

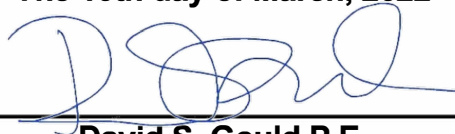
CONTRACT SPECIFICATIONS
FOR
CONSTRUCTION OF THE ANDERSON W. CLARK
MAGNET HIGH SCHOOL FIRE SERVICE LINE

D-21-G2
Project No.



\$151,000
Engineer's Estimate

Approved by Crescenta Valley Water District
The 10th day of March, 2022



David S. Gould P.E.
Director of Engineering & Operations

Prospective bidders may obtain one set of contract documents for \$50.00 from
Crescenta Valley Water District
Located at
2700 Foothill Boulevard, La Crescenta, California 91214

For further information call Christina Olmedo at (818) 248-3925 or e-mail at
colmedo@cvwd.com

TABLE OF CONTENTS

NOTICE INVITING BIDS:

Page No.

N-1	Notice	N-1
N-2	Date of Bid Opening	N-1
N-3	Location of Work	N-1
N-4	Description of Work	N-1
N-5	Mandatory Pre-Bid Conference	N-1
N-6	Classification of Contractors' Licenses	N-1
N-7	Award of Contract	N-2
N-8	Site Conditions	N-2
N-9	Bid Security and Bonds	N-2
N-10	Contract Retention	N-3
N-11	Wage Rates	N-3
N-12	Use of Apprentices	N-3
N-13	Contract Documents	N-3
N-14	Address and Marking of Proposal	N-4

INSTRUCTIONS TO BIDDERS:

I-1	Form of Bid and Signature	I-1
I-2	Interpretation of Drawings and Specifications	I-1
I-3	Preparation of the Proposal	I-1
I-4	Registration of Contractors	I-2
I-5	Contractors Experience	I-2
I-6	List of Subcontractors Filed with Bid	I-2
I-7	Bidders Interested In More than One Bid	I-2
I-8	Lowest Responsible Bidder	I-2
I-9	Bid Security	I-3
I-10	Local Conditions	I-3
I-11	Execution of Contract	I-3
I-12	Bonds	I-4
I-13	Liability Insurance	I-4
I-14	Assignment of Contract	I-6
I-15	Non-Collusion Affidavits	I-6
I-16	Financial Statement	I-6

PROPOSAL:

Bidder's Declaration	P-1
Proposal Bid Sheet	P-4
Information Required of Bidder	P-5
Contractor's Licensing Statement	P-7
List of Subcontractors	P-8
Bid Security Forms	P-9
Non-Collusion Affidavit (Contractor)	P-12

TABLE OF CONTENTS - continued

<u>AGREEMENT:</u>	<u>Page No.</u>
Agreement	A-1
Faithful Performance Bond	A-4
Payment Bond	A-6
Non-Collusion Affidavit (Subcontractor)	A-8
Notice to Proceed	A-9
<u>GENERAL PROVISIONS:</u>	
ARTICLE 1: DEFINITIONS, TERMS, AND ABBREVIATIONS	
1-1 Definitions	G-1
1-2 Terms	G-2
1-3 Abbreviations	G-3
1-4 Citations	G-3
ARTICLE 2: PROPOSAL REQUIREMENTS AND CONDITIONS	
2-1 Contract Documents	G-4
2-2 License	G-4
2-3 Proposals	G-4
2-4 Addenda	G-5
2-5 Existing Conditions and Examination of Contract Documents	G-5
ARTICLE 3: SCOPE OF WORK	
3-1 Work To Be Done	G-7
3-2 Changes in the Work	G-7
3-3 Extra Work	G-7
3-4 Obstructions	G-8
3-5 Utilities	G-8
3-6 Plans and Specifications Furnished by the Owner	G-10
3-7 Final Cleanup	G-10
3-8 Protests	G-10
3-9 Claims	G-10
ARTICLE 4: QUALITY OF THE WORK	
4-1 Authority of the Owner's Representative	G-13
4-2 Supplemental Drawings	G-13
4-3 Conformity with the Contract Documents and Allowable Deviations	G-13
4-4 Manufacturer's Instructions	G-13
4-5 Interpretation of Plans and Specifications	G-13
4-6 Errors or Discrepancies Noted by Contractor	G-14
4-7 Supervision and Superintendence	G-14
4-8 Shop Drawings	G-15
4-9 Quality and Safety of Materials and Equipment	G-16
4-10 Standards, Codes, Samples, and Tests	G-16
4-11 Observation of Work by Owner's Representative	G-17
4-12 Removal of Defective and Unauthorized Work	G-17
4-13 One-Year Guarantee	G-18

TABLE OF CONTENTS - continued

		<u>Page No.</u>
ARTICLE 5: PROSECUTION AND PROGRESS		
5-1	Subcontracting	G-19
5-2	Contractor's Construction Schedule and Cost Breakdown	G-19
5-3	Time for Completion and Forfeiture Due to Delay	G-19
5-4	Suspension of Work	G-20
5-5	Extension of Time	G-20
5-6	Use of Completed Portions	G-21
5-7	Character of Workers	G-21
5-8	Enforcement of Order	G-22
5-9	Use of Owner's Property during Construction	G-22
ARTICLE 6: LEGAL RELATIONS AND RESPONSIBILITIES		
6-1	Observing Laws and Ordinances	G-23
6-2	Permits and Licenses	G-23
6-3	Inventions, Patents, And Copyrights	G-23
6-4	Safety and Public Convenience	G-24
6-5	Responsibility for Loss, Damage, Or Injuries	G-25
6-6	Contractor's Responsibility for the Work	G-25
6-7	Preservation of Property	G-25
6-8	Excavation Plans For Worker Protection	G-26
6-9	Personal Liability	G-26
6-10	Indemnity	G-26
6-11	Hours of Labor	G-27
6-12	Prevailing Wage	G-27
6-13	Travel and Subsistence Payments	G-28
6-14	Apprentices	G-28
6-15	Warranty of Title	G-28
6-16	Property Rights in Materials	G-28
6-17	Title to Materials Found on the Work	G-29
6-18	Mutual Responsibility of Contractors	G-29
6-19	Termination for Breach	G-30
6-20	Notice and Service Thereof	G-31
6-21	Attorneys' Fees	G-31
6-22	Lands and Rights-Of-Way	G-31
6-23	Waiver of Rights	G-31
6-24	Taxes	G-31
6-25	Assignments of Antitrust Actions	G-32
6-26	Payroll Records	G-32
6-27	Notice of Latent or Hazardous Conditions	G-33
6-28	Contractor's Obligations Concerning Payment of Workers' Compensation and Unemployment Insurance	G-33
6-29	Use of Debarred Contractors	G-33
6-30	Notification of Third-Party Claims	G-33
ARTICLE 7: CONTRACTOR'S INSURANCE		
7-1	General	G-34
7-2	Worker's Compensation Insurance	G-34
7-3	Liability Insurance	G-35
7-4	Contractor's Liability Not Limited By Insurance	G-36

TABLE OF CONTENTS - continued

ARTICLE 8: ESTIMATES AND PAYMENTS		<u>Page No.</u>
8-1	Payment for Changes in the Work	G-37
8-2	No Payment For Temporary Work	G-38
8-3	Progress Payments	G-38
8-4	Final Estimate and Payment	G-39
8-5	Owner's Right To Withhold Certain Amounts And Make Application Thereof	G-40
8-6	Cost Statement	G-40
<u>SPECIAL PROVISIONS:</u>		
SP-1	Beginning and Completion of Work	S-1
SP-2	Time Period During Which Bids Remain Valid	S-1
SP-3	Connection to Existing Water Mains	S-1
SP-4	Potholing of Existing Facilities	S-2
SP-5	Liquidated Damages for Delays	S-2
SP-6	Breakdown of Contract Price	S-2
SP-7	Contract Drawings	S-2
SP-8	Drawings and Date required to be submitted by Contractor	S-3
SP-9	Materials	S-5
SP-10	Inspection and Tests of Materials	S-5
SP-11	Water Supply	S-6
SP-12	Sanitation	S-6
SP-13	Driveway Maintenance and Dust Abatement	S-6
SP-14	Repair of Pavement	S-6
SP-15	As-Built Drawings	S-6
SP-16	Contractor's License	S-7
SP-17	Working Hours	S-7
SP-18	City of Glendale Excavation Permit, Insurance Requirements and Business License	S-7
SP-19	Pre-Construction Meeting	S-8
SP-20	Conferences	S-8
SP-21	Safety	S-8
SP-22	Contractor's Work Area	S-8
SP-23	Traffic Control and Access	S-9
SP-24	Excavation/Shoring	S-9
SP-25	Construction Schedule and Sequencing	S-10
SP-26	Project Site Clean	S-10
SP-27	Damage to Existing Utilities	S-10
SP-28	Lines, Grade and Measurements	S-10
SP-29	Storm Water and Best Management Practices	S-10

TABLE OF CONTENTS - continued

		<u>Page No.</u>
<u>TECHNICAL PROVISIONS:</u>		
T-1	GENERAL	T-1
T-2	REFERENCES	T-1
T-3	EARTHWORK	
A	General	T-2
B	Excavation	T-2
C	Pipe Bedding	T-3
D	Backfill	T-3
E	Compaction Testing	T-4
F	Basis of Payment	T-5
T-4	CONCRETE CONSTRUCTION	
A	General	T-5
B	Materials	T-5
C	Placement	T-5
D	Curing	T-6
E	Finishes	T-6
F	Testing	T-6
G	Basis of Payment	T-6
T-5	TRENCH RESURFACING AND PAVEMENT REPLACEMENT	
A	General	T-6
B	Scope	T-6
C	Materials	T-8
D	Field Conditions	T-8
E	Requirements	T-8
F	Inspection	T-8
G	Method of Measurement	T-8
H	Basis of Payment	T-9
T-6	WATER MAIN MATERIALS, INSTALLATION, TESTING AND DISINFECTION	
A	General	T-9
B	Standard Steel Water Pipe	T-9
C	Welded or Flanged Steel Water Pipe, Fitting and Special Sections	T-10
D	Pipe installation	T-12
E	Valves	T-18
F	Flexible Couplings and Transition Couplings	T-19
T-7	TRAFFIC CONTROL	
A	General	T-20
B	Construction Project Signs	T-21
C	No Parking Signs	T-21
D	Basis of Payment	T-21

TABLE OF CONTENTS - continued

APPENDIX A – City of Glendale, Department of Public Works Permit and Insurance Requirements

APPENDIX B – List of Materials to Be Supplied By CVWD and Contractor

APPENDIX C – Crescenta Valley Water District – Project Sign

APPENDIX D – Crescenta Valley Water District; City of Glendale; LA County - Standard Drawings

APPENDIX E – Reduced Set of Construction Drawings

CRESCENTA VALLEY WATER DISTRICT
2700 Foothill Boulevard
La Crescenta, CA 91214

NOTICE INVITING BIDS

For construction of a new **8-inch water main on Cloudsdale Avenue** for the **Anderson W. Clark Magnet High School Fire Service Line, Project D-21-G2** within the City of Glendale, California.

N-1 NOTICE IS HEREBY GIVEN that sealed bids will be received by the Crescenta Valley Water District (hereinafter "Owner"), for furnishing all 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 located at 2700 Foothill Blvd. La Crescenta, CA 91214.

N-2 DATE OF OPENING BIDS Bids will be received at the office of Crescenta Valley Water District, 2700 Foothill Blvd., La Crescenta, CA 91214, until **April 6, 2022 at 2:00 pm** 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-14. Bids received after the deadline specified will be returned unopened to the bidder.

N-3 LOCATIONS OF THE WORK. The work to be constructed hereunder is located on Cloudsdale Avenue within the City of Glendale, California.

N-4 DESCRIPTION OF WORK Installation of 8-inch steel water main on **Cloudsdale Avenue**, Project D-21-G2. Work shall include excavation, backfill, trench resurfacing, traffic control, and other appurtenant work.

N-5 MANDATORY PRE-BID CONFERENCE – A mandatory Pre-Bid conference will be conducted at the intersection of Cloudsdale Avenue and Santa Carlotta St. at **10:00 A.M. on March 30, 2022.** **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 Contractors submitting a proposal shall possess, at the time the contract is awarded, the following classes of contractor's license issued pursuant to Division 3, Chapter 9, of the Business and Professions Code of the State of California: The Contractor shall certify that the license(s) specified are the classification(s) of contractor's license required by law to enable the Contractor 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.

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 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

NOTICE INVITING BIDS

Page N-1

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.

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 bid price, 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-10 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. 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 \$50.00 and \$7.50 for mailing. No refund will be made of any charges for complete sets of Contract Documents.

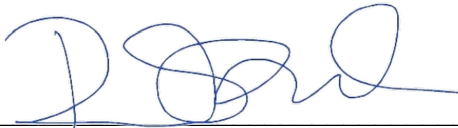
N-14 ADDRESS AND MARKING OF PROPOSAL. The envelope enclosing the proposal shall be sealed and addressed as follows:

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: 03/10/2022

CRESCENTA VALLEY WATER DISTRICT

By: 
David S. Gould P.E., District Engineer

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 Owner 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 phraseology 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 explained or noted in the Proposal over the signature of 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, without prejudice to such bidder, by submitting a written request to the Owner for its withdrawal, and their Proposal will be returned unopened when reached in the procedure of opening bids, or mailed to the bidder unopened, if they are not in personal attendance at the bid opening. 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, in like manner as in the case of failure to execute the contract after award, as hereinafter provided. Unless otherwise specified in the Special Provision made a part of these Contract Documents, all bids shall be valid for a period of forty-five (45) days after Owner's bid opening date, notwithstanding any award of the contract by Owner 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 who 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.

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 five (5) jobs similar in size and scope to that contemplated herein. Failure to submit a complete list or to have that list include at least five (5) 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. 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 drawn on a solvent state or national bank, or a bidder's bond with a responsible corporate surety, on the form attached to the proposal, subject to the provisions of the Notice Inviting Bids. Said 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 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 Owner 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 a written contract with the Owner on the form of Agreement provided in the Contract Documents, secure the payment of worker's compensation, furnish good and approved bonds as required in the following paragraph, provide evidence of insurance, and provide a financial statement of other information requested by Owner pursuant to the Contract Documents, all in accordance with the provisions hereof within ten (10) days (not including Sundays or holidays), or such additional time as may be allowed by the Owner, from the date the Owner mails notice to the bidder, at the address provided in the proposal, that their proposal has been accepted.

The failure or refusal of a bidder to whom award is made to enter into contract as herein provided or to conform to any of the stipulated requirements in connection therewith will result in damages being sustained by the Owner. Such damages are, and will continue to be, 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 annulled. At the discretion of the Owner, a new award may be made to the second lowest responsible bidder and such bidder shall fulfill every stipulation embraced 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 hereof, 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. The bidder to whom the contract is awarded shall provide copies of the surety insurer's most recent annual and quarterly statement filed with the California Department of Insurance, and a certified copy of the Certificate of Authority issued by the Department of Insurance. Any power of attorney provided, evidencing the authority of the person executing the bonds to bind the surety, shall be an unrevoked power, and shall be an original or a certified copy of the original. 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 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 "B+" policyholder's rating and a Financial Size Category rating of at least VII in accordance with the most recent Best's Insurance Guide, or as otherwise approved by the Owner. If Best's is no longer published, comparable ratings must be provided from a service acceptable to 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 until 30 days after the Owner and its Engineer have actually received written notice of such cancellation or reduction; (iv) Providing "cross liability" or "severability of interest" coverage for all insureds under the policy or policies; 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-S 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 therefore as provided in the Contract Documents, and to do everything required therein for the **Construction of 8-inch Water Main on Cloudsdale Avenue for the Anderson W. Clark Magnet High School Fire Service Line.**

As specifically set forth in said Contract Document entitled **Construction of 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2** 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 8-INCH WATER MAIN
FOR THE ANDERSON W. CLARK MAGNET HIGH SCHOOL FIRE SERVICE LINE ON
CLOUDSDALE AVENUE,
PROJECT D-21-G2

Item No.	Item Description	Approximate Quantity& Unit	Unit Price	Total Amount
1.	Excavation and backfill (pipeline, laterals & appurtenances)	620 Linear feet	_____	_____
2.	Resurfacing Trench	2,480 Square feet	_____	_____
3.	Install 8" CML & CMC steel water pipeline and appurtenant construction*	620 Linear feet	_____	_____
4.	Install 6" Fire Hydrant and steel water pipe lateral and appurtenant construction*	1 Each	_____	_____
5.	Install 1" Air Release Assembly and appurtenant construction*	1 Each	_____	_____
6.	Provide traffic control for the Project	Lump Sum	_____	_____

**Grand Total
Of Items 1 – 6**

***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 Aggregate Base	
Water Materials Supplier	

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 five (5) 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 five (5) 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 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 shall be listed if they will provide work, labor, or service in an amount in excess of one-half (½) of one percent (1%) of the Contractor's total bid. If a subcontractor is not listed, the Contractor will be responsible for performing that portion of the work. Substitution of subcontractors shall be made only in accord with Public Contract Code and the Standard Specifications for Public Works Construction, latest edition, as applicable.

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.

The Bidder, by signing this designation certifies that bids from the following subcontractors have been used in formulating the bid for the project and that these subcontractors will be used subject to the approval of the Owner and in accord with State law.

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

Bidder

Authorized Signature/Title

(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 8-inch Water Main for the Anderson W. Clark Magnet High School
Fire Service Line on Cloudsdale Avenue** as specifically set forth in documents entitled **Construction of
8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on
Cloudsdale Avenue, Project D-21-G2** 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, notwith-
standing 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.

TO BE EXECUTED BY EACH BIDDER

STATE OF CALIFORNIA)
)SS
COUNTY OF _____)

[NAME]

(SOLE OWNER, A PARTNER, PRESIDENT, SECRETARY, ETC.)

[IDENTITY OF BIDDER]

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:_____

[TITLE]

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

SEAL

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. For and 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 **8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue** as specifically set forth in said Contract Document entitled **Construction of 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2** 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 and embraced 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 well and faithfully completing the Work within the stipulated time and in the manner shown and described in the Contract Documents and in accordance with the requirements of the Engineer under them, 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 promises and 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; and the parties for themselves, their heirs, executors, administrators, successors and assigns do hereby agree to the full performance of the covenants herein contained in this Agreement.

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, in accordance with the Contract Documents. The Work under this Agreement shall be completed to the approval and entire satisfaction of the Owner and its Engineer.

6. The Contractor shall assume the defense of 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, or agents, 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, or agents, 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, except the sole negligence or willful misconduct or active negligence of the Owner, its Engineer, or any of their directors, officers, employees, or agents;

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.

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.

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.

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.

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. If the court finds that any provision of this Agreement is invalid or unenforceable, but that by limiting such provision it would then become valid and enforceable, then such provision shall be deemed written, construed and enforced as so limited taking into account the intent of the parties at the time of executing this Agreement.

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 with respect to the subject matter, and no amendment, modification or alteration of the terms hereof shall be binding unless the same is in writing, dated subsequent to the date hereof and duly approved and executed by each of the parties.

10. This Agreement, and the application or interpretation hereof, shall be governed exclusively by its terms and by the laws of the State of California. Venue for all purposes shall be deemed to lie within Los Angeles County, California, and any action to enforce this Agreement or for any remedies, damages, or other relief shall only be brought in either the state courts of the State of California in and for the County of Los Angeles or in the United States District Court, Central District of 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 **Construction of 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2** 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.

MANDATORY FORM

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 **Construction of 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2** as specifically set forth in documents entitled **Construction of 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2** 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.

MANDATORY FORM

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.

NOTICE TO PROCEED

TO: XXXXX
 XXXXX
 XXXXX

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 8-inch Water Main for the Anderson W. Clark Magnet High School Fire Service Line on Cloudsdale Avenue, Project D-21-G2.**

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	[X]
Payment Bond (100%)	[X]
Faithful Performance Bond	[X]
Worker's Compensation Insurance Certificate	[X]
Liability Insurance Policy or Certificate, w/ Endorsements	[X]
Non-Collusion Affidavits	[X]

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 the following terms occur in the Contract Documents, the meaning 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. The term Addendum shall include bulletins and all other types of written notices issued to potential bidders prior to opening of bids.

BID (PROPOSAL). The set of documents submitted by a bidder on the form 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 Bid or Proposal shall include the following documents: the signed Bidder's Declaration, Bid Schedule, Information Required of Bidder, the properly completed and executed Contractor's Licensing Statement, List of Subcontractors, Bid Security Forms (including the Bidder's Bond) and Non-Collusion Affidavit. 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 pursuant to the contract for a public work and payment of 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-13 of the Notice Inviting Bids; also any and all supplemental agreements amending or extending the work contemplated. Supplemental agreements are written agreements covering alterations, amendments, or extensions to the contract and include 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 as Crescenta Valley Water District. 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, Special Provisions and as Technical Provisions as supplemented by the construction 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. including the furnishing of all labor, materials, equipment and supplies. Also, the completed construction or parts thereof required to be provided under the Contract Documents, including all labor, materials, equipment, and supplies incorporated or to be incorporated in the construction.

1-2 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.

1-3 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
SSPWC	Standard Specifications for Public Works Construction "Green Book"
UBC	Uniform Building Code, Pacific Coast Building Officials Conference of the International Conference of Building Officials
U/L or UL	Underwriters' Laboratories, Inc.

1-4 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 Technical Provisions and the Drawings, together with the Bonds and Agreement, constitute the contract. These Contract Documents are complementary, and what is called for in any one shall be as binding as if called for in all. The intention of the documents is to require a complete and finished piece of work including all labor, materials, equipment and transportation necessary for the proper execution of the work, with the exception of such items as are definitely stipulated in the technical provisions or the drawings to be furnished by the Owner. Anything shown in the drawings and not in the technical provisions, or in the technical provisions and not in the drawings, or neither in the technical provisions 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 technical provisions. Material or work described in words which so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards. In the event of a conflict between one portion of the Contract Documents and another, the more particular shall prevail over the more general, such that, for example, Special Provisions shall govern over General Provisions and Technical Provisions and Drawings over Standard Specifications.

2-2 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.

2-3 PROPOSALS

Bids shall be made upon the bid form furnished by the Owner and a part of the Contract Documents. All bids shall be properly executed and with all items filled in; the signatures of all persons signing shall be in longhand. Erasures, interlineations, or other corrections shall be authenticated by affixing in the margin immediately opposite the correction the initials of a person signing the bid. If the unit price and the total amount named by a bidder for any item are not in agreement, the unit price alone shall be considered as representing the bidder's intention; the totals shall be corrected to conform thereto.

Bids shall not contain any recapitulation of the work to be done. Alternative proposals will not be considered, except as called for. No oral, telegraphic, or telephonic proposals or modifications will be considered. Bids shall be accompanied by "Bid Security" in the form of cash, a cashier's or certified check, or bidder's bond, in an amount not less than 10% of the amount of bid, made payable to or for the benefit of the Owner.

Said Bid Security shall be given as a guarantee that the bidder will enter into a contract and furnish the required bonds and insurance certificates and endorsements if awarded the contract. The refusal or failure of the bidder to enter into the contract and furnish the required bonds, insurance certificates and endorsements, and any other information required under the instructions to bidders within ten (10) days (not including Saturdays, Sundays, and holidays) after the date of notification of award by the Owner in writing will result in damages being sustained by the Owner, which damages are, and will continue to be, impracticable and extremely difficult to ascertain. In the event of such failure to enter into the Contract and comply with the requirements thereof, the Bid Security shall be forfeited to the Owner, as liquidated damages and not as a penalty. Forfeiture does not preclude the Owner from seeking all other remedies provided by law to recover losses sustained as a result of the Contractor's failure to enter into the contract or to furnish the required bonds, insurance certificates and endorsements, or other information required of bidder.

Bids shall be sealed in an envelope marked and addressed as set forth in the Notice Inviting Bids. Bids shall be delivered to the addressee at the location designated in the Notice Inviting Bids on or before the day and hour set for the opening of bids in the Notice Inviting Bids, and shall bear the name of the bidder. A bid will not be accepted after the date and time designated in the Notice Inviting Bids. It is the sole responsibility of the bidder to see that their bid is delivered and received in proper time. Any bid received after said designated date and time shall be returned to the bidder unopened.

2-4 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.

2-5 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 Owner and 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 Owner.

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, the Engineer or its consultants in the use thereof by the Owner and 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 (7) 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, as the case may be, is not of like character to and susceptible of classification under the unit-price items of the contract as specified, and it is impracticable because of the nature of the work or for any other reason 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, workers' compensation insurance, contributions made to the State as required by the provisions of the Unemployment Insurance Act, Chapter 352, Statutes of 1935, as amended, taxes paid to the Federal Government as required by the Social Security Act, approved August 14, 1935, as amended, and the reasonable value of the use of equipment for the actual time it is used, all as determined by the Owner, plus fifteen percent (15%) for profit, general expenses, excise taxes, property taxes, bond premiums, license and inspection fees imposed by any governmental authority and all other items of expense, whether of the kind enumerated herein or otherwise.

If any work or material is ordered under this section on a cost-plus basis, the Contractor shall, at the times directed during the performing of the work or the furnishing of the materials, render to the Owner written reports in prescribed form, showing the name and number of each worker employed thereon, the number of hours employed thereon, the character of work that worker is doing, and the wages paid or to be paid to him or her, also showing the equipment utilized, the materials delivered and the type and rental cost of equipment, the quantity and character of each such material, from whom purchased and the net amount paid or to be paid therefor, any other items that may enter into the cost, and such other information as directed. If required, the Contractor shall produce any books, vouchers, other records, or memoranda which will assist the Owner in determining the true, necessary cost of work and materials to be paid for.

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

The Owner or the Engineer has endeavored to determine the existence of utilities at the site of the Work from the records of the owners of known utilities in the area affected by the Work. The positions of these utilities as derived from such records are shown on the plans. The service connections to these utilities may not be shown on the plans.

The Contractor shall make their own investigations, including exploratory excavation, and inquiries with area utility providers, to determine the locations and type of existing service laterals or appurtenances when their presence can 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.

If the Contractor discovers utility facilities not identified in the plans or specifications or in a position different from that shown in the plans and specifications, they shall immediately notify in writing the Owner's Representative and the owner of the utility facility.

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. The right is reserved to governmental agencies and to owners of utilities to enter at any time upon any street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the work and the purpose of maintaining and making repairs to their property.

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 Owner, Owner's Representative or any governmental inspector to be unfair, Contractor shall immediately upon such work being demanded or such record or ruling being made, ask for written instructions or decision, and within fourteen (14) days after receipt thereof file a written protest with Owner, stating clearly and in detail 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 Owner or 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 accord with procedures set forth in Section 3-9 entitled CLAIMS.

3-9 CLAIMS

As provided in Article 1.5 of Chapter 1 of Part 3 of Division 2 of the Public Contract Code, 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. By way of example, but in no way intended to be an exhaustive list of all situations where notice is required to preserve the Contractor's claim rights, where the Contractor believes that an order for minor changes in the Work involves changes in the Contract amount or time for completion, the Contractor must notify the Owner in writing within seven (7) days of the receipt of an order for changes in the Work in order to preserve the Contractor's right to claim such additional compensation or time for completion, as set forth in Section 3-2 entitled "CHANGES IN THE WORK". As provided in Section 4-2 entitled "SUPPLEMENTAL DRAWINGS", 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 must notify the Owner in writing within seven (7) days of the receipt of the supplemental drawings. Requests for an extension of time must be delivered to the Owner within fourteen (14) days following the date of the occurrence which necessitated the extension of time. In all events, and subject to the deadlines for submitting claims specified above, and any other deadlines for submitting claims required 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), 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. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and the Contractor. The Owner's written response to the claim, as further documented, shall be submitted to the Contractor within fourteen (14) 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. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the Owner and Contractor. The Owner's written response to the claim, as further documented, 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 fourteen (14) days of receipt of the Owner's response or within fourteen (14) 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) under strict time constraints (within sixty (60) days following the filing of responsive pleadings). The parties are to select a mediator within fifteen (15) days and the mediation must be commenced within thirty (30) days of the submittal, and shall be concluded within 15 days from its commencement. 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. The parties may agree by stipulation as to the required experience of and compensation payable to the arbitrator or mediator, except that compensation paid to arbitrators and mediators shall not exceed their customary hourly rates. 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 judgment than that received through arbitration, such party shall, in addition to the payment of costs and fees under the arbitration provision of the Code of Civil Procedure, pay the attorney's fees arising out of trial de novo. In any lawsuit filed under these provisions, the Owner shall pay interest at the prevailing rate on any arbitration award or judgment from the date the lawsuit is filed.

ARTICLE 4. QUALITY OF THE WORK

4-1 AUTHORITY OF THE OWNER'S REPRESENTATIVE

The Owner 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 shall be supplemented by such drawings as are necessary to define the Work adequately. All such drawings delivered to the Contractor by the Owner shall be deemed 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 in the Work so called for and shall within seven (7) days of the receipt of the supplemental drawings notify the Owner 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 prior to commencement of the changed Work.

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 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 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 seven (7) days of discovering such doubt or question, request clarification of the matter from the Owner, who shall respond within two (2) working days (Saturdays, Sundays and holidays excluded) after receipt of the request. The decision of the Owner shall be final.

4-6 ERRORS OR DISCREPANCIES NOTED BY CONTRACTOR

It is the duty of the Contractor to promptly notify the Owner 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 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, 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 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 in writing of such conflict. The Owner, 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. 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 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 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, shop drawings as called for in the Special Provisions and Technical Provisions or requested by the Owner. Drawings shall be submitted in sextuplet to the Owner or the Engineer and be accompanied by a letter of transmittal listing 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 set forth in the letter of transmittal.

By submitting shop drawings, the Contractor represents that material, equipment, and other work shown thereon conform to the plans and specifications, except for any deviations set forth in the letter of transmittal.

Within 30 days after receipt of said drawings, the Owner or the Engineer will return two of the copies of the drawings to the Contractor with any comments noted thereon. If so noted by the Owner or the Engineer, the Contractor shall correct the drawings and resubmit them in the same manner as specified for the original submittal. The Contractor in the letter of transmittal accompanying resubmitted shop drawings shall direct specific attention to revisions other than the corrections requested by the Owner or the Engineer on previous submittals.

The review by the Owner or the Engineer 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, and shall not be construed as relieving the Contractor of the full responsibility for: providing materials, equipment, and work required by the Contract; the proper fitting and construction of the Work; the accuracy and completeness of the shop drawings; selecting fabrication processes and techniques of construction; and performing the Work in a safe manner.

No portion of the Work requiring a shop drawing submittal shall be commenced until the submittal has been reviewed by the Owner or the Engineer 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 a written estimate of the changes in the contract amount and time for completion the Contractor believes to be appropriate. No payment for changes in 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 prior to commencement of changed Work.

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, 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 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 accord with Section 3400 of the Public Contract Code, the Contractor shall submit data substantiating requests for substitution of "equal" items within thirty (30) days after award of the contract. This 30-day period of time is included in number of days allowed for completion of 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.

4-11 OBSERVATION OF WORK BY OWNER

The Owner or the Owner's Representative or the Engineer 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 so that the Owner or the Owner's Representative or the Engineer 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 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 and the Owner's Representative in advance of backfilling or otherwise covering any part of the Work so that the Owner may, if desired, observe such part of the Work before it is concealed.

The observation, if any, by the Owner 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 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 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 made under the provisions of this article, the Owner 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 guarantees 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. No subcontract will be permitted which has the effect of avoiding the residence or wage requirements or any other provisions of the contract. 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. 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. Where the subcontract is not in writing, the subcontractor shall nonetheless agree to be bound by the terms of the Contract Documents as applicable to that subcontractor's work. A copy of each subcontract, if in writing, or if not in writing then a written statement signed by the Contractor giving the name of the subcontractor and the terms and conditions of such subcontract, and including a certification by the subcontractor acknowledging that said subcontractor is bound by the applicable terms of the Contract Documents, shall be filed with the Owner before the subcontractor begins work.

The divisions and sections of the specifications and the identifications of any drawings shall not control the Contractor in dividing the Work among subcontractors.

5-2 CONTRACTOR'S CONSTRUCTION SCHEDULE AND COST BREAKDOWN

Within fourteen (14) days after execution of the contract, the Contractor shall deliver to the Owner 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 unless the waiver is in writing.

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 to 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. Unforeseen causes of delay beyond the Contractor's control shall include acts of God, acts of a public enemy, acts of the government, acts of the Owner, or acts of another contractor in the performance of a contract with the Owner, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, and weather, or delays of subcontractors due to such causes, or delays caused by failure of the owner of a utility to provide for removal or relocation of existing utility facilities. Delays caused by actions or neglect of Contractor or his 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 that the suspension is necessary in the interests of the Owner. The Contractor shall comply immediately with any written order of the Owner or the Owner's Representative 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 fourteen (14) consecutive days following the date of the occurrence, which caused the delay. The request must be submitted 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 which would support the time extension requested. Requests for extensions of time which fail to include the specified information or which are not received within the specified time shall result in the forfeiture of the Contractor's right to receive any extension of time requested.

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

The Owner's receipt of the daily reports shall not be deemed an admission of the Contractor's right to receive an extension of time or a waiver of the Owner's right to strictly enforce the time provisions contained in the Contract Documents.

When the Contractor has submitted a request for an extension of time in accordance with the procedures of this article and Section 5-3, entitled TIME FOR COMPLETION AND FORFEITURE DUE TO DELAY, the Owner will ascertain the facts and extent of the delay and extend the time for completing the Work if, in its judgment, the findings of fact justify such an extension. Should the Contractor disagree with the decision of the Owner, 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 Owner shall be final and conclusive. An extension of time may be granted by Owner after the expiration of the time originally fixed in the contract or as previously extended; the extension so granted shall be deemed to commence and be effective from the date of such expiration.

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. Such discharge shall not be the basis of any claim for compensation or damages against the Owner, its Engineer or any of its officers. No convict labor shall be directly employed by the Contractor or any subcontractor in the performance of any work done under this contract.

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. The Contractor shall not sell, nor shall they permit or suffer the introduction or use of intoxicating liquors or narcotics upon the Work embraced in these specifications or upon any of the grounds occupied or controlled by them in connection with such work.

5-9 USE OF OWNER'S PROPERTY DURING CONSTRUCTION

Where necessary for the prosecution of the Work and upon application to and approval by the Owner, the Contractor may use property or facilities of the Owner during construction of the Work 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

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, except as noted in the Special Provisions.

6-3 INVENTIONS, PATENTS, AND COPYRIGHTS

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 Owner, 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 injuries, losses, or damages 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. As a part of the plan, a note shall be included stating that the registered civil or structural engineer certifies 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

To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, the Engineer, the Owner's Representative, their consultants, and each of their directors, officers, agents, employees and volunteers 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, both on and off the job site, provided that any such liability (1) is attributable to personal injury, bodily injury, sickness, disease or death, or to injury to or destruction of tangible property, including the loss of use resulting therefrom, and (2) is caused in whole or in part by an act or omission of the Contractor, any subcontractor, any supplier, anyone directly or indirectly employed by any of them or anyone for whose acts or omissions any of them may be liable, regardless of whether or not it is caused in part by any act or omission (active, passive, or comparative negligence included), of a party indemnified hereunder.

Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity, which would otherwise exist. The Contractor's obligation under this Section 6-10 shall not be abridged, reduced or discharged by the maintenance of insurance by the Contractor.

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

Contractor shall forfeit as a penalty to 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 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 TRAVEL AND SUBSISTENCE PAYMENTS

Each worker needed to execute the Work must be paid travel and subsistence payments as defined in the applicable collective bargaining agreements filed in accordance with Labor Code Section 1773.8.

6-14 APPRENTICES

Attention is directed to the provisions in Sections 1777.5 and 1777.6 of the Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under them.

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.

6-15 WARRANTY OF TITLE

No materials, supplies, or equipment for the Work under this contract shall be purchased subject to any conditional sale contract or other agreement by which an interest therein or any part thereof is retained by the seller or supplier. 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 and further agrees that neither the Contractor nor any person, firm, or corporation furnishing any material or labor for any work covered by the contract shall have any right to a lien upon the premises or any improvement or appurtenance thereon, provided that this shall not preclude the Contractor from installing metering devices or other equipment of utility companies or of public entities, the title of which is commonly retained by the utility company or the public entity. 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.

6-16 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.

6-17 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 Owner and neither the Contractor, nor any subcontractor, nor any of their employees shall have any right, title, or interest in or to any part thereof; neither shall they, nor any of them, assert or make any claim thereto. The Contractor may be permitted to use in the Work without charge any such materials which meet the requirements of these specifications.

6-18 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.

6-19 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.

6-20 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.

6-21 ATTORNEYS' FEES

In any action, at law or in equity, including an action for declaratory relief, seeking to interpret or enforce the terms of the Contract, the prevailing party shall be entitled to recover a reasonable amount as attorneys' fees and costs incurred in prosecuting or defending such action, including a dispute submitted to arbitration, in addition to any other relief to which such party is entitled.

6-22 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.

6-23 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.

6-24 TAXES

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

6-25 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.

6-26 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 marked or obliterated 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.

6-27 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 indicated in the plans and specifications;
- (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.

6-28 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.

6-29 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.

6-30 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 Builders' 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, and agents, 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 by this article shall either be affirmatively shown on the certificate or evidenced by separate endorsement. The certificate shall provide that coverage may not be cancelled, reduced, or changed without giving the Owner and its Engineer at least thirty (30) days prior notice thereof in writing, which notice shall be effective only after being actually and physically received by the Owner and its Engineer. 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.

The Liability Insurance coverage shall include each of the following types of insurance:

- A. Commercial General Liability, including premises/operations, products/completed operations, owners and contractors protective liability, and contractual liability. Coverage provided shall be at least as broad as that provided under the Insurance Services Office (ISO) Commercial General Liability - Occurrence Form CG 0001.
- B. Automobile Liability, with coverage at least as broad as ISO Form Number CA 0001(ed. 1/87) covering Automobile Liability, Code 1 (any auto) and must include the following coverages:
 - (1) Comprehensive Form Including Loading and Unloading.
 - (2) Owned.
 - (3) Hired.
 - (4) Non-Owned.

The policies of insurance shall contain an endorsement designating as additional insureds the Owner, the Engineer, the Owner's Representative, and their respective consultants, directors, officers, employees, and agents. **Where requested by the City of Glendale or other governmental agency in whose jurisdiction the work is being performed, or in the discretion of the Owner, the City of Glendale or other governmental agency shall be named as an additional insured.** The policy shall contain provisions or endorsements that any insurance maintained by the additional insureds shall be non-contributing and excess to the Contractor's insurance, and that any failure of the Contractor or any subcontractor to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the additional insureds, their directors, officers, employees, and agents. If the additional insureds have other insurance, which might be applicable to any loss, the amount of the insurance provided under this article shall not be reduced or prorated by the existence of such other insurance.

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 except those matters set forth in the fourth paragraph thereof.

7-4 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%).

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.

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.

Costs incurred by Owner or other utility or government agency for repair of existing facilities damaged by Contractor.

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 forty-five (45) 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 a minimum of seven (7) 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.

Where connections require shutdowns of the existing water system such that any customer is without water service, the shutdown period shall be for six (6) hours or less.

Where any shutdown is longer than six (6) hours, the Contractor shall install a temporary bypass system; or, if any resident or business cannot do without water during the initial six (6) hours, Contractor must provide water at no additional cost to the District.

Dry connections to existing mains shall be made at a time which shall cause the least inconvenience to water consumers, and shall be planned in such a manner that the duration of any shutdown will be kept to a minimum. No additional compensation will be paid for overtime, which may be necessary in making connections to existing mains.

When a dry connection to an existing main is made, at least two (2) ounces of HTH (Calcium Hypochlorite) shall be placed in the pipe at each point where the existing main is cut. All new pipe and fittings at the connection shall be swabbed internally with an approved chlorine solution. All connections shall be made in the presence of the Owner's representative.

In the event that the pipelines to which connections are to be made do not exist 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-4 POTHOLING OF EXISTING FACILITIES

Contractor shall pothole each connection point prior to the beginning of construction. The pot-holing 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 Items for Steel Water Pipeline and appurtenant construction.

SP-5 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's 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-6 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-7 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. 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 7	Title Sheet, Location Map, Vicinity Map, and Sheet Index
2 of 7	Legend, Symbols, Abbreviations, and General Notes
3 of 7	Anderson W. Clark Magnet High School Fire Service Line – Plan and Profile STA. 1+00 to STA. 4+25
4 of 7	Anderson W. Clark Magnet High School Fire Service Line – Plan and Profile STA. 4+25 to STA. 7+18.37
5 of 7	Standard Details
6 of 7	Details (Connection Detail & Steel Pipe Joints)
7 of 7	Details (Steel Pipe Details)

CRESCENTA VALLEY WATER DISTRICT STANDARD DRAWINGS

CVWD Standard Drawing 30-01W, Valve Box and Riser
CVWD Standard Drawing 50-03W, Type “C” Fire Hydrant Installation in Parkway
CVWD Standard Drawing 60-03W, Tie Rod Installation for Steel Pipe
CVWD Standard Drawing 60-04W, Coupling Installation for Steel Pipe
CVWD Standard Drawing 80-02W, 1” Air Release Assembly in Parkway or Sidewalk

CITY OF GLENDALE STANDARD DRAWINGS

City of Glendale Standard Detail No. G-319, Asphalt Removal/Replacement Requirements
City of Glendale Standard Detail No. G-456, Return Type Driveways with Detached Sidewalk
City of Glendale Standard Detail No. G-458, Return Type Driveways with Attached Sidewalk

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-8 DRAWINGS AND DATE REQUIRED TO BE SUBMITTED BY CONTRACTOR

- A. General** The Engineer's 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 Engineer for review, complete shop, and 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 Engineer will, within fourteen (14) calendar 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 Engineer, 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

- (1) Within fourteen (14) calendar days after executing the contract, the Contractor shall submit to the engineer 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 Engineer 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 Engineer will return two sets of said drawings so noted within fourteen (14) calendar days after their receipt. Otherwise, two sets of drawings will be returned to the Contractor within said fourteen (14) calendar days 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 Engineer.

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 Engineer 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 Engineer shall be made on the tracings as soon as practicable and new prints submitted. As soon as practicable after acceptance by the engineer 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 Engineer.
- (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 Engineer.

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-9 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-10 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-11 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. Contractor to obtain a flood meter from the Owner and the Contractor will pay a \$1,000.00 deposit for the meter. This deposit will be returned after the job is complete minus, \$25.00. The meter will be used to monitor water but the Contractor will not be charged for water usage except as stated below.

Should Contractor damage the Owner's facilities during the course of construction resulting in a loss of water, the Contractor shall compensate the Owner for such water at the same rate the Owner charges its regular customers.

SP-12 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 other sources related to the Contractor's operations shall be taken care of in sanitary manner, satisfactory to Owner and in accord with local laws and regulations. Portable toilets, which are made inaccessible to flies, shall be provided for use of employees and their use shall be strictly enforced.

SP-13 DRIVEWAY MAINTENANCE AND DUST ABATEMENT

During the performance of all work included in the contract, the portion of the exiting traveled way 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 his operations from producing dust in amounts damaging to property or causing a nuisance to persons occupying buildings in vicinity and in accord with the City of Glendale Building & Safety Codes.

SP-14 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-15 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-16 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-17 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 City of Glendale inspection hours are between 7:30 a.m. to 5:00 p.m., Monday through Friday, excluding holidays. The contractor shall notify the City of Glendale, 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 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 September 3rd, November 11th, December 24th, December 25th, or December 31st falls on a Sunday, the following Monday is a holiday. If September 3rd, July 4th, November 11th, December 24th, December 25th, or December 31st, falls on a Saturday, the previous Friday is a holiday.

SP-18 CITY OF GLENDALE EXCAVATION PERMIT, STREET USE, AND INSURANCE REQUIREMENTS

The Owner has submitted plans to the City of Glendale for an encroachment permit. Contractor shall obtain final encroachment permit from the City of Glendale. In addition, Contractor shall provide copies of insurance certificates for Liability Insurance and Workman’s Compensation at the same time as the final encroachment permit is obtained. The Contractor shall maintain Commercial General Liability for a minimum of \$1,000,000 and Automobile Liability of a minimum of \$1,000,000. The City of Glendale shall be named as the certificate holder and the insurance shall not be cancelled, reduced or changed without giving the City of Glendale at least thirty (30) days prior notice in writing.

The District will provide a letter to the City of Glendale stating that the Contractor is allowed to obtain the Encroachment Permit on behalf of the District and the District will pay all plan check and inspection fees.

The Contractor shall be required to obtain a City of Glendale, "Street Use" permit from the Traffic Department. The Contractor will pay the associated fees and the Owner will reimburse the contractor for the cost of the permit.

SP-19 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, City of Glendale, Department of Public Works, Glendale Water and Power, The Gas Company, 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-20 CONFERENCES

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.

SP-21 SAFETY

In accord with generally accepted construction practices, the Contractor shall be solely and completely responsible for conditions of the jobsite, 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 public and workers. The right of the District 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 construction site.

SP-22 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 work day. The Contractor shall coordinate the storage of his equipment, vehicles, and material prior to beginning of construction and in accordance with the City of Glendale permit.

CVWD will allow the Contractor to store materials and equipment at one (1) designated area at our Dunnsmore Reservoir located at 3427 Markridge Rd. in the City of Glendale. The contractor shall 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-23 TRAFFIC CONTROL AND ACCESS

The Contractor shall provide traffic control and access in accordance with the City of Glendale Traffic Control requirements and the W.A.T.C.H. handbook, latest edition. 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 accord with the City of Glendale permit requirements.

SP-24 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 engineer licensed in the State of California. As a part of the plan, a note shall be included stating that the registered engineer certifies that the plan complies with the CAL/OSHA Construction Safety 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 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-25 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. 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-26 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. In addition, the job site must be in a clean and neat order at the end of each workday.

SP-27 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 backcharged 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-28 LINES, GRADE AND MEASUREMENTS

Owner will provide alignment of the centerline of trench in the field. The contractor shall layout the trench and maintains proper grades per plan. The Contractor will be held responsible for constructing the work to the lines and grades shown on the drawings.

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 City of Glendale survey monuments in accordance with the governing agency requirements.

SP-29 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 8-inch Water Main on Cloudsdale Avenue for the Anderson W. Clark Magnet High School Fire Service Line, Project D-21-G2.**

T-2 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 C203	Standard for Coal-Tar Protective Coatings & Linings for Stl. Water Pipelines Enamel & Tape-Hot-Applied
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-3 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 water released as a result of valve leakage during system shutdown.
- 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 City of Glendale permit requirements.
- 5) The Contractor shall also take care of drainage water from the construction operations, and of storm water and wastewater 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 200, 207, 211, 300, 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 306-1.1 of the SSPWC, the "Construction Safety Orders" issued by the State of California Division of Industrial Safety, and the City of Glendale 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 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 306-1.2.1 and these Technical Provisions Section T-3.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 City of Glendale 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 by him 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 306-1.2.1.
- 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.

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 306-12.
- 2) **Backfill material shall be imported Crushed Aggregate Base (CAB) or Processed Miscellaneous Base material (PMB) or 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. 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 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 mechanically 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.

E. Compaction Testing:

- 1) Backfill within the pipe trench shall be compacted to ninety 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 100 linear feet of pipe.** 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 CAB, PMB, or 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** CAB/PMB/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:

Earthwork will be paid for at the unit price bid per lineal foot of pipe trench excavated and backfilled per **Bid Sheet Item No. 1**. This unit price per lineal foot of pipe trench shall constitute full compensation for excavation, sawcutting and disposal of AC Pavement, concrete removal, hauling, and disposal of native material, trench shoring, furnishing and 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-4 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, & 400.
- 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-5, 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 Contractor shall match the existing concrete finish nearest to the concrete replacement. Contractor shall meet with the City of Glendale inspector prior to placement of concrete to confirm type of finish. If finish does not adhere to the City of Glendale 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 201-1.1.4. 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 Item No. 2 – Resurfacing Trench**. 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-5 TRENCH RESURFACING AND PAVEMENT REPLACEMENT

- A. General: The Contractor shall reconstruct all asphaltic concrete, 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, Subsection 306-1.5 and the City of Glendale 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:

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 and Section T-7.

- 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 asphaltic concrete or concrete pavement.
- 4) Placement, spreading, compacting and surfacing of asphaltic concrete or concrete pavement per the City of Glendale Excavation Permit requirements (See Appendix A).
- 5) Adjusting all valve cans, 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.
- 7) All Portland cement concrete and asphalt concrete 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 City of Glendale, Department of Public Works 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. 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.
- 9) 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.
- 10) 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.
- 11) 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.

C. Materials:

- 1) Materials shall conform to the requirements of the City of Glendale Excavation Permit requirements where applicable (See Appendix A).
- 2) Asphaltic concrete shall be per the City of Glendale requirements and shall meet the requirements of Section 203-6 of the SSPWC. The viscosity grade of paving asphalt shall be AR4000. City of Glendale inspector shall determine the exact proportions of aggregate and the amount of asphalt binder.
- 3) For bidding purposes, the Contractor shall assume the asphalt concrete mix design and limits will be:
 - 3/4" Base Course: Type III-B-2 (5.4% Asphalt) from the bottom of the existing pavement section plus 1" to within 1-1/2" of the existing surface.
 - 3/8" Surface Course: Type III-E-5 (6.6% Asphalt) from the bottom of the base course to the top of the existing surface.
- 4) All paving equipment shall conform to the City of Glendale 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 the City of Glendale requirements.

- D. 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.

E. Requirements:

Temporary 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 A.C. pavement immediately after trench backfill is completed. Permanent resurfacing shall comply with the City of Glendale Permit requirements where applicable.

Contractor shall schedule final trench resurfacing with two weeks after completion of final water main connection. Contractor shall schedule final 1-1/2" AC Surface Course within 24 hours of completing the Base Course.

- F. Inspection: The Contractor shall notify the Owner and the City of Glendale a minimum of 48 hours prior to starting work.
- G. 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.

H. 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 – Resurfacing Trench**. This price shall constitute full compensation for furnishing and placing materials required completing the pavement restoration in accordance with the City of Glendale 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-6 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 40 and 20-foot lengths of 8" diameter CML & CMC steel pipe.** The Contractor shall coordinate with the pipe manufacturer for the time and location of pipe delivery. Owner must approve the storage location for pipe at jobsite.
- 3) **The Owner 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.

B. Standard Steel Water Pipe:

- 1) Steel water pipe furnished by the Owner shall be nominal 8" 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:

<u>Plan Call-Out</u>	<u>Outside Shell Dia.</u>	<u>Wall Thickness</u>	<u>Conc. Lining Thickness</u>
8" CML & CMC	8.625"	10 ga.	1/4"
6" CML & CMC	6.625"	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. 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-6C (6) and (7) 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 (5) 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-6C (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 pre-fabricated and meet the requirements of AWWA Standard C207. Slip-on flanges shall be forged steel and shall be furnished with flat faces suitable for use the full-faced rubber 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, 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-6 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.
 - 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-6B. 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.
 - 12) Interior Joints: Inside joints shall be constructed in accord with AWWA Standard 205, Appendix A.

D Pipe Installation:

- 1) Potholing of Existing Facilities: Contractor shall pothole each connection point and locations shown on the construction drawing prior to the beginning of construction. 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. The potholing of existing utilities shall vary depths from finished surface. The Contractor shall notify the Owner in writing, if any discrepancies arise, prior to construction.
- 2) Handling and Transporting Water Pipe:
 - a) The Contractor shall furnish the steel water pipe; and the Contractor shall coordinate the time and location of delivery of the pipe from the pipe manufacturer to the jobsite. The Owner must approve the storage location for pipe at the jobsite. During loading, transporting, and unloading, every precaution shall be taken to prevent damage to the pipe.
 - b) 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. Wire rope shall not be used unless encased in heavy rubber hose, and chain slings shall not be used in any case. Trucks and trailers used for transportation of pipe shall be provided with padded bolsters curved to fit the outside of the pipe. Padding sufficiently stiff and thick to prevent scoring of the exterior shall be used under the chains. The pipe shall be braced at both ends to prevent damage from excessive deformation during handling and delivery.
 - c) 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. 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. Any pipe section that becomes damaged shall be repaired as directed by the Owner 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.
 - d) 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.
 - e) 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 Joints."
- 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) Weld test specimens taken from materials fabricated for the work of these specifications shall be taken in accordance with the respective reference specifications under which the particular item is being fabricated. Said specimens shall be furnished to the Owner or his inspector to enable the Owner to ascertain that welds of the proper quality are being made. The furnishing of specimens in insufficient time so as to cause delay in the fabrication of materials shall not be cause for a time extension nor extra cost item to the contract.
- 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) The pipe shall be laid on a prepared bed as defined in Technical Provisions Subsection T-3C. 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.
- c) 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. 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.
- d) After each joint is assembled, bare metal shall be recoated and repaired with cement mortar coating per Technical Provision T-6C (11).
- e) 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.

- f) 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.
- g) 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. Only approved equipment 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 shutoffs a minimum of seven (7) days in advance. Owner shall be responsible for notifying, a minimum of 48 hours in advance, and the 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.
- 8) Field Hydrostatic Tests:
- a) 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.
 - b) Before service laterals are connected to the pipeline, Contractor shall hydrostatically test the water main in accordance with SSPWC Subsection 306-1.4.5. 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.
 - c) The pressure test shall be conducted at 225 psi. Duration of each pressure test shall be at least four (4) hours. During the four (4) hours, the quantity of water required to maintain the 225 psi shall be observed and recorded. No pressure loss or leakage shall be permitted.
 - d) After connection of laterals 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 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.
 - e) 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.
 - f) 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 - Steel Water Pipeline and Appurtenance Construction**. These unit prices shall

TECHNICAL PROVISIONS

constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

9) Disinfection of Water Mains:

- a) The Contractor shall furnish all equipment, labor, and materials for the testing and 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.
- b) 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.
- c) 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.
- d) **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 the absence of total Coliform and E. coli bacteria, and a heterotrophic plate count of less than 500 colonies per 1 ml. If acceptable bacteriological conditions are not found, rechlorination 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.

10) Flushing Water Main and Dechlorination of Flushed Water: Following chlorination, all chlorinated water shall be thoroughly flushed from the pipeline. All chlorinated wastewater from the pipeline shall be appropriately dechlorinated to less than 0.05 ppm total chlorine residual before entering any storm drain or other stormwater conveyance system.

12) Basis of Payment: All labor, equipment, and materials required pipeline installation, 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 - 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.

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 Standard C509, AWWA C515 and AWWA C550.
- c) The Contractor shall furnish all other materials for valve installation such as slip-on weld flanges, gaskets, nuts and bolts per T-6 of the Technical Provisions.
- d) 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, coat the flanges, apply polyethylene encasement, install bone 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:

- a) 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.
- b) Gear actuators shall operate valves from full open to full close through 10 cycles without binding or sticking. 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. 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 – Install 8” CML & CMC steel water pipeline and appurtenant construction or Bid Sheet Item No. 4 – Install 6" Fire hydrant and steel water pipe lateral 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. Victaulic couplings shall be Victaulic style 77 or approved equal.
- 2) Flanges: Flanges shall be flat 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 shall be 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 - Steel Water Pipeline 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 50-03W.

- 2) **The Owner shall supply the following materials: 6-inch CML & CMC steel pipe, 8" x 6" flanged tee, 6-inch gate valves, 8-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. 4 - 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-7 TRAFFIC CONTROL

A. General:

- 1) The Contractor shall provide traffic control and access for Cloudsdale Avenue, and Santa Carlotta Street in accordance with the Work Area Traffic Control Handbook (W.A.T.C.H.), latest edition and the City of Glendale permit requirements.
- 2) 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 City of Glendale for his changes, for conformance with his intended construction schedule and staging and to provide for its proper implementation.
- 3) 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 accord with the City of Glendale.
- 4) The Work Area Traffic Control Handbook (W.A.T.C.H.) 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.

- 5) Construction or maintenance activity in the roadway or affecting the public right-of-way shall be limited to the hour between 7:30 A.M. and 5:00 P.M., Monday through Friday. No temporary traffic control devices shall be placed in the roadway until after 7:30 A.M. and shall be completely removed by 5:00 P.M.
- 6) 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.
- 7) 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.
- 8) The Contractor shall have all signs, delineators, barricades, etc., properly installed prior to construction.
- 9) The Contractor shall be responsible for maintaining, at all times, all sign delineators, barricades, etc., to ensure proper flow and safety of traffic.
- 10) The Contractor shall have all signs, delineators, barricades, etc., properly installed prior to construction.
- 11) Flashing yellow beacons, type "B", shall be used on all barricades that protect the work area after normal working hours as set forth herein.
- 12) All street access restricted by construction or maintenance activities shall be restored at the end of each working day.
- 13) Contractor shall replace all traffic detection devices, signing, stripping, markings, and legends damaged during construction to the satisfaction of the City of Glendale inspector.

B. Construction Project Signs:

- 1) The Contractor shall furnish and install four (4) construction project signs notifying the public of the impending construction.
- 2) Contractor shall install four (4) 4' x 5' billboard signs least one (1) week prior to construction at following locations:
 - North of the intersection at Cloudsdale Ave and Santa Carlotta St.
 - South of the intersection at Cloudsdale Ave and Santa Carlotta St.
- 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) City of Glendale 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 City of Glendale Police Department and the City of Glendale Fire Department 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 City of Glendale permit requirements.

- 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, and the City of Glendale permit requirements will be paid as a lump sum cost as part as of **Bid Sheet Item No. 6** - Traffic Control. The lump sum price shall constitute full compensation for all materials, labor, equipment, tools, and incidentals needed to complete the work.

APPENDIX A

CITY OF GLENDALE, CA

PERMIT 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 the Anderson W. Clark Magnet High School Fire Service Line

Revised Date: 02/22/22

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

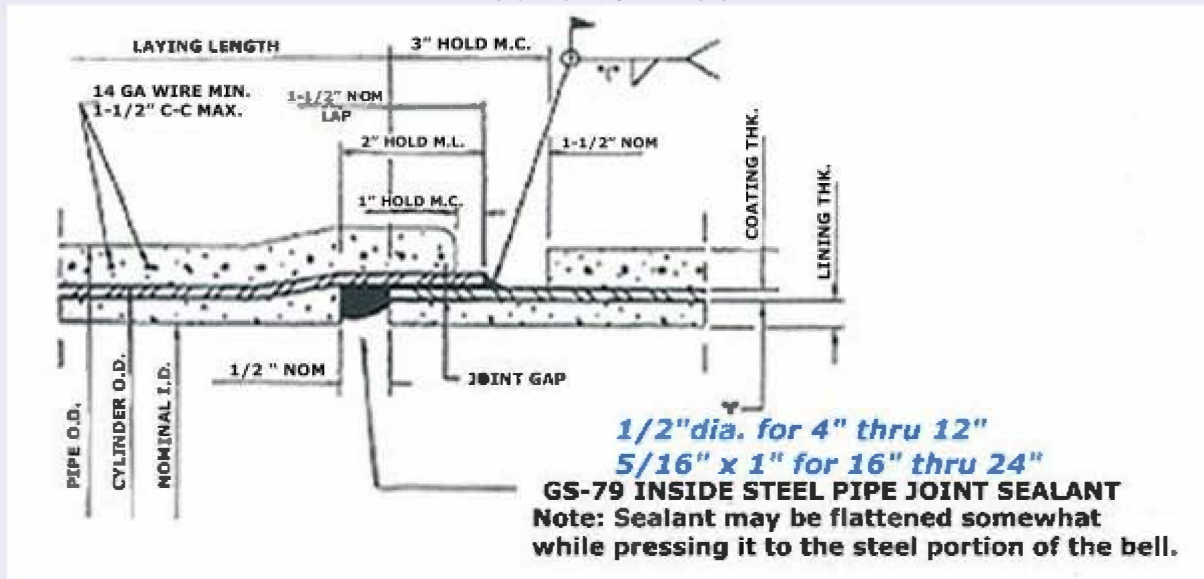
No.		Quantity	
1	8.625" O.D. CMC&CML - Weld Bell Pipe, 10 Ga per AWWA C200 & C205 32- 20 foot sections	640	LF
2	6" CMC&CML Weld Bell Steel Pipe, 10 Ga. per AWWA Std. C-200 1 - 20 foot section	20	LF
3	8-inch Gate Valve (FE x FE) per AWWA Std. C-509	1	EA
4	6-inch Gate Valve (FE x FE) per AWWA Std. C-509	1	EA
5	6-inch Fire Hydrant Assemblies including: 6"-6 hole 150 lbs. slip-on flange, 6"-8 hole 150 lbs. slip on flange, 8"x8"x6" FE Reducing Tee and 6"x4"x2-1/2" hydrant head	1	EA
6	1" Air Vac	1	EA

Joint Detail

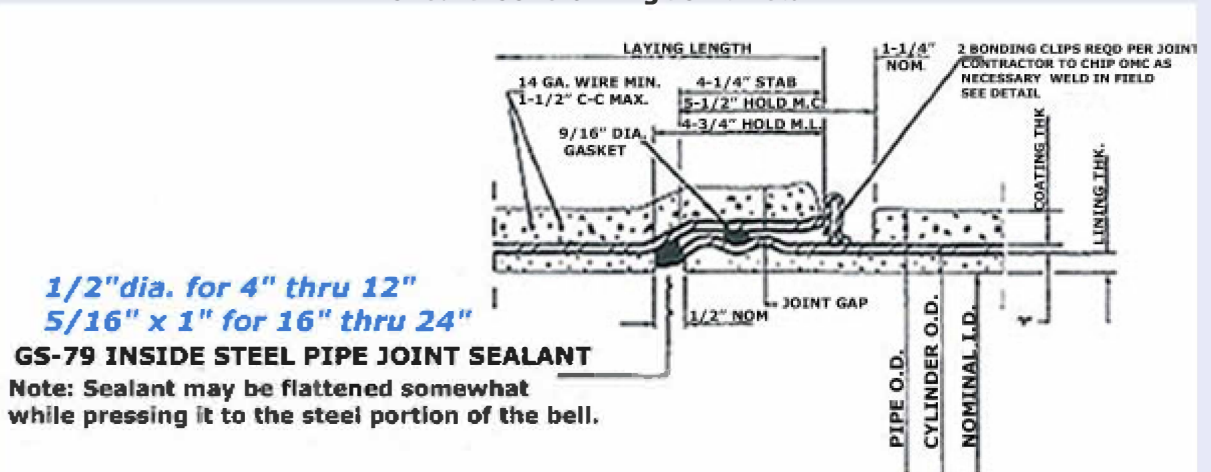
NOTES:

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 (CO ₂).
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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WARRANTY

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@gensealants.com • www.gensealants.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 Compound					
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

4'	1'-7"	1'-4"		CVWD WATER BONDS: BUILDING WATER RELIABILITY
			Project Name Project Number January 2022 through May 2022 CONTRACTOR: XXXXX PHONE NUMBER: XXX-XXX-XXXX	
			PLEASE EXCUSE US FOR THE TEMPORARY INCONVENIENCE FOR QUESTIONS, PLEASE CALL (818) 248-3925 OR VISIT WWW.CVWD.COM	
5'				

2"

2.5"

2"

1.5"

1.5"

1.5"

2.5"

1.5"

CRESCENTA VALLEY WATER DISTRICT

SCALE: NOT TO SCALE

DR. BY: P. HILKE

APP'D.

PROJECT SIGN

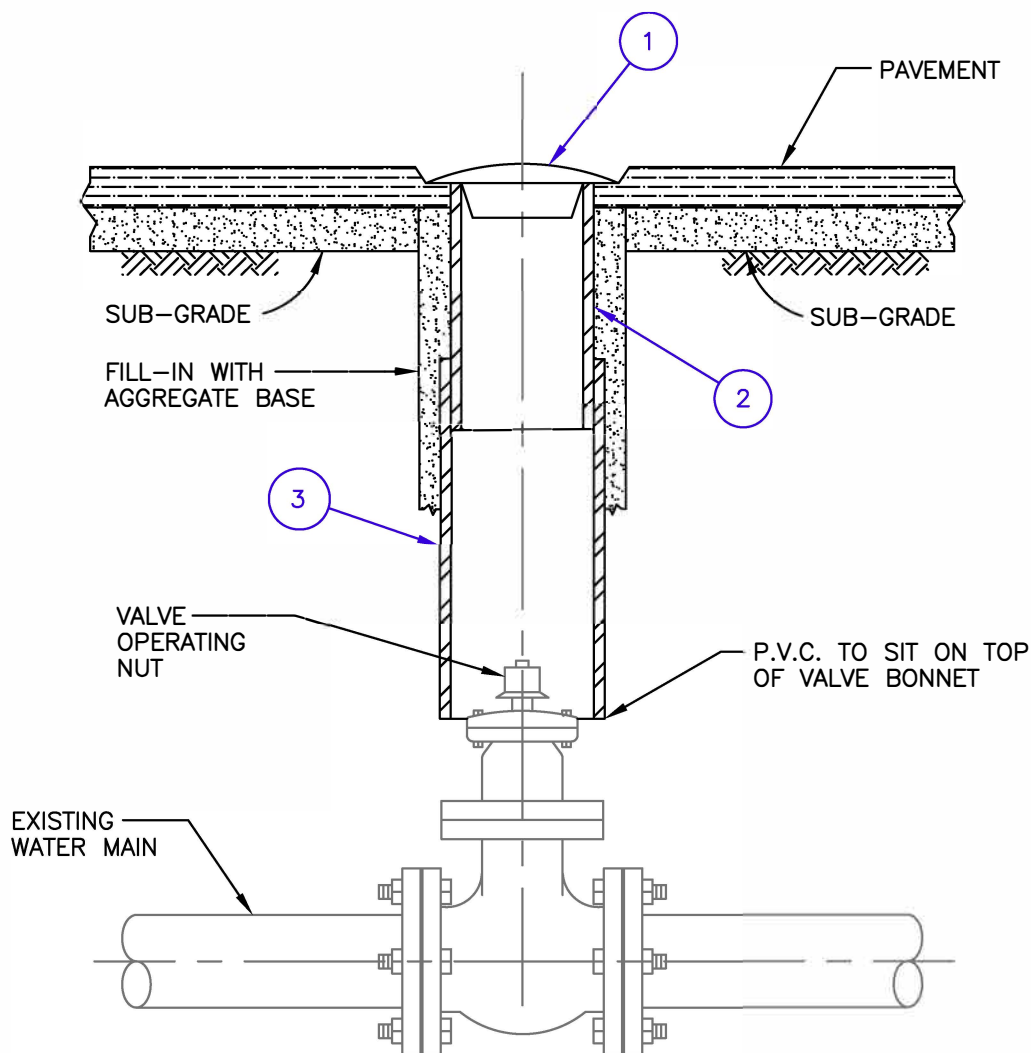
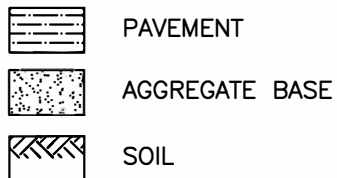
DATE: 12/21/20

JOB NO.

FILE NO.

APPENDIX D

CRESCENTA VALLEY WATER DISTRICT, GLENDALE, AND COUNTY OF LOS ANGELES STANDARD DRAWINGS



NOTE:

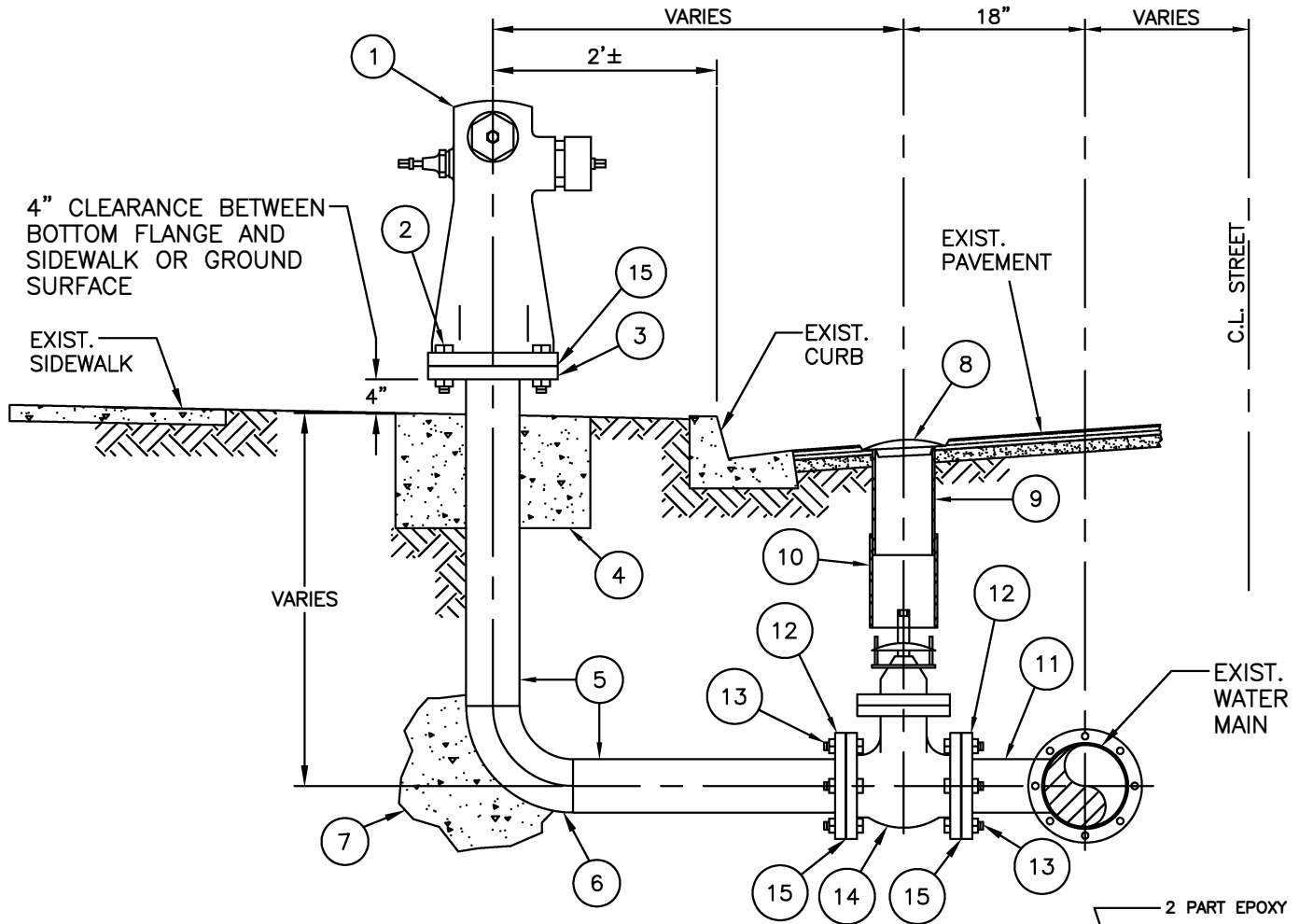
THE FOLLOWING APPLICABLE DESIGNATION WILL BE WELDED ON THE TOP OF THE VALVE CAN:
 'NC' (ZONE VALVE / NORMALLY CLOSED)
 'FH' (FIRE HYDRANT VALVE)
 NO DESIGNATION WILL BE REQUIRED FOR "NORMALLY OPEN" VALVES.

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	REV.	VALVE BOX AND RISER	DWG. NO.
DATE: 3/11			30-01W



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 AMPLE 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.

2 PART EPOXY
BLUE MARKER
2 WAY (SEE
NOTE 2)

PAVEMENT
MARKER DETAIL

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

DWG. NO.
80-02W

CONCRETE THRUST BLOCKS

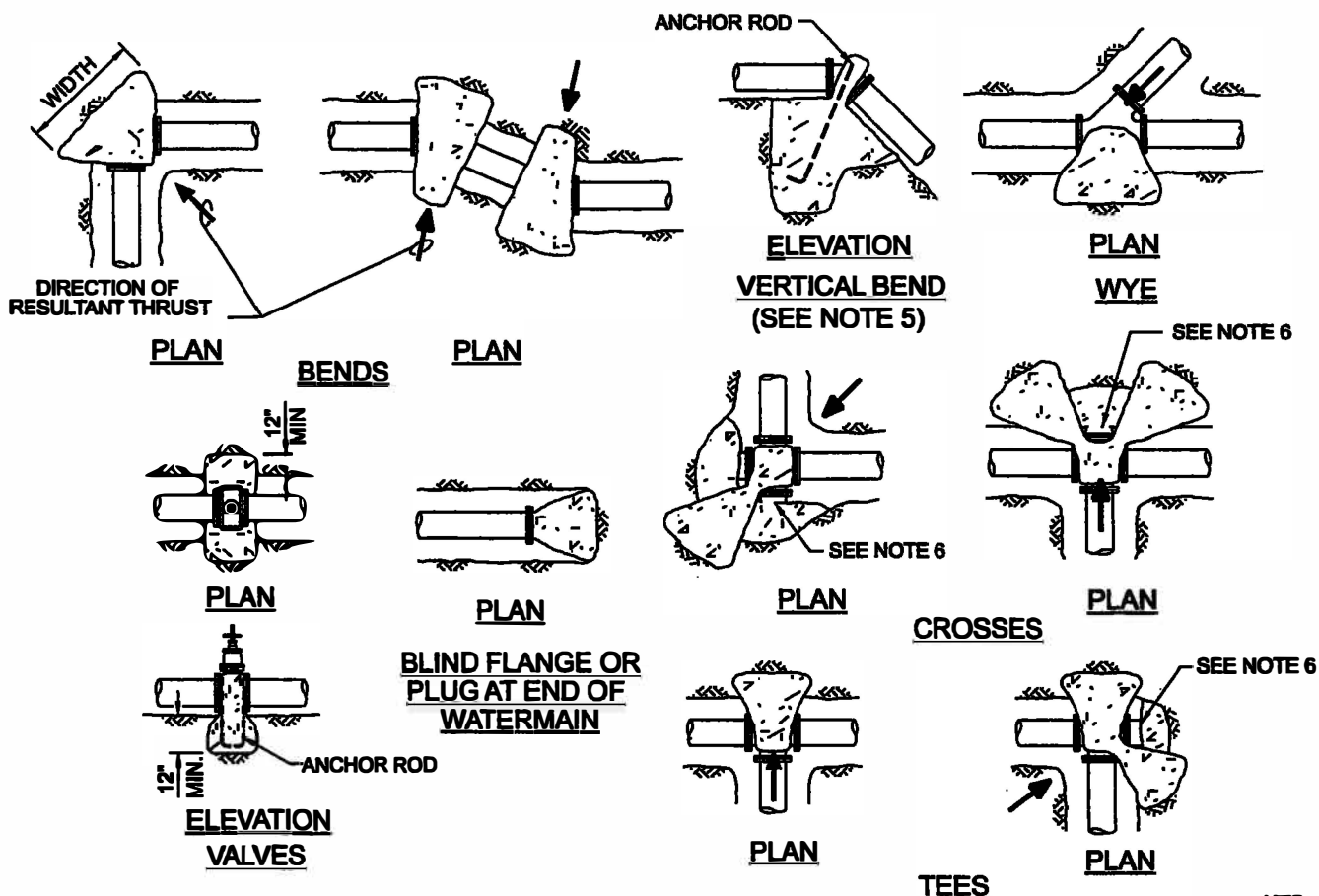


TABLE I

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 I
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

DATE

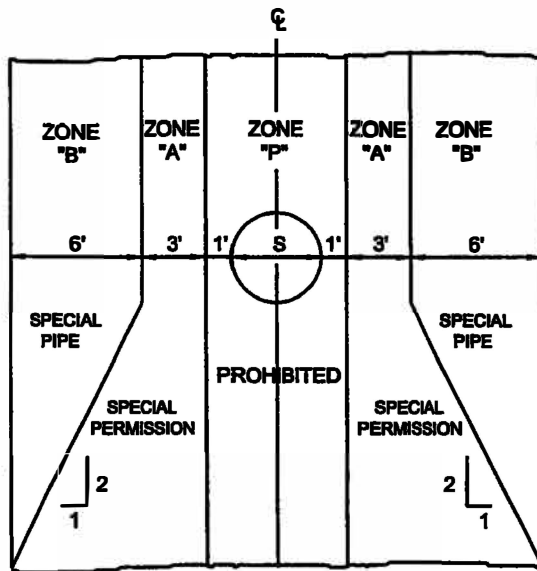
STANDARD PLAN

W-21

SHEET 1 OF 1

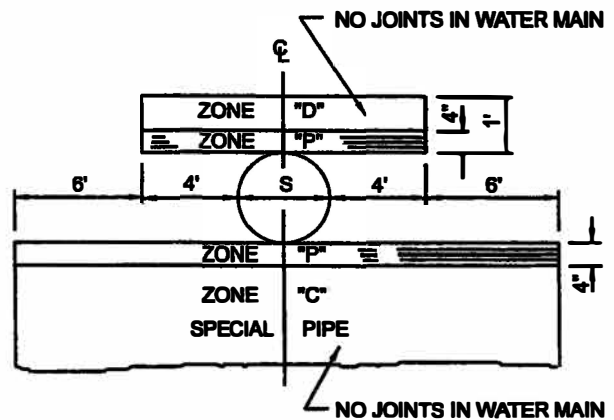
DESIGN REQUIREMENTS FOR WATER MAINS IN THE VICINITY OF SANITARY SEWERS

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

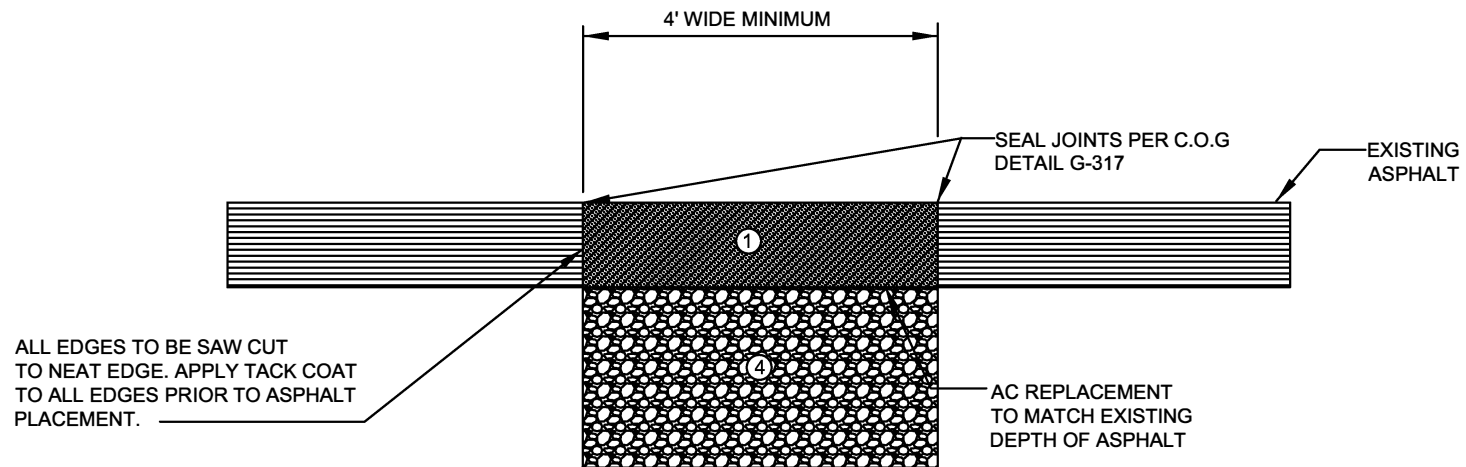
APPROVED

ASSISTANT DEPUTY DIRECTOR

APRIL 2004

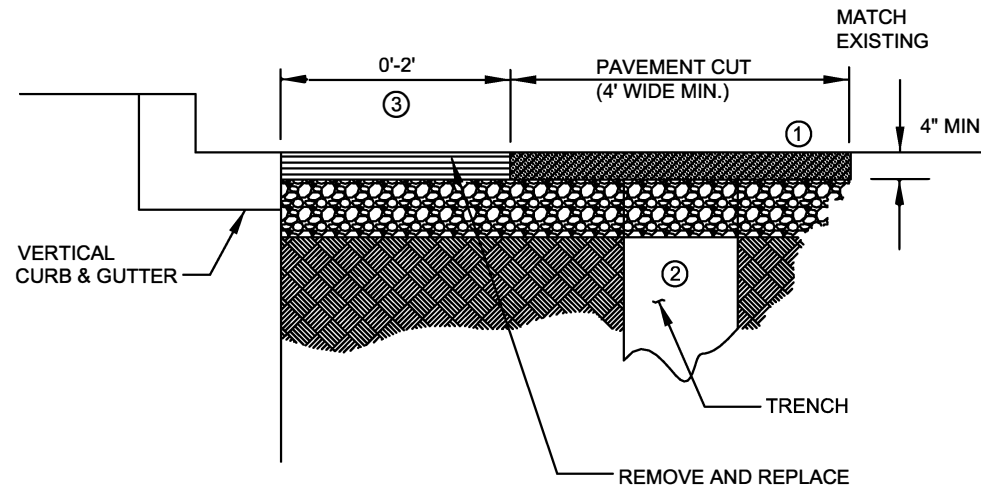
DATE

SHEET 1 OF 1



NOTES:

- ① FOR PAVEMENT REPLACEMENT ASSOCIATED WITH UTILITY INSTALLATIONS, SEE C.O.G. DETAIL G-690 FOR BEDDING AND BACKFILL REQUIREMENTS.
- ② IF NEW PAVEMENT CUT IS 2' OR LESS FROM EXISTING LIP OF CURB OR EDGE OF ROADWAY, THE ENTIRE EXISTING PAVEMENT SHALL BE REMOVED AND REPLACED. SURFACE REPLACEMENT SHALL BE DONE AT THE SAME TIME TO PROVIDE A NEAT SURFACE FROM OUTSIDE EDGE TO INSIDE EDGE.
- ③ FOR PAVEMENT REPLACEMENT ADJACENT TO EXISTING OR NEW CONCRETE, ABC DEPTH TO MATCH EXISTING DEPTH.
- ④ FULL DEPTH SAW CUT OF EXISTING AC UNLESS OTHERWISE DIRECTED BY ENGINEERING INSPECTOR.



**CITY OF GLENDALE
STANDARD DETAIL**



**ASPHALT
REMOVAL/REPLACEMENT
REQUIREMENTS**

APPROVED BY:
CITY
ENGINEER

David D. Beard, P.E.

DATE : 9/15/2014

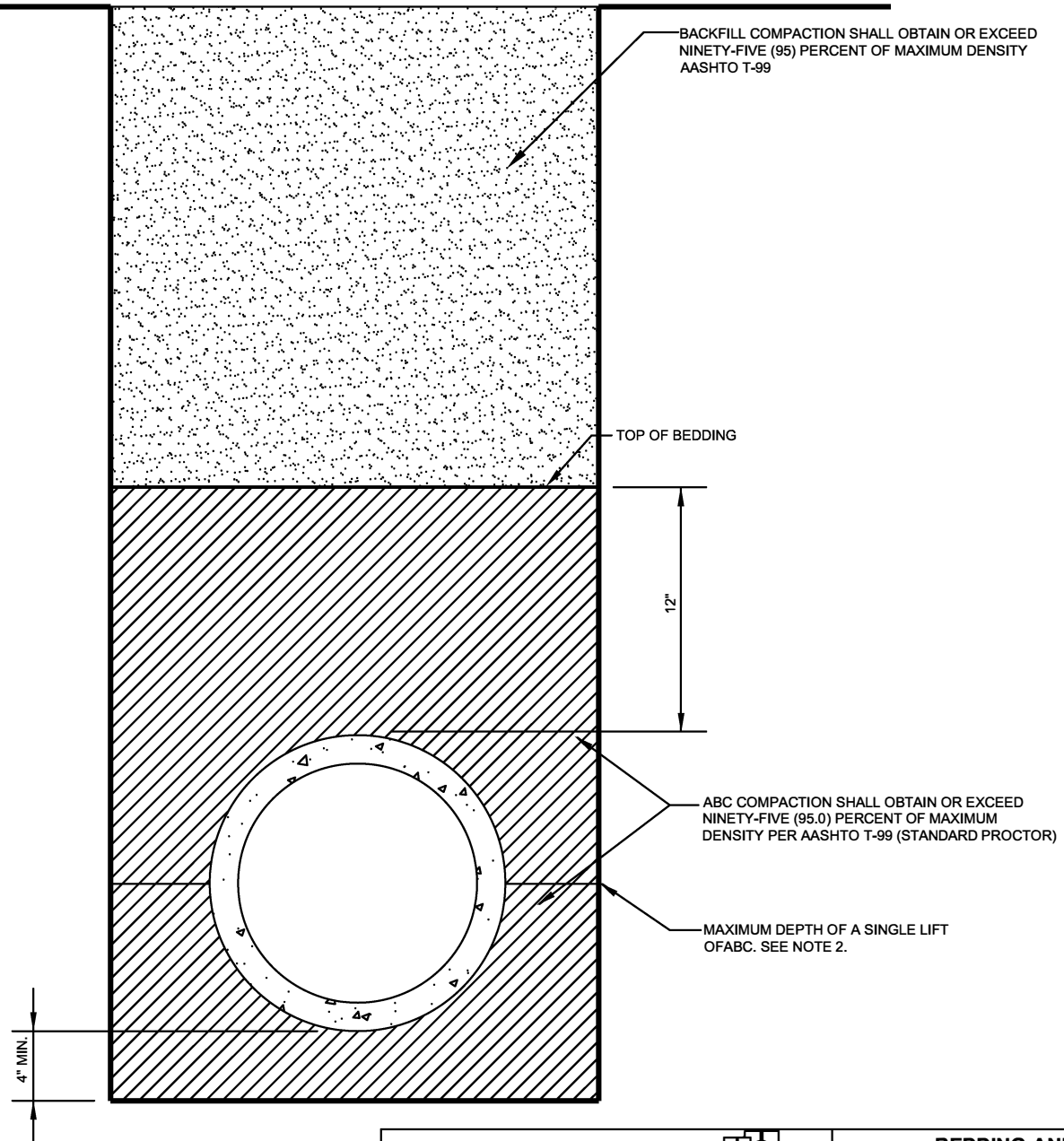
REVISED: MARCH 2014

DETAIL NO.

G-319

NOTES:

1. ABC FOR PIPES 6" AND LARGER SHALL BE SHAPED TO CONFORM TO THE BOTTOM OF PIPE PRIOR TO PLACEMENT OF THE PIPE
2. ABC TO BE PLACED WITH A MAXIMUM LIFT THICKNESS OF 8" COMPACTED
3. BACKFILL TO BE PLACED WITH A MAXIMUM LIFT THICKNESS OF 12", COMPACTED.
4. ABC SHALL CONFORM TO M.A.G. SEC. 702
5. WATER CONSOLIDATION SHALL NOT BE PERMITTED FOR THE TRENCH BACKFILL IN CITY OF GLENDALE RIGHTS OF WAY OR EASEMENTS.
6. MOISTURE CONTENT SHALL BETWEEN +2% TO -4% OF OPTIMUM MOISTURE CONTENT PER ASTM D-698.



**CITY OF GLENDALE
STANDARD DETAIL**



**BEDDING AND BACKFILL
FOR UNDERGROUND FACILITIES
IN CITY RIGHT-OF-WAY AND EASEMENTS**

APPROVED BY:
CITY
ENGINEER

David D. Beard, P.E.

DATE : 9/15/2014

REVISED: MARCH 2014

DETAIL NO.

G-690

APPENDIX E

REDUCED SET OF CONSTRUCTION DRAWINGS