ensuring that any materials or equipment stored thereon are kept safe from theft, vandalism, or damage due to any cause, and shall erect such temporary structures as are necessary to protect the material or equipment from damage, at the expense of the Contractor. The Contractor shall ensure that the insurance required under the Contract Documents includes coverage for the Contractor's use of the Owner's property in accordance with this Section 5-9.

ARTICLE 6. LEGAL RELATIONS AND RESPONSIBILITIES

6-1 OBSERVING LAWS AND ORDINANCES

The Contractor shall keep fully informed of all existing and future laws, ordinances, and regulations which in any manner affect those engaged or employed in the Work or the materials used in the Work or which in any way affect the conduct of the Work and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the Work. If any discrepancy or inconsistency is discovered in the plans, specifications, or contract for the Work in relation to any such law, ordinance, regulation, order, or decree, the Contractor shall promptly report the same to the Owner's Representative in writing and cease operations on the affected portion of the Work until the Owner's Representative has given appropriate instructions as provided for in Section 4-6, entitled **ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR**. No payment for changes in the Work will be made and no change in the time for completion by reason of such discrepancy or inconsistency will be made, unless the changes are covered by a written change order approved by the Owner in advance of the Contractor's proceeding with the changed Work.

The Contractor shall at all times observe and comply with and shall cause their agents, employees, subcontractors, and suppliers to observe and comply with all such existing and future laws, ordinances, regulations, orders, and decrees, and shall hold harmless, indemnify, and defend the Owner, the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, by the Contractor, their employees, agents, subcontractors, or suppliers.

In the event the Contractor, after 72-hour written notice to comply, fails to comply with any law, ordinance, regulation, order or decree which in any way affects the conduct or prosecution of the Work, and the Owner takes reasonable steps to ensure compliance with such law, ordinance, regulation, order or decree, the costs and expenses incurred in effecting such compliance shall be paid by the Contractor. Should the Contractor fail to pay such costs and expenses, the Owner may deduct them from any amounts then due or that may become due to the Contractor. In the event such costs and expenses exceed the amounts deducted by the Owner, the Contractor shall pay the balance thereof immediately upon demand therefor by the Owner.

6-2 PERMITS AND LICENSES

The Contractor shall procure all permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the Work.

6-3 INVENTIONS, PATENTS, AND COPYRIGHTS

The Contractor shall pay all royalties and assume all costs arising from the use of any invention, design, process, materials, equipment, product, or device which is the subject of patent rights or copyrights.

The Contractor shall hold harmless, indemnify, and defend the Owner, the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from and against all claims, damages, losses, expenses, and other costs, including costs of defense and attorneys' fees, arising out of any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, materials, equipment, product or device, and shall defend all such claims in connection with any alleged infringement of such rights.

6-4 SAFETY AND PUBLIC CONVENIENCE

The Contractor shall conduct their operations so as to avoid injury or damage to any person or property, and to minimize any obstruction and inconvenience to the public. The Contractor shall comply with the requirements of the Contract Documents relating to safety measures applicable in particular operations or kinds of work. The Contractor shall have under construction no greater amount of Work than can be prosecuted properly with due regard to the rights and safety of the public and the workers.

Convenient access to driveways, houses, and building along the line of Work shall be maintained and temporary crossings shall be provided and maintained in good condition. Not more than one crossing or intersecting street or road shall be closed at any one time.

The Contractor shall provide and maintain such fences, barriers, directional signs, lights, and flagmen as are necessary to give adequate warning to the public at all times of any dangerous conditions to be encountered as a result of the construction work and to give directions to the public.

In accordance with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the Work, and the Contractor shall fully comply with all state, federal and other laws, rules, regulations, and orders relating to safety of the public and workers, including State of California, Division of Industrial Safety (Cal/OSHA) regulations. Safety precautions as applicable shall include, but not be limited to, adequate life protection and life saving equipment; adequate illumination for underground and night operations; instructions in accident prevention for all employees such as machinery guards, safe walkways, scaffolds, ladders, bridges, gang planks, confined space procedures, trenching and shoring, and other safety devices, equipment and wearing apparel as are necessary or lawfully required to prevent accident or injuries; and adequate facilities for the proper inspection and maintenance of all safety measures.

The names and telephone numbers of at least two medical doctors practicing in the vicinity and the telephone number of the local ambulance service shall be prominently displayed adjacent to telephones.

The right of the Engineer or the Owner's Representative to conduct construction review or observation of the Contractor's performance will not include review or observation of the adequacy of the Contractor's safety measures in, on, or near the site of the Work. However, in the event that the Owner determines that the Contractor has failed to ensure the safety of the public and the workers, or has failed to take reasonable steps to protect the workers and the public, the Owner may give the Contractor 72-hours written notice to take appropriate action to ensure their safety. In the event the Contractor fails to comply, and the Owner takes such steps as are reasonably necessary to ensure the safety and protection of the public and the workers, the Contractor shall pay the cost and expenses incurred in taking such action. Should the Contractor fail to pay, the Owner may deduct the costs and expenses incurred in taking such action from any amounts then due or that may become due to the Contractor. In the event such costs and expenses exceed the amounts deducted by the Owner, the Contractor shall pay the balance thereof immediately upon demand therefor by the Owner.

6-5 RESPONSIBILITY FOR LOSS, DAMAGE, OR INJURIES

The Contractor shall be responsible for all claims, demands, or liability from any cause arising out of or resulting from or in connection with the performance of the Work, excepting only those as may be caused solely and exclusively by the fault or negligence of the Owner, the Engineer, the Owner's Representative, or their consultants, or their directors, officers, employees, and agents. Such

responsibility shall extend to claims, demands, or liability for loss, damage, or injuries occurring after completion of the Work as well as during the progress of the Work.

6-6 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

Until the acceptance of the Work, the Contractor shall have the responsible charge and care of the Work and of the materials to be used therein (including materials for which partial payment has been made or materials which have been furnished by the Owner) and shall bear the risk of injury, loss, or damage to any part thereof by the action of the elements or from any other cause, whether arising from the execution or from the non-execution of the Work.

The Contractor shall rebuild, repair, restore, and make good all damage to any portion of the Work or the materials occasioned by any cause before its completion and acceptance and shall bear the expense thereof. Where necessary to protect the Work or materials from damage, the Contractor shall at their expense provide suitable drainage and erect such temporary structures as are necessary to protect the Work or materials from damage. The suspension of the Work or the granting of an extension of time from any cause whatever shall not relieve the Contractor of the responsibility for the Work and materials as herein specified.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without special instructions or authorizations, is authorized to act at their discretion to prevent such threatened loss or injury.

6-7 PRESERVATION OF PROPERTY

The Contractor shall exercise due care to avoid injury to existing improvements or facilities, utility facilities, adjacent property, and trees and shrubbery that are not to be removed.

All trees, shrubbery, and landscaping that are not to be removed, and pole lines, fences, signs, survey markers and monuments, buildings and structures, conduits, pipelines under or above ground, sewer and water lines, all highway or street facilities, and any other improvements or facilities within or adjacent to the Work shall be protected from injury or damage, and the Contractor shall provide and install suitable safeguards to protect such objects from injury or damage. If such objects are injured or damaged by reason of the Contractor's operation, they shall be replaced or restored at the Contractor's expense to a condition as good as when the Contractor entered upon the Work or as good as required by the plans and specifications if any such objects are a part of the work being performed.

The fact that any such pipe or other underground facility is not shown on the plans shall not relieve the Contractor of his responsibility under this article. In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary, all foundations and other parts of all existing structures adjacent to and adjoining the site of the Work which are in any way affected by the excavations or other operations connected with the performance of the Work. Whenever any notice is required to be given by the Owner or the Contractor to any adjacent or adjoining landowner or other party before commencement of any work, such notice shall be given by the Contractor.

6-8 EXCAVATION PLANS FOR WORKER PROTECTION REQUIRED BY LABOR CODE SECTION 6705

If the total amount of the contract is in excess of \$25,000, the Contractor shall submit to the Owner for acceptance, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches five feet or more in depth. The plan shall be prepared by a

registered civil or structural engineer who shall certify that the plan complies with all governmental regulations and orders, or that the registered civil or structural engineer certifies that the plan is not less effective than the shoring, bracing, sloping, or other provisions of the General Industry Safety Orders promulgated by the Department of Industrial Relations, Division of Industrial Safety, or by such other agency with responsibility therefor.

The Owner or the Engineer or their consultants may have made investigations of subsurface conditions in areas where the Work is to be performed. If so, these investigations are identified in the Special Provisions and the records of such investigations are available for inspection at the office of the Engineer. The detailed plan showing the design of shoring, etc., which the Contractor is required to submit to the Owner for acceptance in advance of excavation will not be accepted by the Owner if the plan is based on subsurface conditions which are more favorable than those revealed by the investigations made by the Owner or the Engineer or their consultants; nor will the plan be accepted if it is based on soils-related design criteria which is less restrictive than the criteria set forth in the report on the aforesaid investigations of subsurface conditions.

The detailed plan showing the design of shoring, etc., shall include surcharge loads for nearby embankments and structures, for spoil banks, and for construction equipment and other construction loadings. The plan shall indicate for all trench conditions the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads.

Nothing contained in this article shall be construed as relieving the Contractor of the full responsibility for providing shoring, bracing, sloping, or other provisions which are adequate for worker protection.

6-9 PERSONAL LIABILITY

No director, officer, employee, or agent of the Owner, the Engineer, the Owner's Representative, or their consultants shall be personally responsible for any liability arising under or by virtue of the contract.

6-10 INDEMNITY

As provided in the Agreement, the provisions of which are incorporated herein, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Owner's Representative, their consultants, and each of their directors, officers, agents, and employees from and against all claims, damages, losses, expenses, and other costs, including, but not limited to, costs of defense and attorneys' fees, arising out of or resulting from or in connection with the performance of the Work.

In any and all claims against the indemnified parties by any employee of the Contractor, any subcontractor, any supplier, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under the first and fourth paragraphs of this Section 6-10 shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor, or any subcontractor, or any supplier or other person under workers' compensation acts, disability benefit acts, or other employee acts.

The obligations of the Contractor under the first and fourth paragraphs of this Section 6-10 shall not extend to the liability of the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents, arising out of or resulting from or in connection with the preparation or approval of maps, drawings, opinions, reports, surveys, designs or specifications, providing that the foregoing was the sole and exclusive cause of the loss, damage, or injury.

The Contractor shall also indemnify and hold harmless the Owner, the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from and against all losses, expenses, damages (including damages to the Work itself), attorneys' fees, and other costs, including all costs of defense, which any of them may incur with respect to the failure, neglect, or refusal of Contractor to faithfully perform the work and all of the Contractor's obligations under the contract. Such costs, expenses, and damages shall include all costs, including attorneys' fees, incurred by the indemnified parties in any lawsuit to which they are a party.

6-11 HOURS OF LABOR

The Contractor shall forfeit as a penalty to the Owner the maximum amount provided by statute for each worker employed in the execution of the contract by the Contractor or any of their subcontractors for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of the Labor Code and, in particular, Section 1810 to Section 1815 thereof, inclusive, except that work performed by employees of Contractors in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half times the basic rate of pay as provided in said Section 1815.

6-12 PREVAILING WAGE

The Contractor shall comply with Labor Code Section 1775. In accordance with said Section 1775, the Contractor shall forfeit as a penalty to the Owner, a penalty in such amount as the Labor Commissioner shall determine for each calendar day or portion thereof for each worker paid less than the stipulated prevailing rates for such work or craft in which such worker is employed for any work done under the contract by them or by any subcontractor under them in violation of the provisions of the Labor Code and, in particular, Labor Code Sections 1770 to 1780, inclusive. In addition to said penalty and pursuant to said Section 1775, the difference between such stipulated prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than the stipulated prevailing wage rate shall be paid to each worker by the Contractor. Moreover, failure to pay the prevailing wage may subject the Contractor to debarment, as provided in Labor Code Section 1777.1.

6-13 APPRENTICES

The Contractor and any subcontractor under them shall comply with the requirements of Sections 1777.5 and 1777.6 of the Labor Code in the employment of apprentices.

Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices. In accordance with Section 1773.3 of the Labor Code, within five (5) days of awarding the Contract hereunder the Owner shall send a copy of this Contract to the Division of Apprenticeship Standards.

Willful violations of Section 1777.5 will result in a forfeiture of the maximum statutory amount for each calendar day of non-compliance which shall be withheld from progress payments by Owner upon notice from the Department of Industrial Relations pursuant to Labor Code Section 1777.7. Willful violations of Section 1777.5 shall also result in the suspension of the Contractor's right to bid on or receive the award of any public works construction contract, as provided in Section 1777.7.

6-14 WARRANTY OF TITLE

The Contractor warrants clear and good title to all materials, supplies, and equipment installed and incorporated in the Work and agrees upon completion of all work to deliver the premises together with all improvements and appurtenances constructed or placed thereon to the Owner free from any claims, liens, encumbrances, or charges. Nothing contained in this article, however, shall defeat or impair the right of such persons furnishing materials or labor under any bond given by the Contractor for their protection, or any right under any law permitting such persons to look to funds due the Contractor in the hands of the Owner. The provisions of this article shall be inserted in all subcontracts and material contracts, and notices of its provision shall be given to all persons furnishing materials for the Work when no formal contract is entered into for such materials.

6-15 PROPERTY RIGHTS IN MATERIALS

Nothing in the contract shall be construed as vesting in the Contractor any right of property in the materials used after they have been attached or affixed to the Work or the soil, or after payment has been made for materials delivered to the site of the Work, or stored subject to or under the control of the Owner. All such materials shall become the property of the Owner upon being so attached or affixed or upon payment for materials delivered to the site of the Work or stored subject to or under the control of the Owner.

Soil, stone, gravel, and other materials found at the site of the Work and which conform to the plans and specifications for incorporation into the Work may be used in the Work. No other use shall be made of such materials except as may be otherwise described in the plans and specifications.

6-16 TITLE TO MATERIALS FOUND ON THE WORK

The title to all water and to the right to use of all water, to all soil, stone, gravel, sand, minerals, and all other materials developed or obtained in the excavation or other operations by the Contractor or any subcontractor or any of their employees, and the right to use or dispose of the same, are hereby expressly reserved in the. The Contractor may be permitted to use in the Work without charge any such materials which meet the requirements of these specifications.

6-17 MUTUAL RESPONSIBILITY OF CONTRACTORS

Nothing in the contract shall be interpreted as granting to the Contractor exclusive occupancy of the site of the Work. The Contractor must ascertain to their own satisfaction the scope of the project and the nature of any other contracts that have been or may be awarded by the Owner in the construction of the project, to the end that the Contractor may perform this contract in the light of such other contracts, if any.

The Contractor shall not cause any unnecessary hindrance or delay to any other contractor working on the project. If the performance of any contract for the project is likely to be interfered with by the simultaneous performance of some other contract or contracts, the Owner's Representative shall decide which contractor shall cease work temporarily and which contractor shall continue or whether the work under the contracts can be coordinated so that the contractors may proceed simultaneously. On all questions concerning conflicting interest of contractors performing related work, the decision of the Owner's Representative shall be binding upon all contractors concerned and the Owner, the Engineer, the Owner's Representative, and their consultants shall not be responsible for any damages suffered or extra costs incurred by the Contractor resulting directly or indirectly from the award or performance or attempted performance of any other contract or contracts on the project or caused by a decision or

omission of the Owner's Representative respecting the order of precedence in the performance of the contracts.

If through acts of neglect on the part of the Contractor, any other contractor or any subcontractor shall suffer loss or damage on the Work, the Contractor may agree to settle with such other contractor or subcontractor by agreement or arbitration, if such other contractor or subcontractor will so settle. If such other contractor or subcontractor shall assert any claim against the Owner, the Engineer, the Owner's Representative, or their consultants on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor who shall hold harmless, indemnify, and defend the Owner, the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents against any such claim, including all attorneys' fees and any other costs incurred by the indemnified parties relative to any such claim.

6-18 TERMINATION FOR BREACH

If the Contractor refuses or fails to prosecute all or any part of the Work with such diligence as will ensure its completion within the time specified herein, or any extension thereof, or fails to complete such work within such time, or if the Contractor is adjudged a bankrupt, or makes a general assignment for the benefit of their creditors, or if a receiver is appointed on account of their insolvency, or if they file a petition to take advantage of any debtor's Act, or if the Contractor or any of their subcontractors violate any of the provisions of the contract, or refuse or fail to supply enough properly skilled workers or proper materials to complete the Work in the time specified, as adjusted by any time extensions granted, or they fail to make prompt payment to subcontractors or for material or labor, or if the Contractor disregards any laws or ordinances, or instructions given by the Owner or Owner's Representative, the Owner may, without prejudice to any other right or remedy, serve written notice upon the Contractor and their surety of its intention to terminate the contract. Such notice by the Owner shall set forth the reasons for the intended termination of the contract, and unless within ten days after the service of such notice such violations shall cease and satisfactory arrangements for the corrections thereof be made, the contract shall upon the expiration of said ten days cease and terminate. In such case, the Contractor shall not be entitled to receive any further payment until the Work is finished.

Upon termination as provided above, the Owner shall immediately give written notice to the surety and the Contractor, and the surety shall have the right to take over and perform the contract; provided, however, that if the surety within fifteen (15) days after receipt of a notice of termination does not notify the Owner in writing of its intention to take over and perform the contract, or does not commence performance of the contract within thirty (30) days from the date of serving said notice, the Owner may take over the Work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of the Contractor, and their surety shall be liable to the Owner for any excess cost or other damage occasioned the Owner thereby, and in such event the Owner may, without liability for so doing, take possession of and utilize in completing the Work such materials, appliances, plants, and other property belonging to the Contractor that may be on the site of the Work or on any other property of the Owner and be necessary for the Work. For any portion of such work that the Owner elects to complete by furnishing its own employees, materials, tools, and equipment, the Owner shall be compensated for such in accordance with the schedule of compensation for cost-plus work in Section 8-1, entitled PAYMENT FOR CHANGES IN THE WORK.

If the unpaid balance of the contract price exceeds the direct and indirect costs of completing the Work, including, but not limited to, all costs to Owner arising from professional services and attorneys'

fees and all costs generated to insure or bond the work of substituted contractors or subcontractors utilized to complete the Work, such excess shall be paid to Contractor. If such costs exceed the unpaid balance, Contractor shall pay the difference to Owner promptly upon demand; on failure of Contractor to pay, the Surety shall pay on demand by Owner. Any portion of such difference not paid by Contractor or surety within thirty (30) days following the mailing of a demand for such costs by Owner shall earn interest at the rate of ten percent (10%) per annum or the maximum rate authorized by California law, whichever is lower.

The foregoing provisions are in addition to and not in limitation of any other rights or remedies available to the Owner.

6-19 NOTICE AND SERVICE THEREOF

Any notice required or given under the contract shall be in writing, be dated, and signed by the party giving such notice or their duly authorized representative, and be served as follows:

If to the Owner, by personal delivery or by deposit in the United States mail.

If to the Contractor, by personal delivery to the Contractor or to their authorized representative at the site of the project or by deposit in the United States mail.

If to the surety or any other person, by personal delivery to said surety or other person or by deposit in the United States mail.

All mailed notices shall be in sealed envelopes, shall be sent by certified mail with postage prepaid, and shall be addressed to the addresses in the Contract Documents or such substitute addresses which a party designates in writing and serves as set forth herein.

Any notice served in accordance with this Section 6-20, shall be deemed received by the addressee seventy-two (72) hours after deposited, postage prepaid, in the United States mail.

6-20 LANDS AND RIGHTS-OF-WAY

The lands and rights-of-way for the facility to be constructed will be provided by the Owner. Except to the extent the Contractor is authorized to use other property of the Owner as provided in Section 5-9 entitled USE OF OWNER'S PROPERTY DURING CONSTRUCTION, the Contractor shall make their own arrangements and pay all expenses for additional area required by them outside the limits of the Owner's lands and rights-of-way.

Work in public right-of-way shall be done in accordance with the requirements of the permit issued by the public agency in whose right-of-way the Work is located in addition to conforming to the plans and specifications. If a permit is not required, the Work shall conform to the standards of the public agency involved in addition to conforming to the plans and specifications.

6-21 WAIVER OF RIGHTS

Except as otherwise specifically provided in the Contract Documents, no action or failure to act by the Owner, Engineer, Owner's Representative, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract Documents, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder.

6-22 TAXES

The Contractor shall pay all sales, consumer, use, and other taxes.

6-23 ASSIGNMENTS OF ANTITRUST ACTIONS

In entering into this Contract or any subcontract to supply goods, services, or materials to the Contractor pursuant to this Contract, the Contractor or subcontractor offers and agrees to assign to the awarding body all rights, title, and interest in and to all causes of action any of them may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 [commencing with Section 16700] of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to this contract or any subcontract hereunder. This assignment shall be made and become effective at the time the awarding body tenders final payment to the Contractor, without further acknowledgment by the parties.

6-24 PAYROLL RECORDS

It shall be the responsibility of the Contractor to maintain an accurate payroll record showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each employee in accordance with Labor Code Section 1776, and to ensure that each subcontractor also complies with all provisions of Labor Code Section 1776 and this contract provision.

All payroll records shall be certified as accurate by the Contractor or subcontractor or its agent having authority over such matters.

The Contractor shall ensure that all payroll records are available for inspection at the Contractor's principal office during normal business hours and shall notify the Owner, in writing, of the place where all payroll records are located from time to time.

The Contractor shall furnish a copy of all payroll records, upon request, to employees or their authorized agents, to the Owner, to the Division of Labor Standards Enforcement, and to the Division of Apprenticeship Standards of the Department of Industrial Relations. The Contractor shall also furnish a copy of payroll records to the general public upon request provided the public request is made through the Owner, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement of the Department of Industrial Relations.

Records made available to the general public in accordance with the prior paragraph shall be in such a manner that the name and address of the Contractor and/or subcontractor and the name, address, and telephone number of all employees does not appear on the modified record.

The Contractor shall file a certified copy of any requested payroll records with the entity that requested such records within ten days of the date a written request for payroll records has been received. Should any request for payroll records be submitted to the Owner, the sole obligation of the Owner shall be to transmit that request to the Contractor and advise the Contractor of its obligations under the Labor Code and of the penalties for failure to comply.

Failure of the Contractor to comply with any provision of this article or Labor Code Section 1776 within ten days of the date a written request for compliance is received shall result in a forfeiture of the maximum statutory amount per calendar day or portion thereof, for each worker, until strict compliance is obtained. Upon notification by the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement of the Department of Industrial Relations, the Owner shall withhold penalties under this article or Labor Code Section 1776 from the Contractor's payments then due.

6-25 NOTICE OF LATENT OR HAZARDOUS CONDITIONS

In accordance with Section 7104 of the Public Contract Code,, where the contract specifications require digging trenches or excavating deeper than four (4) feet below the surface, the Contractor shall promptly, and before the following conditions are disturbed, notify the Owner, in writing, of any:

- (a) Material that the Contractor may believe is hazardous waste as defined in Section 25117 of the Health and Safety Code;
- (b) Subsurface or latent physical conditions differing from those by information about the site made available to bidders prior to the deadline for submitting bids;
- (c) Unknown physical conditions of any unusual nature, materially different from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract specifications.

Upon receipt of written notice by the Contractor of such conditions, the Owner shall promptly investigate. If the Owner finds such conditions to exist and determine that an increase or decrease in the Contractor's cost of or time required for performance of the Work will result from the change in conditions, the Owner will issue a change order.

In the event a dispute arises between the Owner and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause decrease or increase in the cost of or time required for performance of any part of the Work, the Contractor shall not be excused from the scheduled completion of the Work, and shall retain any and all rights which he may have pertaining to the resolution of disputes between the Owner and the Contractor, as provided in Section 3-9 entitled CLAIMS.

6-26 CONTRACTOR'S OBLIGATIONS CONCERNING PAYMENT OF WORKERS' COMPENSATION AND UNEMPLOYMENT INSURANCE

The Contractor shall be responsible for complying with the provisions of Division 4 of the Labor Code, relating to securing payment of Workers' Compensation, and of the Unemployment Insurance Code.

6-27 USE OF DEBARRED CONTRACTORS

As provided in Public Contract code Section 6109, any contract between the Contractor and a subcontractor that has been declared by the Labor Commissioner to be ineligible to perform work on a public works project is void, and the debarred subcontractor shall not receive any public money for performance of any part of the Work.

6-28 NOTIFICATION OF THIRD-PARTY CLAIMS

The Owner shall provide the Contractor with timely notification of any third-party claims arising under or in relation to the Contract or the performance of the Work. The Owner shall be entitled to offset against any payments due the Contractor the reasonable costs incurred in providing such notification.

ARTICLE 7. CONTRACTOR'S INSURANCE

7-1 GENERAL

The Contractor shall not commence or continue to perform any work unless the Contractor, at their own expense, has in full force and effect all required insurance. The Contractor shall not permit any subcontractor to perform work on this project unless the Workers' Compensation Insurance requirements have been complied with by such subcontractor.

The types of insurance the Contractor shall obtain and maintain are Workers' Compensation Insurance, Liability Insurance, and Builder's Risk Insurance.

Workers' Compensation Insurance and Liability Insurance shall be maintained in effect for the full guarantee period.

Insurers must be authorized to do business and have an agent for service of process in California and have an "B+" policyholder's rating and a Financial Size Category rating of at least VII in accordance with the most current Best's Rating, unless otherwise approved by the Owner.

As evidence of specified insurance coverage, the Contractor shall provide certificates of insurance and endorsements on forms approved by the Owner.

Any deductible or self-insured retention must be declared to and approved by the Owner. At the option of the Owner, either the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the Owner, the Engineer, the Owner's Representative and each of their directors, officers, employees, agents and volunteers, or the Contractor shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

Upon demand by the Owner, the Contractor shall deliver all policies of insurance and the receipts for payment of premiums thereon. Should the Contractor neglect to maintain in force insurance required under the Contract Documents, then it shall be lawful for the Owner to obtain and maintain such insurance, and the Contractor hereby appoints the Owner as its true and lawful attorney-in-fact to do all things necessary for this purpose. Should the Owner make such payments on behalf of the Contractor, any monies so paid shall be charged to the Contractor and shall be deducted such from any payments due the Contractor under the Contract Documents.

7-2 WORKERS' COMPENSATION INSURANCE

The Contractor and all subcontractors shall cover or insure under the applicable laws relating to workers' compensation insurance, all of their employees working on or about the area affected by the Work, regardless of whether such coverage or insurance is mandatory or merely elective under the law.

Upon execution of the Agreement, the Contractor shall provide a certificate(s) of insurance certifying that they have obtained for the period of the contract full Workers' Compensation Insurance coverage for all persons employed directly by the Contractor or through subcontractors in carrying out the Work under the contract. At the same time, the Contractor shall provide the insurance endorsement(s) on the forms provided as a part of the Contract Documents. This insurance shall be in strict accordance with the requirements of the most current and applicable state Workers' Compensation Insurance laws. The Contractor shall defend, protect and save harmless the Owner, the Engineer and the Owner's Representative and each of their directors, officers, employees, and agents from and against all claims, suits and actions arising from any failure of the Contractor or any subcontractor to maintain such coverage or insurance.

7-3 LIABILITY INSURANCE

The Contractor shall, at the time of execution of this Contract, file with the Owner a Certificate of Insurance, satisfactory to the Owner and evidencing liability insurance as required under the Contract Documents. The provisions required shall either be affirmatively shown on the certificate or evidenced by separate endorsement. Notwithstanding the foregoing, Owner's initial receipt or "acceptance" of certificates of insurance, or of policies of insurance, shall not obligate the Owner to review such certificates or policies for compliance with the Owner's insurance requirements in this article. Any failure of any Contractor-provided insurance to at least match the insurance requirements of this article, whether such failure is discovered before or after issuance of the Notice to Proceed, shall not be the basis on any legal theory whatsoever for any lessening whatsoever of Contractor's financial responsibilities under this Contract for risks described in this article.

Nothing contained in the insurance requirements shall be construed as limiting the extent of the Contractor's responsibility for payment of greater damages resulting from the Contractor's operations under this Contract.

Included in such insurance shall be contractual coverage sufficiently broad to insure the matters set forth in Section 6-10, entitled INDEMNITY, in the General Provisions and in Paragraph 6 of the Agreement.

7-4 BUILDER'S RISK INSURANCE

The Contractor shall provide and maintain Builder's Risk Insurance covering all risks of direct physical loss, damage or destruction to the Work in the minimum amount of the dollar value of the Work contemplated under the Contract Documents, subject to adjustment by change order duly issued by the Owner, to insure against such losses until final acceptance of the Work by the Owner. Such insurance shall include explosion, collapse, underground excavation and removal of lateral support. The Owner shall be named as an additional insured on any such policy. The making of progress payments to the Contractor shall not in any way be construed as creating an insurable interest by or for the Owner or be construed as relieving the Contractor or its subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to the final acceptance of the Work by the Owner.

The insurer shall waive all rights of subrogation against the Owner. The Contractor shall provide the Owner with a certificate of insurance for Builder's Risk Insurance coverage and evidence of waiver of rights of subrogation against the Owner.

7-5 CONTRACTOR'S LIABILITY NOT LIMITED BY INSURANCE

Nothing contained in these insurance requirements is to be construed as limiting and the liability of the Contractor or the Contractor's sureties.

ARTICLE 8. ESTIMATES AND PAYMENTS

8-1 PAYMENT FOR CHANGES IN THE WORK

Changes in, additions to, or deductions from the Work, including increases or decreases in the quantity of any item or portion of the Work, shall be set forth in a written change order executed by the Owner which shall specify:

The changes, additions, and deductions to be made.

The increase or decrease in compensation due the Contractor, if any.

Adjustment in the time of completion, if any.

Adjustment in the compensation due Contractor shall be determined by one or more of the following methods in the order of precedence listed below:

- 1) Unit prices contained in the contract.
- 2) Mutually agreeable lump-sum or unit prices. If requested by the Owner's Representative, the Contractor shall furnish an itemized breakdown of the quantities and prices used in computing proposed lump-sum and unit prices.
- 3) Where an adjustment in compensation due the Contractor has not been determined, but a written change order has been issued by the Owner, the Contractor shall promptly proceed with the work involved. In such case, the Contractor shall be compensated for furnishing labor, materials, tools, and equipment on a cost-plus basis, as follows:
 - a) Cost of labor plus fifteen percent (15%) for workers directly engaged in the performance of the work. Cost of labor shall include actual wages paid including employer payments to or on behalf of the workers for health and welfare, pension, vacation, and similar purposes plus payments imposed on payroll amounts by state and federal laws plus subsistence and travel allowance payments to workers.
 - b) Cost of material plus fifteen percent (15%). Cost of material shall include sales tax, freight, and delivery charges. The Owner reserves the right to furnish such materials as it deems advisable and the Contractor shall not be paid the fifteen percent (15%) markup on such materials.
 - c) For tools and equipment actually engaged in the performance of the work, rental rates plus fifteen percent (15%). The rental rates shall be those prevailing in the area where the Work is performed. No rental charge shall be made for the use of tools or equipment having a replacement value of \$500.00 or less.
 - d) Subcontractor invoices to the Contractor plus five percent (5%). Subcontractor invoices shall be based on the above-described cost of labor plus fifteen percent (15%) cost of material plus fifteen percent (15%), and tool and equipment rental rates plus fifteen percent (15%).
 - e) No payment shall be made for any item not set forth above, including without limitation, Contractor's overhead, general administrative expense, supervision, or damages claimed for delay in prosecuting the remainder of the Work.

For cost-plus work, the Contractor shall submit to the Owner's Representative for verification daily work sheets showing an itemized breakdown of labor, materials, tools, and equipment used in performing the work, including the name and number of each worker employed thereon, the number of hours employed thereon, the character of work each worker is doing, and the wages paid or to be paid each worker. In the case of tool and equipment rentals, the Contractor shall be compensated at the rate applicable to that type or article of tool or equipment reasonably necessary to perform the work contemplated by the change order, as determined by and in the sole discretion of the Owner's Representative. receipt of the Contractor's daily work sheets by the Owner's Representative shall not be deemed an admission of the Contractor's right to be compensated for the labor, materials, tools and equipment set forth therein, but is merely an acknowledgment that the workers, materials, tools and equipment specified in the report were in fact employed or used in the prosecution of the Work by the Contractor on the date indicated in the report.

If requested by the Owner, the Contractor shall produce any books, vouchers, memoranda, or other records which will enable the Owner to determine the true, necessary cost of work and materials to be paid for. In no case of cost-plus work ordered by Owner shall additional payment be made to the Contractor due to overtime or holiday wages paid by them in connection with such cost-plus work unless specifically ordered and agreed to in writing by the Owner, and then only to the extent extra payment is regularly being made up by the Contractor for overtime or holiday work of a similar nature in the same locality. No payment will be made for work not verified by the Owner's Representative.

Any disputes regarding payment for changes in the Work or for extra work, or regarding extensions of time, shall proceed in accordance with the procedures set forth in Section 3-9 entitled CLAIMS.

8-2 NO PAYMENT FOR TEMPORARY WORK

No direct payment will be made to the Contractor for providing transportation, light, power, tools, and equipment or for furnishing, building, and maintaining camps, construction plant, access roads, sanitary conveniences, disposal work, water supply, fire protection, guards, trestles, telephone system, and other temporary works, or for the removal of all temporary structures, plant and materials, or for medical attendance or health protection, or for watchmen, magazine keepers or guards, or for any other service, thing, or material, unless payment therefor has been provided in the Contract Documents or expressly authorized by the Owner. Compensation for all such services, facilities, things or materials necessary or required to execute the Work in accordance with the provisions of the contract shall be considered as having been included in the prices stipulated for the appropriate items.

8-3 PROGRESS PAYMENTS

The Contractor shall, on or before the tenth (10th) day of each calendar month after actual construction work is started, submit to the Owner's Representative a written estimate of the value of the work completed by the Contractor and of materials delivered on the ground at the site of the Work or stored subject to or under the control of the Owner prior to the first of the month in which the estimate is made. In reviewing such payment requests, the Owner's Representative may take into consideration, along with other facts and conditions deemed by them to be proper, the ratio of the difficulty or cost of the work done to the probable difficulty or cost of the work remaining to be done. The Owner shall retain ten percent (10%) of such estimated value as part security for the fulfillment of the contract by the Contractor and shall within thirty (30) days of the date which the estimate is received pay to the Contractor the balance of such estimated value after deducting therefrom all previous payments and all sums to be kept or retained under the terms of the contract. All amounts so retained are withheld subject to the provisions of Public Contract Code Section 7107.

Pursuant to Section 20104.50 of the Public Contract Code, should the Owner fail to make a progress payment within thirty days after receipt of the undisputed and properly submitted pay estimate from the Contractor, the Contractor is entitled to interest from the Owner at the then-prevailing legal rate.

The payment request shall be reviewed by the Owner as soon as practicable after receipt for the purpose of determining that the payment request is proper. Any payment request determined not to be proper shall be returned to the Contractor not later than seven (7) days after receipt by the Owner's Representative. Such returned requests shall be accompanied by a written explanation of the reasons why the payment request is not proper.

In the event a payment request is rejected, all or in part, beyond the seven-day period after receipt, the number of days available to the Owner to make payment without incurring interest shall be reduced by the number of days by which the Owner exceeds the seven-day return requirement set forth above.

8-4 FINAL ESTIMATE AND PAYMENT

When the Work has been completed, the Owner's Representative will make a final estimate of the total amount of work done thereunder and the amount to be paid therefor under the terms of the contract. If the Owner finds the Work has been completed according to the contract, it shall accept the Work, shall file a notice of completion, and shall pay the entire sum so found to be due after deducting therefrom all previous payments and all amounts to be retained under the provisions of the contract, including any right of offset the Owner may have against the Contractor under the terms of this or any other contract between the Owner and the Contractor. All prior progress estimates and payments shall be subject to correction in the final estimate and payment. The final payment, including all amounts retained from any progress payments, shall not be due and payable until the expiration of thirty-five (35) days from the date of filing a notice of completion of the Work by the Owner, but in all events shall be paid within sixty (60) days of completion of the Work, as defined in Section 7107 of the Public Contract Code.

In the event of a dispute between the Owner and the Contractor over the amount due, the Owner may withhold from the final payment an amount not to exceed one hundred fifty percent (150%) of the disputed amount. In the event that retained funds are not paid within the time specified herein or are wrongfully withheld, as provided in Section 7107, the Owner shall be subject to a charge of two percent (2%) per month on the improperly withheld amount, in lieu of any interest otherwise due. In any action for collection of funds allegedly wrongfully withheld, the prevailing party shall be entitled to recover its attorney's fees and costs incurred in such action.

It is mutually agreed between the parties to the contract that no certificate given or payment made under the contract shall be conclusive evidence of performance of the contract and no payment shall be construed to be an acceptance of any defective work or improper materials.

The Contractor further agrees that the payment of the final amount due under the contract shall release the Owner, the Engineer, the Owner's Representative, and their consultants, and each of their directors, officers, employees, and agents from any and all claims or liability arising out of the contract.

8-5 OWNER'S RIGHT TO WITHHOLD CERTAIN AMOUNTS AND MAKE APPLICATION THEREOF

In addition to the amount which the Owner may retain under Section 8-3 entitled PROGRESS PAYMENTS, or under Section 8-4 entitled FINAL ESTIMATE AND PAYMENT, the Owner may withhold a sufficient amount or amounts from any payment otherwise due to the Contractor as in its judgment may be necessary to cover:

Payments which may be past due and payable for properly filed claims against the Contractor or any subcontractors for labor or materials furnished in or about the performance of the Work on the project under this contract.

Estimated or actual costs for correcting defective work not remedied.

Estimated or actual costs for performing any work required of the Contractor pursuant to Section 3-7 entitled FINAL CLEANUP.

Estimated or actual costs of extraordinary or overtime inspection services provided by the Owner.

Costs incurred by the Owner for relocation of underground facilities which should have been borne by the Contractor under the Contract Documents.

Amounts claimed by the Owner as forfeiture due to delay or other offsets.

Any other amounts owing by Contractor to Owner.

Unpaid premiums for insurance required under the contract.

The Owner may apply such withheld amount or amounts to the payment of such claims as the Owner in its sole discretion deems necessary or advisable. In so doing, the Owner shall be deemed the agent of the Contractor and any payments so made by the Owner shall be considered as a payment made under the contract by the Owner to the Contractor, and the Owner shall not be liable to the Contractor for such payment made in good faith. Such payments may be made without prior judicial determination of the claim or claims. The Owner will render to the Contractor a proper account of such funds disbursed on behalf of the Contractor.

8-6 COST STATEMENT

The Contractor shall furnish the Owner promptly, upon completion of the Work, all information necessary to determine the cost of the Work, including an itemized statement in a form satisfactory to the Owner of the actual cost of all labor, materials, rentals, repairs, compensation and other insurance, transportation of labor, equipment and materials, engineering or other special services, supervision, overhead, depreciation, and taxes properly chargeable against the Work, and any and all costs entering into the work performed. The Contractor shall permit the Owner to have access to original payrolls, vouchers, and other records to the extent required to verify the figures given in said statement, and the Contractor shall not be entitled to receive payment on account of the final estimate as hereinabove provided, unless and until the Contractor furnishes the Owner a satisfactory statement of the cost of the entire Work.

SPECIAL PROVISIONS

SP-1 BEGINNING AND COMPLETION OF WORK

The Contractor shall begin work within fifteen (15) days after the date set forth in the Notice to Proceed and shall complete all work under the contract within ninety (90) days after the date for commencement set forth in the Notice to Proceed.

SP-2 TIME PERIOD DURING WHICH BIDS REMAIN VALID

All bids shall remain valid for a period of thirty (30) days after the date specified in the Notice Inviting Bids for the opening of bids by the Owner. After that period has expired, and in all events within sixty (60) days after the date set for opening bids, the Bid Security submitted with their Proposal will be returned to the unsuccessful bidders.

SP-3 CONNECTION TO OTHER FACILITIES

Connections to other facilities, as may be shown on the drawings, shall be performed only when authorized by the Owner. The Contractor shall notify the Owner or Owner's representative five days prior to the date that such connections are due to be performed. Dewatering the existing lines and operation of all valves shall be performed by the Owner.

In the event that the pipelines to which connections are to be made are not existing at the time said connections are ready to be made, the Contractor shall install blind flanges until such time that said "existing" pipelines are installed and placed into service. No extra payment will be allowed for any delays resulting from the requirements of this Section, SP-3.

SP-4 LIQUIDATED DAMAGES FOR DELAYS

It will be impractical or extremely difficult to fix the actual damages that may result from any delays in completion of the work beyond the date agreed upon. It is therefore stipulated and agreed that if all the work included in the contract is not completed on or before the date of completion as provided in Section SP-1 entitled BEGINNING AND COMPLETION OF WORK, or within such extensions of time as may be granted, the Contractor shall pay to the Owner in accordance with the provisions of Section 5-3 of the General Provisions, as agreed, fixed and liquidated damages for each calendar day delay until said work is satisfactorily completed or until the Owner may reasonably procure the completion thereof by another contract, or complete the same itself, the sum of **\$1,500** per calendar day.

SP-5 BREAKDOWN OF CONTRACT PRICE

For use in preparing estimates of completed work on which to base claims for partial payments, the Contractor shall prepare an itemized breakdown of the contract price indicating quantities and unit prices for the various elements of the work.

The breakdown shall be a true representation of the contract price for work covered by the specifications and drawings and shall be subject to approval by the Owner. An unbalanced breakdown will not be acceptable.

Values assigned to the price breakdown will be used only as a basis for partial payment and not as a basis for additions to or deductions from the contract price.

SP-6 CONTRACT DRAWINGS

The location of the work and existing and new facilities and appurtenant works are shown on the drawings made a part of these specifications as listed herein.

When deemed necessary by the Owner, additional detailed drawings will be furnished the Contractor during the progress of the work. The Contractor will be furnished such number of

copies of the drawings and specifications as may be required for carrying out the work. Contact prints of the original drawings will be furnished the Contractor for construction purposes, upon request.

LIST OF DRAWINGS

Sheet No.	Title
1 of 6	12" Water Main Installation on the 2600 and 2700 block of Orange Avenue –Drawing No. C-469
2 of 6	6" Water Main Installation on the 5000 block of El Adobe Ln –Drawing No.C-470
3 of 6	12" Water Main Installation on the 2600 and 2700 block of Orange Avenue, Details – Drawing No. C-471
4 of 6	12" Water Main Installation on the 2600 and 2700 block of Orange Avenue, Details –Drawing No. C-472
5 of 6	12" Water Main Installation on the 2600 and 2700 block of Orange Avenue, Channel –Drawing No. C-473
6 of 6	12" Water Main Installation on the 2600 and 2700 block of Orange Avenue, Sections –Drawing No. C-474

CRESCENTA VALLEY WATER DISTRICT STANDARD DRAWINGS

CVWD Standard Drawing 10-00W, ¾" x 1" Water Meter Service Installation
CVWD Standard Drawing 10-01W, 1" x 1" Water Meter Service Installation
CVWD Standard Drawing 10-02W, 1.5" x 2" Water Meter Service Installation
CVWD Standard Drawing 10-03W, 2" x 2" Water Meter Service Installation
CVWD Standard Drawing 30-01W, Valve Box and Riser
CVWD Standard Drawing 40-03W, Fire Service
CVWD Standard Drawing 50-02W and 50-02 W Type "C" Fire Hydrant
CVWD Standard Drawing 60-03W Tie Rod Installation for Steel Pipe
CVWD Standard Drawing 60-04W Coupling Installation for Steel Pipe
CVWD Standard Drawing 70-02W Sampling Tap Station

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS STANDARD PLANS

Los Angeles County Standard Drawing W-21 Concrete Thrust Blocks
Los Angeles County Standard Drawing W-22 Cutting and Plugging Water Mains
Los Angeles County Standard Drawing W-50 Design Requirements for Water Mains in the Vicinity of Sanitary Sewers

SP-7 DRAWINGS AND DATE REQUIRED TO BE SUBMITTED BY CONTRACTOR

A. General The owners review and approval of drawings and of data required to be submitted herein shall not relieve the Contractor from the full responsibility for the correctness of details and dimensions, and for compliance with the specifications. The Contractor shall assume all responsibility and risk for misfits due to any errors on the drawings.

B. Fabricated Materials

(1) At a time sufficiently early to allow review as hereinafter specified and to accommodate the rate of construction progress required under the contract, the Contractor shall submit to the Owner for review, complete shop, assembly, and layout drawings of the fabricated materials to be furnished and installed under the contract.

(2) Said drawings shall indicate type of material proposed to be used and six copies shall be submitted prior to manufacture or fabrication of the respective articles

(3) The Owner will within fifteen (15) days, return two copies of each drawing to the Contractor with corrections indicated, which drawings shall be considered as the only drawings or prints used for fabrication. If in the opinion of the Owner, a general revision of drawings is required to prove compliance with the specifications, the Contractor shall revise said drawings and resubmit them for review.

C. Equipment and Materials

(1) Within thirty (30) calendar days after executing the contract, the Contractor shall submit to the Owner for review six complete sets of shop drawings and catalogue data on equipment to be furnished under the contract. The required drawings shall include complete outline and assembly drawings of the equipment, details of electrical connections, schematic control diagrams, foundation requirements and the location, size and length of any required anchor bolts, and shall clearly indicate clearance, casting and machining dimensional tolerances and quality of surface finishes

(2) The drawings submitted for review by the Contractor shall also disclose the details of construction including dimensions, the properties of all materials used, applicable ASTM, ANSI, AWWA or other recognized Standard Specifications, and the manufacturer's catalogue, serial or other reference numbers for all equipment to be furnished.

(3) If the Owner finds that the drawings submitted by the Contractor are in accord with acceptable practice and that they appear to meet the requirements of the specifications, the Owner will return two sets of said drawings so noted within thirty (30) days after their receipt. Otherwise, two sets of drawings will be returned to the Contractor within said thirty (30) day period with a statement of the points wherein they have been found unsatisfactory, and the Contractor shall proceed at once to revise said drawings until they shall be found satisfactory by the Owner.

D. Revisions

(1) Revisions shown on said shop assembly or layout drawings, equipment drawings or catalogue data necessary to meet the requirements of the specifications shall not be the basis of claims for extra charges or an extension of time. The Contractor shall accept such revisions or submit other for the Owner to review.

(2) When delay is caused by the resubmission of details, the Contractor shall not be entitled to any damages or extensions of time on account of such delay. The required corrections noted by the Owner shall be made on the tracings as soon as practicable and new prints submitted. As soon as practicable after acceptance by the Owner of any shop, assembly, or layout drawing, one clear legible transparent print on vellum of the tracing of said drawing shall be forwarded to the Owner.

(3) No fabrication or other work shall be performed in advance of the receipt of the final accepted drawings. The Contractor shall not deviate in any way from the design, details, or dimensions shown on said final drawings, without written consent of the Owner.

E. Instruction Manuals

(1) General. Prior to delivery of mechanical and electrical equipment, the Contractor shall furnish to the Owner at least five complete sets of installation, maintenance and operation data for all electrical and mechanical equipment furnished under this contract.

(2) Extent of Data. Each set of data shall include, but shall not necessarily be limited to, descriptive brochures, installation, operation and maintenance manuals, standard operation manuals, special instructions, and parts lists. Each manual, brochure, etc., shall relate directly and specifically to the applicable equipment and shall not be presentations of a general nature that will make it difficult to ascertain applicability of the data presented.

(3) Equipment Covered. Mechanical and electrical equipment for which such data is to be furnished shall include, but is not necessarily limited to: Valves, air compressor, electrical switchboard, and controls.

SP-8 MATERIALS

All materials and articles used for permanent installation in the work shall be new and shall conform to the respective specifications or brands hereinafter designated and in the specifications, the materials or articles shall conform to the best standard construction practice, as determined by the Owner.

All material and articles furnished shall be subject to rigid inspection and no materials or articles shall be used in the work until it has been inspected by the Owner.

SP-9 INSPECTION AND TESTS OF MATERIALS

A. Readiness for Inspection The Contractor shall furnish the Owner full information as to the progress of the work in its various parts and shall give the Owner timely notice of the Contractor's readiness for inspection. When practicable, inspection will be made during the manufacture of articles. The Contractor shall furnish, without additional charge, all reasonable facilities and assistance for the safe and convenient inspection and tests required by the Owner.

B. Final Inspection and Acceptance Final inspections and acceptance of the articles or materials may be made after delivery at the work site at the Owner's expense. In the event that any material at the work site is rejected on account of failure to pass the inspection or test, the Contractor shall replace same promptly. Final inspection will be made as promptly as practicable but may not in all cases be made prior to erection or final assembly.

C. Right to Reject Articles and/or Materials

(1) The Owner shall have the right at all times and places to reject articles and/or materials to be furnished hereunder which in any respect fail to meet the requirements of the specifications, regardless of whether the defects in such articles or materials are detected at the point of manufacture or after completion of the work at the site.

(2) If the inspector, through an oversight or otherwise, has accepted material or work which is defective or which is contrary to the specifications, such materials, no matter in what state or condition of manufacture, delivery or erection, may be rejected by the Owner.

(3) Compliance with the specifications is distinctly a duty of the Contractor and shall not be avoided by act or omission on the part of the Owner's inspector.

SP-10 WATER SUPPLY

The Owner will furnish an adequate supply of water for the purpose of construction, testing and disinfecting all the works under the specifications. However, all costs incurred in connecting to existing lines shall be borne by the Contractor.

SP-11 SANITATION

All parts of the work shall be maintained in a neat, clean, and sanitary condition. All wastes and refuse from sanitary facilities provided by the Contractor or from any other source related to the Contractor's operations shall be taken care of in a sanitary manner, satisfactory to the Owner and in accordance with laws and regulations pertaining thereto. Fixed and portable toilets, which are made inaccessible to flies, shall be provided for use of employees and their use shall be strictly enforced.

The Contractor shall furnish all the facilities and means for the proper sanitation of the work and shall protect and hold harmless the Owner, its Owner, officers and employees from any liability resulting from improper or insufficient sanitation measures.

SP-12 DRIVEWAY MAINTENANCE AND DUST ABATEMENT

During the performance of all work included in the contract, the entrance and exit of which is used as access to the site shall be maintained by the Contractor.

During the performance of all work included in the contract or any operations appurtenant thereto, the Contractor shall furnish all the labor, equipment and means required and shall carry out proper and efficient measures wherever and as often as necessary, to prevent its operations from producing dust in amounts damaging to property or causing a nuisance to persons occupying buildings in the vicinity.

SP-13 REPAIR OF PAVEMENT

Pavement damaged by construction operations shall be repaired and replaced in kind, provided, however, that where reconstruction of any right-of-way is subject to the inspection and approval of any governmental agency other than Owner, the Contractor agrees to repair and replace those portions of such right-of-way damaged during construction to the complete satisfaction of such agency or its authorized representative. Any requirements as to reconstruction of such rights-of-way shall not form the basis of a claim by the Contractor for additional compensation or for an extension of time.

SP-14 AS-BUILT DRAWINGS

Within thirty (30) days after acceptance of the Work by the Owner, the Contractor shall furnish a marked-up set of drawings indicating "As-Built" conditions, which shall reflect all changes made during construction.

Failure to submit "As-Built" drawings will result in a delay in final payment. The final payment will not be released until a final approved set of "As-built" drawings have been submitted to the Owner.

A set of approved plans and specifications shall be on the jobsite at all times and in addition, the Contractor shall maintain "As-built" drawings of all work and subcontractor, continuously as the job progresses. A separate set of prints for this purpose shall be required and these drawings shall be up-to-date and so certified by the District's Representative at the time each progress bill is submitted.

SP-15 CONTRACTOR'S LICENSE

The Contractor shall possess a Class A or C-34 contractor's license issued in accordance with the provisions of Chapter 9, Division 22, of the Business and Professions Code of the State of California. Upon the Owner's request, the Contractor shall present satisfactory evidence that he is licensed in good standing.

SP-16 WORKING HOURS

Normal working hours are limited to 7:30 a.m. to 4:00 p.m. Monday through Friday, excluding holidays. These hours may be subject to further limitation by traffic control requirements.

The County of Los Angeles inspection hours are between 7:30 a.m. to 4:00 p.m., Monday through Friday, excluding holidays. The contractor shall notify the County of Los Angeles at least 48 hours prior to beginning any work in the right-of-way.

No work will be permitted on Saturdays, Sundays and holidays, which disturbs, or could disturb, a person of normal sensitivity who works or resides in the vicinity. "Holiday" shall be defined as January 1st, the third Monday in February (President's Day), the last Monday in May (Memorial Day), July 4th, the first Monday in September (Labor Day), November 11 (Veterans Day), the fourth Thursday and Friday in November (Thanksgiving), December 24th (Christmas Eve), December 25th (Christmas), and December 31st (New Year's Eve).

If January 1st, July 4th, November 11th, December 24th, December 25th, or December 31st falls on a Sunday, the following Monday is a holiday. If January 1st, July 4th, November 11th, December 24th, December 25th, or December 31st, falls on a Saturday, the previous Friday is a holiday.

SP-17 COUNTY OF LOS ANGELES ROAD EXCAVATION PERMITS, STREET USE, AND INSURANCE REQUIREMENTS

The Owner has submitted plans to the County of Los Angeles for excavation permits. Contractor shall obtain final excavation permit from the County of Los Angeles. In addition, Contractor shall provide copies of insurance certificates for Liability Insurance and Workman's Compensation at the same time as the final road excavation permit is obtained. The Contractor shall maintain Commercial General Liability for a minimum of \$5,000,000 and Automobile Liability of a minimum of \$5,000,000. The County of Los Angeles shall be named as the certificate holder and the insurance shall not be cancelled, reduced, or changed without giving the County of Los Angeles at least thirty (30) days prior notice in writing.

The District will provide a letter to the County of Los Angeles stating that the Contractor is allowed to obtain the Road Excavation Permit on behalf of the District and the District will pay all plan check and inspection fees.

SP-18 PRE-CONSTRUCTION MEETING

A mandatory pre-construction meeting shall be scheduled 48 hours prior to start of construction with the following people present: Contractor, Contractor's Superintendent and Foreman, Crescenta Valley Water District personnel, LA County Department of Public Works, The Gas Company, Southern California Edison, Charter Cable, AT&T, or their representatives. The pre-construction meeting will address the following items:

1. Introduction and acquaintance of the key project personnel. Contractor is expected to be represented at the meeting by his assigned superintendent and foreman. Any major subcontractors should also be present.
2. Discuss the Construction Schedule.
3. Review required shop drawing submittals and processing.
4. Discuss cost breakdown of major bid items and progress payment processing.
5. Contractor to provide 24-hour emergency contact personnel and phone numbers.
6. Outline required field inspections.
7. Discussion to clarify any questionable areas of work.

SP-19 CONFERENCES AND COMMUNICATIONS

At any time during the progress of the work, the District shall have the authority to require the Contractor to attend a conference including any or all of the subcontractors engaged in the work, and any notice of such conferences shall be duly observed and complied with by the Contractor.

This project will utilize Procore's (www.procore.com) project management and collaboration system for all project documentation. Applicable team members of this Contractor will be invited to, and are required to create a Procore username (email) and password if they do not already have one. This Contractor will be expected to obtain drawings, sketches, RFIs, meeting minutes, coordination drawings, change information, etc. via this application. Contractor will notify subcontractors as relevant items are added. It will be the responsibility of this Contractor to regularly check and review updated documents as they are added. Applicable team members of this Contractor are required to complete a free, one-hour contractor training certification course located at <http://learn.procore.com/procore-certification-subcontractor> within (2) two weeks following contract execution. There will be no cost to this Contractor for use of Procore.

It is recommended that this Contractor provide mobile iOS or Android devices with the Procore App installed to at least one individual on-site to provide real-time access to current posted drawings, specifications, RFIs, submittals, project documents, as well as any deficient observations or punch list items. Providing mobile access will improve communication, efficiency, and productivity for all parties.

SP-20 CONTRACTOR'S WORK AREA

Contractor shall limit its work area within the public right-of-way and/or the existing roadway.

No storage of equipment or materials will be allowed within the street right-of-way, except items for work to be prosecuted that workday. The Contractor shall coordinate the storage of his equipment, vehicles, and material prior to beginning of construction and in accordance with the County of Los Angeles permit requirements.

CVWD will allow the Contractor to store vehicles and equipment at Ocean View Reservoir, located at the intersection of Castle Avenue and Ocean View Avenue. The contractors shall cleanup and restore the site to its original condition prior to final payment.

The Contractor may acquire at his own expense, sites of adequate size and access to facilitate Contractor's own operations storing and staging of materials, equipment, and personnel. The Contractor shall meet all conditions and requirements of the property owner. The Contractor shall be responsible for securing the site to protect his property from vandalism and loss and to protect the public from possible injury.

The Contractor shall inform the Owner of his activities for obtaining additional work area prior to construction. The Contractor is advised that permission must be obtained in writing for the additional work area from the property owner by the Contractor for use prior to construction. In obtaining such additional work area, the Contractor shall obtain all necessary permits and comply with local ordinances and regulations. The Contractor is responsible for any rents, fines, damages, and restoration costs associated with the additional work area. The District shall be furnished a copy of the written agreement with the affected property owner prior to using the additional work area. The agreement shall contain a written release statement approved by the District and shall be executed by the property owner that all work including restoration is to be the owner's satisfaction and is complete. The District shall be provided with a copy of a written release from the property owner releasing the Contractor from any future claims prior to filing the Notice of Completion.

SP-21 TRAFFIC CONTROL AND ACCESS

The Contractor shall provide traffic control and access in accordance with the County of Los Angeles Traffic Control requirements, the W.A.T.C.H. handbook, latest edition, and the California Manual on Uniform Traffic Control Devices. The Contractor shall be fully responsible for the adequacy of any traffic plan utilized, for conformance with his intended construction schedule and staging and to provide for its proper implementation. See Technical Provision Section T-7, Traffic Control for detailed requirements.

The Contractor shall maintain access to all driveways for residences, business and schools during the installation of the water main. At the end of each working day, the Contractor shall install steel plate over all open trenches. In addition, the Contractor shall A.C. patch around the edge of each steel plate in accordance with the County of Los Angeles permit requirements.

SP-22 EXCAVATION/SHORING

The Contractor shall submit to the District for acceptance, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5 feet or more in depth.

The plan shall be prepared and signed by a registered civil or structural Owner licensed in the State of California. As a part of the plan, a note shall be included stating that the registered Owner certifies that the plan complies with the CAL/OSHA Construction Safety Orders, or that the registered civil or structural Owner certifies that the plan is not less effective than the shoring, bracing, sloping, or other provisions of the Safety Orders.

The detailed plan showing the design of shoring, etc., which the Contractor is required to submit to the District for acceptance in advance of excavation will not be accepted by the District if the plan is based on subsurface conditions which are more favorable than those revealed by the investigations made by the District or their sub-consultants; nor will the plan be accepted if it is based on soils related design criteria which is less restrictive than the criteria set forth in the report on the aforesaid investigations of subsurface conditions.

The detailed plan showing the design of shoring, etc. shall include surcharge loads for structures, for spoil banks, for construction equipment and other construction loading. The plan shall indicate for all trench conditions the minimum horizontal distances from the side of the trench at its top to the near side of the surcharge loads.

Nothing contained in this article shall be construed as relieving the Contractor of the full responsibility for providing shoring, bracing, sloping or other provisions, which are adequate for worker protection.

SP-23 CONSTRUCTION SCHEDULE AND SEQUENCING

The Contractor shall submit a construction schedule to the District for approval a minimum of five (5) calendar days prior to commencing of any work. The owner will not issue Notice to Proceed until reviewing and approving construction schedule. Schedule may be bar chart or CPM style. Schedule may be on a weekly progress basis showing line item activities of work by the Contractor. District may review the schedule and may require the Contractor to adjust to the requirements of the District.

SP-24 PROJECT SITE CLEAN

Contractor shall clean all streets of debris, gravel, dirt excess A.C. pavement and other material at the end of each working week and before any district observed holiday. In addition, the job site must be in a clean and neat order at the end of each workday.

SP-25 DAMAGE TO EXISTING UTILITIES

If Contractor damages or destroys any existing utility services, the District or the utility agency will repair the damage utility and the cost of the repair will be back charged to Contractor and withheld from the next progress payment or the final payment. If Contractor damages or destroys any existing utility on private property, the Contractor shall repair it at no additional cost to the District.

SP-26 LINES, GRADE AND MEASUREMENTS

Owner will provide alignment of the centerline of trench in the field. The Contractor will be held responsible for constructing the work to the lines and grades shown on the drawings. The contractor shall physically mark the layout of the trench in white chalk paint and maintain proper grades per plan. The owner will approve the contractor's layout in the field. Saw cutting or excavating of any kind is allowed before approval of layout.

The Contractor shall preserve all benchmarks, monuments, survey marks, and stakes and, in case of their removal or destruction by his employees, he shall be liable for the cost of their replacement. The Contractor shall be responsible for replacement of any County of Los Angeles survey monuments in accordance with the governing agency requirements.

SP-27 STORM WATER AND BEST MANAGEMENT PRACTICES

The Contractor shall be responsible for implementing a storm water pollution plan and to utilize best management practices (BMP) when de-watering the pipeline, flushing the pipeline, de-watering the trench and any other operation that discharges water to the storm drain. The best management practices required to be used by the Contractor shall be as follows:

1. Contractor shall not be allowed to wash down A.C. saw cuttings into the storm drain. Contractor shall vacuum and dispose of A.C. saw cuttings to an approved location.
2. Contractor shall install and maintain sandbag de-silting basins around each catch basin in the construction area. Contractor shall be required to remove trapped sediment to an approved location a minimum of once a week or sooner if flow is impeded.
3. Contractor shall de-chlorinate with sodium thiosulfate any chlorinated water that is discharged from the pipelines during the entire construction period.
4. Contractor shall regularly sweep the construction area to prevent dirt and rocks from entering the storm drain system.

TECHNICAL PROVISIONS

T-1 GENERAL

These Technical Provisions cover construction activities, installation, materials, and testing for the contract drawings entitled: **Construction of 6-inch and 12-inch Water Main on the 2600-2700 blocks of Orange Ave. and the 5000 block of El Adobe Ln., within the County of Los Angeles, California.**

REFERENCES

In these Technical Provisions, the wording "Standard Specifications" refers to the latest edition of the Standard Specifications for Public Works Construction (SSPWC), also known as the "Green Book". Additional standards of the American Water Works Association (AWWA), American National Standards Institute (ANSI), American Society for Testing and Materials (ASTM), American Society of Mechanical Engineers (ASME), and American Welding Society (AWS) are incorporated by reference and form a part of these Technical Provisions. In any case of conflict, the requirements of this standard shall prevail. The following is a list of the standards used in these Technical Provisions:

ANSI B1.1	Unified Inch Screw Threads (UN and UNR Thread Form)
ANSI B18.2.1	Square & Hex Bolts & Screws Inch Series
ASTM A283	Standard Spec for Low & Intermediate Tensile Strength Carbon Steel Plates
ASTM A307	Specification for Carbon Steel Externally Threaded Standard Fasteners
ASTM C31	Standard Method of Making and Curing Concrete Test Specimens in the Field
ASTM C39	Standard Test Method for Compressive Strength
ASTM C94	Standard Specifications for Ready-Mixed Concrete
ASTM C136	Standard test Method for Sieve Analysis of Fine and Course Grained Aggregates
ASTM C143	Standard Test Method for Slump of Portland Cement Concrete
ASTM C172	Standard Method of Sampling Freshly Mixed Concrete
ASTM C1064	Standard Test Method for Temperature of Freshly Mixed Concrete
ASTM D1557	Standard Test Method for Tensile Strength and Young's Modulus Fibers
AWS B2.1	Welding Procedure and Performance Qualification
AWS D1.1	Structural Welding Code - Steel
AWWA C200	Steel Water Pipe – 6 inch and Larger
AWWA C205	Std. for Cement-Mortar Protective Lining & Coating for Stl. Water Pipe 4" & Larger
AWWA C206	Standard for Field Welding of Steel Pipe
AWWA C207	Standard for Steel Pipe Flanges for Water Service Sizes 4 inch through 144 inch
AWWA C208	Standard for Dimensions for Fabricated Steel Water Pipe Fittings
AWWA C210	Liquid-Epoxy Coating for the Interior and Exterior of Steel Water Pipeline
AWWA C218	Coating the Exterior of Aboveground Steel Water Pipelines and Fittings
AWWA C219	Bolted, Sleeve-Type Couplings for Plain End Pipe
AWWA C503	Standard for Wet-Barrel Fire Hydrants
AWWA C509	Standard for Resilient-Seated Gate Valves for Water and Sewerage Systems
AWWA C512	Air Release, Air/Vacuum and Combination Air Valves for Waterworks Services
AWWA C651	Standard for Disinfecting Water Mains
AWWA C901	Standard for Polyethylene (PE) Pressure Pipe and Tubing, 1/2 inch through 3 In inch for Water Services

T-2 EARTHWORK

A. General:

- 1) The Contractor shall perform all excavation, trenching, compaction, and backfilling necessary or required for the construction of the pipelines, service laterals, and appurtenances, as shown on the drawings. Excavations shall include the removal and **disposal** of all materials of whatever nature encountered, including all obstructions of every nature that would interfere with the proper construction and completion of the work. The Contractor will encounter rocks of various sizes within the trench and will be required to remove the material to an approved location.
- 2) The maximum length of open trench shall not be greater than two hundred (200) feet or the distance to accommodate the amount of pipe installed in a single day, whichever is less. The distance is the collective length at any location, including open excavation, appurtenance construction, pipe laying, backfill which has not been temporarily repaved, and necessary repairs to existing utilities that may have been damaged by the Contractor during construction of the pipeline.
- 3) The work shall also include all pumping, ditching, and other required measures for the removal or exclusion of water from all excavations. It shall be the responsibility of the Contractor to dispose of all water released from the District's mains, including, but not limited to water released as a result of valve leakage during system shutdown using best-management practices. To prevent harmful pollutants from being washed or dumped into municipal separate storm sewer systems (MS4s), certain operators are required to obtain National Pollutant Discharge Elimination System (NPDES) permits and develop storm water management programs (SWMPs) Contractor must refer to Section 7 "Non-Storm Water Management BMPs in the LACDPW Construction Division's "Construction Site Best Management Practices (BMPs) Manual".
- 4) Filtration or retention in settling basin(s) shall treat surface runoff water containing mud, silt, or other deleterious material due to the construction of this project. The basin(s) shall be sufficient to prevent such material from migration into the storm drain system per the County of Los Angeles permit requirements where applicable.
- 5) The Contractor shall be responsible for taking care of drainage water from the construction operations, storm water and wastewater from reaching the right of way from any source, so that no damage will be done to the trench, pipe, or other structures. The Contractor shall be responsible for any damage to persons or property on or off the right of way due to such drainage water, or to the interruption or diversion of such storm or wastewater on account of the Contractor's operations.
- 6) All earthwork including materials, excavation, and backfill will conform to SSPWC, Sections 5, 200, 209, 211, 300, 301, 302, 306, or any other relevant section.

B. Excavation:

- 1) All excavation work, including any required shoring or other provisions for worker protection, shall be performed in accordance with these Technical

Provisions, the applicable provisions of Subsection 5-7 of the SSPWC, the "Construction Safety Orders" issued by the State of California Division of Industrial Safety, and the County of Los Angeles Road Excavation Permit.

- 2) Excavation for the pipelines, service laterals, and appurtenances shall be in open-cut trenches with vertical sides and shall be excavated to a depth of a minimum of four (4) inches below an established grade line based on the outside diameter of the pipe.
- 3) Should the contractor elect to tunnel or jack any portion of the pipeline, laterals, or other appurtenances, he shall first obtain approval from the Owner, obtain any necessary permits, and pay any associated cost.
- 4) If it becomes necessary to excavate more than four (4) inches below the established grade line in order to remove rock, hardpan, shale, other interfering objects or due to Contractor error, the void shall be filled with pipe bedding material and compacted in accordance with SSPWC, Section 306-6.1 and these Technical Provisions Section T-2.C at no additional cost to the Owner.
- 5) The Contractor shall sawcut the existing A.C. pavement or concrete. Pavement breakers or stompers **shall not be** allowed. Contractor shall vacuum or remove AC or concrete cuttings during the sawcutting operation and shall not be allowed to wash AC or concrete cuttings into the storm drain system per the County of Los Angeles permit requirements.
- 6) All native material excavated from the proposed pipe trench excavation shall become the property of the Contractor and shall be disposed of outside the limits of work in accordance with the applicable ordinances and regulations of governmental agencies having jurisdiction. Costs of said disposal shall be the sole responsibility of the Contractor and no additional compensation shall be made therefor. It shall be the responsibility of the Contractor to locate suitable disposal sites and obtain permits or other required authorizations.

C. Pipe Bedding:

- 1) Pipe bedding shall be defined as that material supporting, surrounding, and extending from 4 inches below the bottom, to 12 inches above the top of pipe. Bedding material shall be sand, shall be free from clay and organic materials, and shall be of such particle size that 90-100% will pass a No. 4 sieve and not more than 5% will pass a No. 200 sieves performed in accordance with ASTM C136 and SSPWC, Section 306-6.1.
- 2) For pipe bedding material, a sample of pipe bedding material shall be submitted to the Owner before construction. The Owner will perform a sieve analysis in accordance with ASTM C136 to determine if the pipe bedding material meets the requirements defined above. If sample fails to meet requirements, the contractor shall re-submit a sample until requirements are met.

D. Backfill:

- 1) Backfill shall be considered as starting 12 inches above the pipe or conduit to the street subgrade or finished ground. Backfilling operations shall conform to the applicable provisions of SSPWC, Subsection 306-1.3 and Subsections 306-12

- 2) **Backfill material shall be imported Crushed Miscellaneous Base (CMB),** and contain no rocks or stones greater than two (2) inches in any dimension. Broken pavement or similar materials shall not be allowed for backfill. If at any time the contractor needs to change backfill distributors, the owner must be notified immediately for approval and re-testing prior to backfilling. Backfill material shall be imported and approved by the Owner prior to placement of backfill.
- 3) Backfill of Narrow Trenches. Narrow trenches are defined as 10 inches (250mm) or less in width. Backfill for narrow trenches shall be placed in accordance with 306-1.12.1 except as modified herein. Narrow trenches shall be backfilled by the use of trench backfill slurry conforming to 201.-1 or controlled low strength material (CLSM) conforming to 201-6, unless otherwise approved by the County of Los Angeles Inspector. When narrow trenches are backfilled using trench backfill slurry or CLSM, the Contractor may place the material in a single lift using vibrators for consolidation. The top of the trench backfill slurry or CLSM shall be placed flush with the top of the pavement when steel plates are not placed. The trench backfill slurry or CLSM shall be cut back to a minimum of 1-inch (25mm) but no greater than 8 inches (200mm) below the existing pavement prior to placing permanent paving. For Trenches 6 inches (150mm) or less in width, the compacted thickness of asphalt concrete shall be 3 inches (75mm). The trench backfill slurry maybe required by the County of Los Angeles inspector under Curb and Gutters.
- 4) Backfill within the pipe trench shall be compacted to ninety-five percent (95%) of relative compaction from the bedding material to the street subgrade or finished ground. Hand-directed mechanical tamping or other similar approved methods shall be permitted when cover over the top of pipe is greater than twelve (12) inches. Subgrade preparation and operations shall conform to the applicable provisions of SSPWC, Section 301, Subsection 301-1.
- 5) Backfill materials shall be compacted in maximum lift thickness of eight (8) inches. Use of equipment, which compacts by impact, vibration, or rolling, will not be permitted until cover over the pipe is in excess of twelve (12) inches. The depth of the compacted material on each side of the pipe shall be approximately the same during the entire backfilling operation.
- 6) The moisture content of the soil as determined by the required soil density shall be uniformly distributed throughout each layer. All backfill above the pipe bedding shall be compacted in accordance with SSPWC, Section 306-12.
- 7) Compaction of trench backfill by ponding or jetting will be permitted when, as determined by the Owner or the Owner's representative, the backfill material is of such character that it will be self-draining when compacted and that foundation materials will not soften or be otherwise damaged by the applied water and no damage from hydrostatic pressure will result. Ponding and jetting methods shall be conducted in accordance with SSPWC, Subsection 306-12.4.1. Water jetting may be supplemented by the use of vibratory or other compaction equipment when necessary to obtain the required compaction in accordance with SSPWC 306-12.3.
- 8) Where supports of any nature are used in the trench, said supports shall all be removed unless otherwise approved by the Owner. Where tight sheeting is used, it shall be removed systematically as soon as practicable after backfilling by

pulling alternate pieces along each side of trench, alternating also from one side of trench to the other.

- 9) All surplus excavated material not used in the compacted backfill of the pipe trench shall be disposed of by the Contractor at his own expense. It shall be the responsibility of the Contractor to locate such suitable disposal sites and obtain permits or other required authorizations.
- 10) For backfill material, a sample of backfill material shall be submitted to the Owner before construction. The Owner will perform a sieve analysis in accordance with ASTM C136 to determine if the pipe backfill material meets the requirements defined above prior to any backfilling.

E. Compaction Testing:

- 1) Backfill within the pipe trench shall be compacted to ninety-five percent (95%) of relative compaction from the bedding material to the street subgrade or finished ground. Compaction shall be measured relative to the ASTM D1557 laboratory maximum density and in accordance with SSPWC, Subsection 211-1.
- 2) **Compaction tests will be the responsibility of the Owner.** A certified soil-testing laboratory will perform compaction tests. The Owner shall determine the location and number of compaction tests required. Compaction tests shall be performed **every 300 linear feet of pipe and at every other lateral.** At each test location, one test shall be performed between the bedding material and the sub grade. Additional tests, as deemed necessary by the Owner, shall be performed at no additional cost to Owner.
- 3) **The Contractor shall supply samples of the CMB** to Owner from the supplier a minimum of 24 hours prior to placement of backfill. If the contractor does not supply samples in a timely manner, then the material and any backfilling **will be rejected, and the Contractor will replace the** CMB at no additional cost to the Owner.
- 4) The Contractor shall provide twenty-four (24) hour notices to Owner for any compaction tests. Contractor shall make available equipment and manpower to assist the Owner/Owner's representative with compaction testing.

F. Basis of Payment:

Excavation & Backfill will be paid for at the unit price bid per lineal foot of pipe trench excavated and backfilled per Bid Sheet Item No. 1 - Excavation & Backfill. This unit price per lineal foot of pipe trench shall constitute full compensation for excavation, sawcutting and disposal of AC pavement and concrete, hauling, and disposal of native material, trench shoring, furnishing, placing imported bedding and backfill materials, trench maintenance, dewatering, assisting with compaction tests and all labor, equipment, and incidentals required to complete the work.

T-3 CONCRETE CONSTRUCTION

- A. General: The Contractor shall perform all cement concrete work necessary to complete the project, including street, sidewalk, driveway, & curb replacement, thrust blocks, and miscellaneous concrete work. All concrete materials, placement, curing, & testing methods are to conform to SSPWC, Sections 200, 201, & 303.

- B. Materials: Concrete shall conform to ASTM C94. Thrust block shall have a minimum 28-day compressive strength of 2000 PSI. Street, sidewalk, driveway, and curb pavement replacement and miscellaneous concrete work shall have a minimum of 28-day comprehensive strength of 3000 psi.
- C. Placement:
- 1) Concrete shall be carefully deposited in such a manner as not to separate the ingredients. Concrete shall not be permitted to fall more than 6 feet without the use of pipes or tremies. Pours made in hot weather shall be given special protection to ensure that concrete will not dry out too rapidly, both during and after placement.
 - 2) Effective consolidation shall be obtained by vibration, agitation, spading, and rodding until the concrete is free from voids, air bubbles, or rock pockets. Vibrators shall not be used to transport concrete within the forms.
 - 3) Contractor shall be responsible for repair and/or replacing any existing or new concrete damaged by vandalism or construction activity. See Technical Provision Section T-4, Trench Resurfacing for additional requirements.
- D. Curing: All concrete shall be adequately protected from injurious action by sun, wind or freezing for a period of 10 days after placement in accordance with curing methods of the SSPWC, Subsection 303-1.10.
- E. Finishes: For street, sidewalk, driveway and curb pavement replacement, the Contract shall match the existing concrete finish nearest to the concrete replacement. Contractor shall meet with the County of Los Angeles inspector 24-hours prior to placement of concrete to confirm type of finish. If finish does not adhere to the County of Los Angeles permit requirements, Contractor will replace that section of replacement concrete at no additional cost to the Owner.
- F. Testing: **Concrete testing will be the responsibility of the Owner.** Concrete shall be sampled and tested in accordance with SSPWC, Subsection 201-1.1.5. Each batch of concrete shall be sampled according to ASTM C172, C143, and C1064 and a copy of the batch ticket submitted to the Owner. One compressive strength test, ASTM C31, and C39 shall be performed for every 100 cubic yards of concrete placed.
- G. Basis of Payment:
- 1) The basis of payment for concrete construction, furnishing and placing materials, formwork, finishing work, concrete testing, steel reinforcement, labor, equipment, and incidentals required to complete the work will be included as part of Bid Sheet Items No. 2 -Trench Resurfacing. These unit prices shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.
 - 2) No payment shall be made for sidewalk, curb and gutter, driveway or curb reconstruction required because of damage by Contractor.

T-4 TRENCH RESURFACING AND PAVEMENT REPLACEMENT

- A. General: The Contractor shall reconstruct all asphaltic concrete (AC) pavement, concrete and dirt areas damaged or removed by the installation of the water system improvements. Trench resurfacing and replacement of AC and concrete pavement shall conform to

SSPWC, Subsections 306-13, 314-1, 403-1, & 400 and the County of Los Angeles Road Excavation Permit requirements where applicable.

- B. Scope: Furnish materials, equipment and perform labor required to execute this work as specified and as necessary to complete the contract, including, but not limited to these major items:
- C. Providing placement of traffic control including barricades, signs, flagmen, and safety devices as necessary to maintain safe traffic control in accord with the latest W.A.T.C.H. handbook Section T-7 and the latest edition of the California Manual on Uniform Traffic Control Devices M.U.T.C.D.
- 1) Placement of temporary asphaltic concrete (AC) pavement.
 - 2) Removal and disposal of existing temporary AC pavement.
 - 3) Preparing subgrade, sawcut trench edges and edges of excavations before placement of AC pavement or concrete pavement.
 - 4) Placement, spreading, compacting and surfacing of AC pavement or concrete pavement per the County of Los Angeles Road Excavation Permit requirements (See Appendix A).
 - 5) Adjusting all valve cans, sewer manholes, metal frames and covers to the grade of the finished pavement.
 - 6) The job site must be clear and free of all loose asphaltic concrete or construction debris during and after construction by an approved method. See section SP-13.
 - 7) All Portland cement concrete (PCC) and AC pavements, gutters, driveways, curbs, and sidewalks, excavated or damaged shall be removed between neat vertical cuts, of an approved type or in the case of curbs, gutters, and sidewalks, between vertical cuts made by acceptable methods at the nearest score marks beyond the damaged portion as required in each case by the County of Los Angeles, or Owner.
 - 8) All driveways, private roads, parking lots and other facilities not under the jurisdiction of a public authority, excavated or damaged by the Contractor, shall be reconstructed by the Contractor with the same kinds of materials as used in the original construction and to the same thickness and other applicable dimensions, as nearly as may be, in such manner as to restore the affected portions of all said driveways, parking lots and other facilities to a sound and serviceable condition satisfactory to the District; provided that the thickness of replaced concrete driveways shall be not less than 4 inches.
 - 9) The improvements to be restored by the Contractor shall include all pavements and other classes of surfacing whether in main roadways, parking lots or in shoulders, all curbs, gutters, driveways, sidewalks, drainage structures, lighting standards, walls, fences and any other surface improvements removed or damaged by the Contractor in course of his operations under contract.
 - 10) In order to obtain a satisfactory junction with adjacent surfaces, the Contractor shall cut back and rim the edges so as to provide a clean, sound, vertical joint before permanent replacement of an excavated or damaged portion of pavement,

gutter, driveway, curb, or sidewalk. Damaged edges of pavement within street right-of-way or parking lot areas shall be trimmed back by saw cutting.

- 11) Wherever the cut line of the pavement is within 24 inches of the curb face or the gutter line, as the case may be, the pavement shall be removed to the curb face or gutter line and replaced in kind. Costs for additional pavement removal will be paid per the contract unit price.
- 12) Wherever sidewalks, parking lots, driveways, or private roads have been removed for purposes of construction, the Contractor shall place suitable temporary sidewalks, driveways, or private roads promptly after backfilling and shall maintain them in a satisfactory condition for the period of time fixed by the District and authorities having jurisdiction over the affected portions before proceeding with final restoration or, if no such period of time is so fixed, shall so maintain said temporary sidewalks, driveways, or private roads until the final restoration thereof is made.
- 13) Wherever Traffic Striping, Curb and Pavement Markings, and Pavement Markers have been removed for purposes of construction, the Contractor shall refer to Section 314 and subsections 314-4 thru 314-5 of the SSPWC for replacement.

D. Materials:

- 1) Materials shall conform to the requirements of the County of Los Angeles Road Excavation Permit requirements where applicable (See Appendix A).
- 2) AC Pavement shall be per the County of Los Angeles Road Excavation Permit requirements and shall meet the requirements of Section 203-6 of the SSPWC. The viscosity grade of paving asphalt shall be AR4000. The County of Los Angeles inspectors shall determine the exact proportions of aggregate and the amount of asphalt binder.
- 3) For bidding purposes, the Contractor shall assume the AC mix design and limits will be:
 - 3/4" Base Course: Type B PG-64-10 from the bottom of the existing pavement section plus 1" to within 1-1/2" of the existing surface.
 - 3/8" Surface Course: Type C2 PG-64-10 from the bottom of the base course to the top of the existing surface.
 - 6"-8" AC Pavement Thickness.
- 4) All paving equipment shall conform to the County of Los Angeles road excavation permit requirements and Section 39-5 of the State of California Standard Specifications. Aggregate base for the pavement structural section shall be either Crushed Aggregate Base (CAB) or Crushed Miscellaneous Base (CMB) per County of Los Angeles road excavation permit requirements.

E. Field Conditions: Trench width may vary greatly due to the excavation and removal of rocks. The bidder shall verify actual field conditions and carefully examine the site of the work contemplated. It will be assumed that the bidder has investigated, and is satisfied, as to the conditions to be encountered.

F. Requirements:

Temporary AC pavement resurfacing shall be minimum 2-inches thick and placed wherever excavation is made through pavement, sidewalk, or driveways. Contractor shall be required to install temporary AC pavement immediately after trench backfill is completed. Permanent resurfacing shall comply with the County of Los Angeles Permit requirements where applicable.

Contractor shall schedule final trench resurfacing with two weeks after completion of final water main connection. Contractor shall schedule final 1-½" AC Surface Course within 24 hours of completing the Base Course.

- G. Inspection: The Contractor shall notify the Owner and the County of Los Angeles a minimum of 48 hours prior to starting work.
- H. Method of Measurement: The actual area (square footage) of trench resurfaced will be the basis of measurement. Trenches intersecting the pipeline (primary) trench for service laterals and appurtenances shall be measured in lineal feet beginning at the join line formed at the pipeline trench. A final job walk should be scheduled with the owner prior to measuring actual area.
- I. Basis of Payment:
 - 1) The trench resurfacing will be paid for at the unit price bid per square foot of trench resurfaced, Bid Sheet Item No. 2 - Trench Resurfacing. This unit price shall constitute full compensation for furnishing and placing materials required and completing the pavement restoration in accordance with the County of Los Angeles Road Excavation Permit requirements where applicable. Requirements, including installation and removal of temporary AC, preparation of subgrade, sawcutting, tack coat, AC base course, AC finish course, concrete work and appurtenances. The unit price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.
 - 2) Owner shall not compensate Contractor for pavement damage through fault of the Contractor's operation. These areas will be determined in the field by the inspector.

T-5 WATER MAIN MATERIALS, INSTALLATION, TESTING AND DISINFECTION:

A. General:

- 1) The water main to be installed under these specifications and contract drawings shall be steel pipe with cement mortar lined and cement mortar coated (CML & CMC) as specified on drawings, which utilizes a full circle weld on each joint except where indicated in the following sections or on the plans.
- 2) **The Owner will furnish standard 20-foot lengths of 4-inch, 6-inch, 8-inch and 12-inch diameter CML & CMC steel pipe. (See Appendix B for material list)** The Contractor shall coordinate with the pipe manufacturer for the time and location of pipe delivery. Owner will provide company name and contract person for the contractor. Owner must approve the storage location for pipe at jobsite.
- 3) **The Contractor shall furnish all fittings and special sections of pipe.** All pipe, fittings, and specials furnished by the Contractor will require an affidavit of compliance with AWWA Standard C200. Shop drawings must be submitted per General Provisions Section 4-8.

- 4) **Contractor shall pothole each connection point** prior to the beginning of construction. The potholing of the connection shall include verifying the horizontal and vertical location of the proposed connection point and to verify the outside diameter of the existing pipe. The Contractor shall notify the Owner in writing, if any discrepancies arise. The cost for potholing shall be included as part of Bid Sheet Item No. 3, 4, 5, and 6 for Steel Water Pipeline and appurtenant construction.

B. Standard Steel Water Pipe:

- 1) Steel water pipe furnished by the Owner shall be nominal 4-inch, 6-inch, 8-inch and 12-inch diameter, cement mortar lined and cement mortar coated, where noted on the plans and per table below. Required hydrostatic testing of the pipe shall be conducted at the last point of loading before delivery to the Owner.
- 2) Pipe Diameters: Pipe diameters specified by the District shall be in accordance with the following table:

Plan Call-Out	Outside Wall Shell Dia.	Steel Thickness	Lining Thickness
12" CML & CMC	12.750"	10 ga.	1/4"
6" CML & CMC	6.625"	10 ga.	1/4"
8" CML & CMC	8.625"	10 ga.	1/4"
4" CML & CMC	4.500"	10 ga.	1/4"

C. Welded or Flanged Steel Water Pipe, Fitting and Special Sections:

- 1) **The Contractor shall supply welded or flanged steel pipe fittings and specials sections.** Welded or flanged steel pipe, fittings, and specials shall be fabricated of 10 gauge (0.1345-inch wall thickness), Grade D steel plate meeting ASTM A283/A283M specifications and fabricated according to AWWA Standard C200 except where noted on the plans. All outlets, 4-inch diameter and larger, shall be provided with reinforcing designed for a minimum water working pressure of 225 psi or 1.5 times the working pressure. All welded steel pipe, fittings, and specials shall undergo required hydrostatic testing at the last point of loading before delivery to work site unless otherwise allowed by Owner.
- a) Fittings and Special Sections: shall be of equal strength to the adjoining steel pipe. Fittings and special sections shall be cement mortar lined and cement mortar coated in accordance with paragraphs T-5C (9) and (10) of these Technical Provisions, dimensions of fittings and specials shall conform to AWWA Standard C208 and shall be provided with bell ends for lap welding, except where noted on the plans.
- b) Special Sections: Bends, crosses, tees, reducers, or other special sections as indicated on the contract drawings.
- 2) Unsymmetrical closure of the spigot into bell rings will be permitted by maintaining the normal one-fourth (1/4) inch joint space on one side of the joint and increasing the joint space to a maximum of three-fourth (3/4) inch on the opposite side.

- 3) Where a smaller length of curvature is required than can be accommodated by unsymmetrical closure, sections of pipe with beveled ends may be laid on curved alignment, unless fabricated bends are shown on the contract drawings.
- 4) The spigot end of angle or beveled pipe may have maximum bevel of five degrees measured from a plane perpendicular to the pipe axis. Straight or beveled pipe sections of less than standard length for the purpose of laying pipe on a smaller radius of curvature than can be accommodated by standard pipe, or for the purpose of making closures, will be permitted.
- 5) Where deflection angles are indicated as greater than that which can be installed by a single joint as defined above, bends shall be constructed in accord with Technical Provision paragraph T-5C (2).
- 6) Flanges:
 - a) General: Materials, dimensions, and drilling of flanges for pipe and fittings shall be in accordance with standard Class D, 150 psi hub type, **slip-on flanges** and/or prefabricated and meet the requirements of AWWA Standard C207. Slip-on flanges shall be forged steel and shall be furnished with raised faces suitable for use with full-faced non-asbestos gaskets. All pipe flanges shall be attached with bolt holes straddling the vertical axis of the pipe unless otherwise shown on the contract drawings. Attachment of the slip-on flanges to the pipe shall conform to the applicable requirements of AWWA Standard C207.
 - b) Flange Gaskets: Gaskets for flanged joints shall be full-face type, non-asbestos ring gasket. Gaskets for blind flanges shall cover the full face of the blind flange and shall be cemented to inside surface of blind flanges.
 - c) Flange Bolts: Flange bolts shall be carbon-steel and conform to AWWA Standard C207 and ASTM A307. Bolt heads shall be hexagonal, and nuts shall be cold-pressed, semi-finished, and hexagonal. Bolt and nut dimensions shall be in accordance with ANSI B18.2.1. Bolts and nuts shall be threaded in accordance with ANSI B1.1.
 - d) Bonded Flanged Connections: The Contractor shall install a #6 insulated copper wire to bond between flanges. The Contractor shall remove existing coating as required from pipe to facilitate installation. Clean steel by wire brush method and grind to bright metal prior to welding. Install wires using the Exothermic Welding Process in accordance with Erico Eng. Spec. A160-A05. Coat each weld with a Royston "Handy Cap" No. 2 weld cover and restore pipe exterior coating per T-5 of the Technical Provisions.
- 7) Welding: All fabrication welding shall be done by welders qualified under Sec. IX, part A, of the ASME Boiler and Pressure Vessel Code or American Welding Society B2.1.
- 8) Shop Testing of Special Sections: Upon completion of the welding of special sections but before lining, each steel plate section shall be tested by nondestructive or hydrostatic methods as provided in AWWA Standard C200.

Hydrostatic testing shall be conducted at a pressure not less than 225 psi or 1.5 times the working pressure.

- 9) Interior Linings: Cement mortar lining shall conform to requirements of AWWA C205. Cement mortar lining thickness shall be in accord with Technical Provision paragraph T-5B. Lining thickness tolerance shall be 1/16 inch to 1/18 inch of the specified thickness. An affidavit of compliance with AWWA Standard C205 for all pipe, fittings, and special sections will be required.
- 10) Exterior Coatings:
 - a) Cement Mortar Coating - The exterior surfaces of pipe, special sections, connections, and fittings shall be protected with cement-mortar in accordance with AWWA Standard C205, except as noted on the construction plans.
 - b) An affidavit of compliance with AWWA Standard C205 shall be required for the exterior coating of all pipe, special sections, connections, and fittings.
- 11) Field Mortaring of Interior Joints: A tight-fitting swab or squeegee shall be inserted in the joint end of the pipe to be joined. When ready to insert the spigot, the face of the cement mortar lining at the bell shall be coated with a sufficient amount of stiff cement mortar to fill the space between adjacent mortar linings of the two pipes to be joined. Immediately after joining the pipes, the swab or squeegee shall be drawn through the pipe to remove all excess mortar and expel it from the open pipe end.

General Sealant-79 (GS#79) may be used in place of mortaring interior joints and must be approved by the owner or owner's field inspector. See Appendix C for technical data and installation details.
- 12) Interior Joints: Inside joints shall be constructed in accord with AWWA Standard C205, Appendix A.

D. Pipe Installation:

- 1) Potholing of Existing Facilities: Contractor shall pothole each connection point and utility crossing locations as shown on the construction drawing prior to the beginning of construction.
 - a) The potholing of the connections shall include verifying the horizontal and vertical location of the proposed connection point and depth of existing utilities. In addition, verify the outside diameter of the existing pipe.
 - b) The potholing of existing utilities by contractor shall verify depths from finished surface.
 - c) The Contractor shall notify the Owner in writing, if any discrepancies arise, prior to construction.
- 2) Handling and Transporting Water Pipe:

- a) The Owner shall furnish the steel water pipe; however, the Contractor shall coordinate the time and location of delivery of the pipe from the pipe manufacturer to the jobsite.
- b) The Owner must approve the storage location for pipe at the jobsite.
- c) During loading, transporting, and unloading, every precaution shall be taken to prevent damage to the pipe.
- d) After application of exterior coating, the pipe shall be handled only by use of approved hooks on the ends, by fabric slings or other approved means.
 - i. Wire rope shall not be used unless encased in heavy rubber hose, and chain slings shall not be used in any case.
 - ii. Trucks and trailers used for transportation of pipe shall be provided with padded bolsters curved to fit the outside of the pipe.
 - iii. Padding sufficiently stiff and thick to prevent scoring of the exterior shall be used under the chains.
 - iv. The pipe shall be braced at both ends to prevent damage from excessive deformation during handling and delivery.
- e) Cement mortar coated pipe shall not be placed directly on rough ground but **shall be supported on sandbags** or in an approved manner to protect against injury to the coating at whatever location it is stored.
 - i. Rolling the pipe on the exterior surface will not be permitted, but the pipe may be rolled on sleepers in contact with the bare ends only of the pipe.
 - ii. Any pipe section that becomes damaged shall be repaired as directed by the Owner.
 - iii. If, in his opinion, satisfactory repairs can be made; otherwise, it shall be replaced with an undamaged section of steel pipe, at the Contractor's expense.
- f) Plastic end caps shall be securely fastened to pipe ends of completed pipe or special sections for protection of cement mortar lining and maintained until installation. All pipe section shall be cleaned and rinsed with clean portable water before installation.
- g) Contractor shall remove the exterior cement mortar coating by using methods that shall not damage the integrity of the interior coating. If the Contractor damages the interior coating of a section of pipe, the Contractor shall replace the entire section of pipe at no additional cost to the Owner.

3) Pipe Welding:

- a) Pipe Welding: Circumferential joints in steel pipe shall be welded by use of electric arc in such a manner as to ensure a connection equally or surpassing the strength of adjacent pipe. Care shall be taken to prevent damaging of the mortar lining and coating. All field welding shall be done

in accordance with the applicable requirements of AWWA Standard C206, entitled "Field Welding of Steel Water Pipe."

- b) All shop and field welding, whether manual or by machine, shall be as specified herein. Welds to fabricate steel pipe shall be made in accordance with the requirements of the applicable reference specifications under which the pipe is fabricated as amended herein.
- c) Welds specified herein, or shown on the drawings, shall conform to the contours shown on these drawings or indicated by standard welding symbols on such drawings. Welds, when tested, shall develop a tensile strength equal to that of adjoining parent metal.
- d) Finished weld bead shall be centered in the seam, and the finished joints shall be reasonably smooth and free from depressions, cut edges, burrs, irregularities, and valleys. Each deposited layer of welded material shall be thoroughly wire brushed, and all slag, scale, and other loose material shall be removed before any additional weld metal is applied. Fillet welds shall have the full penetration into the corner of the fillet and shall be obtained with a minimum cutting back of the edge of the outside sheet. Fillet welds shall be of the size specified herein or shown on the drawings, and in any case, shall have a thickness of not less than that of the thinnest member to be joined.
- e) Welds considered by the Owner to be deficient in quality or made contrary to any mandatory provisions of these specifications, shall be removed by chipping or cutting and re-made.
- f) Weld metals shall be removed throughout its depth to expose clean base metal, but in no case shall the chipping or cutting extend into the base metal beyond the depth of weld penetration.
- g) Caulking of welds will not be permitted. Tack welds shall be removed if required by the Owner.
- h) The Owner shall have the right to request and witness the making of weld test specimens by a welder when, in the opinion of the Owner, a satisfactory weld is not being made. Specimens shall be furnished by the Contractor and a weld of the type in question shall be made. The weld specimen shall then be submitted to a test laboratory approved by the owner and subject to the appropriate test to determine the character of the quality in question. The expense of said test shall not be borne by the Contractor.
- i) The Owner shall have the right to request and witness the making of weld test specimens by a welder when, in the opinion of the Owner, a satisfactory weld is not being made. Specimens shall be furnished by the Contractor and a weld of the type in question shall be made. The weld specimen shall then be submitted to a test laboratory approved by the owner and subject to the appropriate test to determine the character of the quality in question. The expense of said test shall not be borne by the Contractor.

- j) If more than one test is to be performed, additional specimens shall be furnished by the Contractor as required. The requirements of this provision shall not be cause for a time extension nor extra cost item to the contract.
 - k) Qualifications for Welding Operators: Manual welders shall be qualified in accordance with the latest revision of Section IX of the ASME Boiler Construction Code entitled, "Welding Qualifications" or under the Standard Qualification Procedure of the American Welding Society.
 - l) All welding operators shall be qualified under paragraph U-69 of ASME Code for Unfired Pressure Vessels, or Paragraph W.451 of API-ASME Code for Standard Qualification Procedure of the American Welding Society.
 - m) Welding Filler Material: Electrodes for manual welding shall conform to the American Welding Society Standards. All welding electrodes shall be subject to the approval of the Owner.
 - n) Welding Equipment: Contractor's equipment for welding and flame cutting shall be so designed and manufactured to permit qualified welding operators to follow the procedures and obtain the results described in these specifications.
- 4) Installation:
- a) Water pipes in trenches shall be laid at a minimum depth of 36" from top of pipe to existing ground surface unless otherwise specified on construction drawings."
 - b) All water pipe installations and appurtenances shall be done in accordance with the applicable requirements of AWWA Standard C604, entitled "Installation of Buried Steel Water Pipe.
 - c) The pipe shall be laid on a prepared bed as defined in Technical Provisions Subsection T-2C. Under ordinary conditions of pipeline installation, the work shall be so scheduled that the bell end of the pipe faces in the direction of installation.
 - d) In placing pipe in the trench, the pipe shall be held by a sling at the balancing point of the section. It shall not be dragged in the bottom of the trench or bumped but shall be supported by the sling while being fitted into the adjacent pipe section.
 - e) The Contractor shall excavate bell holes in the trench as required for field welding and for wrapping exterior joints. The interior bell end of pipe shall have a bead of cement mortar applied before the joint is assembled.
 - f) After each joint is assembled, bare metal shall be recoated and repaired with cement mortar coating per Technical Provision T-5C(11).
 - g) At all times when the work of installing pipe is not in progress all openings into the pipe and the ends of the pipe in the trenches or structure shall be kept tightly closed to prevent entrance of animals and foreign

materials. All foreign matter, which may have entered the pipe, shall be removed from each length of pipe before it is jointed in place.

- h) The Contractor shall maintain the inside of the pipe free from foreign materials and in a clean and sanitary condition until its acceptance by the Owner.
- i) The Contractor shall take all necessary precautions to prevent the pipe from floating due to water entering the trench from any source. The Contractor shall assume full responsibility for any damage resulting from water entering the trench and shall at his own expense, restore and replace the pipe to its specified condition and grade if it is displaced due to floating.

5) Weld End Pipe for Field Welding:

- a) Prior to placing the weld end into the bell of the previously laid water pipe, the weld end and plain end shall be thoroughly cleaned. At each joint, gaps in the cement mortar lining and in the cement-coating exterior shall be filled with the same material as that used for the pipe. If butt straps are used for joining pipe sections, butt strap materials and the Owner or Owner's Representative shall approve welding.
- b) Weld End Joints - All joints for the water main shall receive full welds equally around the circumference of each joint.
- c) Field welding shall be made by the electric arc process in conformance with applicable requirements of AWWA Standard C206 and the ANSI/AWS D1.1-Structure Welding Code for Steel. All hand welding shall be done by welders certified in accordance with ANSI/AWS D1.1. Qualification certificates for welders and welding operators shall be submitted to the Owner.
- d) The size of welding rod used, the number of passes, and the time interval between passes shall be carefully controlled to avoid damage to the cement-mortar lining. After welding, the surfaces near the welds shall be cleaned of all dirt, scale, or welding flux and provided with protective coating. Testing for joint leaks shall be performed in accord with Technical Provision Section T-6.

6) Joining New Main to Existing Main:

- a) New mains shall be joined to existing mains as shown on the contract drawings. The time of making the connections shall be subject to approval of the Owner.
- b) If hot tapping is required, the tapping operation shall be performed by an experienced and competent firm. The only approved equipment shall be by KOPPL. Weld Nozzles shall be used so that recovery of the pipe coupon is assured.
- c) After the tapping sleeve and gate valve have been installed and before the tap is made, the Contractor shall thoroughly clean and disinfect the interior surfaces of the tapping-sleeve outlet, the gate valve, and the appropriate parts of the tapping machine with a disinfectant solution containing not

less than 200 parts per million of available chlorine. All necessary safety precautions in the use of said solution shall be observed.

- 7) Shutoff of Existing Water Main or Service Laterals: The Owner shall perform shutoff of existing water mains for connection of the new pipeline. Similarly, the Owner shall perform shutoff of service laterals at water meter connections. The Contractor shall request the Owner to perform shutdowns, **a minimum of seven (7) days in advance**. Owner shall be responsible for notifying customers, a minimum of 48 hours in advance, of customers whose water shall be shutoff. Performance of shutoffs by the Owner does not guarantee or imply an agreement to provide a complete, total stoppage of water flow.

E. Valves:

1) Gate Valves:

- a) **Resilient-seated gate valves shall be furnished by the Owner** (See Appendix B for materials list). Gate valves shall be stored at 3730 Glenwood Avenue, La Crescenta for pickup by the Contractor.
- b) Resilient-seated gate valves shall be flanged-end, counter clockwise opening with O-ring seals. The resilient-seated gate valves provided will conform to AWWA Standards C509, AWWA C515 and AWWA C550.
- c) All exposed resilient-seated gate valves shall be installed a valve nut.
- d) **The Contractor shall furnish all other materials** for valve installation such as slip-on weld flanges, gaskets, nuts and bolts per T-6(D) of the Technical Provisions.
- e) Valve cans and risers shall conform to CVWD Standard Drawing 30-01W and be furnished and installed by Contractor.

2) Installation of Buried Valves:

- a) Connect the valve to the water main, coat the flanges, apply polyethylene encasement, install bond flanged connections and place and compact the backfill to the height of the valve stem.
- b) Place block pads under the extension pipe to maintain the valve box vertical during backfilling and repaving and to prevent the extension pipe from contacting the valve bonnet. Mount the upper slip pipe of the extension in mid-position and secure with backfill around the extension pipe.
- c) Wrap buried valves in one layer of polyethylene conforming to AWWA C105, 8-mils in thickness each. Pass the one sheet of polyethylene under the valve and the coated flanges or joints with the connecting pipe and draw the sheet around the valve body, the valve bonnet, and the connecting pipe. Secure the sheet with plastic adhesive tape about the valve stem below the operating nut and about the barrel of the connecting

pipe to prevent the entrance of soil. Fold overlaps twice and tape. Backfill the valve with care to avoid damaging the polyethylene.

- 3) Valve Leakage Testing: Test valves for leakage at the same time that the connecting pipelines are tested. See Section T-6 for pressure testing requirements. Protect or isolate any parts of valves or control and instrumentation systems whose pressure rating is less than the pressure test. Valves shall show zero leakage. Repair or replace any valves and retest.
- 4) Valve Field Testing:
 1. Operate manual valves through 10 full cycles of opening and closing. Valves shall operate from full open to full close without sticking or binding. If valves stick or bind, repair or replace the valve and repeat the tests.
 2. Gear actuators shall operate valves from full open to full close through 10 cycles without binding or sticking.
 3. The pull required to operate valves shall not exceed 80 pounds. The torque required to operate valves having 2-AWWA nuts shall not exceed 150 ft-lbs. If actuators stick or bind, or if pulling forces and torques exceed the values stated previously, repair or replace the actuators and repeat the tests.
 4. Operators shall be fully lubricated in accordance with the manufacturer's recommendations prior to operating.
- 5) Basis of Payment: All labor, equipment, & materials required to install valves including, slip-on flanges, gaskets, bolts and nuts and appurtenances shall be paid for as part of Bid Sheet Item No. 3, 4, and 5 - Steel water pipeline and appurtenance construction or Bid Sheet Item No. 8 and 12 - 6" Fire hydrant and services and steel pipe laterals and appurtenance construction. The amounts shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

F. Flexible Couplings and Transition Couplings:

- 1) General: All flexible couplings (including transition, reducing, etc.) and coupling adapters (including flange couplings, etc.) which are used in the work shall be designed for not less than the same water working pressure as the water main to which they connect. All flanges, bells, sleeves, etc., shall be of the same pressure class and appropriate size and shape as the water main or fitting to which they connect. Sleeves shall have tapered ends to facilitate entry of the connecting pipe.
- 2) Flanges: Flanges shall be raised faced. All appropriate gaskets, rubber rings and other minor items recommended by the manufacturer for proper assembly and operation of the flexible couplings and coupling adapters shall be included.
- 3) Exterior Coating: A 10 mil or thicker even coat of holiday free, high impact, nonshattering, high adhesion, tasteless, odorless, non-toxic epoxy resin shall be applied on all surfaces of flexible couplings and coupling adapters, according to manufacturer's instructions, after irregularities, burrs and grease have been removed and immediately after sandblasting to white metal, followed by air blowing to remove dirt. The epoxy resin shall be either "Scotchcote No. 302" or "Keysite 740" or an approved equivalent recognized as acceptable in the waterworks industry.

- 4) Interior Coating: Flexible couplings and coupling adapters shall be protected when installed underground with cement mortar or protection as indicated on Plans. In general, flexible couplings and coupling adapters manufactured by following companies are acceptable: "Romac", "Dresser", or approved equal.
- 5) Basis of Payment: All labor, equipment, and materials required for installation of flexible couplings and transition couplings including, flanges, gaskets, bolts and nuts and appurtenances shall be paid for as part of Bid Sheet Item No. 3, 4, 5, and 6 - Steel water pipeline and appurtenance construction or Bid Sheet Item No. 8 and 12 - 6" Fire hydrant and services and steel pipe laterals and appurtenance construction. The amounts shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

G. Fire Hydrants:

- 1) The Contractor shall install 6"x 4"x 2½" hydrant heads and fire hydrant laterals in accord with the contract drawings & CVWD Standard Drawing 50-02W or 50-03W.
- 2) **The Owner shall supply the following materials: 6-inch CML & CMC steel pipe, 12" x 6" flanged tee, 6" x 6" flanged tee, 6-inch gate valves, 6-inch and 12-inch - 6-hole 125-lbs. slip on weld flange, 6-inch CML & CMC 90° elbow, and 6"x 4"x 2½" Hydrant Head, (See Appendix B for materials list).**
- 3) The Contractor shall furnish all other fire hydrant components per CVWD Standard Drawing 50-02W or 50-03W. All fire hydrant installation materials shall conform to AWWA Standard C503.
- 4) Restoration of Landscaping and Hardscape Areas: The Contractor shall remove and replant the existing landscape areas where fire hydrants are installed with plant material that matches the existing condition. Prior to construction, the Contractor is to take plant samples from the existing areas to obtain the same plant species at the end of fire hydrant installation. Contractor to install the plant material and add organic amendment and fertilizer so as to insure the survivability of the plant material.
- 5) Hardscape refers to hard landscape materials in the built environments structures that are incorporated into a landscape. This includes paved areas, driveways, retaining walls, sleeper wall, stairs, walkways, and any other landscaping made up of hard-wearing materials such as wood, stone, and concrete.
- 6) Basis of Payment: All labor, equipment, and materials required for installation of fire hydrants including fire hydrant lateral, valves, fittings, flanges, gaskets, bolts and nuts and appurtenances shall be paid for as unit price bid per each installation and as part of Bid Sheet Item No. 8 - 6" Fire hydrant and steel pipe laterals and appurtenance construction. The unit price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

T-6 WATER SERVICE

- 1) The Contractor shall furnish, install, and connect water services in accordance with the contract drawings and CVWD standard drawings. In addition, Contractor shall remove existing meter boxes and install new meter boxes except as noted on plans. The Owner will furnish new meter boxes (See Appendix B for materials list).
- 2) The Contractor shall be responsible for providing all materials for the construction of 1-inch water service laterals from the proposed main up to and including the angle stop per CVWD STD 10-00W & 10-01W, and reconnect to the existing meter.
- 3) Water services 1-1/2" and larger shall be installed per CVWD STD drawing 10-02W and 10-03W
- 4) Laterals shall be placed at a minimum of 2 feet depth below grade or as indicated on plans.
- 5) Should the Contractor elect to use tunnel or jacking techniques for service lateral installation, he shall first obtain approval from the Owner and comply with California Government Code 4216.

A. Field Hydrostatic Tests:

- 1) Contractor shall furnish and install pressure testing bulkheads prior to the hydrostatic testing that will not allow the pipeline to move due to the thrust force of the pressure test. Contractor shall not be allowed to pressure test against any gate valve or butterfly valve. After successfully passing the pressure test and Bac-T test, the Contractor will remove the bulkheads and connect to the existing facilities.
- 2) Before service laterals are connected to the pipeline, Contractor shall hydrostatically test the water main in accordance with SSPWC Subsection 306-1.4.5 and AWWA C604, Section 7.2. The pipeline to be tested shall be filled with water and shall be free from air. After the pipe has been completely filled, it shall be allowed to stand under a slight pressure for a minimum of 24 hours to allow the mortar lining to absorb water and to allow the escape of air.
- 3) The pressure test shall be conducted at 1.5 times its working pressure or 225 psi. Duration of each pressure test shall be at least two (2) hours. During the two (2) hours, the quantity of water required to maintain the test pressure shall be observed and recorded. Pressure shall not vary by more than 5psi (34.5kPa) for the duration of the test. Test pressure shall be maintained within this tolerance by adding makeup water through the pressure test pump into the pipeline. The amount of makeup water added shall be accurately measured (in gallons or liters per hour)
- 4) After connection of water services to the pipeline, the Contractor shall hydrostatically test the main and laterals. The angle stops at the meters will be closed and the laterals and main tested for four (4) hours at 1.5 times its working pressure or 225 psi. If leakage or pressure loss occurs, the source of such losses shall be identified and repairs made as directed by the Owner at the Contractor's expense. Leakage cannot exceed limits in accordance with AWWA C604, Section 7.2.

- 5) The Contractor shall notify the Owner a minimum of 48 hours before testing the pipeline. Should testing of any section of pipe or service lateral disclose leakage, the Contractor, at his own expense, shall perform all excavation necessary to locate and repair leaks or other defects which may develop under testing, including removal of backfill and AC pavement already placed. The Contractor shall replace such excavated material, and shall make all repairs necessary after which the test shall be repeated until the pipe meets test requirements.
- 6) All necessary apparatus for testing the pipeline shall be furnished by the Contractor. This item will be paid for as part of Bid Sheet Item No. 3, through 12 steel water pipeline and appurtenance construction. These unit prices shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

B. Disinfection of Water Mains:

- 1) The Contractor shall furnish all equipment, labor, and materials for the proper disinfection of all piping. All chlorinating and testing operations shall be done after hydrostatic testing and in the presence of the Owner. The Contractor shall be responsible for any damage or contamination resulting from disinfection work including damage or contamination to the facilities constructed under this Contract or to facilities providing water for disinfection.
- 2) The Contractor shall be responsible for any injuries or liabilities arising out of failure to properly perform disinfection work. Pipeline disinfection shall be performed in accordance with AWWA Standard C651.
- 3) The form of chlorine to be used shall be gaseous chlorine, sodium hypochlorite, or calcium hypochlorite. Tablet, continuous feed, or slug method may be utilized. Following chlorination of the water main, the treated water shall be thoroughly flushed from the main and replaced with water from the District's mains until chlorine measurements show less than 1 mg/L total chlorine.
- 4) Bacteriologic tests will be made by the Contractor to demonstrate and record the sanitary condition of the pipeline. Two consecutive sets of acceptable samples, taken at least 24 hours apart, shall be collected. Acceptable bacteriological conditions shall be:

- 1) Absence of total Coliform
- 2) Absence of E. coli bacteria
- 3) A heterotrophic plate count of less than 500 colonies per 1 ml.

If acceptable bacteriological conditions are not found, re-chlorination shall be performed by the Contractor. Both chlorine concentration tests and bacteriologic tests will be at the expense of the Contractor. After successful completion of all disinfection procedures, including testing, the pipeline shall be placed in service, as directed by the Owner.

- C. Flushing Water Main and Dechlorination of Flushed Water:** Following chlorination, all chlorinated water shall be thoroughly flushed from the pipeline per AWWA 651 Section 4.9.2. The environment to which the chlorinated water is to be discharged shall be inspected. If there is any possibility that the chlorinated discharge will cause damage to the environment, a neutralizing chemical shall be applied to the water to be wasted to thoroughly neutralize the residual chlorine per AWWA C655-18. All chlorinated water from the pipeline shall be appropriately dechlorinated to less than 0.005 mg/L total

chlorine residual before entering any storm drain or other storm water conveyance system.

D. Replacement of Existing Inoperable or Leaky Shutdown Valves:

As directed by the Owner, the Contractor shall excavate and replace the existing peripheral shutdown valve(s) specified by the Owner, which may be inoperable or leaky. Installation shall conform to CVWD Standard Drawing 60-30W.

1. **The Owner shall furnish gate valve(s).** The Contractor shall furnish couplings, tie-rods, slip on flanges, valve cans, valve caps, and any additional materials required. Temporary and permanent paving is responsibility of Contractor and shall be paid for at unit price bid per SF per Bid Sheet Item No. 2.
2. The Contractor shall be responsible for notifying Underground Service Alert and the Owner shall obtain excavation permit(s) from the proper agency.
3. All materials, labor, and equipment required for replacement of the existing shutdown valve(s) will be paid for at the additive unit price bid for each valve replacement, Bid Sheet Item No.14.

E. Basis of Payment: All labor, equipment, and materials required pipeline installation, fire hydrant installation, connection to existing water mains including, fittings, special sections, disinfection, dechlorination, hydrostatic testing, welding, and laboratory tests shall be paid for as unit price bid per lineal foot as part of Bid Sheet Item No. 3 through 12 - Steel water pipeline and appurtenance construction. This unit price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

A. Materials:

- 1) 1-inch and ¾-inch water service laterals shall be polyethylene (PE) pipe material as manufactured by Drisco or equal pipe, PE 2406 or PE 3408 Class 200. All PE piping shall be furnished by the Contractor and will meet the requirements of AWWA Standard C901 and be furnished with an affidavit of compliance from the manufacturer.
- 2) Angle stops, corporation stops, black weld couplings, and all other materials shall be furnished by Contractor (except meter boxes) per CVWD STD 10-00W and 10-01W and shall meet all AWWA requirements.

B. Storage: Polyethylene (PE) pipe shall be stored and handled in accordance with the manufacturer's recommendations, thereby avoiding damage due to crushing, piercing, excessive heat, harmful chemicals, or exposure to sunlight. If pipe is excessively pierced (to a depth greater than 10 percent of its wall thickness) or kinked, the damaged portion should be removed, discarded, and replaced by the Contractor at no additional cost to the owner.

C. Installation:

- a. Bends in PE pipe shall not be permitted to occur closer than 10 pipe diameters from any fitting or valve. The recommended minimum radius of curvature is 30 pipe diameters or the coil radius when bending **with** the coil. Any bending of coiled pipe against the coil should not go beyond straight.

- b. PE pipe which is pierced to a depth greater than 10 percent of the pipe wall thickness due to contact with rocks, sharp edges or other objects will be replaced with undamaged pipe and reinstalled by the Contractor at no additional cost to the Owner.

D. Detectable Tracer Wire for Plastic Laterals:

- 1) Detectable underground tracer wire shall be installed for **all** plastic laterals. The detectable wire used shall be size 12 AWG, strand solid BC wall 019 as manufactured by ATLAS wire & cable. The detectable wire shall be buried in the excavation ditch 6-inches to 12-inches below grade and detectable using any common metal detector and expose the wire a minimum of 6 inches above the ground within the meter box.
- 2) An end of the wire shall be spot welded on the bare metal of the water main. Connection to water main shall be tape wrapped after tracer wire is installed.

E. Restoration of Landscaping, Irrigation Lines and Hardscape Areas:

- 1) The Contractor shall remove and replant existing landscape areas with plant material that matches the existing condition. Prior to construction, the Contractor shall take plant samples from the existing areas to obtain the same plant species at the end of lateral installation. Contractor to install the plant material and add organic amendment and fertilizer so as to insure the survivability of the plant material to the satisfaction of the Owner and/or the Owner's Representative and at no additional cost to the Owner.
- 2) Contractor shall repair any irrigation system damaged or removed during construction to the satisfaction of the Owner and/or the Owner's Representative and at no additional cost to the Owner.
- 3) Contractor shall replace any existing hardscape areas around the existing meter boxes including, but not limited to concrete, bricks, or special pavers in-kind to the satisfaction of the Owner and/or the Owner's Representative and at no additional cost to the Owner.

- F. Basis of Payment: The basis of payment for water services shall include installation of laterals, connection to main, and all other necessary work and shall be paid for at the unit price bid per each, Bid Sheet Item No. 9. This unit price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

T-7 TRAFFIC CONTROL

A. Traffic Control General:

1. The Contractor shall provide traffic control and access for Orange Avenue, El Adobe Lane, Rosemont Avenue, and La Crescenta Avenue, in accordance with the Work Area Traffic Control Handbook (W.A.T.C.H.), Manual on Uniform Traffic Control Devices (M.U.T.C.D.) latest editions and County of Los Angeles permit requirements.
2. The Work Area Traffic Control Handbook (W.A.T.C.H.) and the California Manual on Uniform Traffic Control Devices (M.U.T.C.D.) shall not relieve the Contractor of the responsibility of jobsite conditions during the course of

construction or maintenance work, including safety of all persons, vehicles, and property.

3. If the Contractor elects to prepare his own traffic control plans, he shall do so at no expense to the District. The Contractor shall be fully responsible for the adequacy of any traffic plan utilized, for obtaining approval from the County of Los Angeles for his changes, for conformance with his intended construction schedule and staging and to provide for its proper implementation.
4. The Contractor shall maintain access to all driveways for residences and businesses during the installation of the project. At the end of each working day, the Contractor shall install steel plate over all open trenches. In addition, the Contractor shall A.C. patch around the edge of each steel plate in accordance with the County of Los Angeles.
5. The Work Area Traffic Control Handbook (W.A.T.C.H.) and the California Manual on Uniform Traffic Control Devices (M.U.T.C.D.) shall not relieve the Contractor of the responsibility of jobsite conditions during the course of construction or maintenance work, including safety of all persons, vehicles, and property.
6. Construction or maintenance activity in the roadway or affecting the public right-of-way shall be limited to the hour between 7:00 A.M. and 3:30 P.M., Monday through Friday. No temporary traffic control devices shall be placed in the roadway until after 7:00 A.M. and shall be completely removed by 3:30 P.M. at both locations.
7. All excavation areas shall be completely covered with steel plates or temporary backfilled and surfaced such that all lanes of traffic are restored and fully accessible to the public. Steel plates must be fixed in place to avoid movement. In addition to being firmly in contact with the pavement, they should be pinned, recessed into the pavement, or secured with asphalt wedges around the perimeter. Recessing involves cutting out the area where the steel plate will be placed resulting in the steel plate being flush with the pavement.
8. All existing signing shall be protected in place and free from obstructed view for traffic. In the event that an existing sign is contradictory to temporary signing for construction, the Contractor shall either completely cover the existing signing or remove the signing and supporting posts entirely and replace the complete installation, with new signing and supports, at the conclusion of construction activities.
9. The Contractor shall have all signs, delineators, barricades, etc., properly installed prior to construction.
10. The Contractor shall be responsible for maintaining, at all times, all sign delineators, barricades, etc., to ensure proper flow and safety of traffic.
11. The Contractor shall have all signs, delineators, barricades, etc., properly installed prior to construction.
12. Flashing yellow beacons, type "B", shall be used on all barricades that protect the work area after normal working hours as set forth herein.

13. All street access restricted by construction or maintenance activities shall be restored at the end of each working day.
14. Contractor shall replace all traffic detection devices, signing, stripping, markings, and legends damaged during construction to the satisfaction of the County of Los Angeles and County of Los Angeles inspectors.

B. Construction Project Signs:

- 1) The Contractor shall furnish and install two (2) construction project signs notifying the public of the impending construction.
- 2) Contractor shall install six (6) 4' x 5' billboard signs at least one (1) week prior to construction at following locations:
 - Intersection at Rosemont Ave. and Orange Ave. (N/B)
 - Intersection at Rosemont Ave and Whittier Ave. (W/B)
 - Intersection at La Crescenta Ave and Orange Ave. (N/B)
 - Intersection at La Crescenta Ave and Orange Ave. (S/B)
 - Intersection at Cecilville St. and El Caminito (N/B)
 - Intersection at La Crescenta Ave. and El Caminito (N/B)
- 3) The Contractor shall also remove the signs within one week of completion of construction.
- 4) Each billboard shall contain the project name and description, the approximate dates when construction will be in progress, the name, and phone number of the District and its project manager and the name and phone number of the contractor. See Appendix C for sample of construction project sign.

C. No Parking Signs:

- 1) The County of Los Angeles will provide one (1) temporary no parking sign and the Contractor will be required to provide additional color copies to use in the field.
- 2) The Contractor is required to post temporary no parking signs a minimum of 48 hours prior to construction. The Contractor shall contact the County of Los Angeles for verification and enforcement of temporary no parking signs a minimum of 48 hours prior to start of work.
- 3) The Contractor shall post the signs in accordance to County of Los Angeles permit requirements. The contractor shall contact all the appropriate agencies such as Police, Fire, Sheriff's Station, Parking enforcement, etc. and notify them as soon as "No Parking" Signs are posted.

D. Basis of Payment: The basis of payment for providing the traffic control required by the project including, but not limited to construction project signs, no parking signs, traffic control signs, cones, barricades, flashing arrow sign, special signs, flagman and other work necessary to comply with the Work Area Traffic Control Handbook (W.A.T.C.H.), latest edition, County of Los Angeles permit requirements will be paid as a lump sum cost as part of Bid Sheet Item No. 13 - Traffic Control. The lump sum price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

T-8 BY-PASS PIPING FOR WATER MAIN CONSTRUCTION

A. General Scope:

- 1) This section addresses the temporary by-pass piping for the potable water main replacements.
- 2) The Contractor shall furnish, install, maintain, and remove by-pass pipelines to provide water supply and fire protection to the District's customers during the water main construction. By-pass design for the complete project, including the location of temporary fire protection system and fire hydrants, shall be performed by the Contractor and shall be submitted to the Engineer for approval a minimum of seven (7) calendar days before the start of construction. The Contractor shall refer to the basic information provided in the Contract Documents for the design. The provided information will include system pressures, location of large and small services, and the location of fire hydrants.

B. Submittals:

- 1) The contractor shall prepare and submit for review and approval a by-pass piping plan capable of providing adequate pressures for water services and fire protection. Upon review and approval by the Fire Marshall and the Engineer construction may proceed.
- 2) Furnish submittals in accordance with Special Provisions.
- 3) By-pass Piping Drawings Shop Drawings shall contain the following information:
Drawings: Layout drawings including necessary dimensions, details, pipe joints, fittings, specials, bolts and nuts, gaskets, valves, appurtenances, anchors, guides, and material lists. Fabrication drawings shall indicate spacers, adapters, connectors, fittings, and pipe supports to accommodate the equipment and valves in a complete and functional system.

C. Execution:

- 1) Pipe and fittings employed in the by-pass pipelines shall be subject to approval by the Engineer for use. All by-pass piping sizes shall at a minimum match existing water main size to be replaced. The Pipe and fittings shall be clean, free of rust, dirt, debris, and foreign material and shall consist of materials capable of withstanding the maximum system pressure. The by-pass pipelines shall provide adequate pressure and flows for all water services, existing fire protection systems and maintain required LA County Fire department fire flows at minimum pressures during construction. Pipe and fittings shall not impart any objectionable taste, odor, or color to the water being supplied. Plastic pipe or hose, when employed, shall bear the imprint of the National Sanitation Foundation (NSF) approval for potable water, NSF-PW, or shall be capable of meeting the standards established by the NSF for this use. Where "lever" or "toggle" type couplings are employed for joining lengths of pipe for the by-pass pipelines, the couplings shall be installed in the inverted position to prevent accidental uncoupling of the pipelines. Each run of by-pass pipeline shall terminate with a 8-inch minimum size valve for flushing and chlorination. Service connections shall not be used from or downstream of this terminal valve. When connections are made to fire hydrants, the Contractor shall maintain the same number of available outlets as

- originally existed on the fire hydrant. By-pass shall not be connected to fire sprinkler inlets or fire ports of buildings.
- 2) Changes or modification of the by-pass pipeline configuration may be made by the Contractor subject to the approval of the Engineer.
 - 3) Disinfection of the by-pass pipeline runs shall be performed by the Contractor in accordance with Technical Provisions T-5. Prior to disinfection, the Contractor shall thoroughly flush each run of by-pass pipeline to clear the pipe of dirt, debris, or foreign objects.
 - 4) During installation, maintenance, and removal of the by-pass pipelines, the Contractor shall maintain continuity of service to the District's customers at all times.
 - 5) Prior to commencement of operation of the by-pass pipelines, the Contractor shall furnish to the District the names and telephone numbers of the personnel designated to perform emergency repairs to the by-pass pipelines and service connections.
 - 6) When the by-pass pipeline crosses a wheelchair ramp or sidewalk and there is less than a 4-foot wide, unobstructed passageway, the Contractor shall install the pipeline in a recessed trench or shall provide a ramp at a slope not greater than 1:12 ($\leq 8.33\%$). The by-pass shall be located so as to cause no impediment to vehicle traffic and the least impediment to pedestrians. In all alleys and all street crossings, the Contractor shall install the by-pass pipeline in a recessed trench. In all cases, temporary resurfacing of recessed trenches shall be flush with the existing grade. If the by-pass pipeline crosses a driveway or wheelchair ramp, the Contractor shall mound over or provide a safe crossing ramp on that portion of the pipeline. The Contractor shall install plastic sheets underneath temporary asphalt concrete used to ramp over by-pass pipelines at driveways and wheelchair ramps. Ingress or egress to any property thus served shall not be blocked.
 - 7) It shall be the responsibility of the Contractor to maintain the temporary lines and service connections in good condition while they are in use. Leaking joints will not be permitted.
 - 8) The Contractor shall designate some member of his staff to be "on call" for making emergency repairs to the temporary lines and services at all times when the Contractor is not working, and this expense shall be included in the total bid price. If after a reasonable period of time there is no response to a call out, District forces will make the necessary repairs and the costs will be charged to the Contractor.
 - 9) After service has been restored to a section of the water main, the Contractor shall remove the by-pass pipeline and related facilities, shall repair all trench surfaces to original conditions, leave the streets, sidewalks, and adjacent areas in a clean and orderly condition, and shall otherwise comply with the cleanup requirements of these Specifications. By-pass shall not be used or remain in any portion of the project for longer than ten (10) weeks unless it serves as a jumper to supply water to another section of the project.
 - 10) When directed by the District, the Contractor shall provide periodic daily flushing of by-pass pipelines to lower water temperatures. Flushing may also be required on weekends and holidays, depending on weather conditions.
 - 11) Before submitting their proposal, the bidder is strongly advised to examine site conditions and become fully informed regarding services larger than 2-inch.

Accommodations to open the actual vaults will be made available during the bid period.

- 12) A single check valve shall be installed on all outlets that are used as a source of supply for by-pass. The Contractor shall provide check valves with flanged ends or threaded ends.
- 13) All work associated with the furnishing, design, installation, maintenance, and removal of by-pass pipelines shall be included in the contract unit price.

D. TEMPORARY SERVICE CONNECTIONS

- 1) Following disinfection of the by-pass pipeline by the Contractor and before shutdown of the water main to be removed and replaced, the Contractor shall furnish, install, and maintain temporary service connections from the by-pass pipeline to the inlet side of the District's water meters, including fire and large domestic services. For large services in vaults, the Contractor shall conduct a field check for by-pass scenario and can either connect within the vault or excavate outside of the vault. Existing vaults may or may not have been built to a District Standard.
- 2) Any movement or temporary relocation of water meters to facilitate the temporary connection shall be made only with approval of the Engineer. In the District's Water System, the water meter is the terminal unit of District ownership. Any relocations or modifications downstream of the water meter shall be made with approval of the District's customer. Since the condition of the customer's piping is unknown to the District, the Contractor shall prevent any damage or leakage in the customer's piping resulting from movement of the District's water meter or the customer's piping. If any damage or leakage should occur, the Contractor shall repair the customer's piping in a timely manner at the Contractor's own expense.
- 3) Temporary service hoses shall be placed to cause the least impediment to traffic and pedestrians. A barricade shall be placed over every meter box service location. All temporary risers, valves or large fittings in the parking areas of a street must be protected with a sand bag.
- 4) Fireline services and water meters larger than 2 inches shall be pressurized with the existing size connection, or as directed by the Engineer.
- 5) The Contractor shall prevent any damage or leakage in the customer's piping resulting from movement of the District's water meter or the customer's piping. If any leakage or damage should occur, the Contractor shall repair the customer's piping as quickly as possible at his sole expense.
- 6) The Contractor shall be required to notify customers, with services 2 inches and greater, not less than 24 hours prior to shutdown of the water main and to mediate any conflicts. The Contractor shall coordinate with any and all uninterruptible customers such as hospitals, kidney dialysis centers, schools, restaurants, and any other customers with critical water needs. This coordination may include, but not be limited to, performing work required in this Article during non-business hours of the day.
- 7) Flexible pipe and fittings employed for connections shall be subject to approval by the Engineer. Flexible pipe and fittings shall consist of materials capable of withstanding the pressures shown on the drawings and shall not impart any objectionable taste, odor, or color to the water being supplied. Plastic pipe or hose, when employed, shall bear the

imprint of the National Sanitation Foundation (NSF) approval for potable water (NSF-PW) or shall be capable of meeting the standards established by the NSF for this use.

- 8) Maintenance, protection, and removal of the connections shall be under the same conditions as this specification Section 2.1, Subsections E, F, G, and J.
- 9) After service has been restored to a section of the water main, the Contractor shall disconnect the temporary service connections, furnish and install insulating tailpieces for services tapped off of steel mains, and reconnect the service laterals from the water main to the water meters. Prior to connection to the water meter, each service lateral shall be flushed for not less than 30 seconds to clear the lateral of any debris from the cleaning and lining operation. Should the flow through the lateral appear to be impaired, the Contractor shall make the necessary repairs to restore full flow or may request the District to perform the repairs. The expense of such repairs done by the District will be charged against the Contractor.
- 10) The Contractor shall immediately distribute District-furnished notices to all service locations where the Contractor was unable to flush the service lateral prior to connecting the service lateral to the meter.

E. TEMPORARY SUPPLY LINES AND SERVICE – GENERAL

- 1) The Contractor shall furnish all plant, equipment, materials, transportation, superintendence, labor and workmanship necessary to provide temporary service to water consumer and fire hydrants. The Contractor shall live tap and connect to water mains or to fire hydrants as indicated on the plans. Connection to fire hydrants for water supply shall be with Contractor-furnished approved Siamese fitting, eddy valve and a tee. When tapping 4-inch through 12-inch mains, a service clamp is required. Contractor shall block, restrain and support temporary supply pipes as required.

F. TEMPORARY CONNECTION FOR WATER SUPPLY TO A 6-INCH BY-PASS PIPELINES

- 1) The Contractor shall install, maintain, and remove 6-inch, temporary bulkheads at locations determined by the Contractor and approved by the Engineer to provide water supply to 6-inch by-pass pipelines. The 6-inch temporary bulkheads shall be installed on existing fire hydrant and shall be installed with the pipelines temporarily out of service.
- 2) The Contractor shall attach a 6-inch diameter hose to the temporary bulkhead to supply the by-pass pipelines. The hose shall be laid in a trench and shall be covered with a temporary asphalt material to a depth flush to the existing grade. The hose shall connect to the 6-inch by-pass pipelines at the curb. The hose shall be subject to approval by the Engineer in accordance with Sub-article 2.2 H. (Temporary Service Connections).
- 3) The Contractor shall furnish, install, and remove the following temporary fittings for each connection in accordance with Table 1 below.

Table 1. MANUFACTURER AND PART NO.

ITEM	MAIN SIZE	JAMES JONES	MUELLER	FORD
SERVICE CLAMP 1-1/2" X 4", 6", 8" and 1-1/2" X 10", and 12"	4", 6", 8", 10", 12", and 16"	4", 6", 8" J-975 10", 12", J- 979 and 16" J- 979	4" H-16080 1-1/2"CC 6" H-16084 1-1/2"CC 8" H-16088 1-1/2"CC 10" H-16134 1-1/2"CC 12" H-16137 1-1/2"CC	4" 101B-540 X CC6 6" 101B-750 X CC6 8" 101B-962 X CC6 10" 202B- 1212 X CC6 12" 202B- 1438 X CC6
1-1/2" CORP. VALVE C.C. X C.T.	ALL	J-1930 1-1/2" X 1- 1/2"	H-15000- OR B- 25000 1-1/2" X 1-1/2"	FB-600 1-1/2" X 1-1/2"
1- 1/2" COPPER TUBE	ALL	-----	-----	-----
1-1/2" BRONZE PLUG, C.C. THREAD	ALL	-----	H-10033 1-1/2"	-----
1-1/2" BRONZE PLUG, I.P. THREAD	ALL	-----	H-10035 1-1/2"	-----
1-1/2" X 1-1/2" BRASS COUPLING B&S X I.P. THREAD	ALL	-----	H-15082 1-1/2"	C01-66
2" X 2" BRASS COUPLING B&S X I.P. THREAD	ALL	-----	H-15082 2"	C01-66
1-1/2" X 2" BRASS COUPLING B&S X B&S	ALL	-----	H-15405 1-1/2"	-----
2" CLOSE NIPPLE	ALL	-----	-----	-----
2" X 2" X 1" TEE, I.P. THREAD	ALL	-----	-----	-----
1" X CLOSE NIPPLE, I.P. THREAD	ALL	-----	-----	-----
1" CURB VALVE, I.P. THREAD - FEMALE	ALL	-----	-----	-----
2" CURB VALVE, - FEMALE	ALL	-----	-----	-----
2" NIPPLE, I.P. THREAD X VICTAULIC GROOVE	ALL	-----	-----	-----

Equivalent fittings may be used to provide a temporary connection of equal quality and similar configuration. These materials shall be submitted to the Engineer for review a minimum of fourteen (14) calendar days prior to use.

- 4) The work for each temporary bulkhead shall include, but not be limited to, installation and removal of the temporary bulkhead.
- 5) All work associated with the installation of temporary bulkheads shall be included in the contract lump sum for “Install 6” and 2” Highline System”.
- 6) The work for each temporary connection shall include, but not be limited to, pavement removal, excavation, installation and removal of the connection assembly, capping the corporation valve, slurry backfill, and permanent paving, all in accordance with these specifications.
- 7) Basis of Payment: The basis of payment for temporary bypass piping shall include installation of hoses, connections to hydrants, and all other necessary work and shall be paid for at the unit price bid per each, Bid Sheet Item No. 7. This unit price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

END OF SECTION

APPENDIX A

COUNTY OF LOS ANGELES

PERMIT AND INSURANCE REQUIREMENTS

APPENDIX B

LIST OF MATERIALS TO BE SUPPLIED BY CVWD AND G-79 TECHNICAL DATA AND JOINT DETAILS

CRESCENTA VALLEY WATER DISTRICT

**Construction of 12-inch Water Main on the 2600-2700 block of Orange Ave. and 5000 block of El Adobe Ln.
Project E-1046**

Revised Date: 11/18/22

**List of materials to be supplied by the District. It is the Contractor's responsibility for coordination of delivery of
all materials with pipe supplier and District.**

Item No.	Item	Quantity	
1	12"(12.750" O.D.) CMC&CML - Weld Bell Pipe, 10 Ga per AWWA C200 & C205 105 - 20 foot sections	2000	LF
2	6" (6.625" O.D.) CMC&CML Weld Bell Steel Pipe, 10 Ga. per AWWA Std. C-200 35 - 20 foot sections	700	LF
3	4" (4.500" O.D.) CMC&CML Weld Bell Steel Pipe, 10 Ga. per AWWA Std. C-200 1 - 20 foot sections	40	LF
4	12-inch Gate Valve (FE x FE) per AWWA Std. C-509	7	EA
5	8-inch Gate Valve (FE x FE) per AWWA Std. C-509 (Fire Service CVWD Std. 40-03W)	1	EA
6	10-inch Gate Valve (FE x FE) per AWWA Std. C-509	1	EA
7	6-inch Gate Valve (FE x FE) per AWWA Std. C-509	6	EA
8	4-inch Gate Valve (FE x FE) per AWWA Std. C-509	1	EA
9	6-inch Fire Hydrant Assemblies including 6"-6 hole 150 lbs. slip-on flange, 6"-8 hole 150 lbs. slip on flange, 6"CML&CMC 90° elbow, 12"x12"x6" FE Reducing Tee and 6"x4"x2-1/2" hydrant head	4	EA
10	6-inch Fire Hydrant Assemblies including 6"-6 hole 150 lbs. slip-on flange, 6"-8 hole 150 lbs. slip on flange, 6"CML&CMC 90° elbow and 6"x4"x2-1/2" hydrant head	1	EA
11	Old Castle Fiberlyte Meter Box w/Cover and Lid - (4-1/2 Polymer Meter Boxes)	37	EA
12	3/4-inch Meter Ball Valve, Angle Stop, corp stop, meter couplings, adapters, black weld coupling, FIP all parts per CVWD Dwg. No 10-00W	37	EA
13	3/4-inch Meter, per CVWD Dwg. No 10-00W	12	EA
14	Sample Station per CVWD Dwg. 70-02W	1	EA
15	Smartpoints	42	EA
16	Old Castle Fiberlyte Meter Box w/Cover and Lid - 4-1/2 Polymer Meter Boxes (AMI-Parkhaven Cir.)	6	EA
17	12" CML X CMC 45° STD Weld Bell Elbow	14	EA
18	12" CML X CMC 22° STD Weld Bell Elbow	5	EA
19	6" CML X CMC 22° STD Weld Bell Elbow	8	EA
20	4" CML X CMC 45° STD Weld Bell Elbow	2	EA
21	12" Butt Straps	8	EA
22	4" Butt Straps	1	EA
23	12"x12"x12" STD. Weld Flanged end Tee, CML X CMC	1	EA
24	12"x12"x8" STD. Weld reducing TEE, CML X CMC	1	EA

CRESCENTA VALLEY WATER DISTRICT

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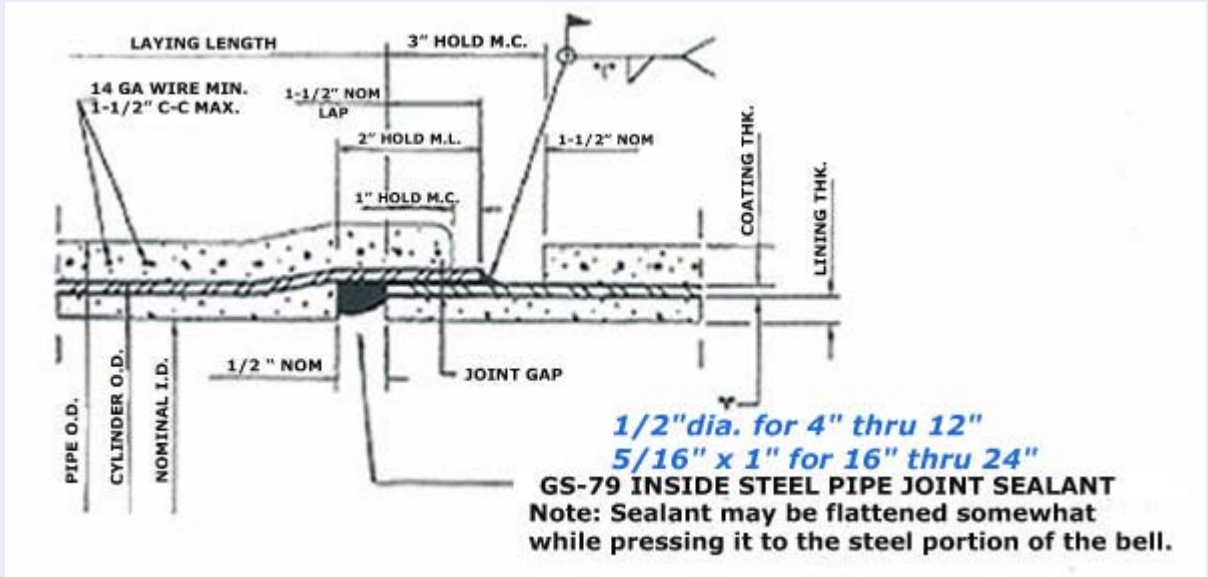
Item No.	Item	Quantity	
25	12"x12"x6" STD. FE reducing TEE, CML X CMC	2	EA
26	12" x 10" CML X CMC STD. FE Weld Reducer	1	EA
27	6" x 4" CML X CMC STD. FE Weld Reducer	1	EA
28	1.5-Inch Meter per CVWD DWG. 10-02W	1	EA
29	2-inch Meter per CVWD DWG. 10-03W	1	EA
30	12" Blind Flange	1	EA
31	10" Blind flange	1	EA
32	6" Slip on flange	3	EA
33	4" Slip on Flange	1	EA
34	12" Slip-on Flange	11	EA
35	8" Slip-on Flange	3	EA
36	6" Blind Flange	1	EA

Joint Detail

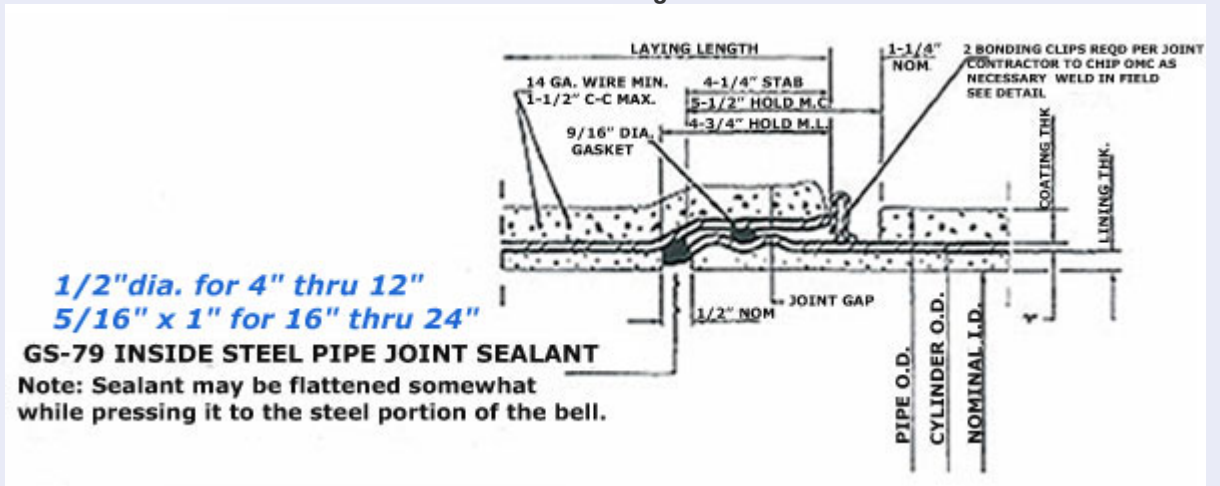
NOTES:

THE SEALANT MUST BE COMPRESSED IN THE JOINT
IF JOINT PULLED DOUBLE UP ON GS-79 JOINT SEALANT ON THE
OPEN SIDE OF THE PULLED JOINT

Weld Bell Joint Detail



Rolled Groove O-Ring Joint Detail



GS# 79

Material Safety Data Sheet



Section 1

Product and Company Identification

Product Name:	GS# 79
Product Description:	Extruded Tape Sealant
Manufacturer:	General Sealants, Inc. 300 S. Turnbull Canyon Road, City of Industry, CA 91745
Information Phone:	626-961-0211 FAX: 626-968-5140
Web Site:	www.generalsealants.com
Emergency Phone:	626-961-0211 or 800-762-1144
Issue Date:	9/01/2009

Section 2

Composition/Information on Ingredients

No reportable hazardous substances or complex substances.

Section 3

Hazards Identification

This material is not considered to be hazardous according to regulatory guidelines (see Section 15).

Section 4

First Aid Measures

Eye Contact:	Flush with warm water for 15 minutes. If irritation persists, seek medical attention.
Skin Contact:	Wash contaminated area with soap and water for 15 minutes. If irritation persists, seek medical attention.
Ingestion:	Do not induce vomiting. Seek medical attention.
Inhalation:	Remove to fresh air. Seek medical attention.

GS# 79

Material Safety Data Sheet



Section 5

Fire Fighting Measures

Flash Point:	N/A
Auto Ignition Point:	N/A
Lower Explosive Limit:	N/A
Upper Explosive Limit:	N/A
Extinguishing Media:	Use water spray (fog), foam, dry chemical or carbon dioxide (CO2).
Fire Fighting Instructions:	Use water spray to cool fire exposed surfaces. Use standard protective equipment and in enclosed spaces a self contained breathing apparatus.
Fire And Explosion Hazards:	Irritating gases may be present.

Section 6

Accidental Release Measures

Avoid release to the environment. Contain spill, collect, and transfer to suitable containers. Do not flush to sewer or allow to enter waterways. Recycle or dispose in accordance with federal, state, and local regulations.

Section 7

Handling and Storage

Handling and Storage Precautions:	Store in closed containers at 72° F. Avoid excessive heat. For industrial use only.
--	---

Section 8

Exposure Controls/Personal Protection

Engineering Controls:	Use with adequate general ventilation.
Eye/face Protection:	N/A
Skin Protection:	Use gloves when material is hot.
Respiratory Protection:	N/A
Other/ General Protection:	Wash thoroughly after handling.

N/A= Not Applicable

GS# 79

Material Safety Data Sheet



Section 9

Physical and Chemical Properties

Appearance:	Gray
Odor:	No Odor
Chemical Type:	Mixture
Physical State:	Solid
Melting Point:	N/A
Boiling Point:	N/A
Specific Gravity (Water=1):	1.54
Vapor Pressure:	N/A
Vapor Density (Air=1):	N/A
Solubility in Water:	Insoluble
Evaporation Rate (n-butyl Acetate=1):	N/A

Section 10

Stability and Reactivity

Stability:	Stable
Hazardous Polymerization:	Will not occur
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Thermal decomposition may form carbon dioxide, carbon monoxide and various hydrocarbon fumes.
Condition to avoid:	None known

Section 11

Toxicological Information

No data available

N/A= Not Applicable

GS# 79

Material Safety Data Sheet



Section 12

Ecological Information

No data available

Section 13

Disposal Consideration

Dispose in accordance with applicable federal, state and local government regulations.

Section 14

Transportation Information

Proper Shipping Name
Not regulated by the USDOT

Section 15

Regulatory Information

When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

Section 16

Other Information

NFPA Rating:	Health:0 Flammability:0 Reactivity:0
HMIS Rating:	Health:0 Flammability:0 Reactivity:0

USER'S RESPONSIBILITY

THIS PRODUCT INFORMATION CANNOT COVER ALL POSSIBLE SITUATIONS, WHICH THE USER MAY EXPERIENCE DURING PROCESSING. EACH ASPECT OF YOUR OPERATION SHOULD BE EXAMINED TO DETERMINE IF, OR WHERE, ADDITIONAL PRECAUTIONS MAY BE NECESSARY. ALL HEALTH AND SAFETY INFORMATION CONTAINED IN THIS BULLETIN SHOULD BE PROVIDED TO YOUR EMPLOYEES OR CUSTOMERS. IT IS YOUR RESPONSIBILITY TO USE THIS INFORMATION TO DEVELOP APPROPRIATE WORK PRACTICE GUIDELINES AND EMPLOYEE INSTRUCTIONAL PROGRAMS FOR YOUR OPERATION.

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PRODUCTS ARE SOLD WITHOUT WARRANTY, EXPRESSED OR IMPLIED, EXCEPT IF SHOWN TO BE DEFECTIVE IN MATERIALS WITHIN 30 DAYS OF SHIPMENT BY US, IT WILL BE REPLACED OR AT OUR OPTION THE PURCHASE PRICE WILL BE REFUNDED TO THE PURCHASER. WE ASSUME NO RESPONSIBILITY FOR CONSEQUENTIAL DAMAGE ARISING FROM THE USE OF OUR PRODUCTS. USER MUST CONFIRM THE ADAPTABILITY OF OUR PRODUCTS BY THEIR OWN TEST. NO REPRESENTATIVE OF OUR COMPANY OR ANY OTHER HAS AUTHORIZATION TO GRANT ANY ADDITIONAL WARRANTY.

GENERAL SEALANTS, INC. 300 S. Turnbull Canyon Rd. / City of Industry, CA 91745 / P.O. Box 3855 / City of Industry, CA 91744
(626) 961-0211 • (800) 762-1144 • Fax: (626) 968-5140
E-Mail: sticktoquality@generalsealants.com • www.generalsealants.com



NSF International

789 N. Dixboro Rd. Ann Arbor, MI 48105, USA
1-800.NSF.MARK | +1-734.769.8010 | www.nsf.org

TEST REPORT

Send To: 75290

Mr. Patrick Boyle
General Sealants, Inc.
300 South Turnbull Canyon Road
City of Industry, CA 91745-1009

Facility: 75291

General Sealants, Inc.
300 South Turnbull Canyon Road
City of Industry CA 91745-1009
United States

Result	PASS	Report Date	19-JUL-2013
Customer Name	General Sealants, Inc.		
Tested To	NSF/ANSI 61		
Description	GS #79 Sealant (1) 1/2" x 10' Bead of Sealant		
Trade Designation	GS #79 Sealant		
Test Type	Annual Collection		
Job Number	A-00124343		
Project Number	9143978 (CLA, TEA)		
Project Manager	Abbey Robinson		

Thank you for having your product tested by NSF International.

Please contact your Project Manager if you have any questions or concerns pertaining to this report.

Report Authorization

Amanda Phelka - Director, Toxicology Services

Date 19-JUL-2013



General Information

Standard: NSF/ANSI 61

DCC Number: IA06768

Lot Number: HV011732

Monitor Code: A

Physical Description of Sample: (1) 1/2" x 10' Bead of Sealant

Trade Designation/Model Number: GS #79 Sealant

Sample Id: **S-0000970696**
Description: Sample exposed at 23C and pH 8
Sampled Date: 07/08/2013
Received Date: 06/06/2013

Normalization Information:

Date exposure completed:	08-JUL-2013	Calculated N1:	0.44	Field Exposure Time:	16 hours	Lab Exposure Time	16 hours
Field Surface Area:	7.26 in2	Lab Surface Area:	15.0 in2	Calculated N2:	1.00	Calculated N4:	1.000
				Constant N2:	1	Misc. Factor:	1
Field Static Volume:	1 L	Lab Static Volume:	0.900 L				
				Calculated NFm:	1.00		
Compound Reference Key:	TAC						

Testing Parameter	Sample	Control	Result	Normalized Result	Units
Chemistry Lab					
* Standard 61 Additives LAB SUM TEST Code					
Mass applied	37070		37070		mg
External Note:	Product was applied to glass.				
BASE/NEUTRAL/ACID EPA METHOD 625 Scan for Tentatively Identified Compour					
No Compounds Detected	ND(4)	Complete	ND(4)	ND(2)	ug/L
Scan Control Complete	TRUE				
Semivolatile Compounds, Base/Neutral/Acid Target 625, Data Workup					
Pyridine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Nitrosodimethylamine (N-)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosomethylethylamine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
5-Methyl-2-hexanone (MIAK)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1-Methoxy-2-propanol acetate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Heptanone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Cyclohexanone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Nitrosodiethylamine (N-)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Isobutylisobutyrate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Aniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Phenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Di(chloroethyl) ether	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Chlorophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,3-Benzofuran	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1,3-Dichlorobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1,4-Dichlorobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
3-Cyclohexene-1-carbonitrile	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Ethylhexanol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L



Sample Id: S-0000970696

Testing Parameter	Sample	Control	Result	Normalized Result	Units
Chemistry Lab (Continued)					
Benzyl alcohol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1,2-Dichlorobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
bis(2-Chloroisopropyl)ether	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Methylphenol (o-Cresol)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Methylaniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Acetophenone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosodi-n-propylamine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosopyrrolidine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Methylphenol (p-Cresol)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Hexachloroethane	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Phenyl-2-propanol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosomorpholine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Nitrobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,6-Dimethylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Vinylpyrrolidinone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosopiperidine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Triethylphosphate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Isophorone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Nitrophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4-Dimethylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
bis(2-Chloroethoxy)methane	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4-Dichlorophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Trichlorobenzene (1,2,4-)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Naphthalene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Chloroaniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1,1,3,3,-Tetramethyl-2-thiourea	ND(4)	ND(4)	ND(4)	ND(2)	ug/L
Hexachlorobutadiene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzothiazole	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
N-Nitrosodi-n-butylamine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Chloro-3-methylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
p-tert-Butylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Ethylhexyl glycidyl ether	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,6-Di-t-butyl-4-methylphenol(BHT)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Methylnaphthalene, 2-	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzyl alcohol, a,a-dimethyl-p-isopropyl-	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Cyclododecane	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4,5-Trichlorophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4,6-trichlorophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1(3H)-Isobenzofuranone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Chloronaphthalene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2-Nitroaniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
1,1'-(1,3-Phenylene)bis ethanone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,6-Di-tert-butylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Dimethylphthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L



Sample Id: S-0000970696

Testing Parameter	Sample	Control	Result	Normalized Result	Units
Chemistry Lab (Continued)					
1,1'-(1,4-Phenylene)bis ethanone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Acenaphthylene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzenedimethanol, a,a,a',a'-tetramethyl-1,3-	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,6-Dinitrotoluene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4-Dinitrotoluene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzenedimethanol, a,a,a',a'-Tetramethyl-1,4-	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
2,4-Di-tert-butylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Dimethyl terephthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Acenaphthene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Dibenzofuran	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Ethyl-4-ethoxybenzoate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Nitrophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Cyclododecanone	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Diethyl Phthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
p-tert-Octylphenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Fluorene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Chlorophenylphenylether	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
3-Nitroaniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Nitroaniline	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Nitrosodiphenylamine (N-)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Azobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
4-Bromophenylphenylether	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Hexachlorobenzene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Pentachlorophenol	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Phenanthrene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Anthracene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Diisobutyl phthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Dibutyl phthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Hydroxymethylphenylbenzotriazole	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Fluoranthene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Pyrene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Butyl benzyl phthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Di(2-ethylhexyl)adipate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
3,3-Dichlorobenzidine	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzo(a)anthracene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Di(2-ethylhexyl)phthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Chrysene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Di-n-octylphthalate	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzo(b)fluoranthene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzo(k)fluoranthene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzo(a)Pyrene (PAH)	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Dibenzo(a,h)anthracene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Indeno(1,2,3-cd)pyrene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L
Benzo(g,h,i)perylene	ND(2)	ND(2)	ND(2)	ND(0.9)	ug/L



Sample Id: S-0000970696

Testing Parameter	Sample	Control	Result	Normalized Result	Units
Chemistry Lab (Continued)					
* 2-Methyl-1,3-butadiene (isoprene) (Modified EPA 524.2)					
2-Methyl-1,3-butadiene (isoprene)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Volatile Organic Compounds (Ref: EPA 524.2)					
Dichlorodifluoromethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Chloromethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Vinyl Chloride	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Bromomethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Chloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Trichlorofluoromethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Trichlorotrifluoroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Methylene Chloride	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1-Dichloroethylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
trans-1,2-Dichloroethylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1-Dichloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
2,2-Dichloropropane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
cis-1,2-Dichloroethylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Chloroform	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Bromochloromethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1,1-Trichloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1-Dichloropropene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Carbon Tetrachloride	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2-Dichloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Trichloroethylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2-Dichloropropane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Bromodichloromethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Dibromomethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
cis-1,3-Dichloropropene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
trans-1,3-Dichloropropene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1,2-Trichloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,3-Dichloropropane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Tetrachloroethylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Chlorodibromomethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Chlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1,1,2-Tetrachloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Bromoform	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,1,2,2-Tetrachloroethane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2,3-Trichloropropane	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,3-Dichlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,4-Dichlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2-Dichlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Carbon Disulfide	13	ND(1)	13	6	ug/L
Methyl-tert-Butyl Ether (MTBE)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
tert-Butyl ethyl ether	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Methyl Ethyl Ketone	ND(5)	ND(5)	ND(5)	ND(2)	ug/L
Methyl Isobutyl Ketone	ND(5)	ND(5)	ND(5)	ND(2)	ug/L



Sample Id: S-0000970696

Testing Parameter	Sample	Control	Result	Normalized Result	Units
Chemistry Lab (Continued)					
Toluene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Ethyl Benzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
m+p-Xylenes	ND(1)	ND(1)	ND(1)	ND(0.4)	ug/L
o-Xylene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Styrene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Isopropylbenzene (Cumene)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
n-Propylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Bromobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
2-Chlorotoluene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
4-Chlorotoluene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,3,5-Trimethylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
tert-Butylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2,4-Trimethylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
sec-Butylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
p-Isopropyltoluene (Cymene)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2,3-Trimethylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
n-Butylbenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2,4-Trichlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Hexachlorobutadiene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
1,2,3-Trichlorobenzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Naphthalene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Benzene	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Total Trihalomethanes	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L
Total Xylenes	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.2)	ug/L



Testing Laboratories:

	Id	Address
All work performed at: →	NSF_AA	NSF International 789 N. Dixboro Road Ann Arbor MI 48105

References to Testing Procedures:

NSF Reference	Parameter / Test Description
C1031	* Standard 61 Additives LAB SUM TEST Code
C2023	BASE/NEUTRAL/ACID EPA METHOD 625 Scan for Tentatively Identified Compounds (TICs)
C2024	Semivolatile Compounds, Base/Neutral/Acid Target 625, Data Workup
C3380	* 2-Methyl-1,3-butadiene (isoprene) (Modified EPA 524.2)
C4662	Volatile Organic Compounds (Ref: EPA 524.2)

Test descriptions preceded by an asterisk “*” indicate that testing has been performed per NSF International requirements but is not within its scope of accreditation.

APPENDIX C

CRESCENTA VALLEY WATER DISTRICT PROJECT SIGN

LETTER
SIZE



CRESCENTA VALLEY WATER
DISTRICT
WATER MAIN REPLACEMENT
PROJECT

2"

Project Name

2.5"

Project Number

2"

XXXX 2022 through XXXX 2023

1.5"

CONTRACTOR: XXXXX

1.5"

PHONE NUMBER: XXX-XXX-XXXX

1.5"

PLEASE EXCUSE US FOR THE
TEMPORARY INCONVENIENCE
FOR QUESTIONS, PLEASE CALL (818) 248-3925
OR VISIT WWW.CVWD.COM

2.5"

1.5"

5'

4'

1'-7"

1'-4"

CRESCENTA VALLEY WATER DISTRICT

SCALE: NOT TO SCALE

DR. BY: P. HILKE

APP'VD.

PROJECT SIGN

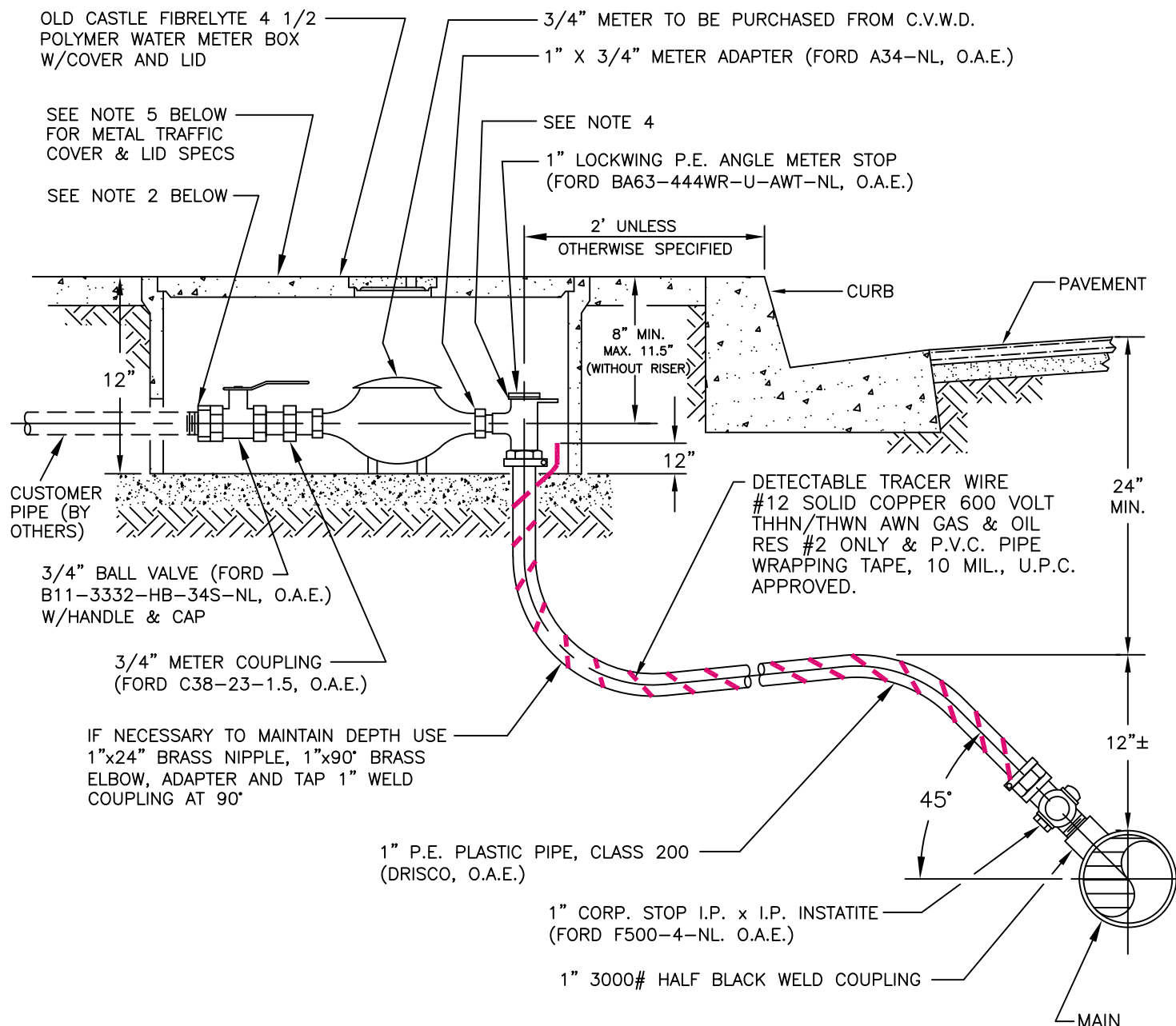
DATE: 12/21/20

JOB NO.

FILE NO.

APPENDIX D

CRESCENTA VALLEY WATER DISTRICT STANDARD DRAWINGS



NOTES:

1. CENTER METER BOX OVER METER REGISTER.
2. IF CUSTOMER PIPE IS 1" DIAMETER, CONNECT TO CUSTOMER SIDE WITH 1" X 3/4" BUSHING, 1" X 6" BRASS NIPPLE AND 1" TRANSITION COUPLING.
3. FOR PLASTIC LATERALS, DETECTABLE UNDERGROUND TRACER WIRE SHALL BE INSTALLED FOR ALL PLASTIC LATERALS. THE DETECTABLE WIRE USED SHALL BE SIZE 12 AWG, STRAND SOLID BC WALL 019 AS MANUFACTURED BY ATLAS WIRE & CABLE OR APPROVED EQUAL. THE DETECTABLE WIRE SHALL BE BURIED IN THE EXCAVATION DITCH 6 INCHES TO 12 INCHES BELOW GRADE DETECTABLE USING ANY COMMON METAL DETECTOR. ONE END OF THE WIRE SHALL BE WRAPPED AROUND WELD COUPLING AND OTHER END SHALL BE EXPOSED A MIN. OF 12 INCHES INSIDE METER BOX. CONNECTION TO WATER MAIN SHALL BE TAPE WRAPPED AFTER TRACER WIRE IS INSTALLED.
4. ANY ABANDONED FACILITIES IN METER BOX SUCH AS ANGLE METER STOP, PLASTIC PIPE, ETC. SHALL BE REMOVED TO BELOW GRADE BY CONTRACTOR AFTER NEW SERVICE IS CONNECTED TO WATER MAIN AND WATER METER.
5. IN TRAFFIC AREAS USE THE FOLLOWING WATER METER BOX COVERS:
 - a. A.C. PAVEMENT: THS SUPERIMPOSED STEEL COVER W/ HINGED LID.
 - b. CONCRETE: THF STEEL COVER W/HF FLUSH.

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH

REV.

DATE: 1/02

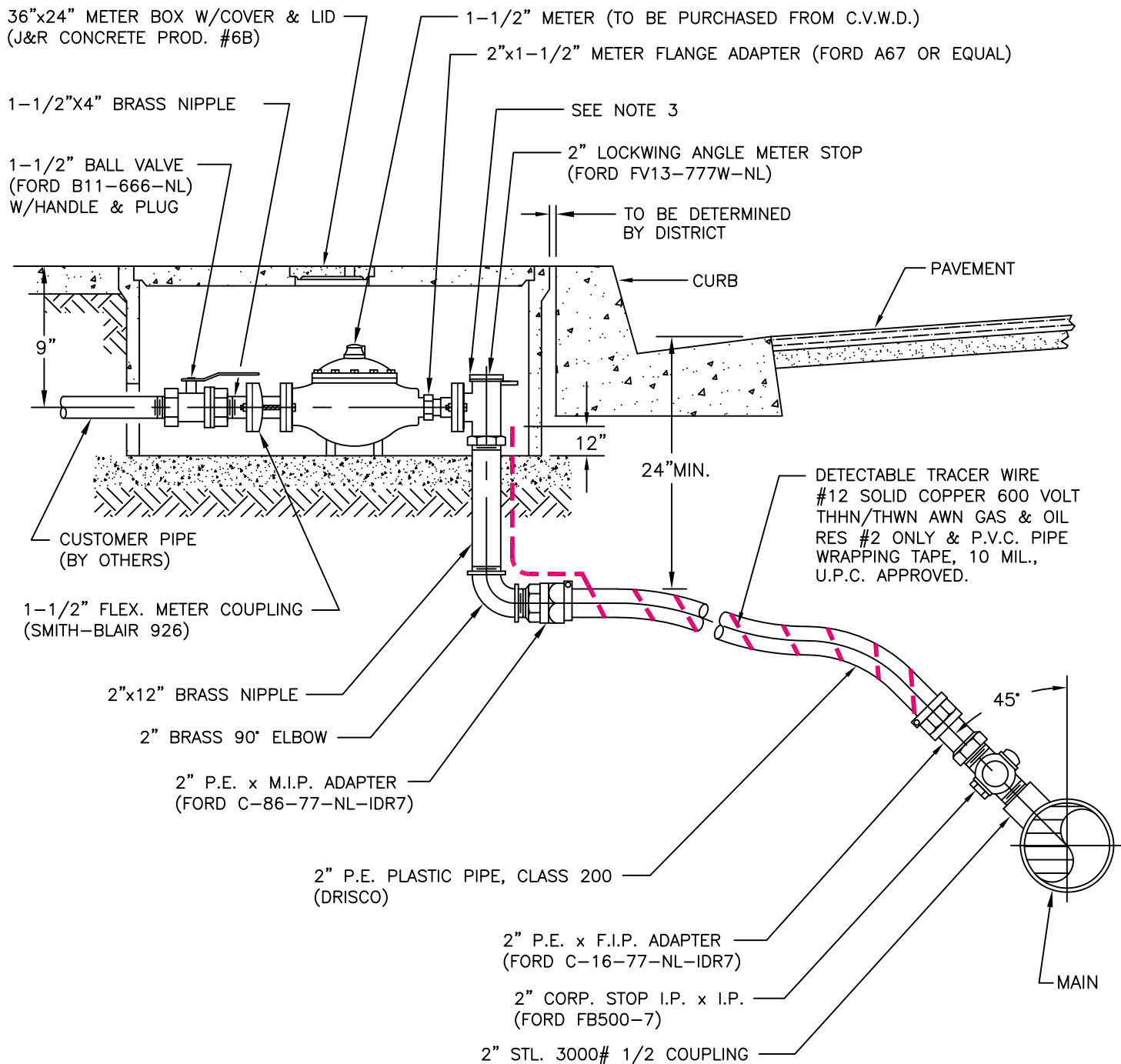
12/21

3/4" WATER METER & 1" SERVICE INSTALLATION

DWG. NO.

10-00W

CRESCENTA VALLEY WATER DISTRICT



NOTES:

1. CENTER METER BOX OVER METER REGISTER.
2. FOR PLASTIC LATERALS, DETECTABLE UNDERGROUND TRACER WIRE SHALL BE INSTALLED FOR ALL PLASTIC LATERALS. THE DETECTABLE WIRE USED SHALL BE SIZE 12 AWG STRAND SOLID BC WALL 019 AS MANUFACTURED BY ATLAS WIRE & CABLE OR APPROVED EQUAL, THE DETECTABLE WIRE SHALL BE BURIED IN THE EXCAVATION DITCH 6 INCHES TO 12 INCHES BELOW GRADE DETECTABLE USING ANY COMMON METAL DETECTOR. ONE END OF THE WIRE SHALL BE SPOT WELDED ON THE BARE METAL OF THE WATER MAIN, AND OTHER END SHALL BE EXPOSED A MIN. OF 3 INCHES INSIDE METER BOX. CONNECTION TO WATER MAIN SHALL BE TAPE WRAPPED AFTER TRACER WIRE IS INSTALLED.
3. ANY ABANDONED FACILITIES IN METER BOX SUCH AS ANGLE METER STOPS, PLASTIC PIPE, ETC. SHALL BE REMOVED TO BELOW GRADE BY CONTRACTOR AFTER NEW SERVICE IS CONNECTED TO WATER MAIN AND WATER METER.

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH

REV.

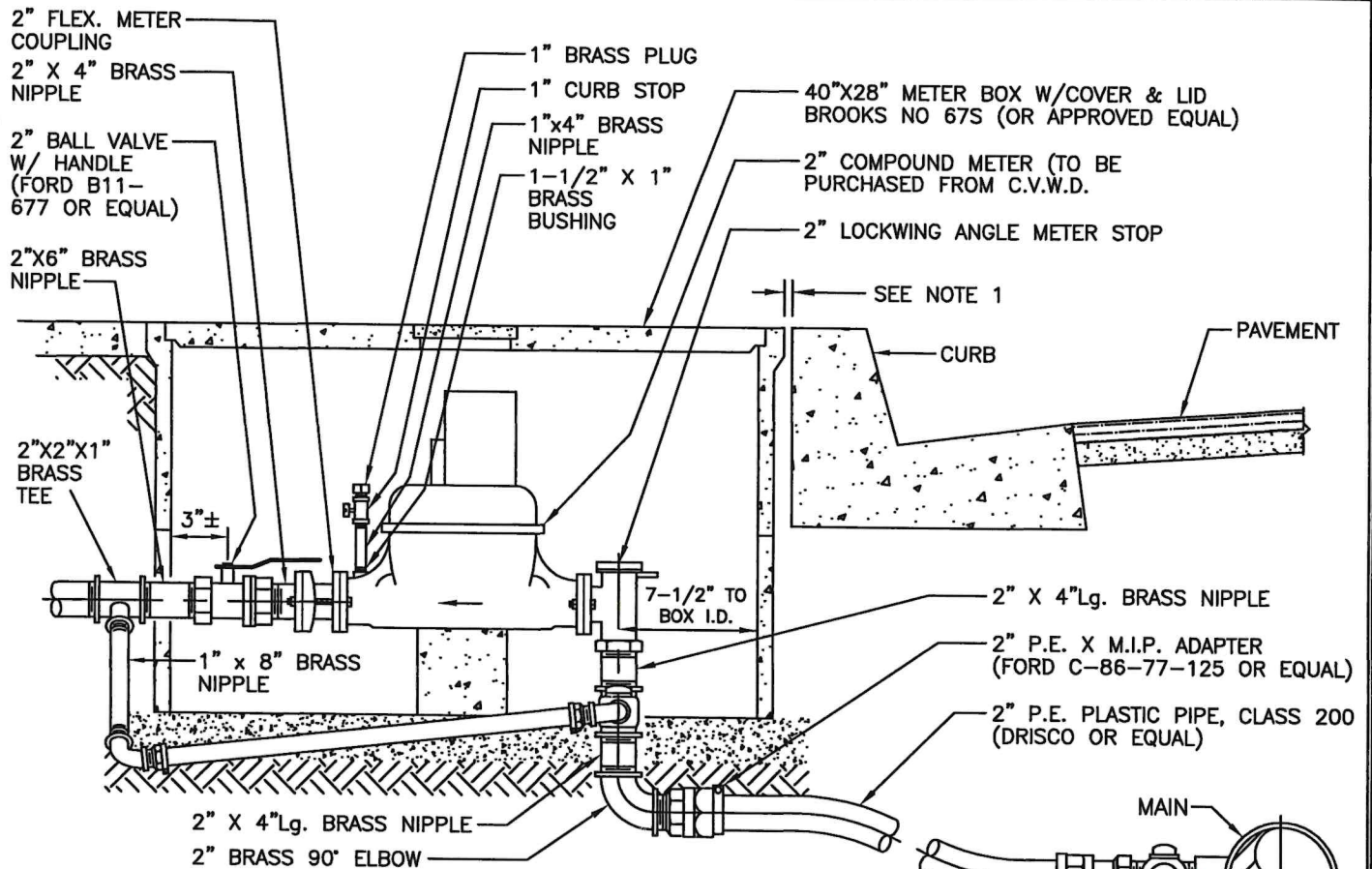
DATE: 8/01

12/21

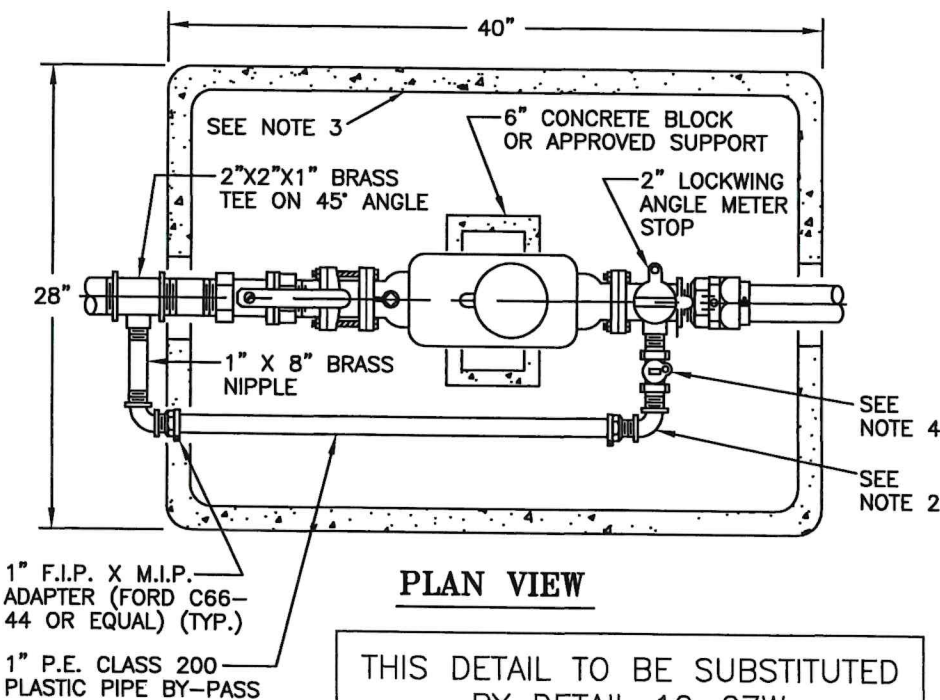
1-1/2" METER INSTALLATION

DWG. NO.

10-02W

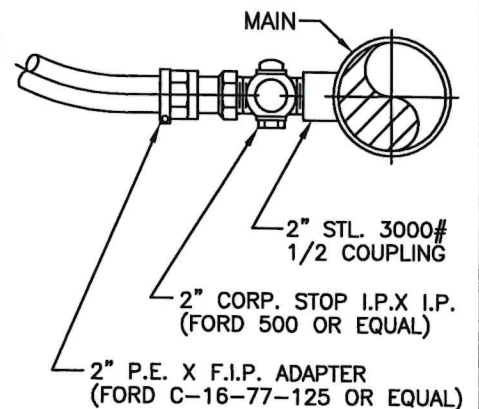


SIDE VIEW



PLAN VIEW

THIS DETAIL TO BE SUBSTITUTED
BY DETAIL 10-07W

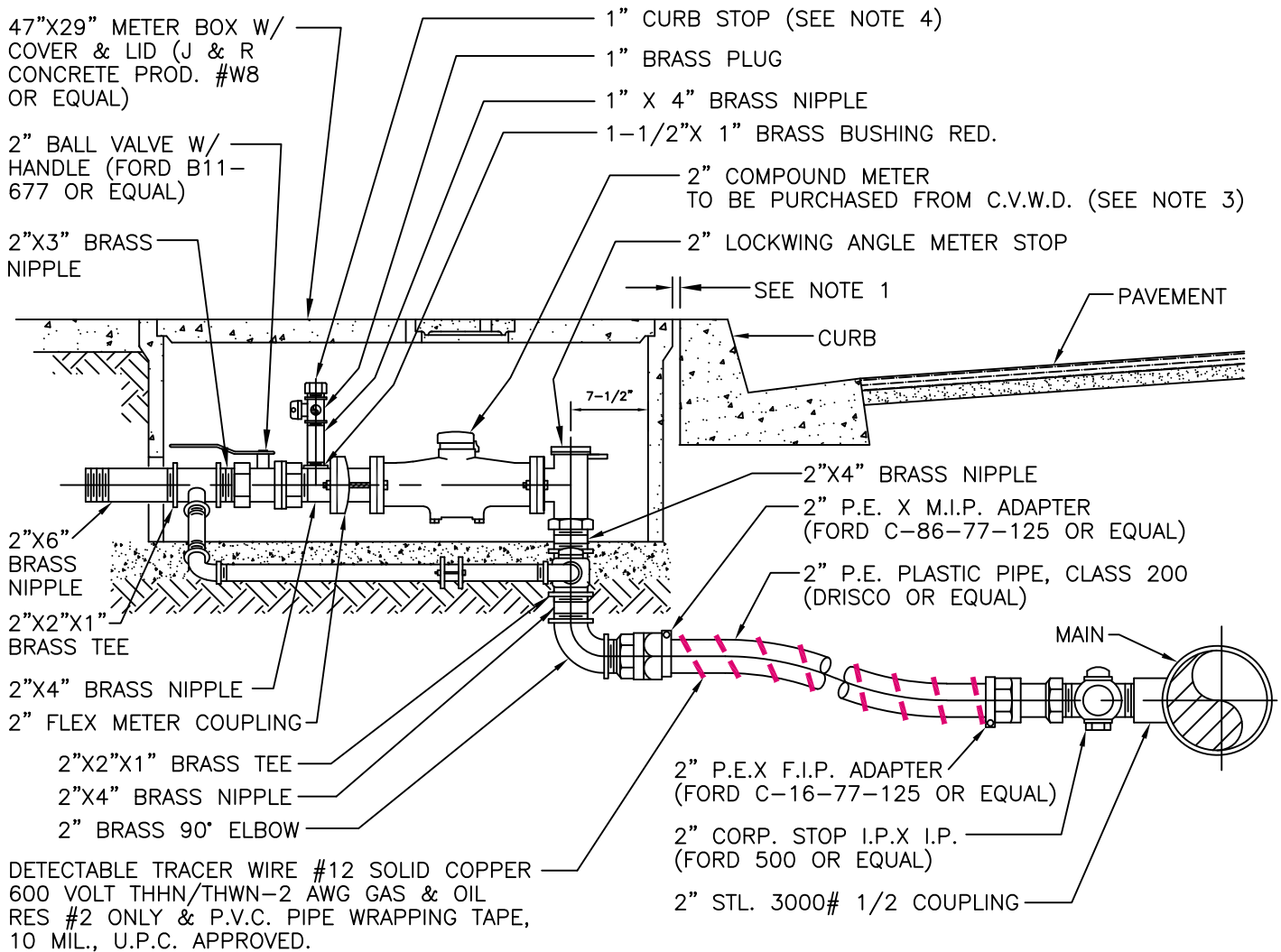


NOTES:

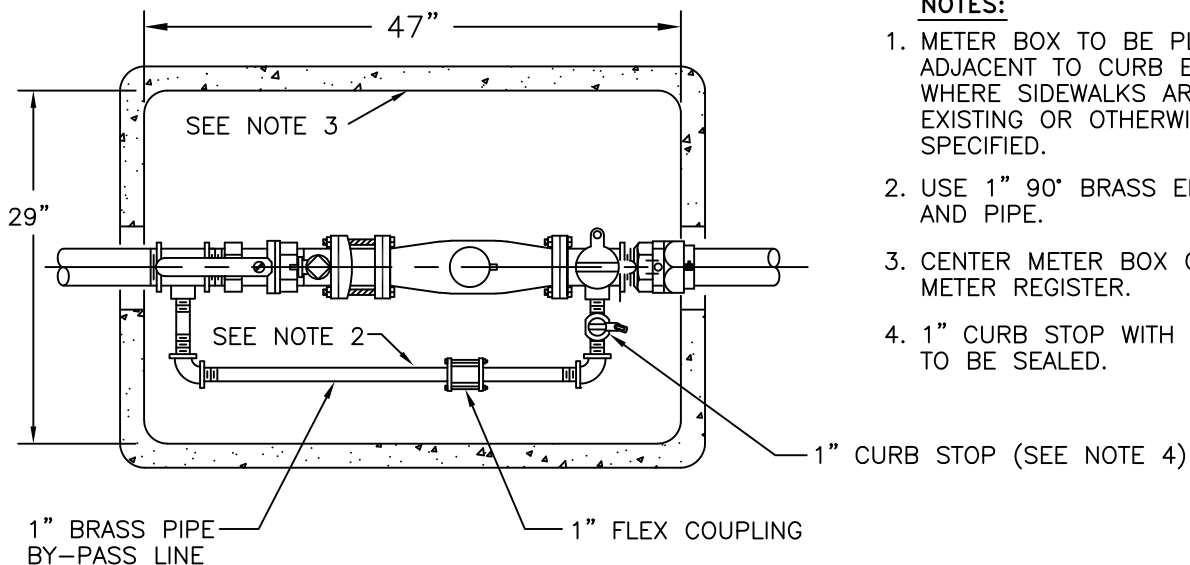
1. METER BOX TO BE PLACED ADJACENT TO CURB EXCEPT WHERE SIDEWALKS ARE EXISTING OR OTHERWISE SPECIFIED.
2. USE 1" 90° F.I.P. BRASS ELBOWS (TYP.)
3. CENTER METER BOX OVER METER REGISTER.
4. 1" CURB STOP I.P. X I.P. W/ LOCKWING TO BE SEALED.

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH	REV.	2" COMPOUND METER W/ 1" BY-PASS INSTALLATION	DWG. NO.
DATE: 6/10	0		10-03W



SIDE VIEW



PLAN VIEW

NOTES:

1. METER BOX TO BE PLACED ADJACENT TO CURB EXCEPT WHERE SIDEWALKS ARE EXISTING OR OTHERWISE SPECIFIED.
2. USE 1" 90° BRASS ELBOWS AND PIPE.
3. CENTER METER BOX OVER METER REGISTER.
4. 1" CURB STOP WITH LOCKWING TO BE SEALED.

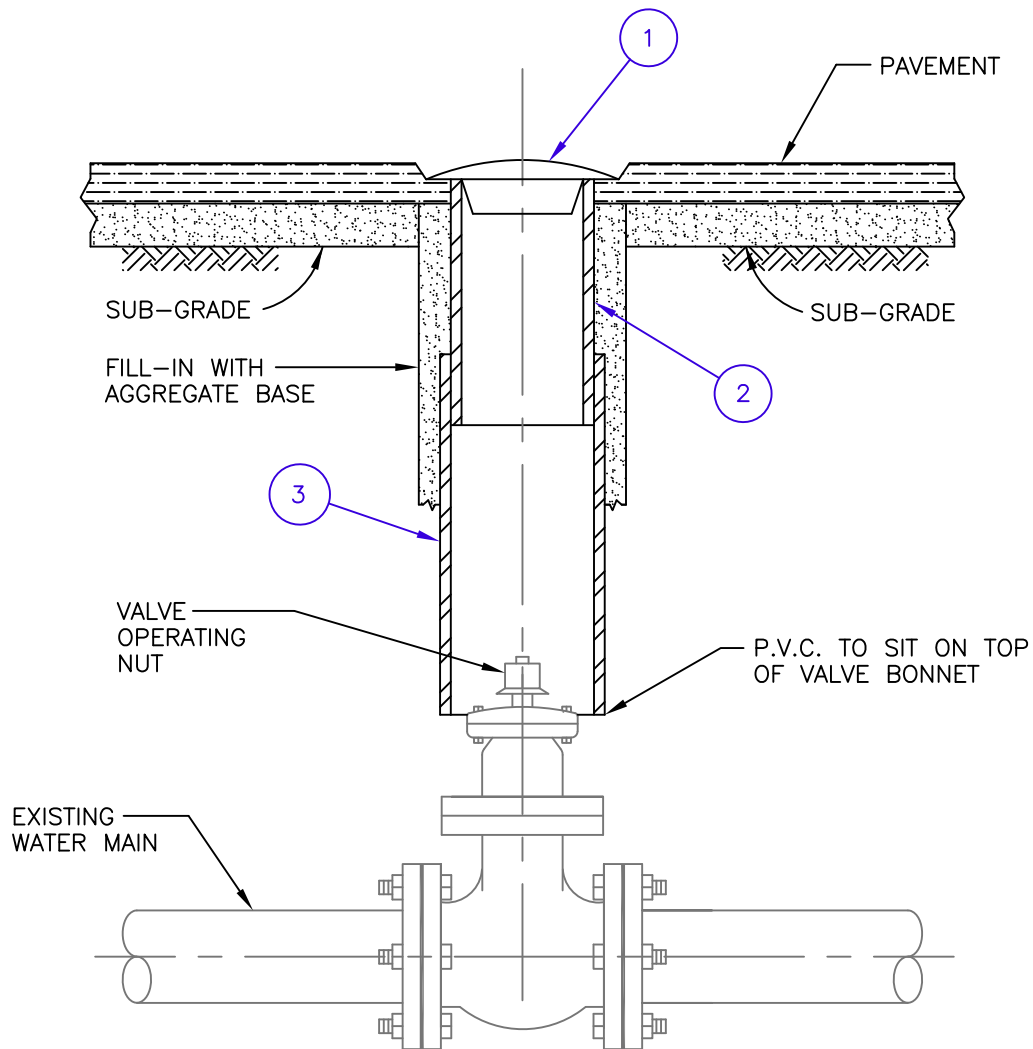
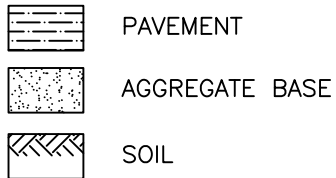
CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH
DATE: 11/00

REV.
12/21

2" COMPOUND METER
W/ 1" BY-PASS INSTALLATION

DWG. NO.
10-07W



NOTE:

THE FOLLOWING APPLICABLE DESIGNATION WILL BE WELDED ON THE TOP OF THE VALVE CAN:
 'NC' (ZONE VALVE / NORMALLY CLOSED)
 'FH' (FIRE HYDRANT VALVE)
 NO DESIGNATION WILL BE REQUIRED FOR "NORMALLY OPEN" VALVES.

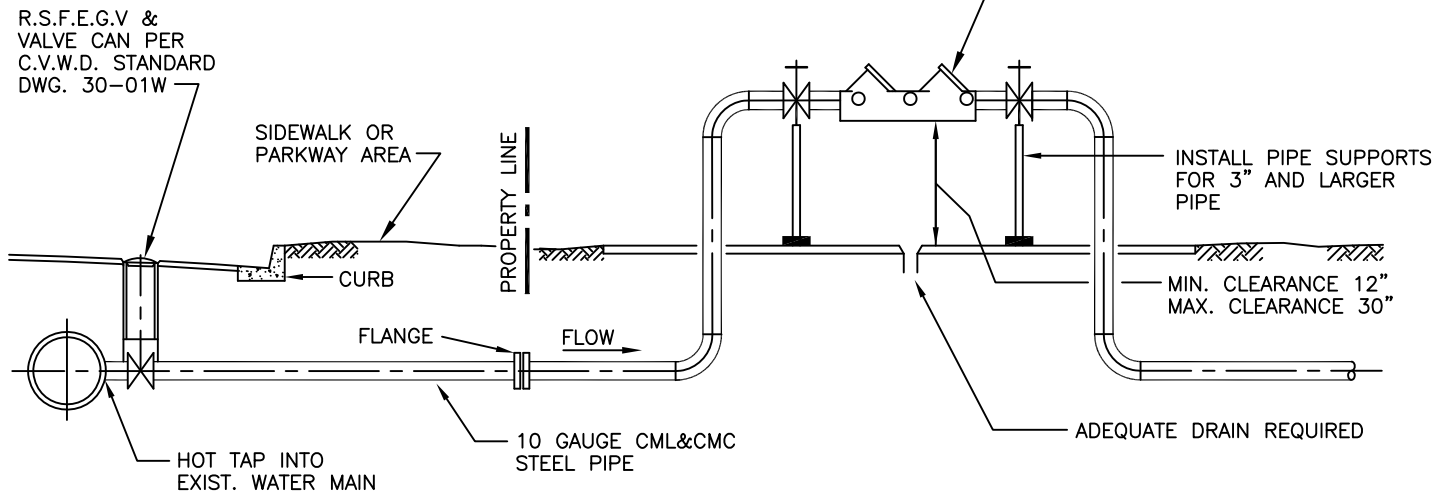
MATERIALS

ITEM NO.	SIZE & DESCRIPTION
1	8" C.I. VALVE CAN CAP
2	8" O.D. 18" SLIP SLEEVE GALVANIZED
3	8" I.D. SCHEDULE 40 P.V.C.

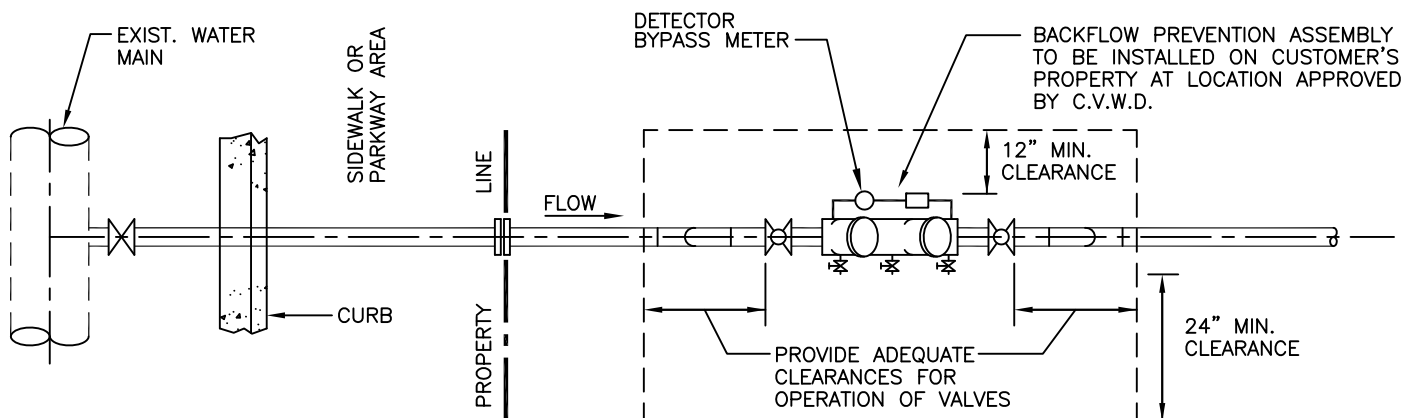
CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH DATE: 3/11	REV.	VALVE BOX AND RISER	DWG. NO. 30-01W
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LOS ANGELES COUNTY DEPT. OF HEALTH SERVICES APPROVED
DOUBLE CHECK DETECTOR ASSEMBLY WITH SHUT-OFF VALVES.
(DETECTOR BYPASS METER TO READ IN GALLONS)



SIDE VIEW



PLAN VIEW

NOTES

1. C.V.W.D. SHALL INSTALL VALVE IN THE STREET AND PIPING UP TO THE PROPERTY LINE. PIPE SHALL BE BLIND FLANGED UNTIL PROPERTY OWNER MAKES CONNECTION. C.V.W.D. SHALL OPEN STREET VALVE WHEN REQUESTED BY PROPERTY OWNER.
2. PROPERTY OWNER SHALL INSTALL AND BE RESPONSIBLE FOR PIPING AND BACKFLOW PREVENTION ASSEMBLY LOCATED ON OWNER'S PROPERTY.
3. PIPE SIZE SHALL BE DETERMINED BY FIRE DEPARTMENT FLOW REQUIREMENTS.
4. BACKFLOW ASSEMBLY TEST REPORT BY L.A.C.D.H.S. CERTIFIED TESTER REQUIRED AFTER INSTALLATION.
5. DETECTOR BYPASS METER SHALL READ IN 1000 GAL. INCREMENTS.

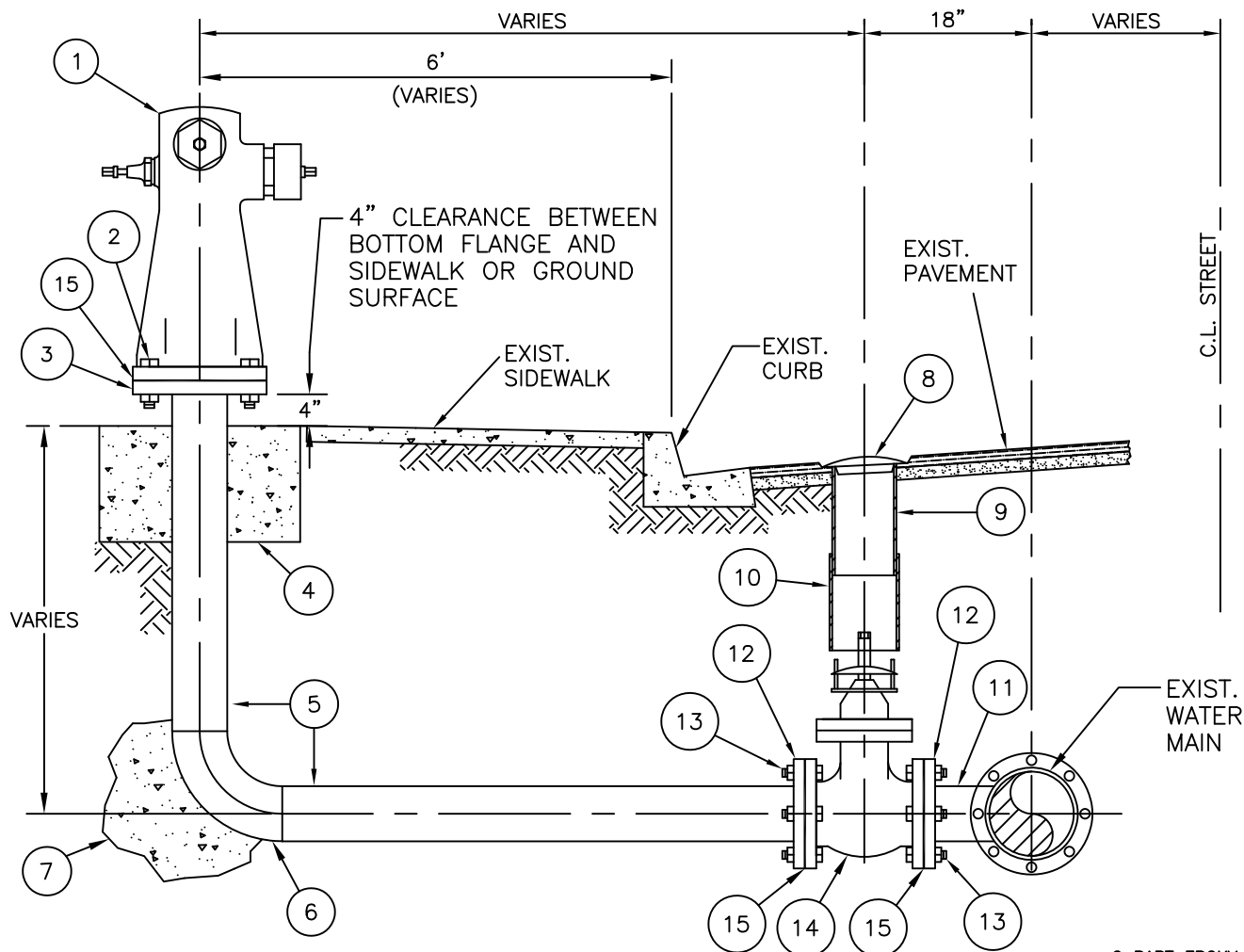
CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH
DATE: 9/96

REV.
6/99

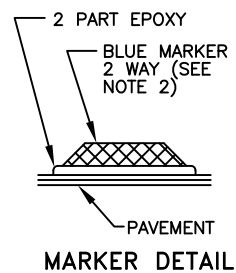
FIRE SERVICE - 4" OR LARGER

DWG. NO.
40-03W



NOTES:

1. FIRE HYDRANTS SHALL BE PAINTED WITH TWO COATS OF RED PRIMER AND ONE FINISH COAT OF WATERPROOF SCHOOL BUS YELLOW. STENCIL WITH BLACK PAINT "C.V.W.D." ON FIRE HYDRANT
2. MARKERS SHALL BE BLUE 2 WAY TYPE, COUNTY OF LOS ANGELES AND CITY OF GLENDALE FIRE DEPARTMENT APPROVED. ADHESIVE SHALL HAVE AN AMPLIFIED AMOUNT OF TWO PART (A & B) EPOXY OR EQUAL, SURFACES SHALL BE CLEAN AND DRY PRIOR TO INSTALLATION PER MANUFACTURE'S RECOMMENDATIONS. INSTALL MARKERS WITH REFLECTIVE SURFACES FACING ONCOMING VEHICLES AND OFFSET 2" FROM LANE LINES.



MATERIALS

ITEM NO.	SIZE & DESCRIPTION
1	6"X 4"X 2-1/2" FIRE HYDRANT (CLOW #850, JONES # J-4040D, OR APPROVED EQUAL)
2	3/4" X 3-3/4" (6 OR 8) BREAK AWAY NUT & BOLT SETS
3	6" 150# 6 BOLT HOLE SLIP-ON FLANGE (USED ON 6 BOLT HOLE FIRE HYDRANTS)
4	POUR 24" X 24" CONCRETE SUPPORT BLOCK W/ SIDEWALK FINISH TO EXIST. GRADE.
5	6" CML&CMC PIPE
6	6" 90° STD. CML&CMC WELD ELBOW
7	POUR CONCRETE THRUST BLOCK PER L.A. CO. STD. DWG. W-21.
8	8" C.I. VALVE CAN CAP, 'FH' WELDED ON LID.
9	8" O.D. 18" SLIP SLEEVE GALVANIZED
10	8" I.D. SCHEDULE 40 P.V.C.
11	6" CML&CMC SADDLE OR FLANGED END TEE ON NEW PIPELINE INSTALLATIONS.
12	6" 150# 8 BOLT HOLE SLIP-ON FLANGE
13	3/4" X 3-1/4" (8) CAD PLATED NUT & BOLT SETS
14	6" R.S. F.E. GATE VALVE (MUELLER #2360 OR APPROVED EQUAL)
15	6" 150# NON-ASBESTOS RING GASKET

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH

REV.

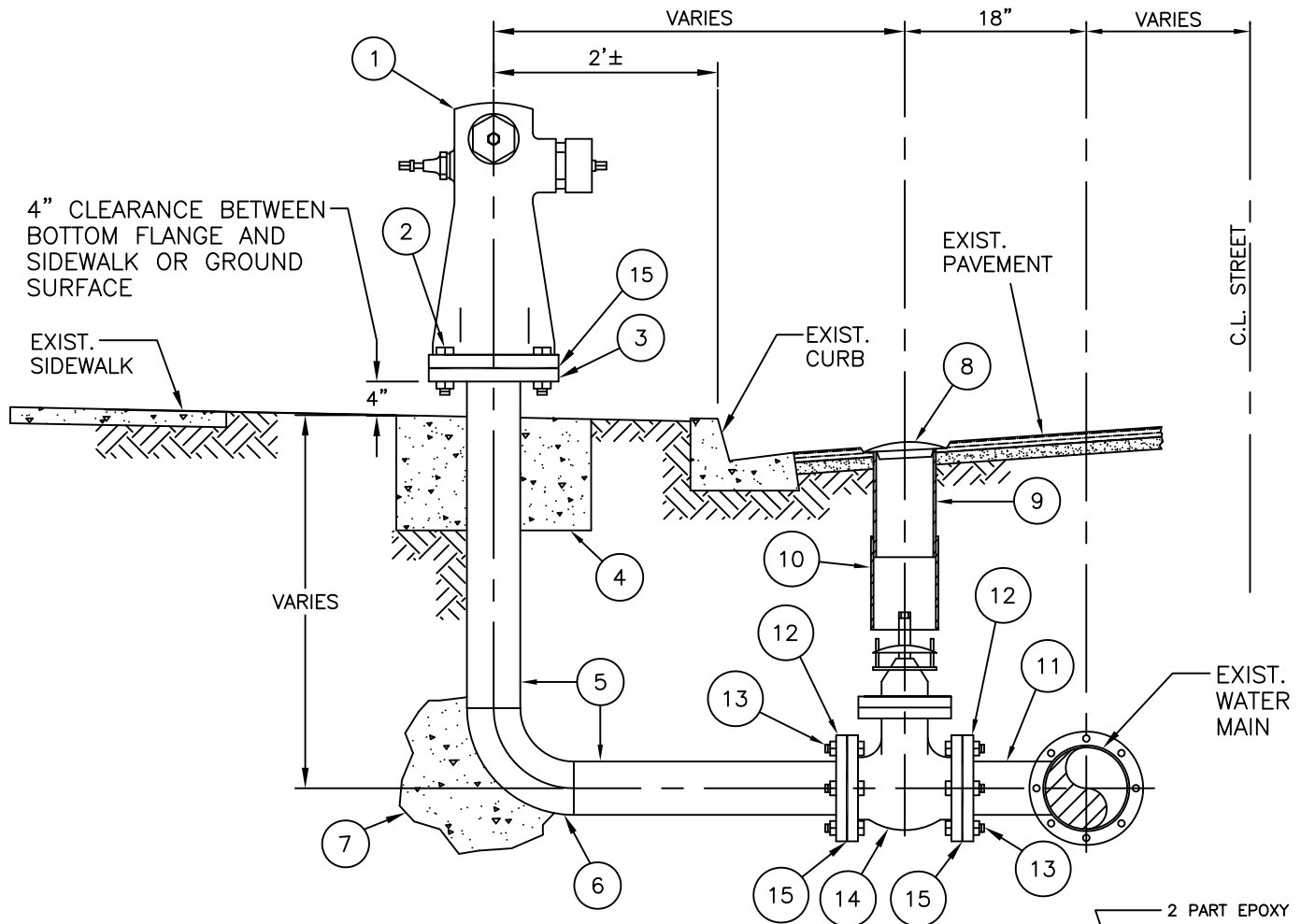
DATE: 1/00

10/13

TYPE "C" FIRE HYDRANT
BACK EDGE OF SIDEWALK

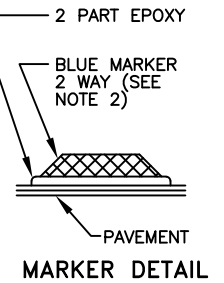
DWG. NO.

50-02W



NOTES:

1. FIRE HYDRANTS SHALL BE PAINTED WITH TWO COATS OF RED PRIMER AND ONE FINISH COAT OF WATERPROOF SCHOOL BUS YELLOW. STENCIL WITH BLACK PAINT "C.V.W.D." ON FIRE HYDRANT
2. MARKERS SHALL BE BLUE 2 WAY TYPE, COUNTY OF LOS ANGELES AND CITY OF GLENDALE FIRE DEPARTMENT APPROVED. ADHESIVE SHALL HAVE AN AMPLIFIED AMOUNT OF TWO PART (A & B) EPOXY OR EQUAL. SURFACES SHALL BE CLEAN AND DRY PRIOR TO INSTALLATION PER MANUFACTURE'S RECOMMENDATIONS. INSTALL MARKERS WITH REFLECTIVE SURFACES FACING ONCOMING VEHICLES AND OFFSET 2" FROM LANE LINES.

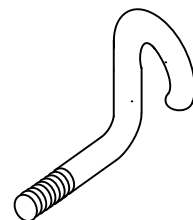
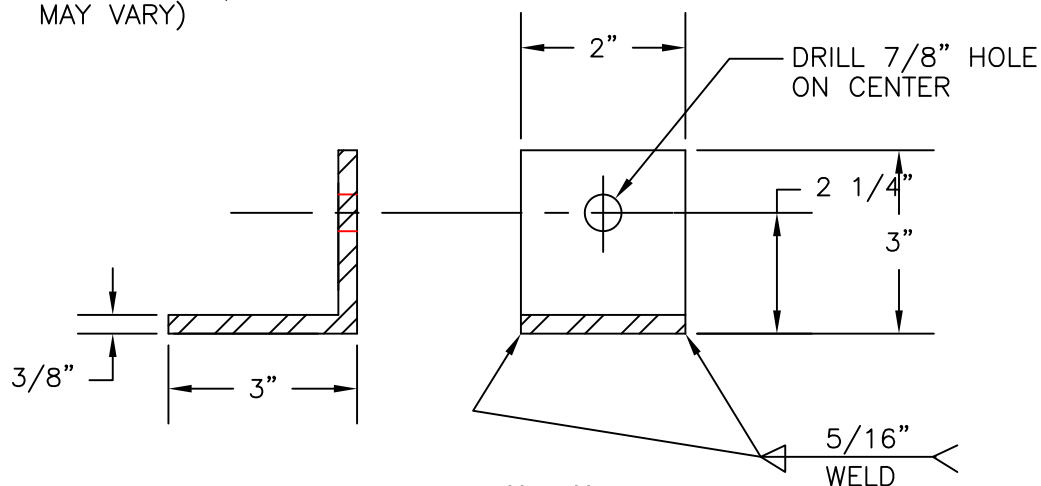
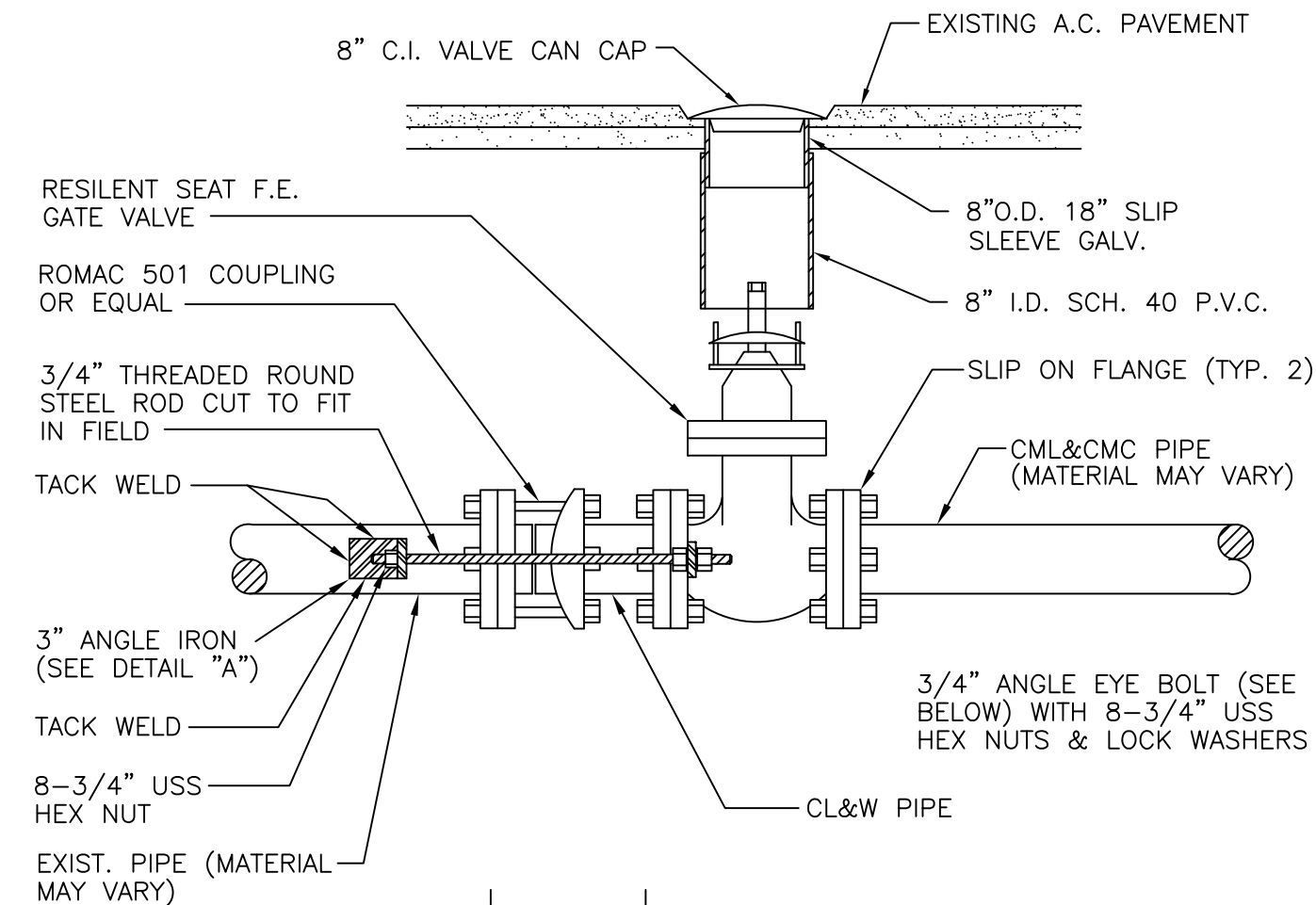


MATERIALS

ITEM NO.	SIZE & DESCRIPTION
1	6"X 4"X 2-1/2" FIRE HYDRANT (CLOW # 850, JONES # J-4040D OR APPROVED EQUAL)
2	3/4" X 3-3/4" (6 OR 8) BREAK AWAY NUT & BOLT SETS
3	6" 150# 6 BOLT HOLE SLIP-ON FLANGE (USED ON 6 BOLT HOLE FIRE HYDRANTS)
4	POUR 24" X 24" CONCRETE SUPPORT BLOCK W/ SIDEWALK FINISH TO EXIST. GRADE.
5	6" CML&CMC PIPE
6	6" 90° STD. CML&CMC WELD ELBOW
7	POUR CONCRETE THRUST BLOCK PER L.A. CO. STD. DWG. W-21.
8	8" C.I. VALVE CAN CAP, 'FH' WELDED ON LID.
9	8" O.D. 18" SLIP SLEEVE GALVANIZED
10	8" I.D. SCHEDULE 40 P.V.C.
11	6" CML&CMC SADDLE OR FLANGED END TEE ON NEW PIPELINE INSTALLATIONS.
12	6" 150# 8 BOLT HOLE SLIP-ON FLANGE
13	3/4" X 3-1/4" (8) CAD PLATED NUT & BOLT SETS
14	6" R.S. F.E. GATE VALVE (MUELLER #2360 OR APPROVED EQUAL)
15	6" 150# NON-ASBESTOS RING GASKET

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH	REV.	TYPE "C" FIRE HYDRANT INSTALLATION IN PARKWAY	DWG. NO.
DATE: 11/03	10/13		50-03W



3/4" ANGLE EYE BOLT

DETAIL "A"

3" ANGLE IRON - NO SCALE

NOTES:

1. WRAP AND TAPE COUPLINGS , VALVE BODY AND ALL BARE METAL.

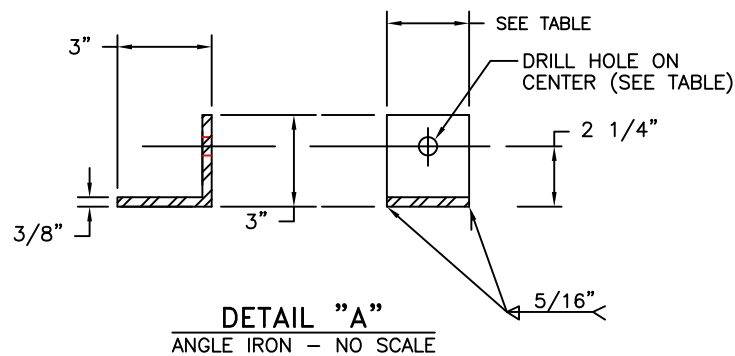
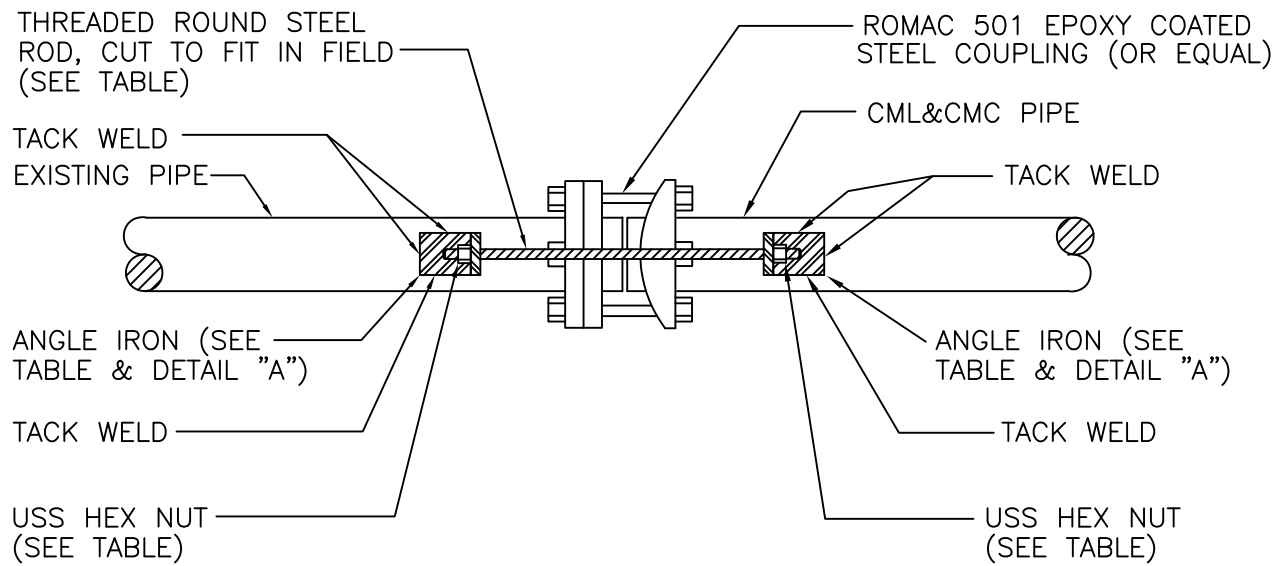
CRESCENTA VALLEY COUNTY WATER DISTRICT

DRAWN: JAH
DATE: 7/95

REV.
10/13

TIE ROD INSTALLATION FOR STEEL PIPE

DWG. NO.
60-03W



TIE-ROD & ANGLE IRON TABLE				
PIPE DIA.	ANGLE IRON WIDTH	DRILL HOLE SIZE	THREADED ROD SIZE	USS HEX NUT SIZE
2"	1"	5/16"	1/4"	8-1/4"
4"	2"	11/16"	5/8"	8-5/8"
6"	2"	11/16"	5/8"	8-5/8"
8"	3"	13/16"	3/4"	8-3/4"

NOTES:

1. WRAP AND TAPE PIPE AND ALL BARE METAL.
2. APPLY CEMENT MORTAR LINING TO INTERIOR SURFACE OF OF PIPE BEFORE JOINING.
3. INSTALL 2 (MIN.) TIE ROD ASSEMBLIES FOR 2"—8" PIPE (SEE TABLE ABOVE).

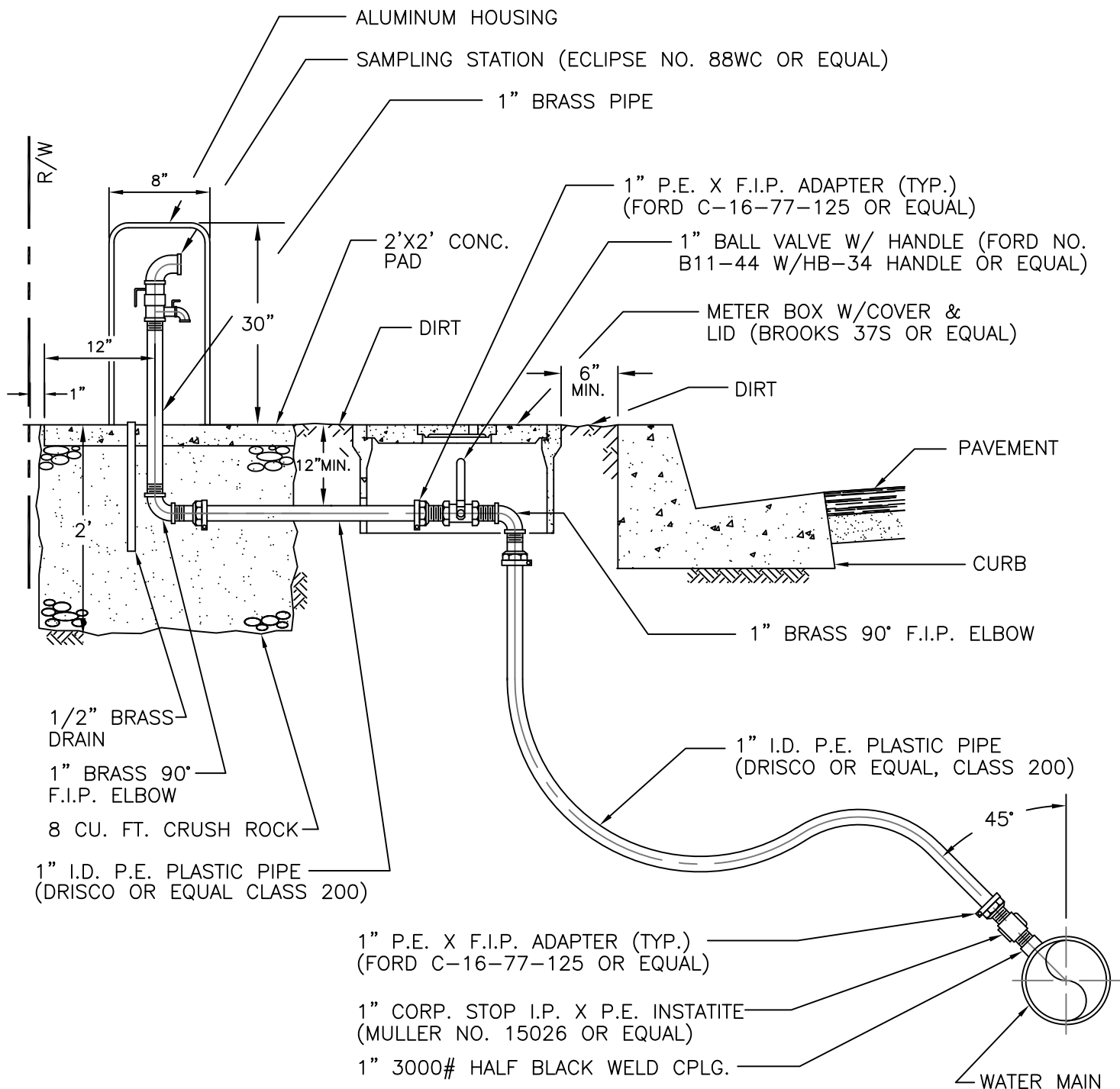
CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH
DATE: 4/96

REV.
10/13

COUPLING INSTALLATION FOR STEEL PIPE

DWG. NO.
60-04W



NOTES:

1. SAMPLING STATIONS SHALL BE 1' BURY, WITH A 1" M.I.P. INLET, AND A 1" F.I.P. DISCHARGE. A 1/4" BENT-NOSE SAMPLING BIBB SHALL BE LOCATED BEFORE THE DISCHARGE.
2. ALL STATIONS SHALL BE ENCLOSED IN A LOCKABLE, NON-REMOVABLE, ALUMINUM-CAST HOUSING.
3. WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION, AND THE WATER WILL FLOW IN AN ALL BRASS WATERWAY.
4. CENTER METER BOX OVER BALL VALVE
5. FOR PLASTIC LATERALS NOT LAID PERPENDICULAR TO THE MAIN PIPELINE, DETECTABLE UNDERGROUND TAPE SHALL BE INSTALLED IN THE EXCAVATION DITCH 6" TO 12" BELOW GRADE AND ONE END OF THE TAPE SHALL BE WRAPPED AROUND THE WATER METER ANGLE STOP. DETECTABLE TAPE SHALL MEET C.V.W.D. STANDARDS.

CRESCENTA VALLEY WATER DISTRICT

DRAWN: JAH
DATE: 9/98

REV.

SAMPLING TAP STATION
(CURB & GUTTER, NO SIDEWALK)

DWG. NO.
70-03W

CONCRETE THRUST BLOCKS

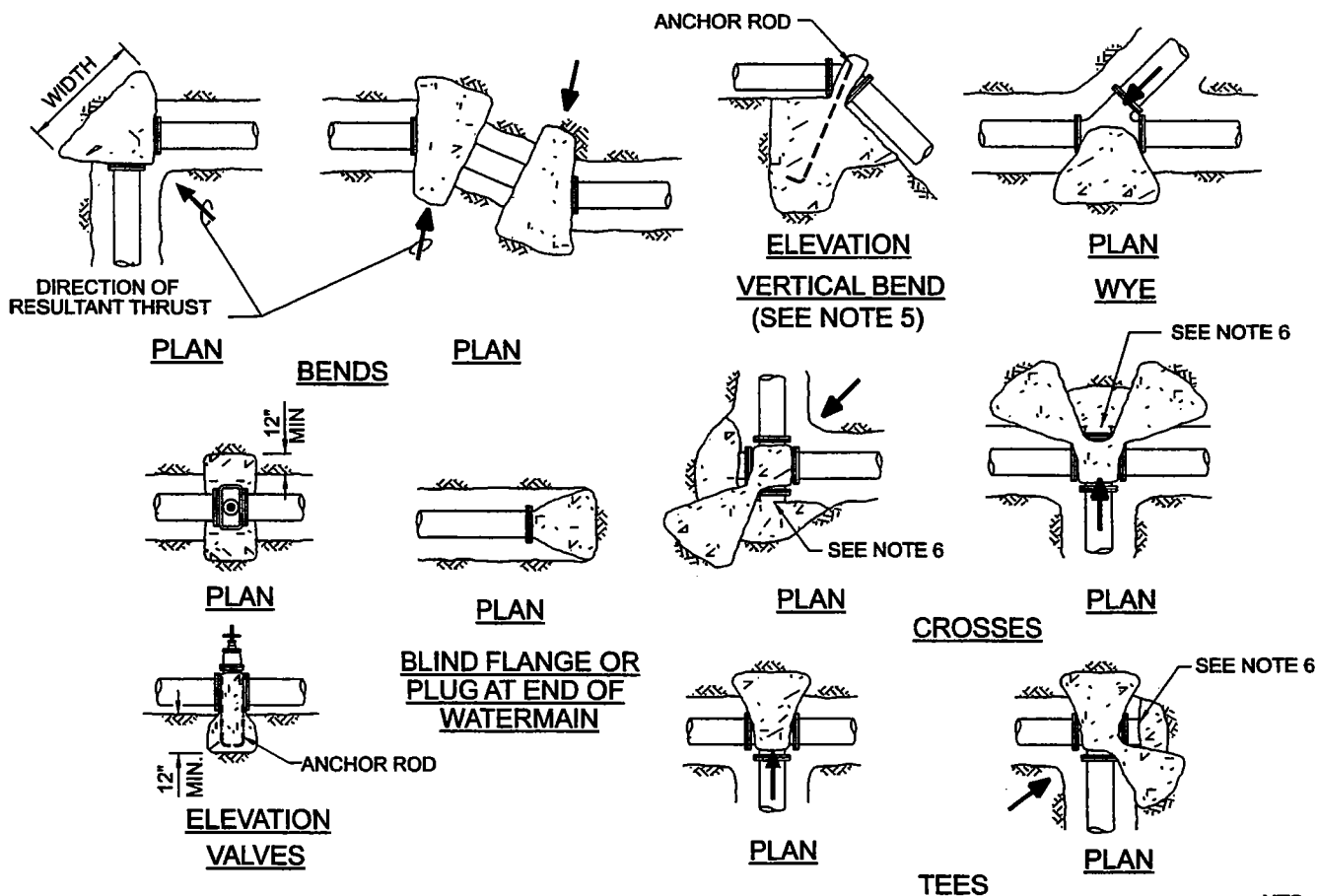


TABLE I

MINIMUM BEARING AREAS IN SQ FT *				
MAIN SIZE	TEE **	90° BEND	45° BEND	22 1/2° BEND
6"	4	4	4	3
8"	5	7	4	3
10"	9	12	6	4
12"	12	16	9	6

* BASED ON 150 PSI WWP PRESSURE & SOIL BEARING LOADS OF 2000 PSF. THE RATIO OF WIDTH TO HEIGHT SHALL NOT EXCEED 1 1/2 TO 1.

** TEES, PLUGS, CAPS, AND HYDRANTS.

TABLE II

*** SOIL TYPE	**** MAX ALLOWABLE SOIL BEARING VALUES	FACTORS FOR INCREASING AREAS IN TABLE 1
LOOSE SAND	500 PSF	4
SOFT SANDY CLAY	1000 PSF	2
ADOBE	1000 PSF	2
COMPACT FINE SAND	2000 PSF	1
COMPACT COARSE SAND	2000 PSF	1
MEDIUM STIFF CLAY	2000 PSF	1

*** THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE SAFE SOIL BEARING VALUES AND THE POSITION AND SIZE OF BEARING AREAS.

**** BASED ON 2 FEET MINIMUM DEPTH OF COVER OVER THE PIPE.

GENERAL NOTES:

1. ALL ANCHOR AND THRUST BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
2. MINIMUM ALLOWABLE WATER PRESSURE FOR DESIGN OF THRUST BLOCKS IS 150 PSI. BEARING AREA INCREASES DIRECTLY WITH INCREASE IN PRESSURE.
3. ALL CONCRETE USED IN THRUST BLOCKS SHALL ATTAIN 2000 PSI STRENGTH.
4. ALL ANCHOR RODS SHALL BE REINFORCING STEEL AND A MINIMUM OF 1/2 INCH IN DIAMETER.
5. USE ANCHOR BLOCKS AT VERTICAL BENDS WHEN PIPE IS ABOVE OR BELOW GROUND. SIZE OF BLOCK AND ROD SHALL BE AS SHOWN ON THE PLANS OR AS DETERMINED BY THE DISTRICT.
6. USE 30 POUND FELT TO INSURE COLD JOINT.
7. CONCRETE SHALL NOT COME INTO DIRECT CONTACT WITH ASBESTOS-CEMENT PIPE.
8. FOR PIPE GREATER THAN 12" IN DIAMETER, ENGINEER IS TO SUBMIT CALCULATIONS FOR APPROVAL.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

APPROVED

ASSISTANT DEPUTY DIRECTOR

APRIL 2004

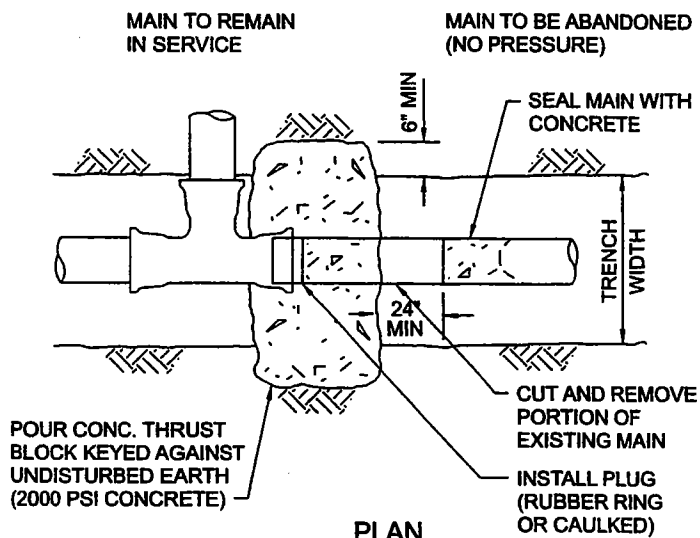
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STANDARD PLAN

W-21

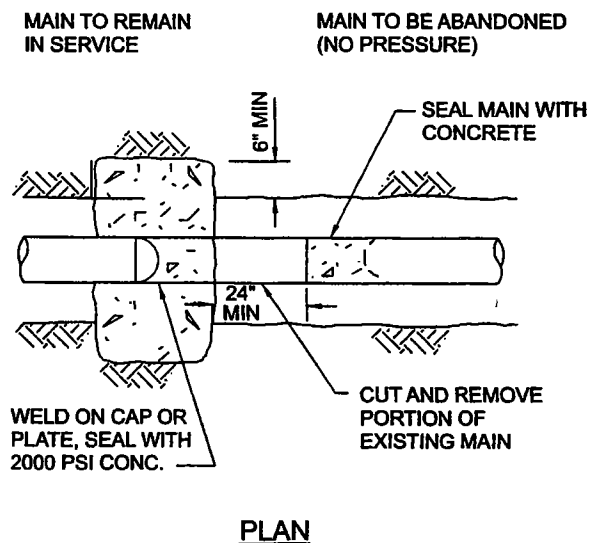
SHEET 1 OF 1

CUTTING AND PLUGGING WATER MAINS



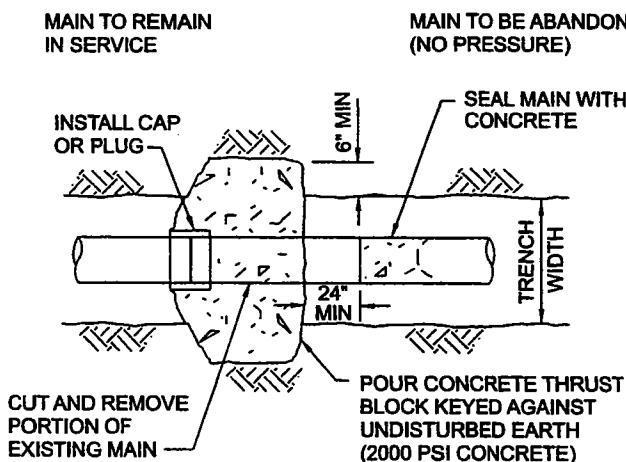
EXISTING HUB END FITTING OR VALVE

NTS



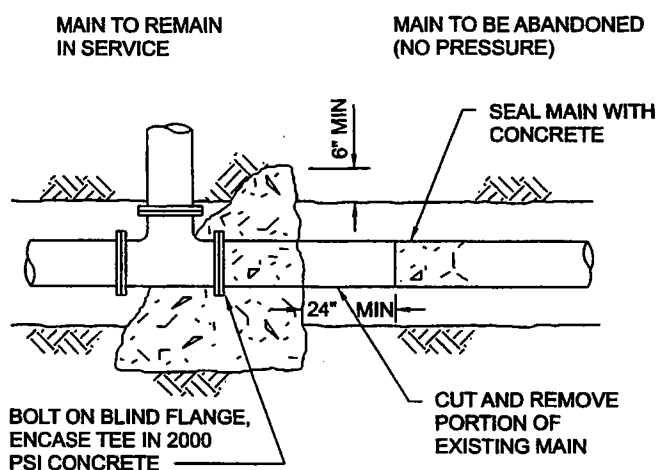
EXISTING STEEL MAIN

NTS



EXISTING ASBESTOS-CEMENT OR CAST-IRON MAIN

NTS



EXISTING FLANGED FITTING OR VALVE

NTS

* NO CONCRETE TO BE PLACED ON ACP OR CIP

GENERAL NOTE: SEE SPECIFICATIONS FOR FLUSHOUT REQUIREMENTS.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

APPROVED

ASSISTANT DEPUTY DIRECTOR

APRIL 2004

DATE

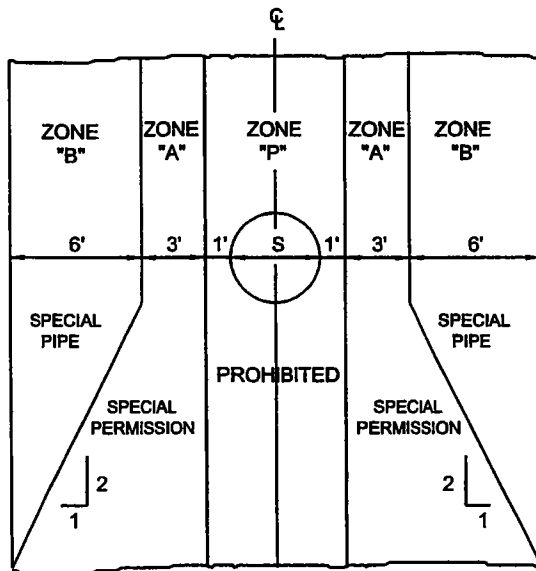
STANDARD PLAN

W-22

SHEET 1 OF 1

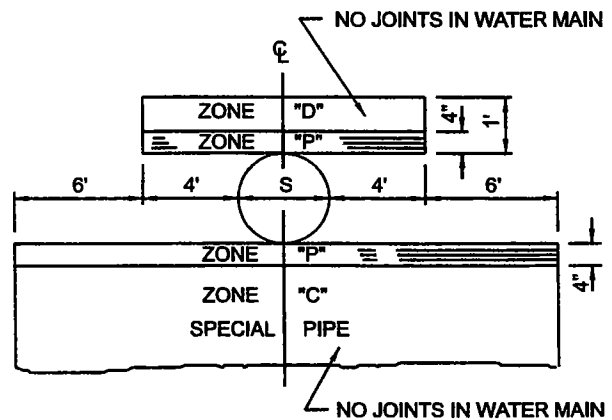
DESIGN REQUIREMENTS FOR WATER MAINS IN THE VICINITY OF SANITARY SEWERS

PARALLEL CONSTRUCTION



SPECIAL CONSTRUCTION WILL BE REQUIRED IF HORIZONTAL CLEARANCE BETWEEN PRESSURE WATER MAIN AND SEWER LINE IS LESS THAN 10 FEET. SEE THE ZONE ABOVE CORRESPONDING TO CONSTRUCTION REQUIREMENTS BELOW.

PERPENDICULAR CONSTRUCTION



SPECIAL CONSTRUCTION WILL BE REQUIRED IF VERTICAL CLEARANCE BETWEEN PRESSURE WATER MAIN AND SEWER LINE, AT CROSSING, IS LESS THAN ONE FOOT. SEE THE ZONE ABOVE CORRESPONDING TO CONSTRUCTION REQUIREMENTS BELOW.

ZONE	WATER MAIN CONSTRUCTION REQUIREMENTS
A	NO WATER MAINS PARALLEL TO SEWERS SHALL BE CONSTRUCTED WITHOUT APPROVAL FROM THE HEALTH AGENCY.
B	USE STEEL PIPE, CML AND CMC WITH WELDED JOINTS.
C	NO JOINTS WITHIN 10 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML AND CMC.
D	NO JOINTS WITHIN 4 FEET OF EITHER SIDE OF SEWER LINE. USE DUCTILE IRON PIPE, CML AND POLYETHYLENE WRAPPED, OR STEEL PIPE, CML AND CMC.
P	PROHIBITED ZONE - NO WATER MAINS ARE ALLOWED TO BE INSTALLED WITHIN THIS ZONE.

ADDITIONAL NOTES:

- 1) WATER MAINS AND SEWER LINES MUST NOT BE INSTALLED IN THE SAME TRENCH.
- 2) SEPARATION DISTANCES SPECIFIED SHALL BE MEASURED FROM THE NEAREST EDGE OF FACILITIES.
- 3) STEEL PIPE SHALL BE A MINIMUM OF 10 GAGE THICKNESS.

THE "CALIFORNIA WATERWORKS STANDARDS" SETS FORTH THE MINIMUM SEPARATION REQUIREMENTS FOR WATER MAINS AND SEWER LINES. THESE STANDARDS ARE CONTAINED IN SECTION 64630, TITLE 22, CALIFORNIA ADMINISTRATIVE CODE.

LOS ANGELES COUNTY WATERWORKS DISTRICTS

DEPARTMENT OF PUBLIC WORKS

STANDARD PLAN

W-50

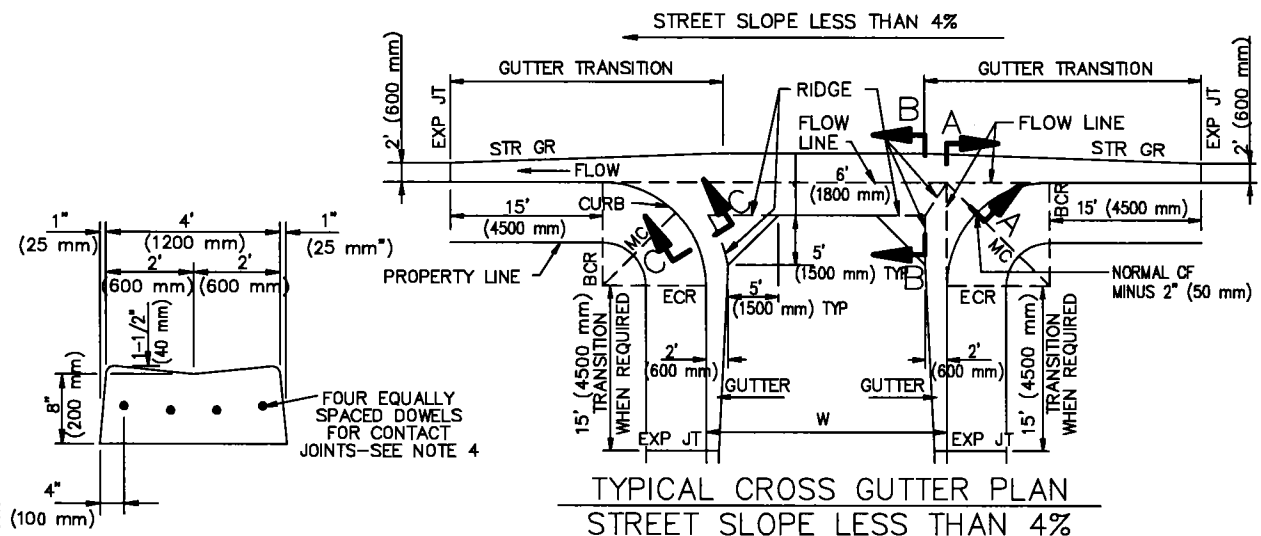
APPROVED

ASSISTANT DEPUTY DIRECTOR

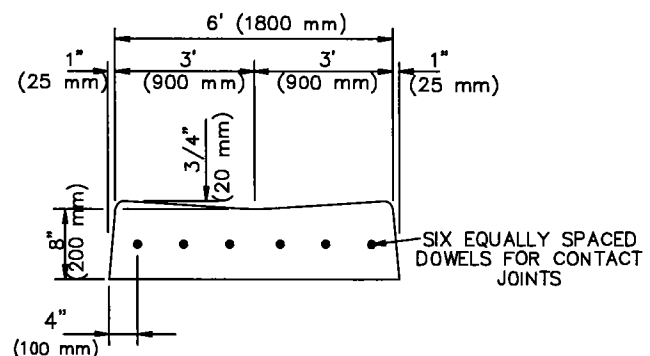
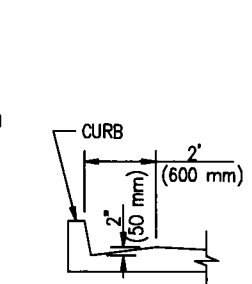
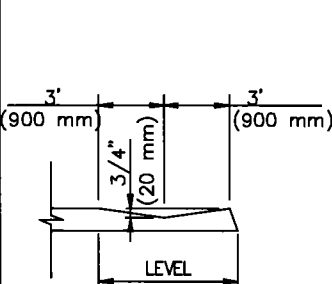
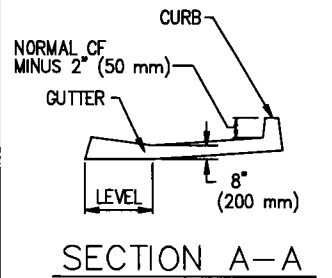
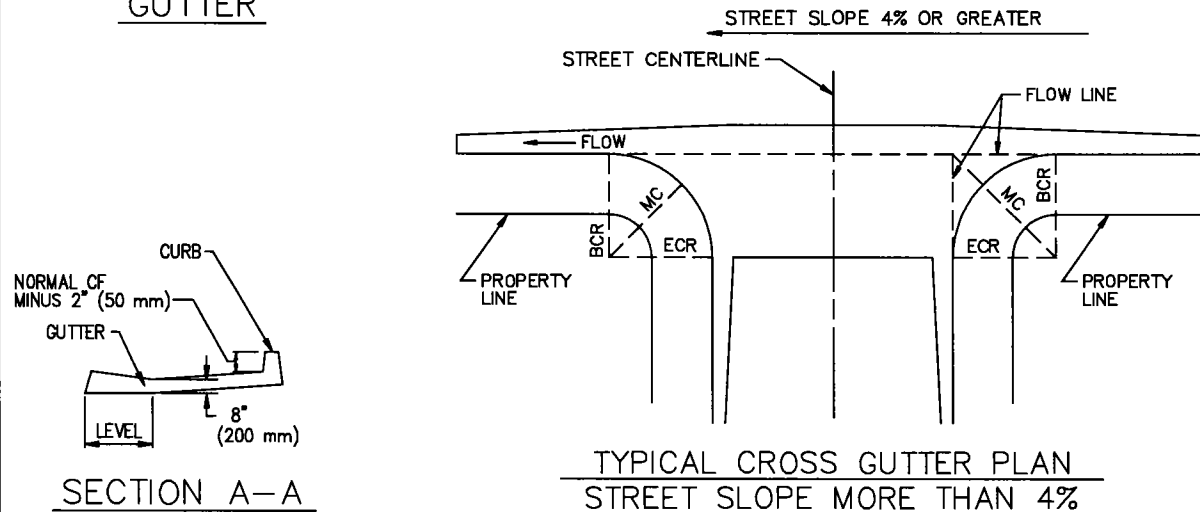
APRIL 2004

DATE

SHEET 1 OF 1



LONGITUDINAL GUTTER



STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

PROMULGATED BY THE
PUBLIC WORKS STANDARDS INC.
GREENBOOK COMMITTEE
1984
REV. 1996, 2009

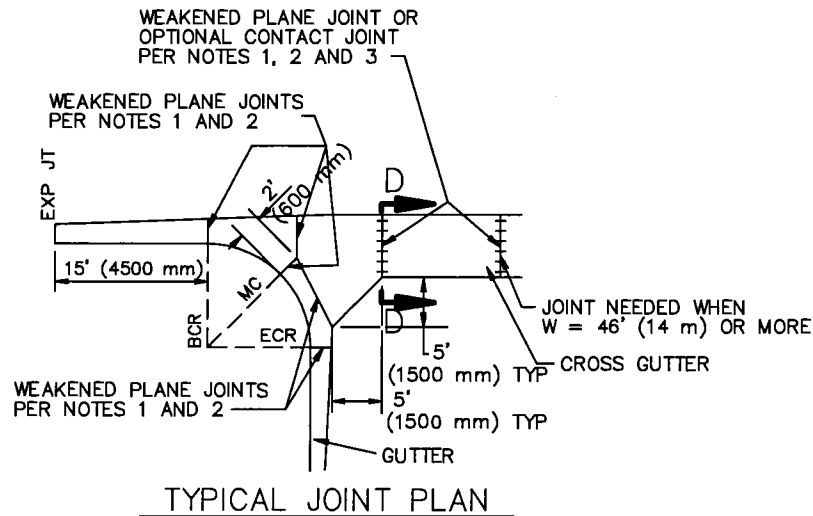
CROSS AND LONGITUDINAL GUTTERS

USE WITH STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION

STANDARD PLAN

122-2

SHEET 1 OF 2



NOTES:

1. WEAKENED PLANE AND/OR CONTACT JOINTS SHALL BE PLACED IN CURB AND GUTTER AT LOCATIONS SHOWN ON THE TYPICAL JOINT PLAN HEREON.
2. WEAKENED PLANE JOINTS SHALL BE PLASTIC CONTROL JOINTS OR 1-1/2" (40 mm) DEEP SAW CUTS. CONCRETE SAWING SHALL TAKE PLACE WITHIN 24 HOURS AFTER CONCRETE IS PLACED.
3. DOWELS FOR CONTACT JOINTS SHALL BE #4 BARS 18" LONG (#13M BARS 450 mm LONG).
4. PLACE A WEAKENED PLANE OR CONTACT JOINT WHERE LONGITUDINAL ALLEY GUTTER JOINS CONCRETE ALLEY INTERSECTION.
5. ALL EXPOSED CORNERS ON PCC GUTTERS SHALL BE ROUNDED WITH 1/2" (15 mm) RADIUS.
6. CONCRETE SHALL BE INTEGRAL WITH CURB UNLESS OTHERWISE SPECIFIED.

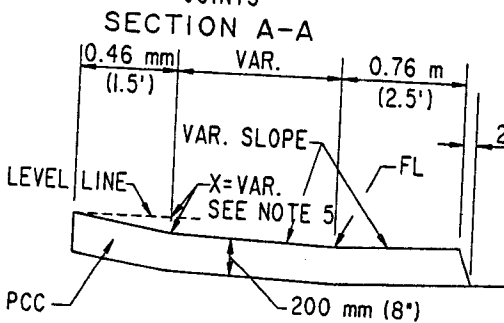
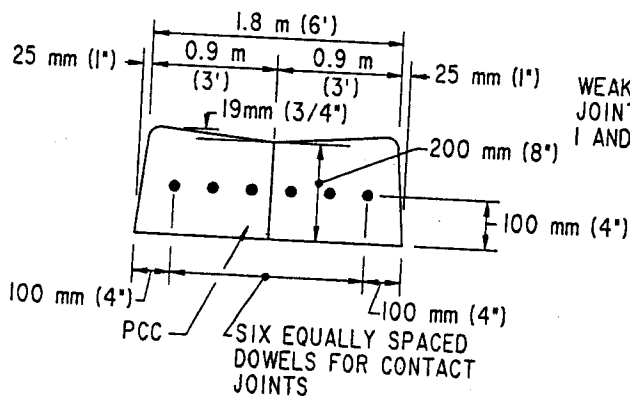
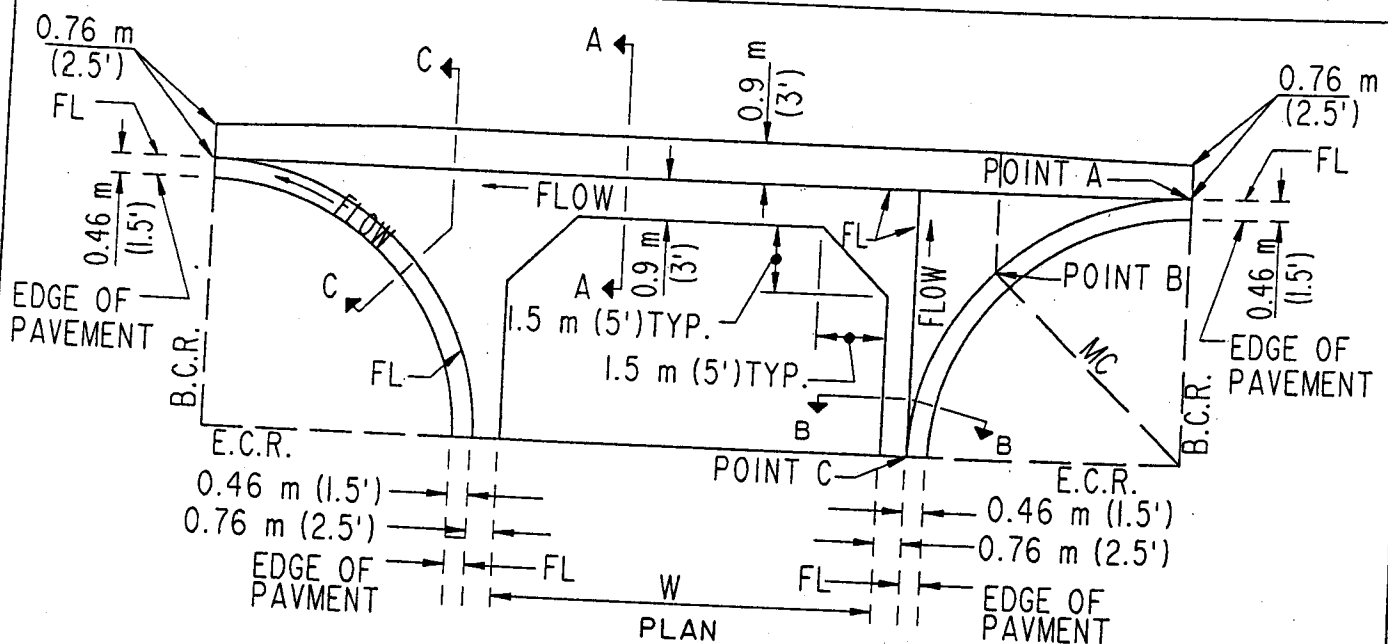
STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION

CROSS AND LONGITUDINAL GUTTERS

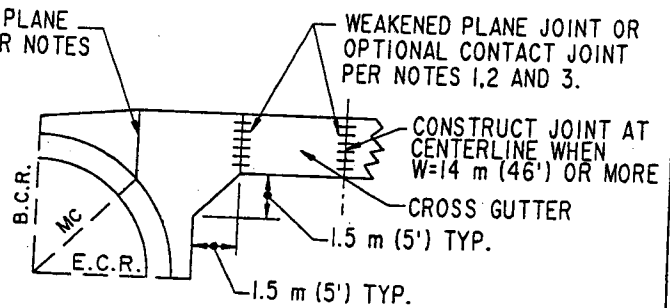
STANDARD PLAN

122-2

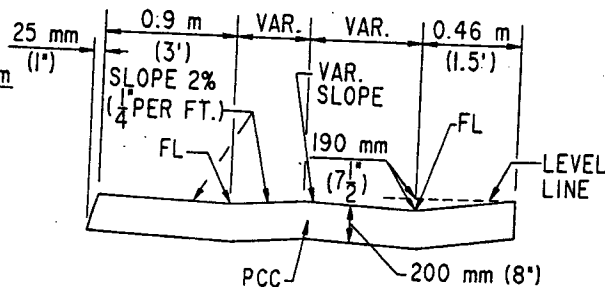
SHEET 2 OF 2



SECTION B-B



TYPICAL JOINT PLAN



SECTION C-C

NOTES:

1. WEAKENED-PLANE AND /OR CONTACT JOINTS SHALL BE PLACED IN GUTTER AT LOCATIONS SHOWN ON THE TYPICAL JOINT PLAN HEREON.
2. WEAKENED-PLANE JOINTS SHALL BE PLASTIC CONTROL JOINTS OR 38 mm (1 1/2"). DEEP SAW CUTS. CONCRETE SAWING SHALL TAKE PLACE WITHIN 24 HOURS AFTER CONCRETE IS PLACED.
3. DOWELS FOR CONTACT JOINTS SHALL BE 10M BARS 460 mm LONG (NO.4 BARS 18 INCHES LONG).
4. ALL EXPOSED CORNERS ON PCC TO BE ROUNDED WITH 13 mm (1/2") RADIUS.
5. X=190 mm (7 1/2") AT POINTS A AND C. 140 mm (5 1/2") AT POINT B.
6. DIMENSIONS SHOWN ON THE PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS
CROSS GUTTER FOR INVERTED PCC
SHOULDER STREET SECTION

APPROVED *Thomas A. Gilmanson*
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

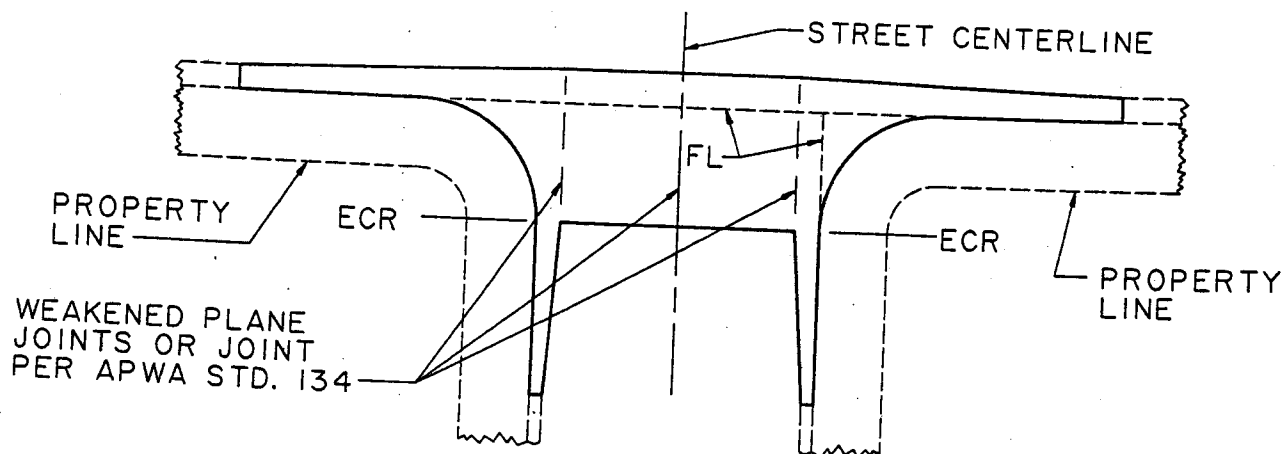
1999

REVISIONS

STANDARD PLAN
METRIC

1100-1
SHEET 1 OF 1

▲ STREET SLOPE 4% OR GREATER



NOTES:

1. SEE APWA STD. 122, CROSS AND LONGITUDINAL GUTTERS, FOR DETAILS.

2. DIMENSIONS SHOWN ON THE PLAN FOR METRIC AND ENGLISH UNITS ARE NOT EXACTLY EQUAL VALUES. IF METRIC UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE METRIC VALUES. IF ENGLISH UNITS ARE USED, ALL VALUES USED FOR CONSTRUCTION SHALL BE ENGLISH VALUES.

LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS

CROSS GUTTER FOR STEEP INTERSECTIONS

APPROVED

Thomas A. Tidman
DIRECTOR OF PUBLIC WORKS

5/31/1992
DATE

1995, 1999

REVISIONS

STANDARD PLAN
METRIC

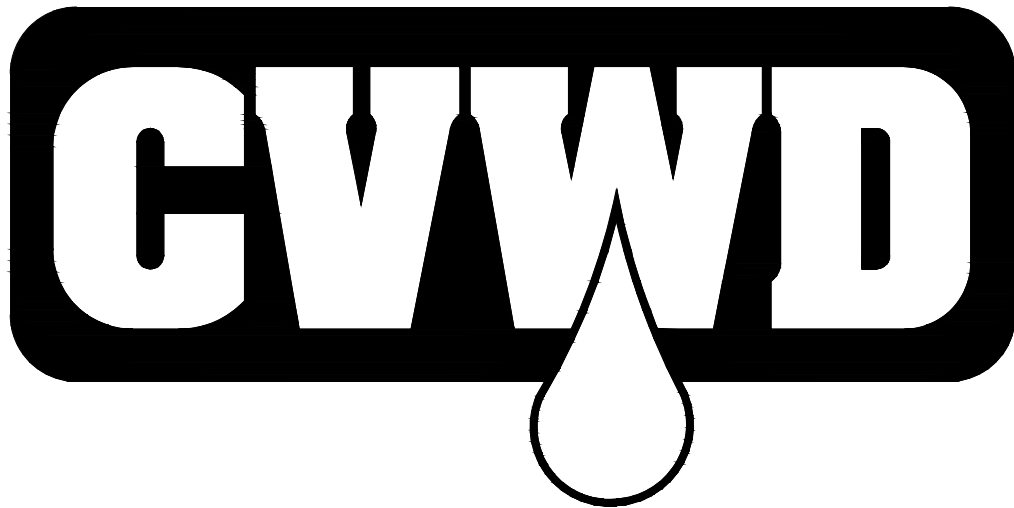
1110-2

SHEET 1 OF 1

APPENDIX E

REDUCED SET OF CONSTRUCTION DRAWINGS

CRESCENTA VALLEY WATER DISTRICT
DESIGN OF FY 22/23
PIPELINE REPLACEMENT PROJECT
PROJECT E-1046



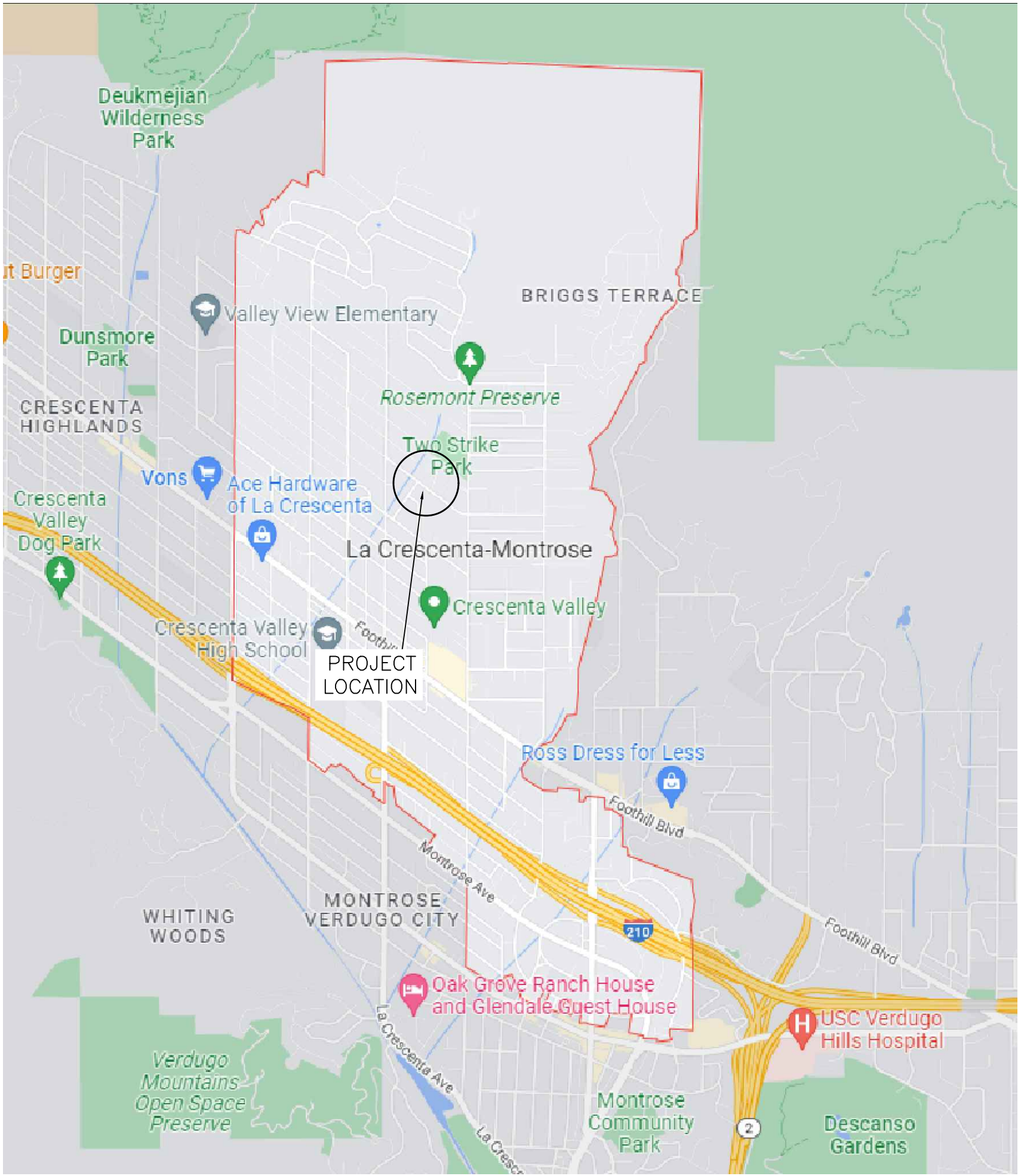
CONTACT INFORMATION

OWNER: CRESCENTA VALLEY WATER DISTRICT
2700 FOOTHILL BLVD.
LA CRESCENTA, CA 91214
(818) 248-3925

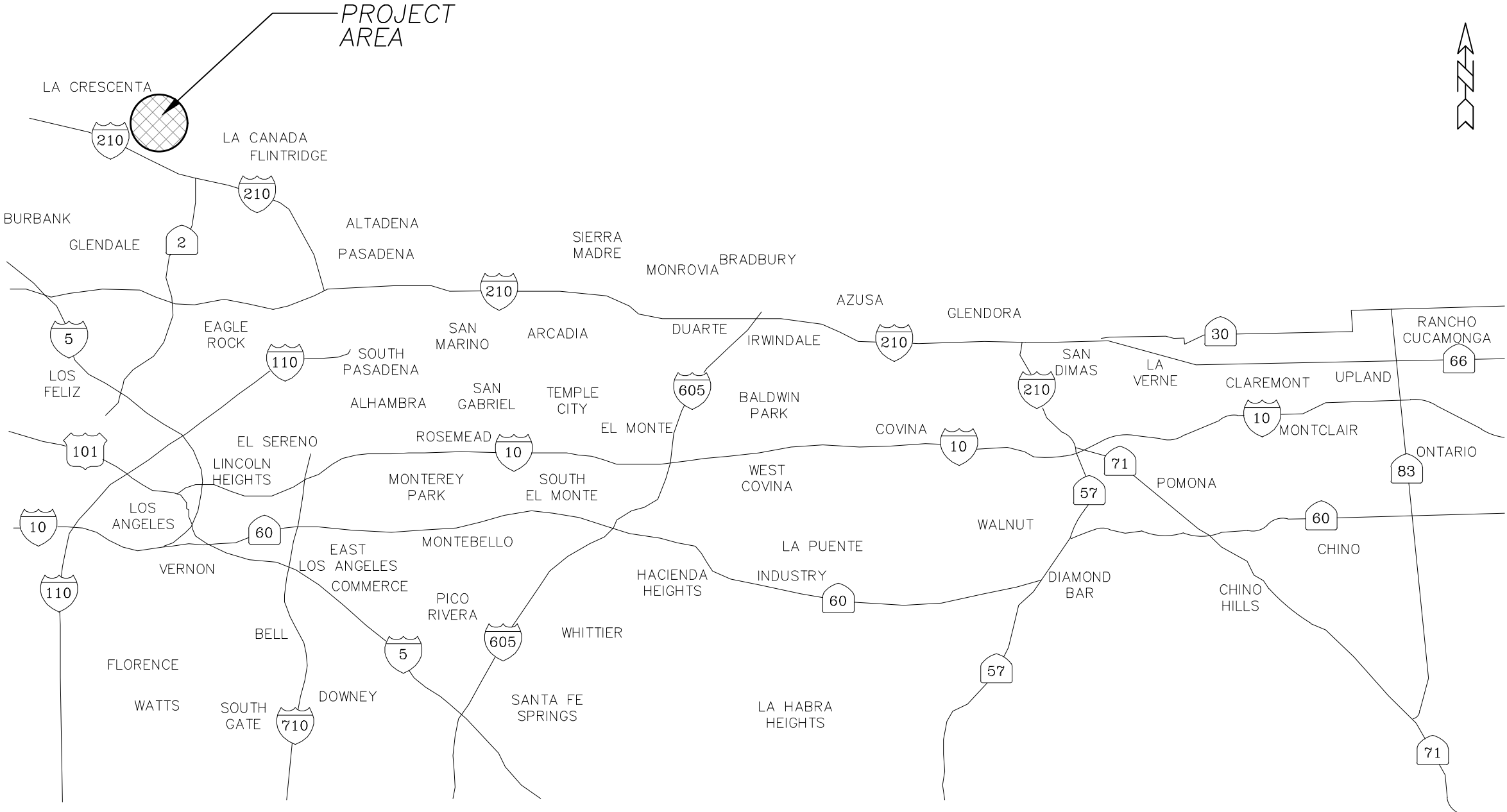
OWNER'S REPRESENTATIVE: DAVID S. COULD, PE
CRESCENTA VALLEY WATER DISTRICT
2700 FOOTHILL BLVD.
LA CRESCENTA, CA 91214
(818) 248-3925

CIVIL ENGINEER: GARY ROEPKE, PE
CANNON
11900 WEST OLYMPIC BLVD.,
LOS ANGELES, CA 90064
(310) 664-1166

PROJECT SURVEYOR: CANNON
4540 CALIFORNIA AVENUE, SUITE 550
BAKERSFIELD, CA. 93309
(661) 328-6280



LOCATION MAP
N.T.S.



VICINITY MAP
N.T.S.

SHEET INDEX

SHEET NO.	TITLE	FILE NO.
0	TITLE SHEET	C-467
1	PLAN VIEW - ORANGE AVE	C-468
2	PLAN VIEW - EL ADOBE LN	C-469
3	DETAILS	C-470
4	DETAILS	C-471
5	CHANNEL CROSS SECTION	C-472
6	TYPICAL STREET CROSS SECTIONS	C-473



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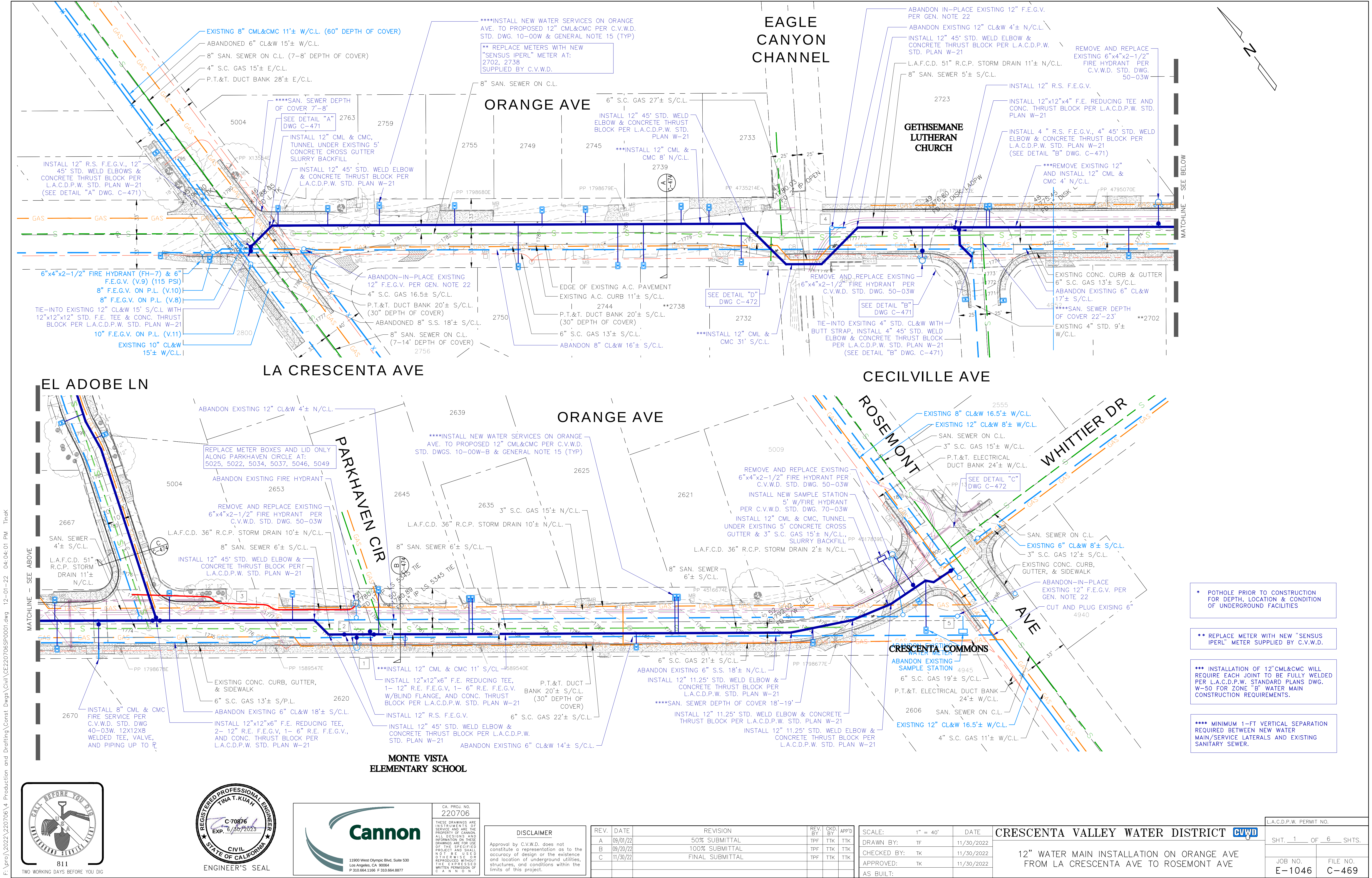
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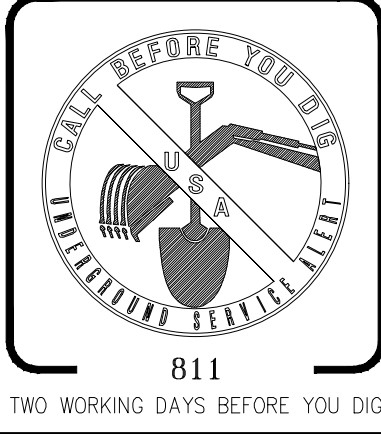
CRESCENTA VALLEY WATER DISTRICT **CVWD**

12" WATER MAIN INSTALLATION ON ORANGE AVE
FROM LA CRESCENTA AVE TO ROSEMONT AVE

L.A.C.D.P.W. PERMIT NO.	
SHT. 0 OF 6 SHTS.	
JOB NO. E-1046	FILE NO. C-468



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SCALE:	1" = 40'	DATE	11/30/2022
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CRESCENTA VALLEY WATER DISTRICT
12" WATER MAIN INSTALLATION ON ORANGE AVE FROM LA CRESCENTA AVE TO ROSEMONT AVE

SHT. 1 OF 6 SHTS.	
JOB NO. E-1046	FILE NO. C-469

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SYMBOLS & ABBREVIATIONS					
C.V.W.D.	—	CRESCENTA VALLEY WATER DISTRICT	P.P.	—	POWER POLE
S.C. GAS	—	SOUTHERN CALIFORNIA GAS COMPANY	TS	—	TRAFFIC SIGNAL
C. OF G.	—	CITY OF GLENDALE	F.E.	—	FLANGED END
L.A. CO.	—	LOS ANGELES COUNTY	G.V.	—	GATE VALVE
L.A.C.D.P.W.	—	LOS ANGELES COUNTY DEPT. OF PUBLIC WORKS	R.S.	—	RESILIENT SEAT
PAC BELL	—	PACIFIC BELL	F.E.B.V.	—	FLANGED END BUTTERFLY VALVE
AT&T	—	AT&T CORPORATION	CONC.	—	CONCRETE
EDISON	—	SOUTHERN CALIFORNIA EDISON COMPANY	A.C. PV'MT.	—	ASPHALT CONCRETE PAVEMENT
C.A.T.V.	—	CHARTER COMMUNICATIONS CABLE	P.C.C.	—	PORTLAND CEMENT CONCRETE
L.C.I.D.	—	LA CANADA IRRIGATION DISTRICT	EXIST.	—	EXISTING
F.M.W.D.	—	FOOTHILL MUNICIPAL WATER DISTRICT	STD.	—	STANDARD
APWA	—	AMERICAN PUBLIC WORKS ASSOCIATION	STD. DWG.	—	STANDARD DRAWING
AWWA	—	AMERICAN WATER WORKS ASSOCIATION		—	EXISTING WATER METER BOX
C.L.	—	CENTER LINE		—	PROPOSED BLOW-OFF
P.L.	—	PROPERTY LINE		—	PROPOSED AIR RELEASE ASSEMBLY
N/C.L.	—	NORTH OF CENTER LINE		—	STEEL METER BOX TRAFFIC LID
S/C.L.	—	SOUTH OF CENTER LINE		—	PROPOSED 6" X 4" X 2-1/2" FIRE HYDRANT
CL&W	—	CEMENT MORTAR LINED & WRAPPED STEEL PIPE		—	PROPOSED GATE VALVE
CML&CMC	—	CEMENT MORTAR LINED & CEMENT MORTAR COATED		—	EXISTING GATE VALVE
C.I. OR C.I.P.	—	CAST IRON PIPE		—	ELECTRICAL BOX
O.D.	—	OUTSIDE DIAMETER		—	STREET LIGHT
I.D.	—	INSIDE DIAMETER		—	TRAFFIC SIGNAL
R.C.P.	—	REINFORCED CONCRETE PIPE		—	PROPOSED POTHOLE
S.S.	—	STANDARD STEEL PIPE		—	EXISTING TREE
M.H.	—	MANHOLE		—	PROPOSED BLOW-OFF
F.H.	—	FIRE HYDRANT			
W.M.	—	WATER METER			

GENERAL NOTES:

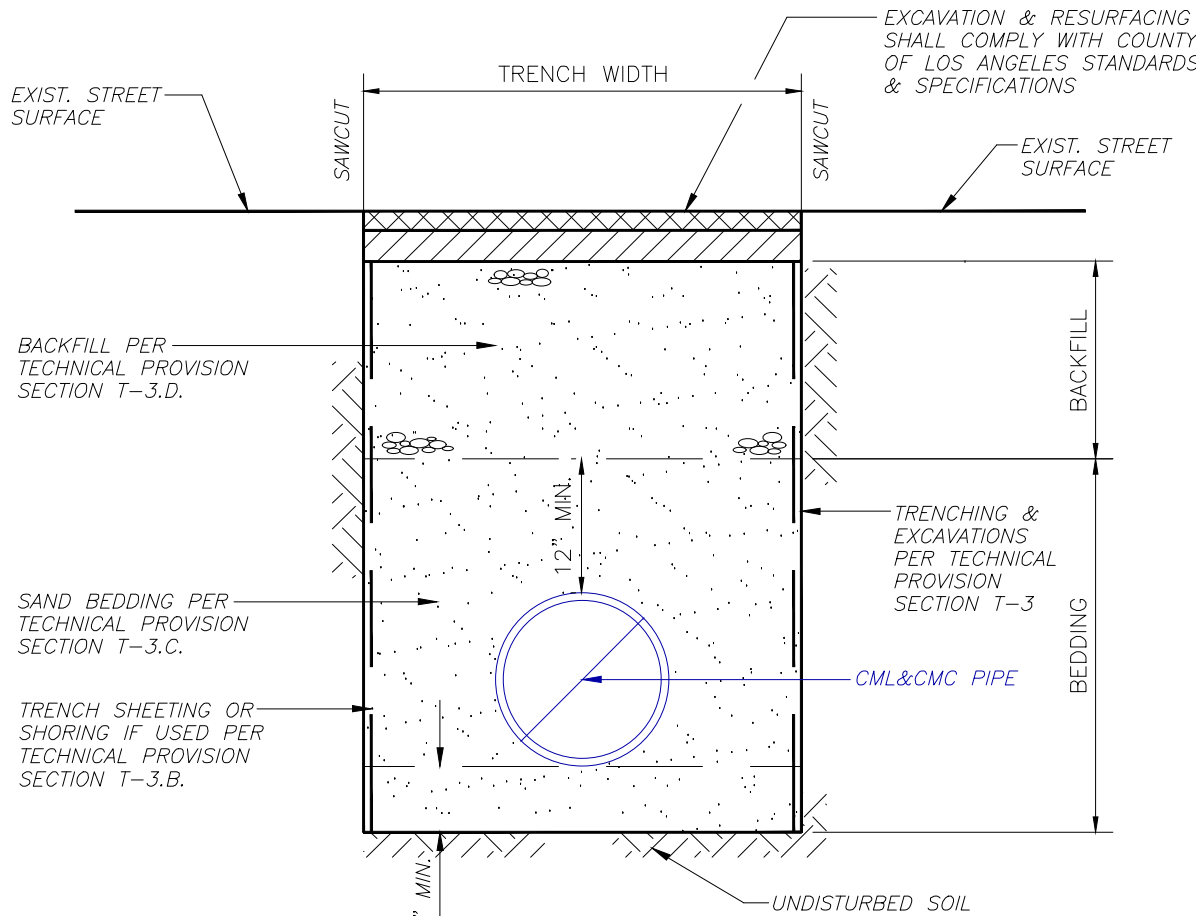
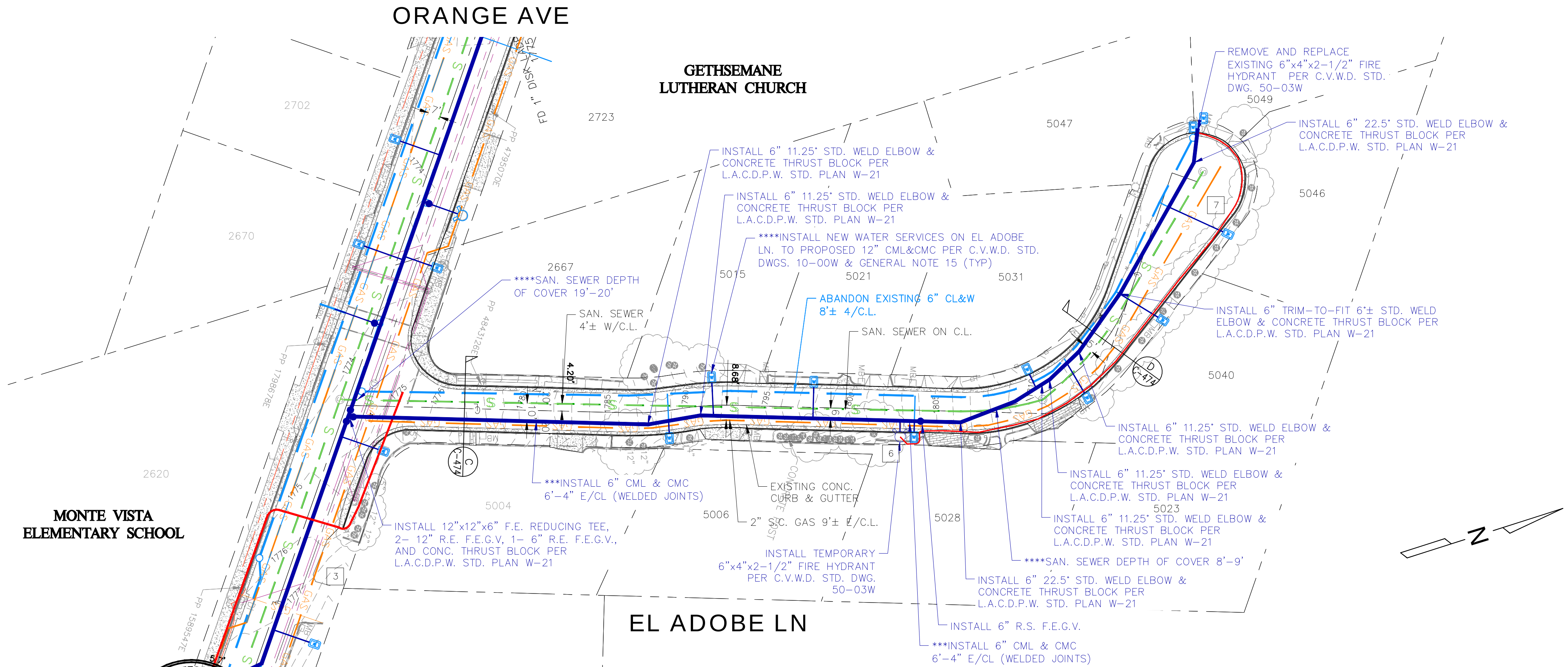
1. THE CONTRACTOR SHALL NOTIFY C.V.W.D. PROJECT ENGINEER CHRISTINA KOPELMAN FIVE (5) WORKING DAYS PRIOR TO STARTING WORK. AT (818) 248-3925.
2. THE DISTRICT WILL EXECUTE ALL SHUT-DOWNS AND TURN-ONS. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH AT LEAST (5) WORKING DAYS NOTICE. WATER TIGHT SHUT-DOWNS ARE NOT ASSURED BY THE DISTRICT; THEREFORE, THE CONTRACTOR SHALL BE PREPARED FOR VALVE LEAKAGE THAT MAY OCCUR DURING SYSTEM SHUT-DOWN.
3. ALL WORK SHALL CONFORM TO C.V.W.D. STANDARD SPECIFICATIONS AND STANDARD DRAWINGS.
4. ALL WATER SYSTEM INSTALLATIONS SHALL BE INSPECTED BY C.V.W.D.
5. PIPE SHALL HAVE A MINIMUM OF 36 INCHES OF COVER AND A MAXIMUM OF 42 INCHES OF COVER FROM FINISHED GRADE, UNLESS OTHERWISE NOTED.
6. ALL FIELD WELDING SHALL BE IN ACCORDANCE WITH AWWA C206.
7. BACKFILL PROCEDURE SHALL BE COVERING THE PIPELINE WITH APPROVED BEDDING MATERIAL, HAND PLACED DEPTH OF 12 INCHES OR MORE ABOVE THE TOP OF THE PIPE. THE BALANCE OF BACKFILL SHALL CONTAIN NO STONES MORE THAN 2 INCHES IN THEIR LARGEST DIMENSION.
8. THE CONTRACTOR SHALL HYDROSTATICALLY TEST ALL PIPE UPON COMPLETION. THE REQUIRED TEST SHALL BE IN ACCORDANCE WITH C.V.W.D. TECHNICAL PROVISIONS.
9. FLUSHING AND DISINFECTION: UPON COMPLETION OF THE HYDROSTATIC TESTS, THE PIPES SHALL BE FLUSHED AND DISINFECTED. DISINFECTION SHALL BE IN ACCORDANCE WITH THE STANDARD FOR DISINFECTING WATER MAINS, (AWWA C601) AND SHALL BE SCHEDULED WITH C.V.W.D.
10. ALL FITTINGS AND VALVES SHALL MEET C.V.W.D. SPECIFICATIONS.
11. ALL CONNECTIONS TO EXISTING FACILITIES SHALL BE SCHEDULED WITH C.V.W.D. NO CONNECTIONS TO C.V.W.D. SYSTEM UNTIL PIPE HAS SUCCESSFULLY PASSED THE HYDROSTATIC AND DISINFECTION TEST.
12. ALL SERVICE LATERALS SHALL CONFORM TO C.V.W.D. STANDARDS.
13. ALL VALVE CANS SHALL BE RAISED TO FINISHED GRADE DURING FINAL PAVING.
14. EXISTING METERS SHALL BE RECONNECTED PER TECHNICAL SPECIFICATION T-7.
15. PROPERTIES WITH STREET NUMBERS SHOWN SHALL HAVE WATER SERVICE LATERALS REPLACED AND CONNECTED TO PROPOSED 6 AND 12 INCH CML&CMC AS REQUIRED TO MEET C.V.W.D. STANDARDS AND SPECIFICATIONS. EXACT LOCATION OF LATERAL / MAIN CONNECTION TO BE DETERMINED IN FIELD BY CONTRACTOR AND APPROVED BY C.V.W.D. INSPECTOR.
16. ALL REQUIRED WATER SERVICES SHALL BE CONNECTED TO NEW WATER MAIN AFTER HYDROSTATIC TESTING AND DISINFECTING, AND PRIOR TO FINAL TIE-IN OF NEW WATER MAIN.
17. BY APPROVING THIS PLAN, THE WATER PURVEYOR IS NEITHER GUARANTEEING NOR AGREEING THAT IT WILL SUPPLY WATER AT ANY SPECIFIC QUANTITIES OR PRESSURE AND NO SUCH OBLIGATION IS CREATED HEREBY.
18. CONTRACTOR TO NOTE THAT EXACT LOCATION AND DEPTH OF EXISTING FACILITIES MAY VARY AND SHOULD BE VERIFIED BY EXPLORATORY EXCAVATION AT TIME OF CONSTRUCTION. CONTRACTOR TO NOTIFY UNDERGROUND SERVICE ALERT PH. 1-800-227-2600, AT LEAST TWO WORKING DAYS PRIOR TO DIGGING.
19. TRAFFIC CONTROL DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL CONFORM WITH REQUIREMENTS OF LOCAL TRAFFIC AUTHORITY.
20. ALL UNLINED FITTINGS AND SPECIALS SHALL BE FIELD MORTAR LINED (MIN. 5/16" THICK).
21. NO HOSE OR FIRE HYDRANT SHALL BE USED IN THE COLLECTION OF BACTERIOLOGIC SAMPLES. A RISER WITH SAMPLING TAP, OR OTHER C.V.W.D. APPROVED INSTALLATION SHALL BE REQUIRED.
22. REMOVE EXISTING VALVE SLEEVE AND VALVE CAN CAP. ABANDON EXISTING VALVE IN-PLACE AND BACKFILL PER TECHNICAL PROVISION T-3 AND RESURFACE PER TECHNICAL PROVISION T-5.
23. ALL OFFSET DISTANCES ARE APPROXIMATE, CONTRACTOR SHALL VERIFY LOCATION PRIOR TO CONSTRUCTION.
24. REMOVE EXISTING VALVE SLEEVE, VALVE CAN CAP & EXISTING VALVE, PLATE EXIST. MAIN PER L.A. COUNTY STD. DWG. W-22 AND BACKFILL PER TECHNICAL PROVISION T-3 AND RESURFACE PER TECHNICAL PROVISION T-5.
25. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION OF THIS PROJECT IN ACCORDANCE WITH C.V.W.D. & COUNTY OF LOS ANGELES PLANS & SPECIFICATIONS. ANY DEVIATION FROM THESE PLANS & SPECIFICATIONS SHALL BE AUTHORIZED PRIOR TO CONSTRUCTION BY C.V.W.D. PROJECT ENGINEER. FAILURE TO OBTAIN PRIOR APPROVAL MAY RESULT IN ADDITIONAL COSTS TO THE CONTRACTOR (SEE CONTRACT SPECIFICATIONS, GENERAL PROVISIONS ARTICLE 3 & 4).

CONSTRUCTION PHASING PLAN:

1. INSTALL 12" WATERLINE BETWEEN ROSEMONT AVE TO FIRE HYDRANT [1] AT PARKHAVEN CIRCLE. INSTALL GATE VALVE [2] AND CLOSE.
2. DISINFECTION AND PRESSURE TEST OF NEW WATERLINE.
3. PRESSURIZE NEW WATERLINE AND CONNECT FIRE HYDRANTS, SAMPLE STATION, AND WATER SERVICE LATERALS.
4. INSTALL 6" HIGHLINE [3] FROM FIRE HYDRANT [1] AT PARKHAVEN CIRCLE TO THE EXISTING 6" AT EL ADOBE LANE. DISINFECTION AND PRESSURE TEST OF HIGHLINE. PRESSURIZE HIGHLINE AND CONNECT TWO SERVICE LATERALS AT 5004 AND 2653 TO HIGHLINE.
5. INSTALL 12" WATERLINE FROM LA CRESCENTA AVE AND ACROSS EAGLE CANYON CHANNEL.
6. CONNECT THREE SERVICE LATERALS FOR THE GETHSEMANE LUTHERAN CHURCH AND 2667 TO THE EXISTING 6" WATER MAIN ON THE SOUTH SIDE OF ORANGE AVE.
7. CLOSE EXISTING 12" VALVES [4] AND [5].
8. REMOVE EXISTING 12" AND INSTALL NEW 12" WATERLINE FROM EASTSIDE OF EAGLE CANYON CHANNEL TO GATE VALVE [2].
9. DISINFECTION AND PRESSURE TEST OF NEW WATERLINE.
10. PRESSURIZE NEW WATERLINE AND CONNECT FIRE HYDRANTS AND WATER SERVICE LATERALS.
11. INSTALL CONNECTION TO 4" WATERLINE DOWN CECILVILLE AVE, SEE DETAIL "B", SHEET 4.
12. INSTALL 6" WATERLINE ALONG EL ADOBE LN FROM ORANGE TO FRONT OF 5028.
13. INSTALL TEMPORARY FIRE HYDRANT IN FRONT OF 5028. [6]
14. DISINFECTION AND PRESSURE TEST OF NEW WATERLINE.
15. INSTALL 2" HIGHLINE [7] FROM TEMPORARY FIRE HYDRANT TO THE END OF THE EL ADOBE LN. DISINFECTION AND PRESSURE TEST OF HIGHLINE.
16. PRESSURIZE 6" WATERLINE AND 2" HIGHLINE AND CONNECT WATER SERVICE LATERALS. REMOVE 6" HIGHLINE. [3]
17. INSTALL REMAINING 6" WATERLINE TO END OF EL ADOBE LN.
18. MOVE TEMPORARY FIRE HYDRANT TO END OF EL ADOBE LN.
19. PRESSURIZE REMAINING 6" WATERLINE. CONNECT WATER SERVICE LATERALS FROM 2" HIGHLINE TO THE NEW 6" WATERLINE.

NOTES:

1. SEE SHEETS 1 AND 2 FOR LOCATION OF [X] INDICATED IN THE ABOVE PHASING PLAN.
2. THIS PHASING PLAN IS NOT ALL INCLUSIVE. CONTRACTOR TO SUBMIT PHASING PLAN INCLUDING ABANDONMENT OF PIPELINES FOR REVIEW AND APPROVAL.
3. CONTRACTOR TO PROVIDE SHUTDOWN PLAN AS A SUBMITTAL MINIMUM OF TWO WEEKS BEFORE START OF CONSTRUCTION. MAXIMUM FOUR HOUR HSUT DOWN AND PROVIDE 48 HOUR NOTICE.



TYP. TRENCH DETAIL

N.T.S.

* POTHOLE PRIOR TO CONSTRUCTION FOR DEPTH, LOCATION & CONDITION OF UNDERGROUND FACILITIES

** REPLACE METER WITH NEW "SENSUS IPERL" METER SUPPLIED BY C.V.W.D.

*** INSTALLATION OF 6" CML&CMC WILL REQUIRE EACH JOINT TO BE FULLY WELDED PER L.A.C.D.P.W. STANDARD PLANS DWG. W-50 FOR ZONE "B" WATER MAIN CONSTRUCTION REQUIREMENTS.

**** MINIMUM 1'-FT VERTICAL SEPARATION REQUIRED BETWEEN NEW WATER MAIN/SERVICE LATERALS AND EXISTING SANITARY SEWER.



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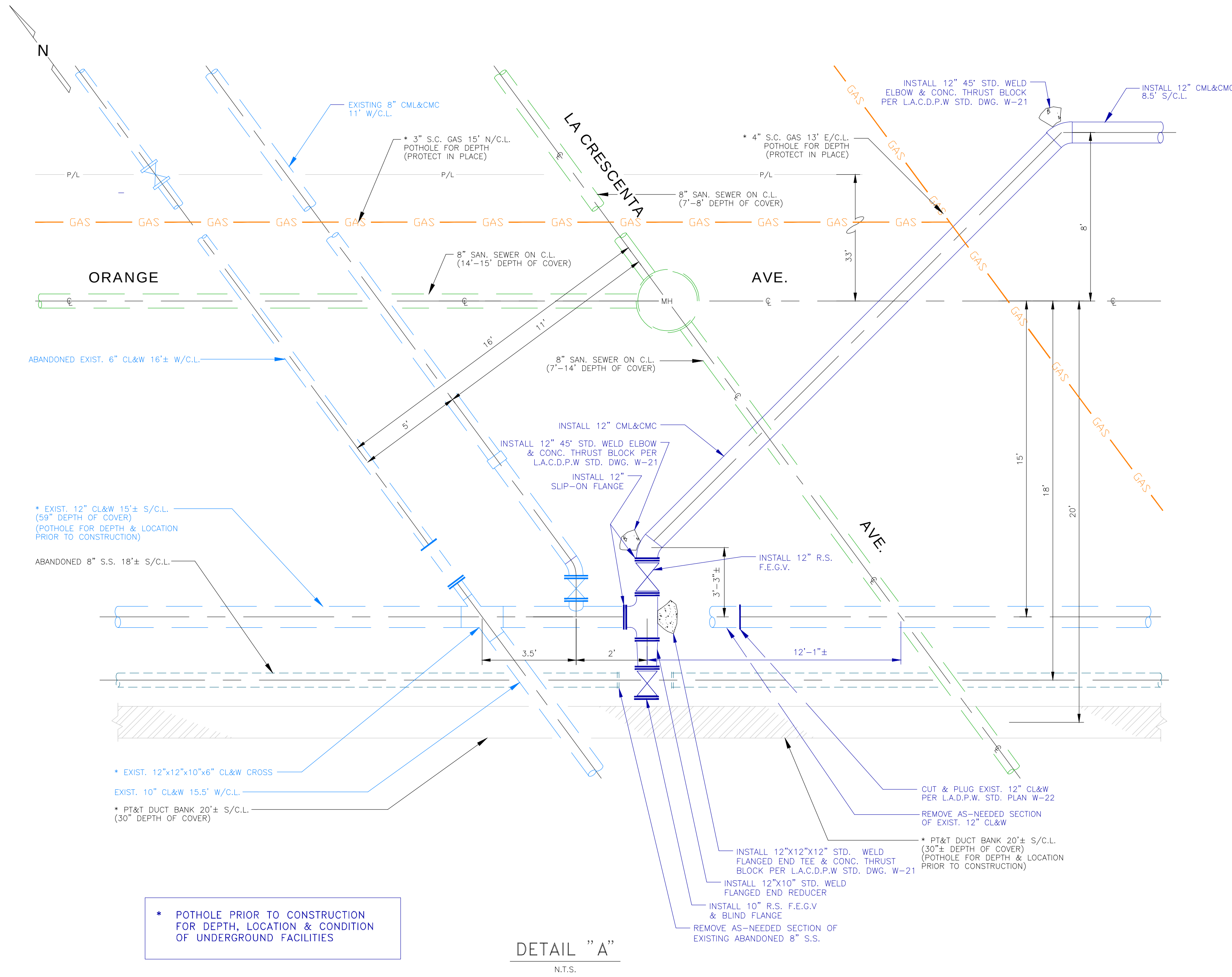
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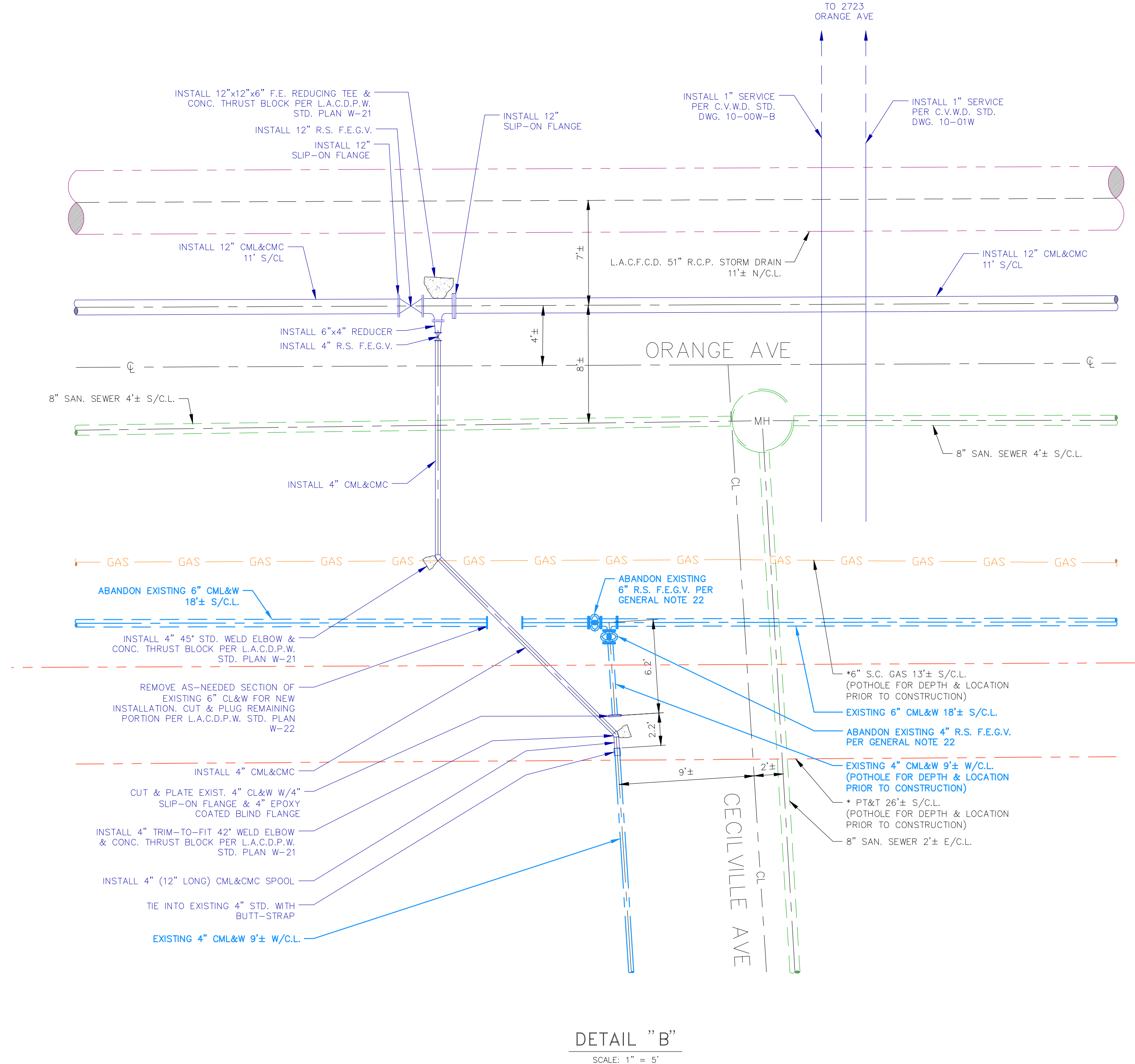
CRESCENTA VALLEY WATER DISTRICT **CWWD**
6" WATER MAIN INSTALLATION ON EL ADOBE LN
FROM ORANGE AVE TO N'LY TERMINUS

L.A.C.D.P.W. PERMIT NO.	
SHT. 2 OF 6 SHTS.	
JOB NO. E-1046	FILE NO. C-470

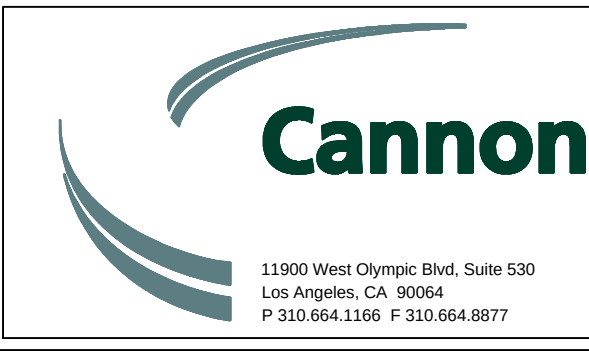
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DETAIL "A"
N.T.S.



DETAIL "B"
SCALE: 1" = 5'



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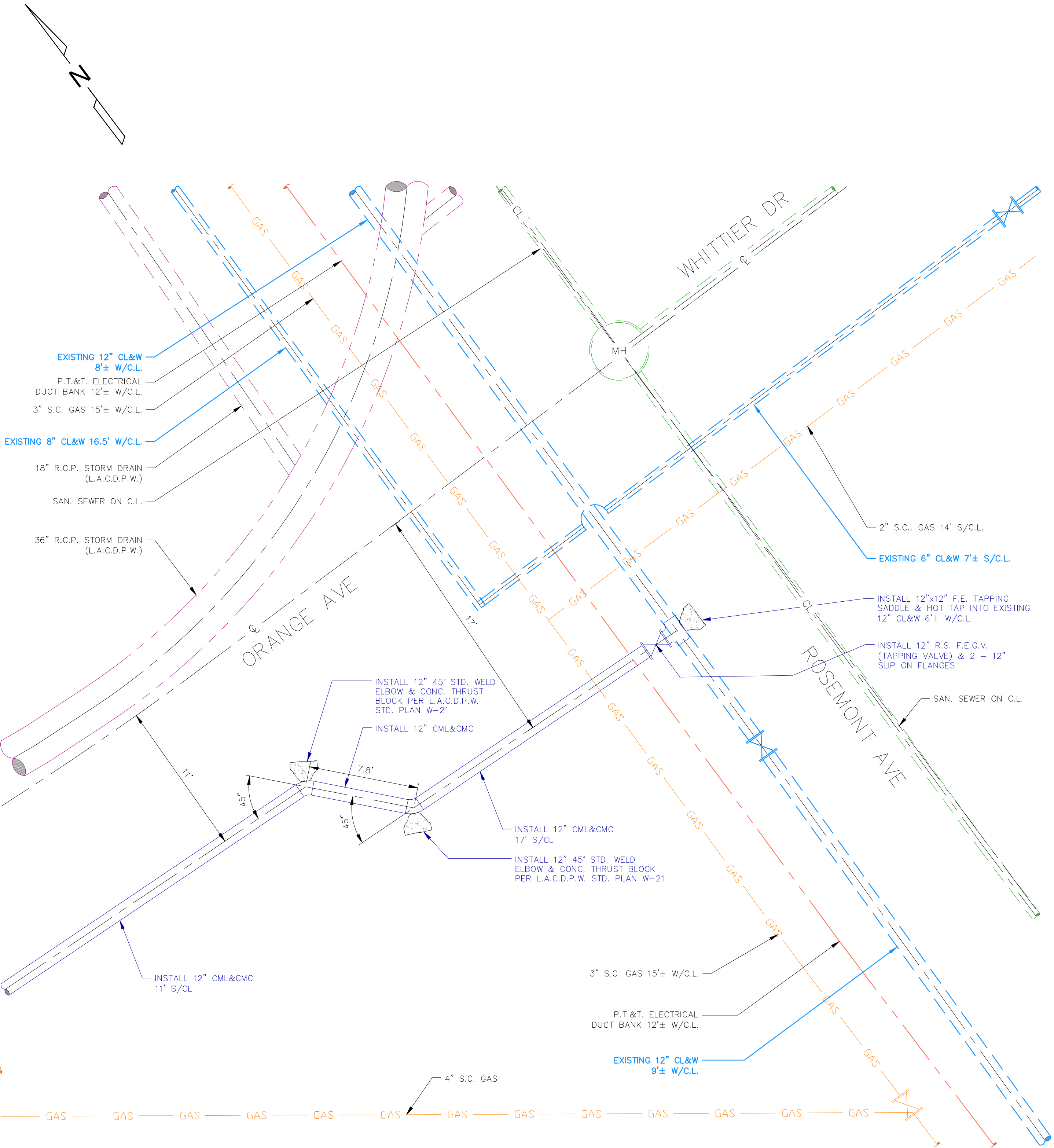
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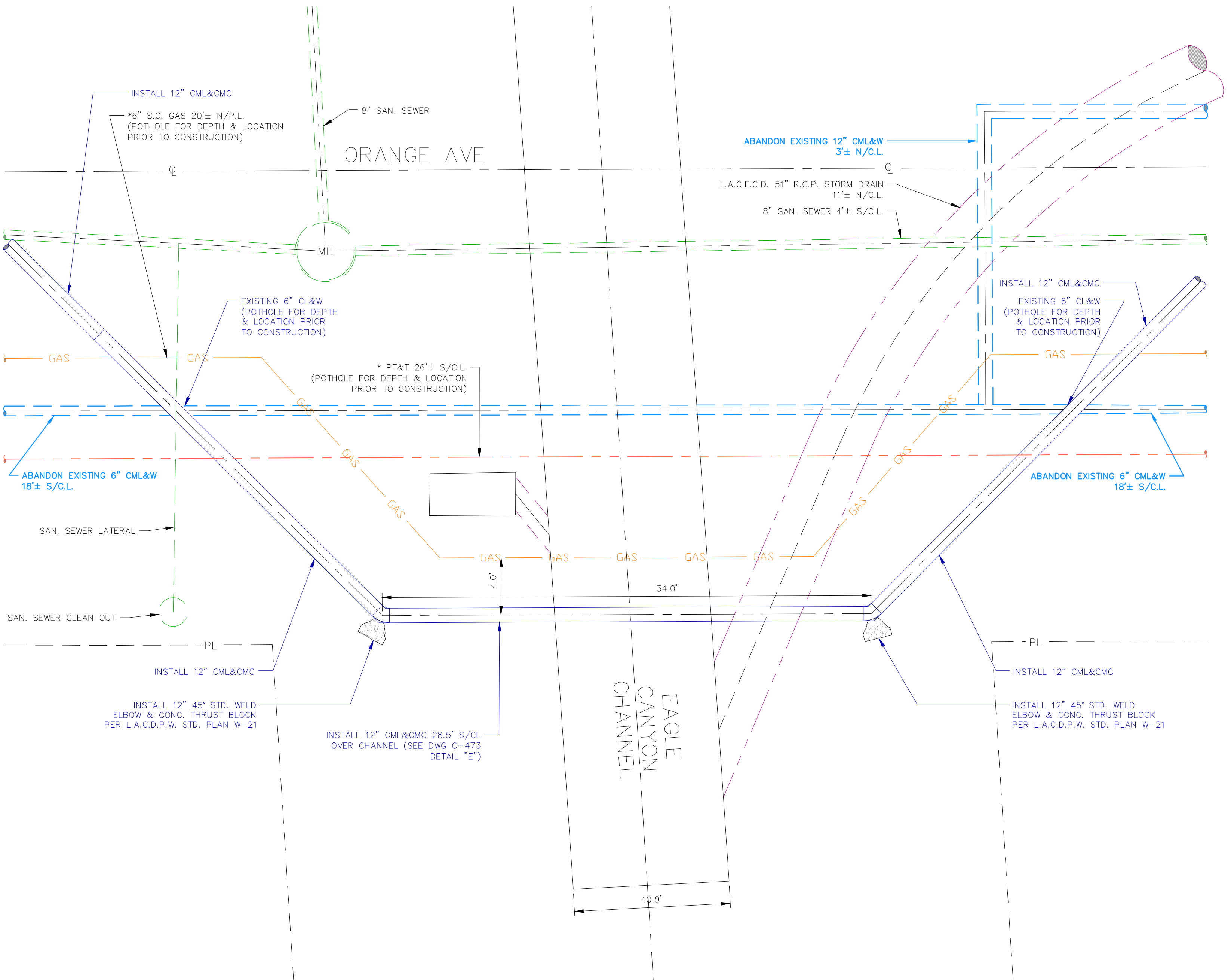
CRESCENTA VALLEY WATER DISTRICT	C.V.W.D.
12" WATER MAIN INSTALLATION ON ORANGE AVE FROM LA CRESCENTA AVE TO ROSEMONT AVE (DETAILS)	

L.A.C.D.P.W. PERMIT NO.	
SHT. 3	OF 6 SHTS.
JOB NO. E-1046	FILE NO. C-471

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DETAIL "C"
SCALE: 1" = 5'



DETAIL "D"
SCALE: 1" = 5'



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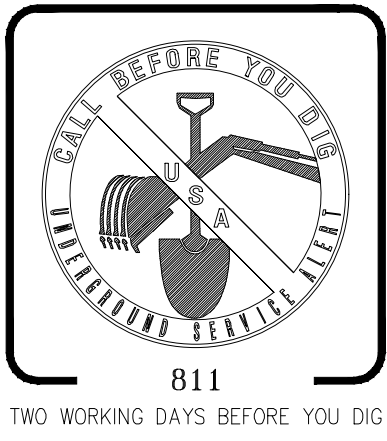
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CRESCENTA VALLEY WATER DISTRICT 
12" WATER MAIN INSTALLATION ON ORANGE AVE
FROM LA CRESCENTA AVE TO ROSEMONT AVE
(DETAILS)

L.A.C.D.P.W. PERMIT NO.	
SHT. 4	OF 6 SHTS.
JOB NO. E-1046	FILE NO. C-472

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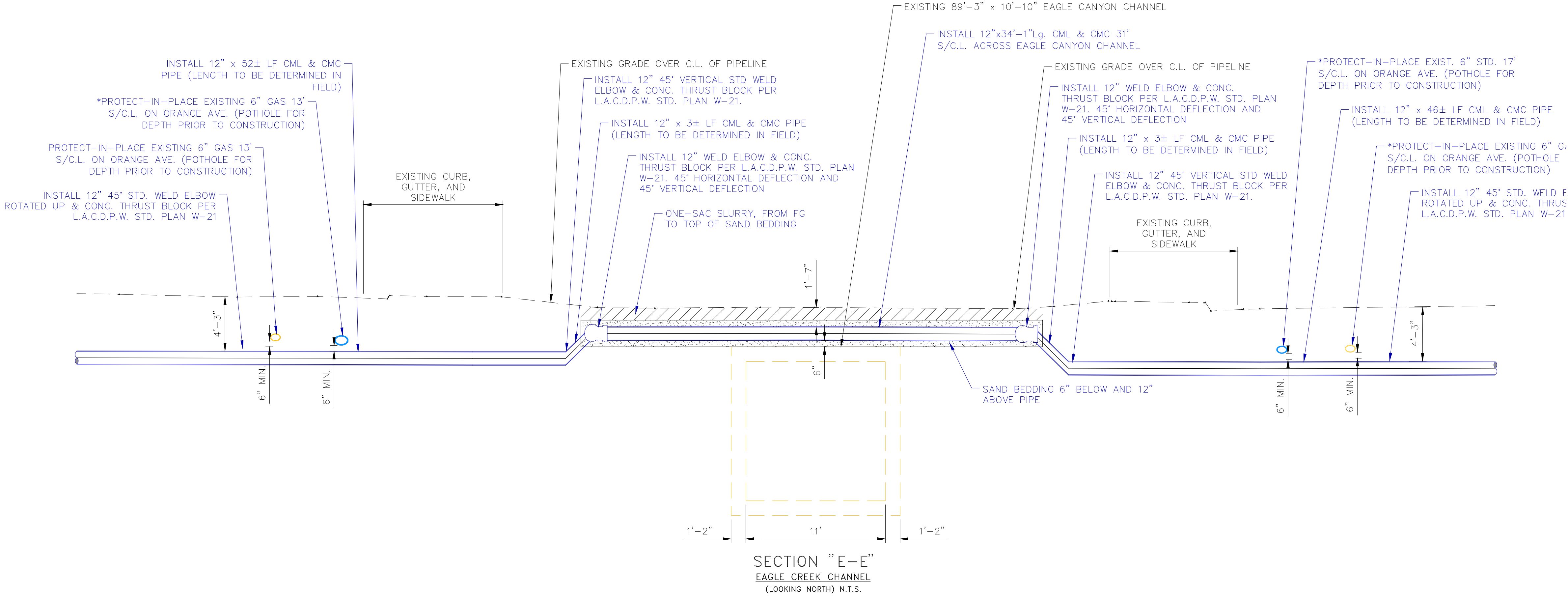
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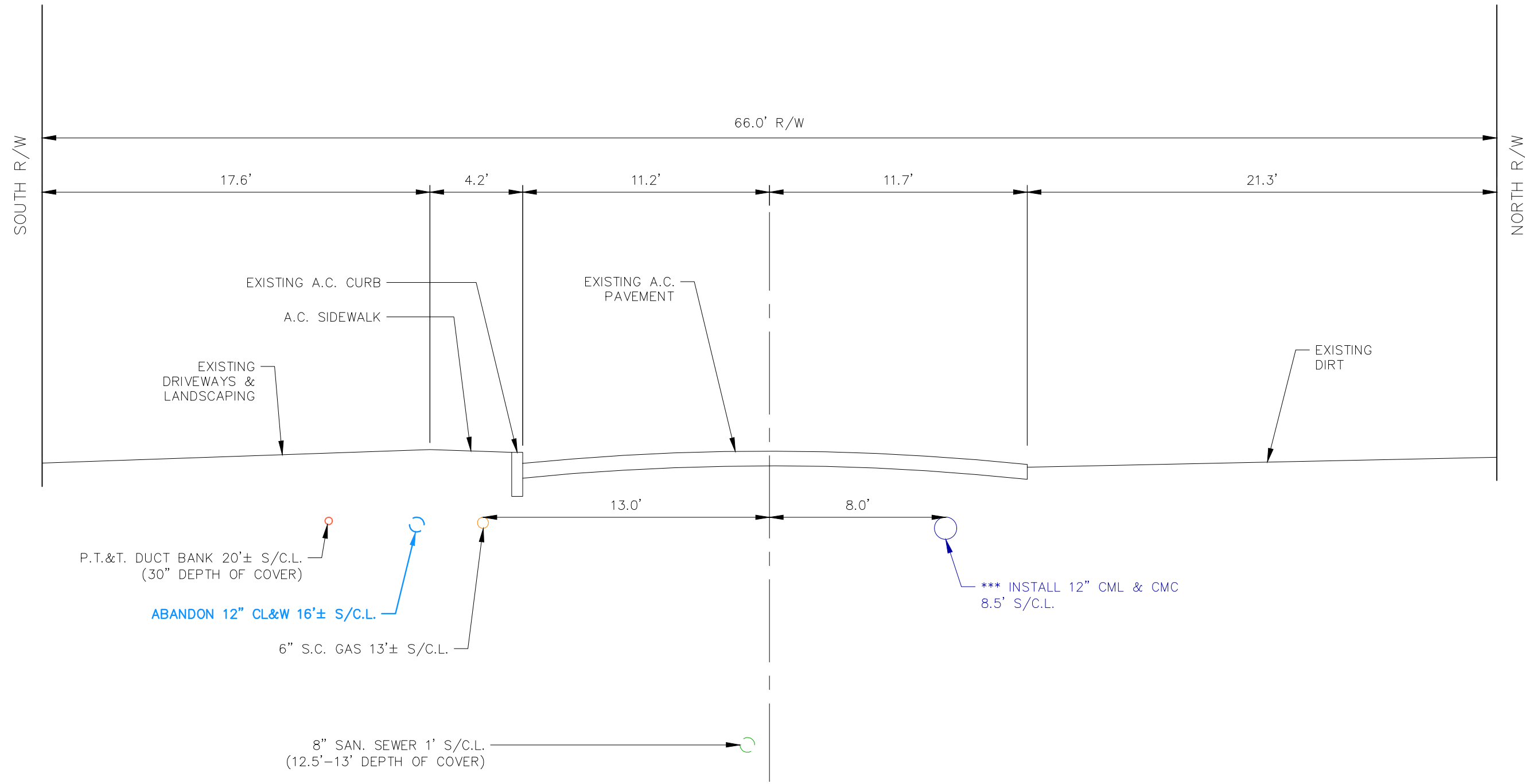
CRESCENTA VALLEY WATER DISTRICT 

12" WATER MAIN INSTALLATION ON ORANGE AVE
FROM LA CRESCENTA AVE TO ROSEMONT AVE
(CHANNEL CROSS SECTION)

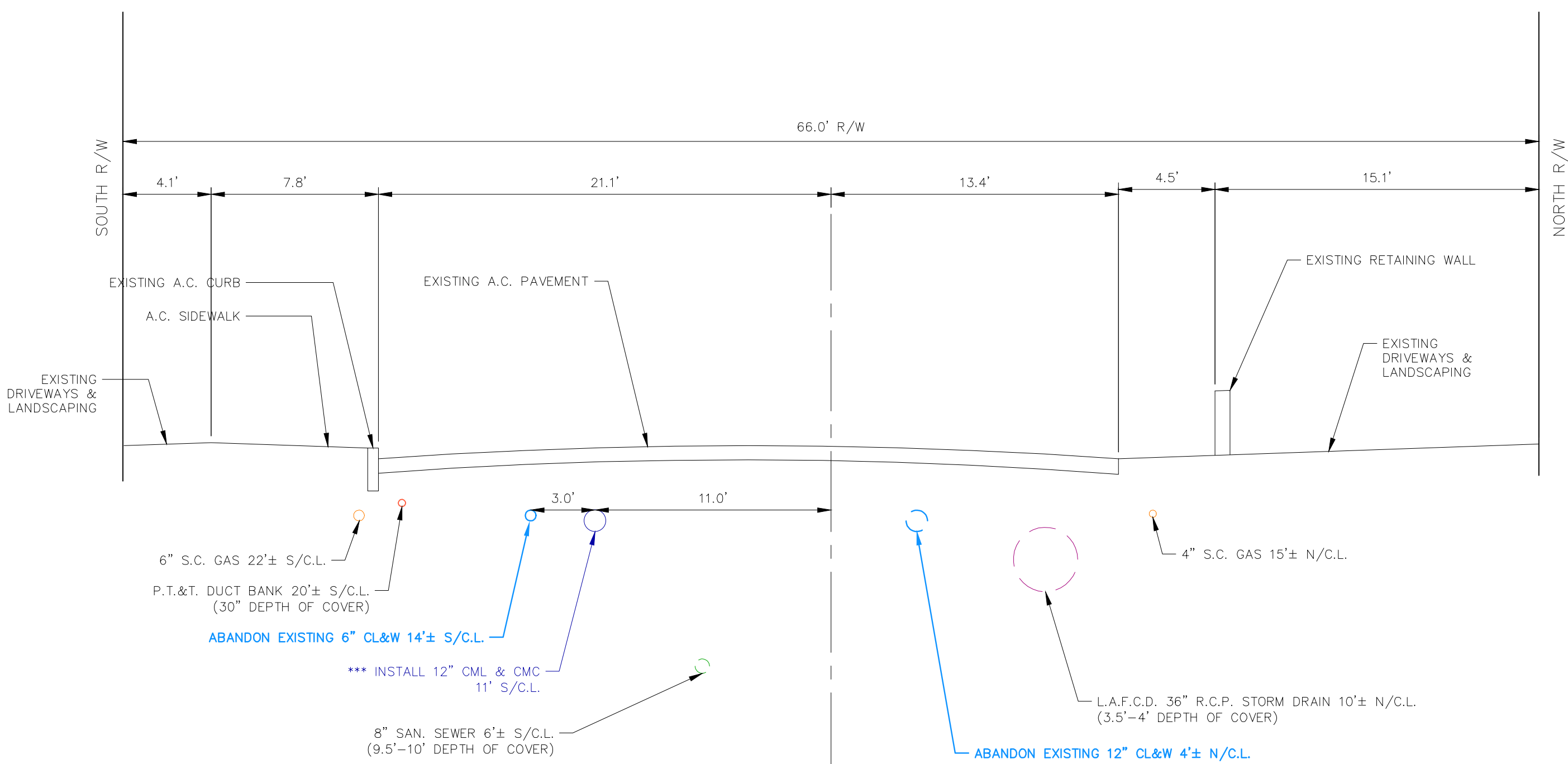
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SHT. 5	OF 6 SHTS.
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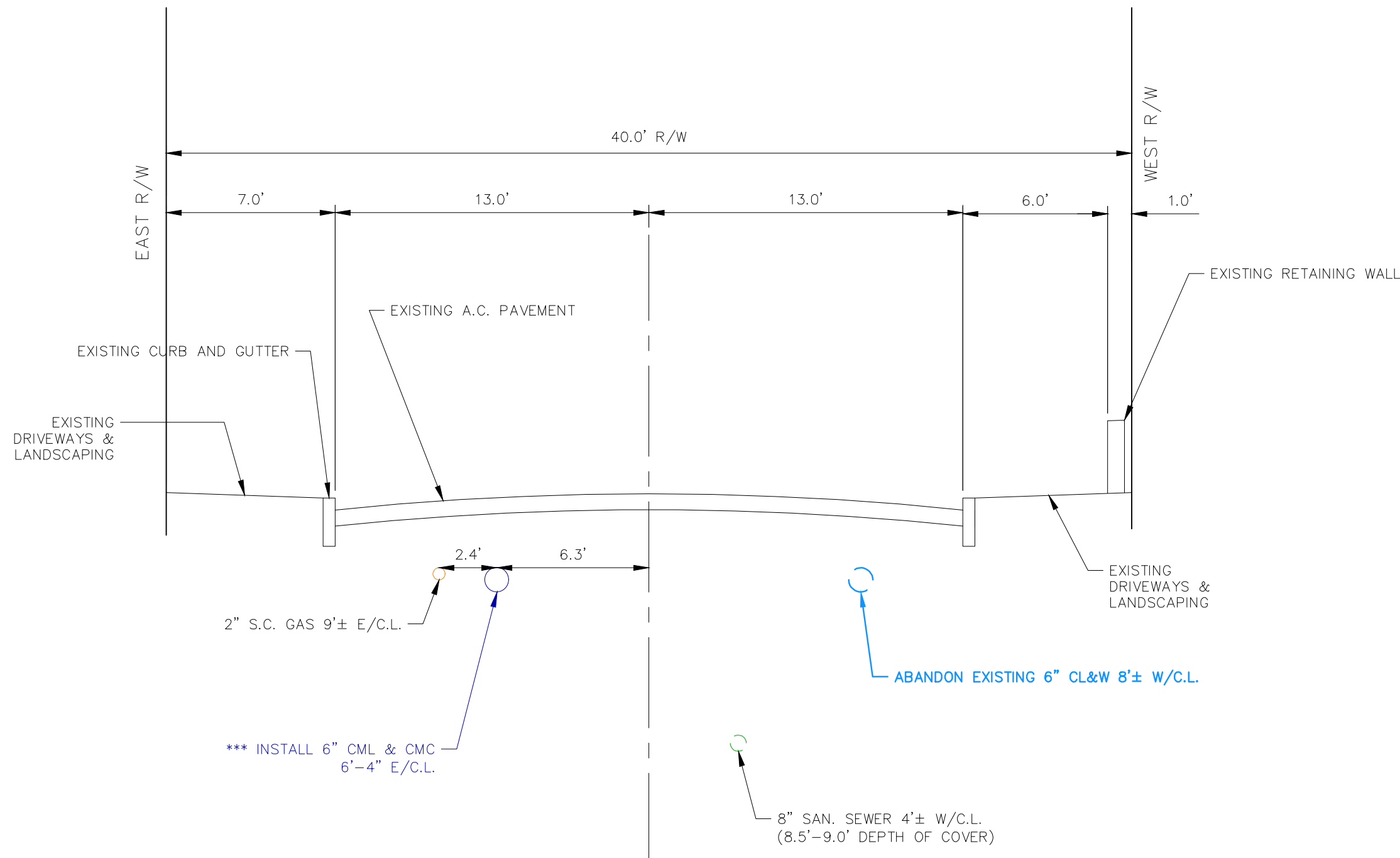
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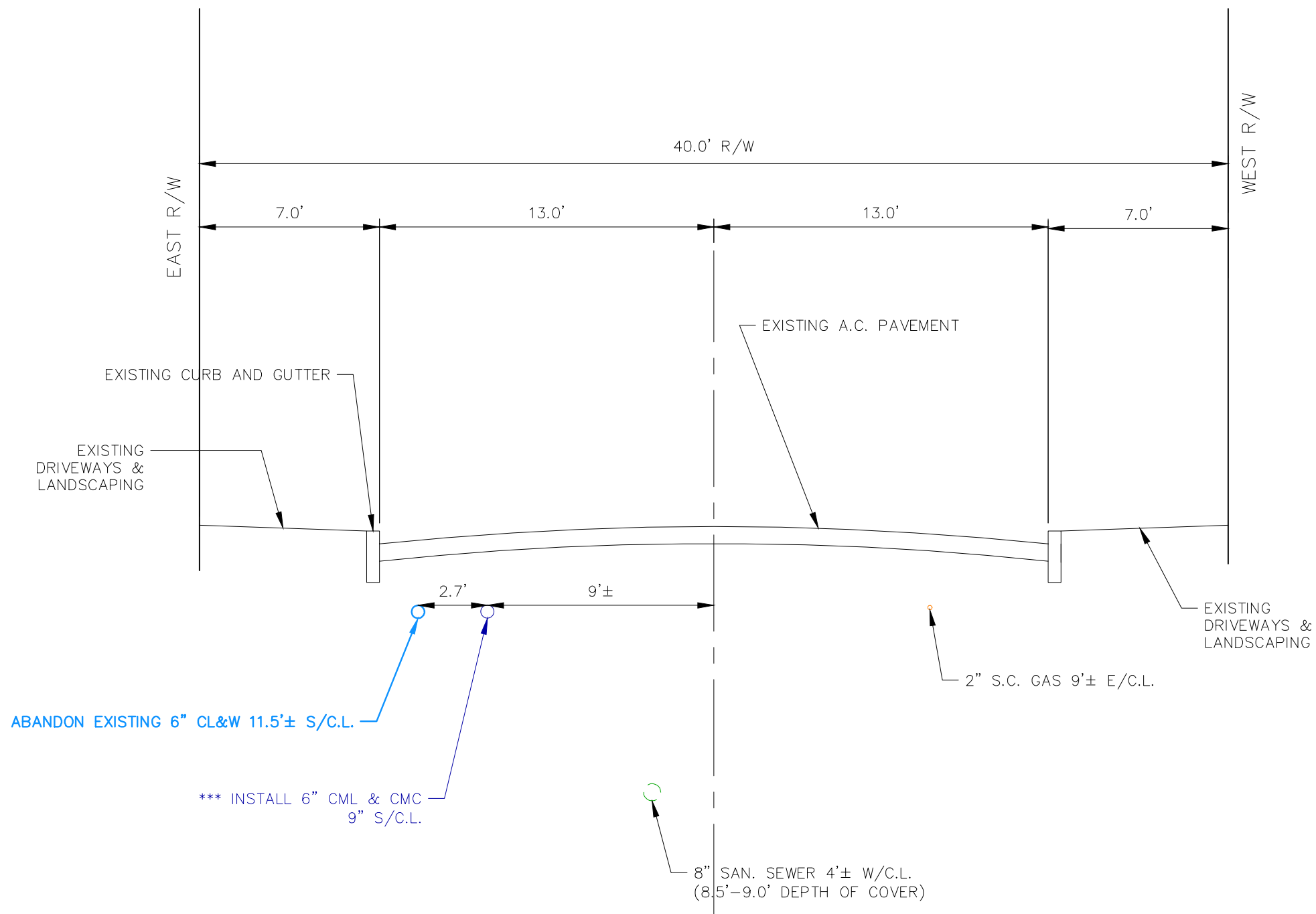
BLOCK NO. 2700 ORANGE AVE – SECTION "A"
SCALE: 1" = 5'



BLOCK NO. 2600 ORANGE AVE – SECTION "B"
SCALE: 1" = 5'



BLOCK NO. 5000 EL ADOBE LN – SECTION "C"
SCALE: 1" = 5'



BLOCK NO. 5000 EL ADOBE LN – SECTION "D"
SCALE: 1" = 5'



CA. PROJ. NO.
220706
THESE DRAWINGS ARE
INSTRUMENTS OF
SERVICE AND ARE THE
PROPERTY OF CANNON
ALL DESIGNS AND
INFORMATION ON THESE
DRAWINGS ARE FOR USE
OF THE SPECIFIED
PROJECT AND SHALL
NOT BE USED FOR
OTHERWISE OR
REPRODUCED WITHOUT
THE EXPRESSED
WRITTEN PERMISSION OF
CANNON

DISCLAIMER
Approval by C.V.W.D. does not
constitute a representation as to the
accuracy of design or the existence
and location of underground utilities,
structures, and conditions within the
limits of this project.

REV.	DATE	REVISION
A	09/01/22	50% SUBMITTAL
B	09/20/22	100% SUBMITTAL
C	12/01/22	FINAL SUBMITTAL

REV.	CHKD.	APP'D.
TPF	TTK	TTK
TPF	TTK	TTK

SCALE:	1" = 5'	DATE
DRAWN BY:	TF	12/01/2022
CHECKED BY:	TK	12/01/2022
APPROVED:	TK	12/01/2022
AS BUILT:		

SCALE:	1" = 5'	DATE
DRAWN BY:	TF	12/01/2022
CHECKED BY:	TK	12/01/2022
APPROVED:	TK	12/01/2022
AS BUILT:		

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AS BUILT:		

CRESCENTA VALLEY WATER DISTRICT
12" WATER MAIN INSTALLATION ON ORANGE AVE
FROM LA CRESCENTA AVE TO ROSEMONT AVE
(TYPICAL STREET CROSS SECTIONS)

L.A.C.D.P.W. PERMIT NO.	
SHT. 6 OF 6 SHTS.	
JOB NO. E-1046	FILE NO. C-474