

City of Carlsbad

San Diego County

California

**CONTRACT DOCUMENTS,
GENERAL PROVISIONS, SUPPLEMENTAL
PROVISIONS, AND TECHNICAL SPECIFICATIONS**

FOR

CANNON LIFT STATION IMPROVEMENTS

CONTRACT NO. 5552

BID NO. PWS25-3495UTIL



August 7, 2024



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CITY OF CARLSBAD, CALIFORNIA

NOTICE INVITING BIDS

Until 11 a.m. on _____, 2024, the City shall accept bids via electronic format via the City of Carlsbad Electronic Bidding Site, PlanetBids, which may be accessed at <https://www.carlsbadca.gov/departments/finance/contracting-purchasing>, for performing the work as follows: Demolition of existing flow meter and vault and installation of a new manhole, flow meter, plug valve, force main piping, and check valve replacements together with all surveying and construction staking, potholing, stormwater and non-stormwater pollution control, traffic control, sewer bypassing, temporary dewatering, excavation support systems, and incidental services for

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552 PWS25-3495UTIL

ELECTRONIC FORMAT RECEIPT AND OPENING OF BIDS: Bids will be received in electronic format (eBids) EXCLUSIVELY at the City of Carlsbad's electronic bidding (eBidding) site, at: [Contracting & Purchasing | Carlsbad, CA \(carlsbadca.gov\)](#) and are due by the date and time shown on the cover of this solicitation.

BIDDERS MUST BE PRE-REGISTERED with the City's bidding system and possess a system-assigned Digital ID in order to submit an electronic bid.

The City's electronic bidding (eBidding) system will automatically track information submitted to the site including IP addresses, browsers being used and the URLs from which information was submitted. In addition, the City's bidding system will keep a history of every login instance including the time of login, and other information about the user's computer configuration such as the operating system, browser type, version, and more. Because of these security features, Bidders who disable their browsers' cookies will not be able to log in and use the City's bidding system.

The City's electronic bidding system is responsible for bid tabulations. Upon the bidder's or proposer's entry of their bid, the system will ensure that all required fields are entered. The system will not accept a bid for which any required information is missing. This includes all necessary pricing, subcontractor listing(s) and any other essential documentation and supporting materials and forms requested or contained in these solicitation documents.

BIDS REMAIN SEALED UNTIL DUE DATE AND TIME

eBids are transmitted into the City's bidding system via hypertext transfer protocol secure (https) mechanism using SSL 128-256-bit security certificates issued from Verisign/Thawte which encrypts data being transferred from client to server. Bids submitted prior to the Due Date and Time are not available for review by anyone other than the submitter, who will have until the Due Date and Time to change, rescind or retrieve its bid should they desire to do so.

BIDS MUST BE SUBMITTED BY DUE DATE AND TIME **MUST BE SUBMITTED BY DUE DATE AND TIME**

Once the deadline is reached, no further submissions are accepted into the system. Once the Due Date and Time has passed, bidders, proposers, the general public, and City staff are able



to immediately see the results online. City staff may then begin reviewing the submissions for responsiveness, compliance and other issues.

RECAPITULATION OF THE WORK

Bids shall not contain any recapitulation of the Work. Conditional Bids may be rejected as being non-responsive. Alternative proposals will not be considered unless called for.

BIDS MAY BE WITHDRAWN by the Bidder prior to, but not after, the time set as Due Date and Time.

Important Note: Submission of the electronic bid into the system may not be instantaneous. Due to the speed and capabilities of the user's internet service provider (ISP), bandwidth, computer hardware and other variables, it may take time for the bidder's submission to upload and be received by the City's eBidding system. It is the bidder's sole responsibility to ensure their bids are received on time by the City's eBidding system. The City of Carlsbad is not responsible for bids that do not arrive by the Due Date and Time.

ELECTRONIC SUBMISSIONS CARRY FULL FORCE AND EFFECT

The Bidder, by submitting their electronic proposal, agrees to and certifies under penalty of perjury under the laws of the State of California, that the certification, forms and affidavits submitted as part of this proposal are true and correct. The bidder, by submitting its electronic bid, acknowledges that doing so carries the same force and full legal effect as a paper submission with a longhand (wet) signature. By submitting an electronic bid, the bidder certifies that the bidder has thoroughly examined and understands the entire Contract Documents (which consist of the plans and specifications, drawings, forms, affidavits and the solicitation documents), and that by submitting the eBid as its bid proposal, the bidder acknowledges, agrees to and is bound by the entire Contract Documents, including any addenda issued thereto, and incorporated by reference in the Contract Documents.

BIDS ARE PUBLIC RECORDS

Upon receipt by the City, bids shall become public records subject to public disclosure. It is the responsibility of the Bidder to clearly identify any confidential, proprietary, trade secret or otherwise legally privileged information contained within the proposal's General references to sections of the California Public Records Act (PRA) will not suffice. If the Bidder does not provide applicable case law that clearly establishes that the requested information is exempt from the disclosure requirements of the PRA, the City shall be free to release the information when required in accordance with the PRA, pursuant to any other applicable law, or by order of any court or government agency, and the Bidder agrees to hold the City harmless for any such release of this information.

INSTRUCTIONS TO BIDDERS AND BID REQUIREMENTS

This bid and the terms of the Contract Documents and General Provisions constitute an irrevocable offer that shall remain valid and in full force for a period of 90 days and such additional time as may be mutually agreed upon by the City of Carlsbad and the Bidder.

No bid will be received unless it is made on a proposal form furnished by the Purchasing Department. Each bid must be accompanied by security in a form and amount required by law. The bidder's security of the second and third next lowest responsive bidders may be withheld until the Contract has been fully executed. The security submitted by all other unsuccessful bidders shall be returned to them, or deemed void, within ten (10) days after the Contract is awarded. Pursuant to the provisions of law (Public Contract Code section 10263), appropriate



securities may be substituted for any obligation required by this notice or for any monies withheld by the City to ensure performance under this Contract. Section 10263 of the Public Contract Code requires monies or securities to be deposited with the City or a state or federally chartered bank in California as the escrow agent. The escrow agent shall maintain insurance to cover negligent acts and omissions of the agent in connection with the handling of retentions under this section in an amount not less than \$100,000 per contract.

The City of Carlsbad may disqualify a contractor or subcontractor from participating in bidding when a contractor or subcontractor has been debarred by the City of Carlsbad or another jurisdiction in the State of California as an irresponsible bidder.

The work shall be performed in strict conformity with the plans, provisions, and specifications as approved by the City Council of the City of Carlsbad on file with the City Clerk's Office. The specifications for the work include City of Carlsbad Technical Specifications and the 2021 Standard Specifications for Public Works Construction, Parts 2 - 8, all hereinafter designated "SSPWC", as amended. Specification Reference is hereby made to the plans and specifications for full particulars and description of the work. The General Provisions (Part 1) to the SSPWC do not apply.

The City of Carlsbad encourages the participation of minority and women-owned businesses.

The City of Carlsbad encourages all bidders, suppliers, manufacturers, fabricators and contractors to utilize recycled and recyclable materials when available, appropriate and approved by the Engineer.

BID DOCUMENTS

The bid documents comprise the following documents which must be completed and properly executed including notarization, where indicated.

1. Contractor's Proposal
2. Bidder's Bond (at time of Bid submit PDF copy via PlanetBids / All Bidders). Bid Bond (Original) within two (2) business days of bid Opening / three (3) Apparent Low Bidders.
3. Noncollusion Declaration
4. Designation of Subcontractor and Amount of Subcontractor's Bid
5. Bidder's Statement of Technical Ability and Experience
6. Acknowledgement of Addendum(a)
7. Certificate of Insurance. The riders covering the City, its officials, employees and volunteers may be omitted at the time of bid submittal but shall be provided by the Bidder prior to award of this contract.
8. Bidder's Statement Re Debarment
9. Bidder's Disclosure of Discipline Record
10. Listing of Manufacturers
11. CARB Fleet Compliance Certification (Appendix E)
12. Escrow Agreement for Security Deposits - (optional, must be completed if the Bidder wishes to use the Escrow Agreement for Security)

BIDDER'S GUARANTEE OF GOOD FAITH (BID SECURITY)

At the time of bid submission, bidders must upload and submit an electronic PDF copy of the aforementioned bid security. Whether in the form of a cashier's check, a properly certified check or an approved corporate surety bond payable to the City of Carlsbad, the bid security must be



uploaded to the City's eBidding system. Within two (2) business days after the bid opening date, the first three (3) apparent low bidders must provide the City with the original bid security.

Failure to submit the electronic version of the bid security at time of bid submission shall cause the bid to be rejected and deemed **non-responsive**. Only the three (3) apparent low bidders are required to submit original bid security to the City within two (2) business days after bid opening date. Failure to provide the original within two (2) business days may deem the bidder **non-responsive**.

ENGINEER'S ESTIMATE

All bids will be compared on the basis of the Engineer's Estimate. The estimated quantities are approximate and serve solely as a basis for the comparison of bids. The Engineer's Estimate is \$690,000.

TIME OF COMPLETION

The Contractor shall complete the Work within the time set in the contract as defined in the General Provisions Section 6-7.

SPECIALTY CONTRACTORS: ACCEPTABLE LICENSE TYPES

Except as provided herein a bid submitted to the City by a Contractor who is not licensed as a contractor pursuant to the Business and Professions Code shall be considered nonresponsive and shall be rejected by the City. In all contracts where federal funds are involved, no bid submitted shall be invalidated by the failure of the bidder to be licensed in accordance with California law. Where federal funds are involved the contractor shall be properly licensed at the time the contract is awarded. In all other cases the contractor shall state their license number, expiration date and classification in the proposal, under penalty of perjury. This invitation to bid does **not** use federal funds. The following classifications are acceptable for this contract: **A - General Engineering**.

ESCROW AGREEMENT

If the Contractor intends to utilize the escrow agreement included in the contract documents in lieu of the usual 5% retention from each payment, these documents must be completed and submitted with the signed contract. The escrow agreement may not be substituted at a later date.

OBTAINING PLANS AND SPECIFICATIONS

Sets of plans, various supplemental provisions, and Contract documents may be obtained from the City of Carlsbad website at <https://www.carlsbadca.gov/departments/finance/contracting-purchasing> Paper copies will not be sold.

INTENT OF PLANS AND SPECIFICATIONS

Any prospective bidder who is in doubt as to the intended meaning of any part of the drawings, specifications or other contract documents, or finds discrepancies in or omissions from the drawings and specifications may submit to the Engineer a written request for clarification or correction. Any response will be made only by a written addendum duly issued by the Engineer a copy of which will be mailed or delivered to each person receiving a set of the contract documents. No oral response will be made to such inquiry. **Prior to the award of the contract, no addition to, modification of or interpretation of any provision in the contract documents will be given by any agent, employee or contractor of the City of Carlsbad**



except as hereinbefore specified. No bidder may rely on directions given by any agent, employee or contractor of the City of Carlsbad except as hereinbefore specified.

BIDDER'S INQUIRIES

Questions on the bid documents during the bid period shall be submitted in writing, via the eBidding website.

Questions shall be definite and certain and shall reference applicable drawing sheets, notes, details or specification sheets.

The cutoff date to submit questions is **XXXX, 2024, at 5 p.m.** No questions will be entertained after that date.

The answers to questions submitted during the bidding period will be published in an addendum and provided to those bidding on the project no later than **XXXX, 2024.**

REJECTION OF BIDS

The City of Carlsbad reserves the right to reject any or all bids and to waive any minor irregularity or informality in such bids.

PREVAILING WAGE TO BE PAID

The general prevailing rate of wages for each craft or type of worker needed to execute the Contract shall be those as determined by the Director of Industrial Relations pursuant to the sections 1770, 1773, and 1773.1 of the Labor Code. Pursuant to section 1773.2 of the Labor Code, a current copy of applicable wage rates is on file in the Office of the City Engineer. The Contractor to whom the Contract is awarded shall not pay less than the said specified prevailing rates of wages to all workers employed by him or her in the execution of the Contract.

The Prime Contractor shall be responsible for insuring compliance with provisions of section 1777.5 of the Labor Code and section 4100 et seq. of the Public Contracts Code, "Subletting and Subcontracting Fair Practices Act." The City Engineer is the City's "duly authorized officer" for the purposes of section 4107 and 4107.5.

The provisions of Part 7, Chapter 1, of the Labor Code commencing with section 1720 shall apply to the Contract for work.

A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract Code or engage in the performance of any contract for public work, unless currently registered and qualified to perform public work pursuant to Section 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

The Prime Contractor and all subcontractors shall comply with Section 1776 of the Labor Code, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require all subcontractors to comply with Section 1776.

CALIFORNIA AIR RESOURCES BOARD (CARB) ADVANCED CLEAN FLEETS REGULATIONS

Contractor's vehicles with a gross vehicle weight rating greater than 8,500 lbs. and light-duty package delivery vehicles operated in California may be subject to the California Air Resources



Board (CARB) Advanced Clean Fleets regulations. Such vehicles may therefore be subject to requirements to reduce emissions of air pollutants. For more information, please see Appendix E and visit the CARB Advanced Clean Fleets webpage at <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets>.

PRE BID MEETING

A Pre-Bid Meeting will be held at the project site at 2201 Cannon Road (600 feet east of the intersection with Hemingway Drive), Carlsbad, CA on **, 2024 at 10 a.m.**

Bidders will be provided access to the facility and representatives of the Agency will be present. Questions asked by Bidders at the Pre-Bid Meeting not specifically addressed within the Contract Documents shall be answered in writing and shall be sent to all Bidders present at the Pre-Bid Meeting and be posted on the online bidding portal.

UNIT PRICES AND COMPUTATION OF BIDS

All bids are to be computed on the basis of the given estimated quantities of work, as indicated in this proposal, times the unit price as submitted by the bidder.

ADDENDA

Bidders are advised to verify the issuance of all addenda and receipt thereof one day prior to bidding. Submission of bids without acknowledgment of addenda may be cause of rejection of bid.

BOND AND INSURANCE REQUIREMENTS

The Contractor shall provide bonds to secure faithful performance and warranty of the work in an amount equal to one hundred percent (100%) of the Contract price on this project. The Contractor shall provide bonds to secure payment of laborers and materials suppliers, in an amount equal to one hundred percent (100%) of the total amount payable by the terms of the contract. These bonds shall be kept in full force and effect during the course of this project and shall extend in full force and effect and be retained by the City until they are released as stated in the General Provisions section of this contract. All bonds are to be placed with a surety insurance carrier admitted and authorized to transact the business of insurance in California and whose assets exceed their liabilities in an amount equal to or in excess of the amount of the bond. The bonds are to be accompanied by the following documents:

1. An original, or a certified copy, of the unrevoked appointment, power of attorney, by laws, or other instrument entitling or authorizing the person who executed the bond to do so.
2. A certified copy of the certificate of authority of the insurer issued by the insurance commissioner.

If the bid is accepted, the City may require copies of the insurer's most recent annual statement and quarterly statement filed with the Department of Insurance pursuant to Article 10 (commencing with section 900) of Chapter 1 of Part 2 of Division 1 of the Insurance Code, within 10 calendar days of the insurer's receipt of a request to submit the statements.

Insurance is to be placed with insurers that:

1. Have a rating in the most recent Best's Key Rating Guide of at least A-:VII
2. Are admitted and authorized to transact the business of insurance in the State of California by the Insurance Commissioner.



Auto policies offered to meet the specification of this contract must:

1. Meet the conditions stated above for all insurance companies.
2. Cover any vehicle used in the performance of the contract, used onsite or offsite, whether owned, non-owned or hired, and whether scheduled or non-scheduled.

Workers' compensation insurance required under this contract must be offered by a company meeting the above standards with the exception that the Best's rating condition is waived. The City does accept policies issued by the State Compensation Fund meeting the requirement for workers' compensation insurance.

The Contractor shall be required to maintain insurance as specified in the Contract. Any additional cost of said insurance shall be included in the bid price.

The award of the contract by the City is contingent upon the Contractor submitting the required bonds and insurance, as described in the contract, within twenty days of bid opening. If the Contractor fails to comply with these requirements, the City may award the contract to the second or third lowest bidder and the bid security of the lowest bidder may be forfeited.

BUSINESS LICENSE

The prime contractor and all subcontractors are required to have and maintain a valid City of Carlsbad Business License for the duration of the contract.

Approved by the City Council of the City of Carlsbad, California, by Resolution No. 2024-019, adopted on the 10th day of September 2024.

September 11, 2024

Date

Graham Jordan, Deputy Clerk



CITY OF CARLSBAD

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

CONTRACTOR'S PROPOSAL

City Council
City of Carlsbad
1200 Carlsbad Village Drive
Carlsbad, California 92008

The undersigned declares he/she has carefully examined the location of the work, read the Notice Inviting Bids, examined the Plans, Specifications, General Provisions, Contract Documents, and addenda thereto, and hereby proposes to furnish all labor, materials, equipment, and incidental services required to do all the work to complete Contract No. 5552 in accordance with the Plans, Specifications, General Provisions, Contract Documents, and addenda thereto and that he/she will take in full payment therefore the following unit prices for each item complete, to wit (refer to Section 9-4 for bid item descriptions):

SCHEDULE "A"

<u>Item No.</u>	<u>Description</u>	<u>Approximate Quantity And Unit</u>	<u>Unit Price (Figures)</u>	<u>Total Amount (Figures)</u>
1	Mobilization and Preparatory Work (not to exceed 5% of Total Bid)	LS		\$ _____
2	Temporary Traffic Control	LS		\$ _____
3	Preconstruction Survey	LS		\$ _____
4	Storm Water Pollution Control (SWPPP)	LS		\$ _____
5	Utility Locating and Potholing	LS		\$ _____
6	Excavation Support System	LS		\$ _____
7	Dewatering	LS		\$ _____
8	Force Main Dewatering	LS		\$ _____
9	Demolition	LS		\$ _____
10	Temporary Sewer Bypass	LS		\$ _____



<u>Item No.</u>	<u>Description</u>	<u>Approximate Quantity And Unit</u>	<u>Unit Price (Figures)</u>	<u>Total Amount (Figures)</u>
11	Construct 8' Diameter Manhole	LS		\$ _____
12	Over-excavation and Backfill	20 CY	\$ _____	\$ _____
13	Furnish and Install HDPE Pipe and Fittings	LS		\$ _____
14	Furnish and Install Flow Meter	1 EA	\$ _____	\$ _____
15	Furnish and Install 14" Plug Valve	1 EA	\$ _____	\$ _____
16	Furnish and Install 10" Plug Valve	3 EA	\$ _____	\$ _____
17	Furnish and Install 10" Check Valve	3 EA	\$ _____	\$ _____
18	Furnish and Install Electrical and Instrumentation Improvements	1 LS		\$ _____
19	Furnish and Install Aggregate Base	1 LS		\$ _____
20	Furnish and Install Asphalt Concrete	1 LS		\$ _____

Total amount of bid (in figures) for Schedule "A": \$ _____

Total amount of bid (in words) for Schedule "A": _____

The City shall determine the low bid based on the sum of Schedule "A".

Price(s) given above are firm for 90 days after the date of bid opening.

Addendum(a) No(s). _____ has/have been received and is/are included in this proposal.

The Undersigned has carefully checked all of the above figures and understands that the City will not be responsible for any error or omission on the part of the Undersigned in preparing this bid.

The Undersigned agrees that in case of default in executing the required Contract with necessary bonds and insurance policies within twenty (20) days from the date of award of



Contract by the City Council of the City of Carlsbad, the City may administratively authorize award of the contract to the second or third lowest bidder and the bid security of the lowest bidder may be forfeited.

The Undersigned bidder declares, under penalty of perjury, that the undersigned is licensed to do business or act in the capacity of a contractor within the State of California, validly licensed under license number _____, classification _____ which expires on _____, and Department of Industrial Relations PWC registration number _____ which expires on _____, and that this statement is true and correct and has the legal effect of an affidavit.

A bid submitted to the City by a Contractor who is not licensed as a contractor pursuant to the Business and Professions Code shall be considered nonresponsive and shall be rejected by the City § 7028.15(e). In all contracts where federal funds are involved, no bid submitted shall be invalidated by the failure of the bidder to be licensed in accordance with California law. However, at the time the contract is awarded, the contractor shall be properly licensed.

The Undersigned bidder hereby represents as follows:

1. That no Council member, officer agent, or employee of the City of Carlsbad is personally interested, directly or indirectly, in this Contract, or the compensation to be paid hereunder; that no representation, oral or in writing, of the City Council, its officers, agents, or employees has inducted him/her to enter into this Contract, excepting only those contained in this form of Contract and the papers made a part hereof by its terms; and
2. That this bid is made without connection with any person, firm, or corporation making a bid for the same work, and is in all respects fair and without collusion or fraud.

Accompanying this proposal is _____ (Cash, Certified Check, Bond or Cashier's Check) for ten percent (10%) of the amount bid.

The Undersigned is aware of the provisions of section 3700 of the Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code and agrees to comply with such provisions before commencing the performance of the work of this Contract and continue to comply until the contract is complete.

The Undersigned is aware of the provisions of the Labor Code, Part 7, Chapter 1, Article 2, relative to the general prevailing rate of wages for each craft or type of worker needed to execute the Contract and agrees to comply with its provisions.



IF A SOLE OWNER OR SOLE CONTRACTOR SIGN HERE:

(1) Name under which business is conducted _____

(2) Signature (given and surname) of proprietor _____

(3) Place of Business _____
(Street and Number)
City and State _____

(4) Zip Code _____ Telephone No. _____

(5) E-Mail _____

IF A PARTNERSHIP, SIGN HERE:

(1) Name under which business is conducted _____

(2) Signature (given and surname and character of partner) (Note: Signature must be made by a general partner)

(3) Place of Business _____
(Street and Number)
City and State _____

(4) Zip Code _____ Telephone No. _____

(5) E-Mail _____



IF A CORPORATION, SIGN HERE:

(1) Name under which business is conducted _____

(2) _____
(Signature)

(Title)

Impress Corporate Seal here

(3) Incorporated under the laws of the State of _____

(4) Place of Business _____
(Street and Number)
City and State _____

(5) Zip Code _____ Telephone No. _____

(6) E-Mail _____

NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

List below names of president, vice president, secretary and assistant secretary, if a corporation; if a partnership, list names of all general partners, and managing partners:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

LISTING OF MANUFACTURERS
(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS
CONTRACT NO. 5552

The Contractor shall submit this completed form with the bid to identify the products, equipment, or materials and their manufacturers proposed for use in the Work. If the Contractor elects to list products, equipment, or materials not listed in the Specifications, Plans, or Carlsbad Engineering Standards, the Contractor shall provide substantiating data to demonstrate that the substitute products, equipment, or materials are of equal quality, durability, functional character, and efficiency as determined by the Engineer. Only one manufacturer shall be listed for each item.

<u>Item or Material</u>	<u>Manufacturer</u>

Substitutions for products, equipment, or materials listed above shall be allowed only if submitted for approval at least two weeks prior to the Bid Due Date or, for products, equipment, or materials not listed above, in accordance with Article 4-1.6 of the General Provisions and within 35 calendar days following Contract award.

BID SECURITY FORM

(Check to Accompany Bid)

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

(NOTE: The following form shall be used if check accompanies bid.)

Accompanying this proposal is a *Certified *Cashier's check payable to the order of City of Carlsbad, in the sum of _____ dollars (\$ _____), this amount being ten percent (10%) of the total amount of the bid. The proceeds of this check shall become the property of the City provided this proposal shall be accepted by the City through action of its legally constituted contracting authorities and the undersigned shall fail to execute a contract and furnish the required Performance, Warranty and Payment Bonds and proof of insurance coverage within the stipulated time; otherwise, the check shall be returned to the undersigned. The proceeds of this check shall also become the property of the City if the undersigned shall withdraw his or her bid within the period of fifteen (15) days after the date set for the opening thereof, unless otherwise required by law, and notwithstanding the award of the contract to another bidder.

BIDDER

*Delete the inapplicable word.

(NOTE: If the Bidder desires to use a bond instead of check, the Bid Bond form on the following pages shall be executed--the sum of this bond shall be not less than ten percent (10%) of the total amount of the bid.)



BIDDER'S BOND TO ACCOMPANY PROPOSAL

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

KNOW ALL PERSONS BY THESE PRESENTS:

That we, _____, as Principal, and _____, as Surety are held and firmly bound unto the City of Carlsbad, California, in an amount as follows: (must be at least ten percent (10%) of the bid amount) _____ for which payment, well and truly made, we bind ourselves, our heirs, executors and administrators, successors or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH that if the proposal of the above-bounden Principal for:

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

in the City of Carlsbad, is accepted by the City Council, and if the Principal shall duly enter into and execute a Contract including required bonds and insurance policies within twenty (20) days from the date of award of Contract by the City Council of the City of Carlsbad, being duly notified of said award, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect, and the amount specified herein shall be forfeited to the said City. In the event Principal executed this bond as an individual, it is agreed that the death of Principal shall not exonerate the Surety from its obligations under this bond.

SIGNED AND SEALED, this _____ day of _____, 20_____

_____(SEAL) _____(SEAL)
(Principal) (Surety)

By: _____ By: _____
(Signature) (Signature)

(Print Name/Title) (Print Name/Title)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY – ATTACH ATTORNEY-IN-FACT CERTIFICATE)

APPROVED AS TO FORM:

CINDIE K. McMAHON
City Attorney

By: _____
Assistant City Attorney



GUIDE FOR COMPLETING THE “DESIGNATION OF SUBCONTRACTORS” FORM

REFERENCES Prior to preparation of the following “Subcontractor Disclosure Form” Bidders are urged to review the definitions in section 1-2 of the General Provisions to this Contract, especially, “Bid”, “Bidder”, “Contract”, “Contractor”, “Contract Price”, “Contract Unit Price”, “Engineer”, “Own Organization”, “Subcontractor”, and “Work”. Bidders are further urged to review sections 2-3 SUBCONTRACTS of the General Provisions.

CAUTIONS This form will be used by the Agency to determine the percentage of work that the Bidder proposes to perform. Bidders are cautioned that failure to provide complete and correct information may result in rejection of the bid as non-responsive. Any bid that proposes performance of more than 50 percent of the work by subcontractors or otherwise to be performed by forces other than the Bidder’s own organization will be rejected as non-responsive. Specialty items of work that may be so designated by the Engineer on the “Contractor’s Proposal” are not included in computing the percentage of work proposed to be performed by the Bidder.

INSTRUCTIONS The Bidder shall set forth the name and location of business of each and every subcontractor whom the Bidder proposes to perform work or labor or render service in or about the work or improvement, and every subcontractor licensed as a contractor by the State of California whom the Bidder proposes to specially fabricate and install any portion of the work or improvement according to detailed drawings contained in the plans and specifications in excess of one-half of one percent (0.5%) of the Bidder’s total bid or, in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of one percent (0.5%) or ten thousand dollars (\$10,000) whichever is greater. Said name(s) and location(s) of business of subcontractor(s) shall be set forth and included as an integral part of the bid offer.

The Designation of Subcontractors form must be submitted as a part of the Bidder’s sealed bid. Failure to provide complete and correct information may result in rejection of the bid as non-responsive.

Suppliers of materials from sources outside the limits of work are not subcontractors. The value of materials and transport of materials from sources outside the limits of work, as shown on the plans, shall be assigned to the Contractor or the Subcontractor as the case may be, that the Bidder proposes as installer of said materials. The value of material incorporated in any Subcontractor-installed bid item that is supplied by the Bidder shall be included as a part of the work that the Bidder proposes to be performed by the Subcontractor installing said item.

When a Subcontractor has a Carlsbad business license, the number must be entered on the proper form. If the Subcontractor does not have a valid business license, enter “NONE” in the appropriate space.

When the Bidder proposes using a Subcontractor to construct or install less than 100 percent of a bid item, the Bidder shall attach an explanation sheet to the Designation of Subcontractor form. The explanation sheet shall clearly apprise the City of the specific facts that show the Bidder proposes to perform no less than fifty percent (50%) of the work with its own forces.



Determination of the subcontract amounts for purposes of award of the contract shall be determined by the City Council in conformance with the provisions of the contract documents and the various supplemental provisions. The decision of the City Council shall be final.

Contractor is prohibited from performing any work on this project with a subcontractor who is ineligible to perform work on a public works project pursuant to Labor Code Sections 1771.1 or 1777.7.

Bidders shall make any additional copies of the disclosure forms as may be necessary to provide the required information. The page number and total number of additional form pages shall be entered in the location provided on each type of form so duplicated.



DESIGNATION OF SUBCONTRACTOR AND AMOUNT OF SUBCONTRACTOR'S BID ITEMS

(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

The Bidder certifies that it has used the sub-bid of the following listed subcontractors in preparing this bid for the Work and that the listed subcontractors will be used to perform the portions of the Work as designated in this list in accordance with applicable provisions of the specifications and section 4100 et seq. of the Public Contract Code, "Subletting and Subcontracting Fair Practices Act." The Bidder further certifies that no additional subcontractor will be allowed to perform any portion of the Work in excess of one-half of one percent (0.5%) of the Bidder's total bid, or in the case of bids or offers for construction of streets and highways, including bridges, in excess of one-half of one percent (0.5%) or ten thousand dollars (\$10,000), whichever is greater, and that no changes in the subcontractors listed work will be made except upon the prior approval of the Agency.

SUBCONTRACTOR'S BID ITEMS

Portion of Work	Subcontractor Name and Location of Business	Phone No. and Email Address	DIR Registration No.	Subcontractor's License No. and Classification*	Amount of Work by Subcontractor in Dollars*

Page ____ of ____ pages of this Subcontractor Designation form

* Pursuant to section 4104 (a)(3)(A) California Public Contract Code, receipt of the information preceded by an asterisk may be submitted by the Bidder up to 24 hours after the deadline for submitting bids contained in the "Notice Inviting Bids."

BIDDER'S STATEMENT OF TECHNICAL ABILITY AND EXPERIENCE

(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

The Bidder is required to state what work of a similar character to that included in the proposed Contract he/she has successfully performed and give references, with telephone numbers, which will enable the City to judge his/her responsibility, experience and skill. An attachment can be used.

The bidder shall demonstrate at least five years of experience successfully completing **at least five projects involving sewer lift station mechanical, HDPE electrofusion, and electrical improvements** with a value of \$1,000,000 or greater and similar in scope to the Work of this Contract. Bidder must also submit the qualifications of its Representatives in accordance with Section 7-6. The proposal shall be deemed non-responsive if the required technical ability and experience for the Bidder or its representative is not demonstrated.

Date Contract Completed	Name and Address of the Employer	Name and Phone No. of Person to Contract	Type of Work	Amount of Contract

**BIDDER'S CERTIFICATE OF INSURANCE FOR
GENERAL LIABILITY, EMPLOYERS' LIABILITY,
AUTOMOTIVE
LIABILITY AND WORKERS' COMPENSATION**

(To Accompany Proposal)

**CANNON LIFT STATION IMPROVEMENTS
CONTRACT NO. 5552**

As a required part of the Bidder's proposal the Bidder must attach either of the following to this page.

1) Certificates of insurance showing conformance with the requirements herein for each of:

- Comprehensive General Liability
- Automobile Liability
- Workers Compensation
- Employer's Liability

2) Statement with an insurance carrier's notarized signature stating that the carrier can, and upon payment of fees and/or premiums by the Bidder, will issue to the Bidder Policies of insurance for Comprehensive General Liability, Automobile Liability, Workers Compensation and Employer's Liability in conformance with the requirements herein and Certificates of insurance to the Agency showing conformance with the requirements herein.

All certificates of insurance and statements of willingness to issue insurance for auto policies offered to meet the specification of this contract must:

- 1) Meet the conditions stated in The Notice Inviting Bids and the General Provisions for this project for each insurance company that the Contractor proposes.
- 2) Cover any vehicle used in the performance of the contract, used onsite or offsite, whether owned, non-owned or hired, and whether scheduled or non-scheduled.



BIDDER'S STATEMENT RE DEBARMENT

(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

- 1) Have you or any of your subcontractors ever been debarred as an irresponsible bidder by another jurisdiction in the State of California?

_____ _____
yes no

- 2) If yes, what was/were the name(s) of the agency(ies) and what was/were the period(s) of debarment(s)? Attach additional copies of this page to accommodate more than two debarments.

_____	_____
party debarred	party debarred
_____	_____
agency	agency
_____	_____
period of debarment	period of debarment

BY CONTRACTOR:

(name of Contractor)

By: _____
(sign here)

(print name/title)

Page _____ of _____ pages of this Re Debarment form



BIDDER'S DISCLOSURE OF DISCIPLINE RECORD

(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

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 regarding a patent act or omission is filed within four years of the date of the alleged violation. A complaint regarding a latent act or omission pertaining to structural defects must be filed within 10 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.

- 1) Have you ever had your contractor's license suspended or revoked by the California Contractors' State License Board two or more times within an eight year period?

yes no

- 2) Has the suspension or revocation of your contractor's license ever been stayed?

yes no

- 3) Have any subcontractors that you propose to perform any portion of the Work ever had their contractor's license suspended or revoked by the California Contractors' State License Board two or more times within an eight year period?

yes no

- 4) Has the suspension or revocation of the license of any subcontractor's that you propose to perform any portion of the Work ever been stayed?

yes no

- 5) If the answer to either of 1. or 3. above is yes fully identify, in each and every case, the party disciplined, the date of and violation that the disciplinary action pertains to, describe the nature of the violation and the disciplinary action taken therefore.

(If needed attach additional sheets to provide full disclosure.)

Page _____ of _____ pages of this Disclosure of Discipline form



BIDDER'S DISCLOSURE OF DISCIPLINE RECORD
(CONTINUED)
(To Accompany Proposal)

CANNON LIFT STATION IMPROVEMENTS
CONTRACT NO. 5552

6) If the answer to either of 2. or 4. above is yes fully identify, in each and every case, the party whose discipline was stayed, the date of the violation that the disciplinary action pertains to, describe the nature of the violation and the condition (if any) upon which the disciplinary action was stayed.

(If needed attach additional sheets to provide full disclosure.)

BY CONTRACTOR:

(name of Contractor)

By: _____
(sign here)

(print name/title)

Page ____ of ____ pages of this Disclosure of Discipline form



**NONCOLLUSION DECLARATION TO BE EXECUTED BY
BIDDER AND SUBMITTED WITH BID
PUBLIC CONTRACT CODE SECTION 7106**

**CANNON LIFT STATION IMPROVEMENTS
CONTRACT NO. 5552**

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on _____, 20____ at _____ [city], _____ [state].

Signature of Bidder



CONTRACT PUBLIC WORKS

This agreement is made this _____ day of _____, 2024, by and between the City of Carlsbad, California, a municipal corporation, (hereinafter called "City"), and _____ whose principal place of business is _____ (hereinafter called "Contractor").

City and Contractor agree as follows:

1. Description of Work. Contractor shall perform all work specified in the Contract documents for:

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

(hereinafter called "project")

2. Provisions of Labor and Materials. Contractor shall provide all labor, materials, tools, equipment, and personnel to perform the work specified by the Contract Documents.

3. Contract Documents. The Contract Documents consist of this Contract, Notice Inviting Bids, Contractor's Proposal, Bidder's Bond, Noncollusion Declaration, Designation of Subcontractors, Technical Ability and Experience, Bidder's Statement Re Debarment, Escrow Agreement, Release Form, the Plans and Specifications, the General Provisions, addendum(s) to said Plans and Specifications and General Provisions, and all proper amendments and changes made thereto in accordance with this Contract or the Plans and Specifications, and all bonds for the project; all of which are incorporated herein by this reference.

Contractor, her/his subcontractors, and materials suppliers shall provide and install the work as indicated, specified, and implied by the Contract Documents. Any items of work not indicated or specified, but which are essential to the completion of the work, shall be provided at the Contractor's expense to fulfill the intent of said documents. In all instances through the life of the Contract, the City will be the interpreter of the intent of the Contract Documents, and the City's decision relative to said intent will be final and binding. Failure of the Contractor to apprise subcontractors and materials suppliers of this condition of the Contract will not relieve responsibility of compliance.

4. Payment. For all compensation for Contractor's performance of work under this Contract, City shall make payment to the Contractor per section 9-3 PAYMENT of the General Provisions section of this contract. The Engineer will close the estimate of work completed for progress payments on the last working day of each month. The City shall withhold retention as required by Public Contract Code Section 9203.

5. Independent Investigation. Contractor has made an independent investigation of the jobsite, the soil conditions at the jobsite, and all other conditions that might affect the progress of the work and is aware of those conditions. The Contract price includes payment for all work that may be done by Contractor, whether anticipated or not, in order to overcome underground conditions. Any information that may have been furnished to Contractor by City about underground conditions or other job conditions is for Contractor's convenience only, and City



does not warrant that the conditions are as thus indicated. Contractor is satisfied with all job conditions, including underground conditions and has not relied on information furnished by City.

6. Hazardous Waste or Other Unusual Conditions. If the contract involves digging trenches or other excavations that extend deeper than four feet below the surface Contractor shall promptly, and before the following conditions are disturbed, notify City, in writing, of any:

A. Hazardous Waste. Material that Contractor believes may be material that is hazardous waste, as defined in section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

B. Differing Conditions. Subsurface or latent physical conditions at the site differing from those indicated.

C. Unknown Physical Conditions. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.

City shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in contractor's costs of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in this contract.

In the event that a dispute arises between City and Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the contractor's cost of, or time required for, performance of any part of the work, contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

7. Immigration Reform and Control Act. Contractor certifies it is aware of the requirements of the Immigration Reform and Control Act of 1986 (8 USC sections 1101-1525) and has complied and will comply with these requirements, including, but not limited to, verifying the eligibility for employment of all agents, employees, subcontractors, and consultants that are included in this Contract.

8. Prevailing Wage. Pursuant to the California Labor Code, the director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with California Labor Code, section 1773 and a copy of a schedule of said general prevailing wage rates is on file in the office of the City Engineer and is incorporated by reference herein. Pursuant to California Labor Code, section 1775, Contractor shall pay prevailing wages. Contractor shall post copies of all applicable prevailing wages on the job site. Contractor shall comply with California Labor Code, section 1776, which generally requires keeping accurate payroll records, verifying and certifying payroll records, and making them available for inspection. Contractor shall require all subcontractors to comply with Section 1776.

9. Indemnification. Contractor shall assume the defense of, pay all expenses of defense, and indemnify and hold harmless the City, and its officers and employees, from all claims, loss,



damage, injury and liability of every kind, nature and description, directly or indirectly arising from or in connection with the performance of the Contract or work; or from any failure or alleged failure of Contractor to comply with any applicable law, rules or regulations including those relating to safety and health; and from any and all claims, loss, damages, injury and liability, howsoever the same may be caused, resulting directly or indirectly from the nature of the work covered by the Contract, except for loss or damage caused by the sole or active negligence or willful misconduct of the City. The expenses of defense include all costs and expenses including attorneys' fees for litigation, arbitration, or other dispute resolution method.

Contractor shall also defend and indemnify the City against any challenges to the award of the contract to Contractor, and Contractor will pay all costs, including defense costs for the City. Defense costs include the cost of separate counsel for City, if City requests separate counsel.

Contractor shall also defend and indemnify the City against any challenges to the award of the contract to Contractor, arising in whole or in part from alleged inaccuracies or misrepresentation by the Contractor, whether intentional or otherwise, and Contractor will pay all costs, including defense costs for the City. Defense costs include the cost of separate counsel for City, if City requests separate counsel.

10. Insurance. Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the Contractor, his or her agents, representatives, employees or subcontractors. Said insurance shall meet the City of Carlsbad's policy for insurance as stated in City Council Policy # 70.

(A) Coverages and Limits Contractor shall maintain the types of coverages and minimum limits indicated herein:

a. **Commercial General Liability (GLC) Insurance:** Insurance written on an "occurrence" basis, including products-completed operations, personal & advertising injury, with limits no less than **\$2,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.

b. **Business Automobile Liability Insurance:** \$2,000,000 combined single limit per accident for bodily injury and property damage. In addition, the auto policy must cover any vehicle used in the performance of the contract, used onsite or offsite, whether owned, non-owned or hired, and whether scheduled or non-scheduled.

c. **Workers' Compensation and Employers' Liability Insurance:** Workers' compensation limits as required by the Labor Code of the State of California and Employers' Liability limits of \$1,000,000 per incident. Workers' compensation offered by the State Compensation Insurance Fund is acceptable to the City.

(B) Additional Provisions: Contractor shall ensure that the policies of insurance required under this agreement with the exception of Workers' Compensation and Business Automobile Liability Insurance contain, or are endorsed to contain, the following provisions.

a. The City, its officials, employees and volunteers are to be covered as additional insured as respects: liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the contractor; premises owned, leased, hired or



borrowed by the contractor. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officials, employees or volunteers. All additional insured endorsements must be evidenced using separate documents attached to the certificate of insurance; one for each company affording general liability, and employers' liability coverage.

b. The Contractor's insurance coverage shall be primary insurance as respects the City, its officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officials, employees or volunteers shall be in excess of the contractor's insurance and shall not contribute with it.

c. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the City, its officials, employees or volunteers.

d. Coverage shall state that the contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

(C) Notice of Cancellation. Each insurance policy required by this agreement shall be endorsed to state that coverage shall not be nonrenewed, suspended, voided, canceled, or reduced in coverage or limits except after ten (10) days' prior written notice has been sent to the City by certified mail, return receipt requested.

(D) Deductibles and Self-Insured Retention (S.I.R.) Levels. Any deductibles or self-insured retention levels must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retention levels as respects the City, its officials and employees; or the contractor shall procure a bond guaranteeing payment of losses and related investigation, claim administration and defense expenses.

(E) Waiver of Subrogation. All policies of insurance required under this agreement shall contain a waiver of all rights of subrogation the insurer may have or may acquire against the City or any of its officials or employees.

(F) Subcontractors. Contractor shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. Coverages for subcontractors shall be subject to all of the requirements stated herein.

(G) Acceptability of Insurers. Insurance is to be placed with insurers that have a rating in Best's Key Rating Guide of at least A-:VII. Insurers must also be authorized to transact the business of insurance by the State of California Insurance Commissioner as admitted carriers as evidenced by a listing in the official publication of the Department of Insurance of the State of California and/or under the standards specified by City Council Policy # 70.

(H) Verification of Coverage. Contractor shall furnish the City with certificates of insurance and original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be in forms approved by the City and are to be received and approved by the City before the Contract is executed by the City.



(I) Cost of Insurance. The Cost of all insurance required under this agreement shall be included in the Contractor's bid.

11. Claims and Lawsuits. All claims by Contractor shall be resolved in accordance with Public Contract Code section 9204, which is incorporated by reference. A copy of Section 9204 is included in Section 3 of the General Provisions. In addition, all claims by Contractor for \$375,000 or less shall be resolved in accordance with the provisions in the Public Contract Code, Division 2, Part 3, Chapter 1, Article 1.5 (commencing with section 20104) which are incorporated by reference. A copy of Article 1.5 is included in Section 3 of the General Provisions. In the event of a conflict between Section 9204 and Article 1.5, Section 9204 shall apply. Notwithstanding the provisions of this section of the contract, all claims shall comply with the Government Tort Claim Act (section 900 et seq., of the California Government Code) for any claim or cause of action for money or damages prior to filing any lawsuit for breach of this agreement.

(A) Assertion of Claims. Contractor hereby agrees that any contract claim submitted to the City must be asserted as part of the contract process as set forth in this agreement and not in anticipation of litigation or in conjunction with litigation.

(B) False Claims. Contractor acknowledges that if a false claim is submitted to the City, it may be considered fraud and the Contractor may be subject to criminal prosecution.

(C) Government Code. Contractor acknowledges that California Government Code sections 12650 et seq., the False Claims Act, provides for civil penalties where a person knowingly submits a false claim to a public entity. These provisions include false claims made with deliberate ignorance of the false information or in reckless disregard of the truth or falsity of the information.

(D) Penalty Recovery. If the City of Carlsbad seeks to recover penalties pursuant to the False Claims Act, it is entitled to recover its litigation costs, including attorney's fees.

(E) Debarment for False Claims. Contractor hereby acknowledges that the filing of a false claim may subject the Contractor to an administrative debarment proceeding wherein the Contractor may be prevented from further bidding on public contracts for a period of up to five years.

(F) Carlsbad Municipal Code. The provisions of Carlsbad Municipal Code sections 3.32.025, 3.32.026, 3.32.027 and 3.32.028 pertaining to false claims are incorporated herein by reference.

(G) Debarment from Other Jurisdictions. Contractor hereby acknowledges that debarment by another jurisdiction is grounds for the City Council of the City of Carlsbad to disqualify the Contractor or subcontractor from participating in future contract bidding.

(H) Jurisdiction. Contractor agrees and hereby stipulates that the proper venue and jurisdiction for resolution of any disputes between the parties arising out of this agreement is San Diego County, California.

I have read and understand all provisions of Section 11 above. _____ init _____ init



12. Maintenance of Records. Contractor shall maintain and make available at no cost to the City, upon request, records in accordance with sections 1776 and 1812 of Part 7, Chapter 1, Article 2, of the Labor Code. If the Contractor does not maintain the records at Contractor's principal place of business as specified above, Contractor shall so inform the City by certified letter accompanying the return of this Contract. Contractor shall notify the City by certified mail of any change of address of such records.

13. Labor Code Provisions. The provisions of Part 7, Chapter 1, commencing with section 1720 of the Labor Code are incorporated herein by reference.

14. Security. Securities in the form of cash, cashier's check, or certified check may be substituted for any monies withheld by the City to secure performance of this contract for any obligation established by this contract. Any other security that is mutually agreed to by the Contractor and the City may be substituted for monies withheld to ensure performance under this Contract.

15. Unfair Business Practices. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works 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 it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 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 the public works contract or the subcontract. 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.

16. Provisions Required by Law Deemed Inserted. Each and every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted herein and included herein, and if, through mistake or otherwise, any such provision is not inserted, or is not correctly inserted, then upon application of either party, the Contract shall forthwith be physically amended to make such insertion or correction.

17. Additional Provisions. Any additional provisions of this agreement are set forth in the "General Provisions" or "Supplemental Provisions" attached hereto and made a part hereof.

[signatures on the following page]



NOTARIAL ACKNOWLEDGMENT OF EXECUTION BY ALL SIGNATORIES MUST BE ATTACHED

(CORPORATE SEAL)

CONTRACTOR:

CITY OF CARLSBAD, a municipal corporation of the State of California

(name of Contractor)

By: _____
(sign here)

(print name and title)

By: _____
(sign here)

(print name and title)

By: _____
KEITH BLACKBURN, Mayor

ATTEST:

SHERRY FREISINGER, City Clerk

President or vice-president **and** secretary or assistant secretary must sign for corporations. If only one officer signs, the corporation must attach a resolution certified by the secretary or assistant secretary under the corporate seal empowering that officer to bind the corporation.

APPROVED AS TO FORM:

CINDIE K. McMAHON
City Attorney

By: _____
Assistant City Attorney



LABOR AND MATERIALS BOND

WHEREAS, the City Council of the City of Carlsbad located in the State of California has awarded to _____ (hereinafter designated as the "Principal"), a Contract for:

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

in the City of Carlsbad, in strict conformity with the drawings and specifications, and other Contract Documents now on file in the Office of the City Clerk of the City of Carlsbad and all of which are incorporated herein by this reference.

WHEREAS, Principal has executed or is about to execute said Contract and the terms thereof require the furnishing of a bond, providing that if Principal or any of their subcontractors shall fail to pay for any materials, provisions, provender or other supplies or teams used in, upon or about the performance of the work agreed to be done, or for any work or labor done thereon of any kind, the Surety on this bond will pay the same to the extent hereinafter set forth.

NOW, THEREFORE, WE, _____ as Principal, (hereinafter designated as the "Contractor"), and _____ as Surety, are held firmly bound unto the City of Carlsbad in the sum _____, said sum being an amount equal to: One hundred percent (100%) of the total amount payable under the terms of the contract by the City of Carlsbad, and for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors, or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Contractor or his/her subcontractors fail to pay for any materials, provisions, provender, supplies, or teams used in, upon, for, or about the performance of the work contracted to be done, or for any other work or labor thereon of any kind, consistent with California Civil Code section 9100, or for amounts due under the Unemployment Insurance Code with respect to the work or labor performed under this Contract, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the contractor and subcontractors pursuant to section 13020 of the Unemployment Insurance Code with respect to the work and labor, that the Surety will pay for the same, and, also, in case suit is brought upon the bond, reasonable attorney's fees, to be fixed by the court consistent with California Civil Code section 9554.

This bond shall inure to the benefit of any of the persons named in California Civil Code section 9100, so as to give a right of action to those persons or their assigns in any suit brought upon the bond.

Surety stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed hereunder or the specifications accompanying the same shall affect its obligations on this bond, and it does hereby waive notice of any change, extension of time, alterations or addition to the terms of the contract or to the work or to the specifications.



In the event that Contractor is an individual, it is agreed that the death of any such Contractor shall not exonerate the Surety from its obligations under this bond.

SIGNED AND SEALED, this _____ day of _____, 20____

_____(SEAL)
(Principal)

_____(SEAL)
(Surety)

By: _____
(Signature)

By: _____
(Signature)

(Print Name & Title)

(Print Name & Title)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY – ATTACH ATTORNEY-IN-FACT CERTIFICATE)

APPROVED AS TO FORM:

CINDIE K. McMAHON
City Attorney

By: _____
Assistant City Attorney



FAITHFUL PERFORMANCE/WARRANTY BOND

WHEREAS, the City Council of the City of Carlsbad, State of California has awarded to _____ (hereinafter designated as the "Principal"), a Contract for:

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

in the City of Carlsbad, in strict conformity with the contract, the drawings and specifications, and other Contract Documents now on file in the Office of the City Clerk of the City of Carlsbad, all of which are incorporated herein by this reference.

WHEREAS, Principal has executed or is about to execute said Contract and the terms thereof require the furnishing of a bond for the faithful performance and warranty of said Contract;

NOW, THEREFORE, WE, _____ as Principal, (hereinafter designated as the "Contractor"), and _____ as Surety, are held firmly bound unto the City of Carlsbad in the sum _____, said sum being an amount equal to: One hundred percent (100%) of the total amount payable under the terms of the contract by the City of Carlsbad, and for which payment well and truly to be made we bind ourselves, our heirs, executors and administrators, successors, or assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the above bounden Contractor, their heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions, and agreements in the Contract and any alteration thereof made as therein provided on their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Carlsbad, its officers, employees and agents, as therein stipulated, then this obligation shall become null and void; otherwise it shall remain in full force and effect.

As a part of the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

Surety stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed there under or the specifications accompanying the same shall affect its obligations on this bond, and it does hereby waive notice of any change, extension of time, alterations or addition to the terms of the contract or to the work or to the specifications.



In the event that Contractor is an individual, it is agreed that the death of any such Contractor shall not exonerate the Surety from its obligations under this bond.

SIGNED AND SEALED, this _____ day of _____, 20____

_____(SEAL)
(Principal)

_____(SEAL)
(Surety)

By: _____
(Signature)

By: _____
(Signature)

(Print Name & Title)

(Print Name & Title)

(SEAL AND NOTARIAL ACKNOWLEDGEMENT OF SURETY – ATTACH ATTORNEY-IN-FACT CERTIFICATE)

APPROVED AS TO FORM:

CINDIE K. McMAHON
City Attorney

By: _____
Assistant City Attorney



OPTIONAL ESCROW AGREEMENT FOR SECURITY DEPOSITS IN LIEU OF RETENTION

This Escrow Agreement is made and entered into by and between the City of Carlsbad whose address is 1200 Carlsbad Village Drive, Carlsbad, California, 92008, hereinafter called "City" and _____, whose address is _____ hereinafter called "Contractor" and _____, whose address is _____ hereinafter called "Escrow Agent."

For the consideration hereinafter set forth, the City, Contractor and Escrow Agent agree as follows:

1. Pursuant to section 22300 of the Public Contract Code of the State of California, the Contractor has the option to deposit securities with the Escrow Agent as a substitute for retention earnings required to be withheld by the City pursuant to the Construction Contract entered into between the City and Contractor for

CANNON LIFT STATION IMPROVEMENTS CONTRACT NO. 5552

in the amount of _____ dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the City shall make payments of the retention earnings directly to the Escrow Agent. When the Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the City within 10 days of the deposit. The market value of the securities at the time of the substitution shall be a least equal to the cash amount then required to be withheld as retention under the terms of the contract between the City and Contractor. Securities shall be held in the name of the City and shall designate the Contractor as the beneficial owner.

2. The City shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions, provided that the Escrow Agent holds securities in the form and amount specified above.

3. When the City makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this contract is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the City pays the Escrow Agent directly.

4. The Contractor shall be responsible for paying all fees for the expenses incurred by the Escrow Agent in administering the Escrow Account and all expenses of the City. These expenses and payment terms shall be determined by the City, Contractor and Escrow Agent.

5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the City.



6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from City to the Escrow Agent that City consents to the withdrawal of the amount sought to be withdrawn by Contractor.

7. The City shall have a right to draw upon the securities in the event of default by the Contractor. Upon seven days' written notice to the Escrow Agent from the City of the default, the Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by the City.

8. Upon receipt of written notification from the City certifying that the Contract is final and complete and that the Contractor has complied with all requirements and procedures applicable to the Contract, the Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.

9. The Escrow Agent shall rely on the written notifications from the City and the Contractor pursuant to sections (1) to (8), inclusive, of this agreement and the City and Contractor shall hold Escrow Agent harmless from Escrow Agent's release, conversion and disbursement of the securities and interest as set forth above.

10. The names of the persons who are authorized to give written notices or to receive written notice on behalf of the City and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

For City:

Title FINANCE DIRECTOR

Name _____

Signature _____

Address 1635 Faraday Avenue, Carlsbad, CA 92008

For Contractor:

Title _____

Name _____

Signature _____

Address _____

For Escrow Agent:

Title _____

Name _____

Signature _____

Address _____



At the time the Escrow Account is opened, the City and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement by their proper officers on the date first set forth above.

For City:

Title MAYOR

Name _____

Signature _____

Address 1200 Carlsbad Village Drive, Carlsbad, CA
92008

For Contractor:

Title _____

Name _____

Signature _____

Address _____

For Escrow Agent:

Title _____

Name _____

Signature _____

Address _____



GENERAL PROVISIONS FOR CANNON LIFT STATION IMPROVEMENTS

CONTRACT NO. 5552

CITY OF CARLSBAD

**BIDDERS ARE ADVISED THAT THIS SECTION REPLACES PART 1,
GENERAL PROVISIONS, OF THE STANDARD SPECIFICATIONS FOR
PUBLIC WORKS CONSTRUCTION**

SECTION 1 -- TERMS, DEFINITIONS, ABBREVIATIONS, AND SYMBOLS

1-1 TERMS. Unless otherwise stated, the words *directed, required, permitted, ordered, instructed, designated, considered necessary, prescribed, approved, acceptable, satisfactory,* or words of like meaning, refer to actions, expressions, and prerogatives of the Engineer.

1-1.1 Reference to Drawings. Where words “shown”, “indicated”, “detailed”, “noted”, “scheduled”, or words of similar import are used, it shall be understood that reference is made to the plans accompanying these provisions, unless stated otherwise.

1-1.2 Directions. Where words “directed”, “designated”, “selected”, or words of similar import are used, it shall be understood that the direction, designation or selection of the Engineer is intended, unless stated otherwise. The word “required” and words of similar import shall be understood to mean “as required to properly complete the work as required and as approved by the Engineer,” unless stated otherwise.

1-1.3 Equals and Approvals. Where the words “equal”, “approved equal”, “equivalent”, and such words of similar import are used, it shall be understood such words are followed by the expression “in the opinion of the Engineer”, unless otherwise stated. Where the words “approved”, “approval”, “acceptance”, or words of similar import are used, it shall be understood that the approval, acceptance, or similar import of the Engineer is intended.

1-1.4 Perform. The word “perform” shall be understood to mean that the Contractor, at its expense, shall perform all operations, labor, tools and equipment, and further, including the furnishing and installing of materials that are indicated, specified or required to mean that the Contractor, at its expense, shall furnish and install the work, complete and in-place and ready to use, including furnishing of necessary labor, materials, tools, equipment, and transportation.

1-2 DEFINITIONS. The following words, or groups of words, shall be exclusively defined by the definitions assigned to them herein.



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.

Agency – The City of Carlsbad, California.

Agreement – See Contract.

Assessment Act Contract – A Contract financed by special assessments authorized under a State Act or procedural ordinance of a City or County.

Average Sound Level – The level, in decibels, of the mean-square A-weighted sound pressure during a stated time period, with reference to the square of the standard reference sound pressure of 20 micropascals. The "average sound level" is equivalent to the industry standard Leq. See Equivalent Continuous Sound Level.

Base – A layer of specified material of planned thickness placed immediately below the pavement or surfacing.

Bid – The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work.

Bidder – Any individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

Board – The officer or body constituting the awarding authority of the Agency, which is the City Council for the City of Carlsbad or the Board of Directors of Carlsbad Municipal Water District.

Bond – Bid, performance, and payment bond or other instrument of security.

Caltrans – The State of California, Department of Transportation.

Cash Contract – A Contract financed by means other than special assessments.

Certificate of Compliance – A written document signed and submitted by a supplier or manufacturer that certifies that the material or assembled material supplied to the Work site conforms to the requirements of the Contract Documents.

Change Order – A written order to the Contractor signed by the Agency directing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or the Contract time issued after the effective date of the Contract. A Change Order may or may not also be signed by the Contractor.

Code – The terms *Government Code*, *Labor Code*, etc., refer to codes of the State of California.

Construction Manager– the Project Inspector's immediate supervisor and first level of appeal for informal dispute resolution.

Contract – The written agreement between the Agency and the Contractor covering the Work.



Contract Documents – Including but not limited to; the Contract, any Addendum (which pertain to the Contract Documents), Notice Inviting Bids, Instructions to Bidders; Bid (including documentation accompanying the Bid and any post-bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Contract, the Bonds, the General Provisions, permits, the Technical Specifications, the Supplemental Provisions, the Plans, Standard Plans, Standard Specifications, Reference Specifications, and all Modifications issued after the execution of the Contract.

Contractor – The individual, partnership, corporation, joint venture, or other legal entity having a Contract with the Agency to perform the Work. In the case of work being done under permit issued by the Agency, the permittee shall be constructed to be the Contractor. The term “prime contractor” shall mean Contractor.

Contract Time - The number of Working Days to complete the Work as specified in the Contract Documents.

Contract Price – The total amount of money for which the Contract is awarded.

Contract Unit Price – The amount stated in the Bid for a single unit of an item of work.

County Sealer – The Sealer of Weights and Measures of the county in which the Contract is let.

Critical Path – In the construction schedule, the sequence of activities that represents the longest path through the Project network of activities and the shortest possible Project duration.

Days – Days shall mean consecutive calendar’s days unless otherwise specified.

Decibel – A unit for measuring the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals.

Defective Work - Work that does not conform to the requirements of the Contract Documents.

Deputy City Engineer – The Engineering Manager of the Construction Management & Inspection Department, the Construction Manager’s immediate supervisor and the Engineer’s designated representative. The Deputy City Engineer is the second level of appeal for informal dispute resolution.

Dispute Board – Persons designated by the City Manager of the City of Carlsbad or Executive Manager of the Carlsbad Municipal Water District, to hear and advise the City Manager on claims submitted by the Contractor. The City Manager for the City of Carlsbad or the Executive Manager for the Carlsbad Municipal Water District is the last appeal level for informal dispute resolution.

Disputed Work – Work in which the Agency and the Contractor are in disagreement.

Electrolier – Street light assembly complete, including foundation, standard, luminaire arm, luminaire, etc.



Engineer – The City Engineer of the City of Carlsbad or his/her approved representative. The Engineer is the third level of appeal for informal dispute resolution.

Engineer of Record/Design Engineer – A registered professional engineer licensed in the State of California who is qualified to act as an agent of a project owner or to prepare plans for facilities to be accepted by the City of Carlsbad. The term includes persons licensed in the State of California as Civil Engineers or Structural Engineers.

Equivalent Continuous Sound Level (Leq) – The average sound level which, over a given period of time, has the same total energy as the fluctuating noise and is also known as the time-average sound level.

Extra Work – New or unforeseen work not covered by a Contract Unit Price or Stipulated Unit Price.

Float – The number of days by which an activity in the construction schedule may be delayed from either its earliest start date or earliest completion date without extending the Contract Time (total float). Total float belongs to the Project and to any Party to accommodate changes in the Work or to mitigate the effect of events which may delay completion.

Holiday – Holidays and the days observed are listed below. If a holiday falls on a Saturday, the holiday is observed on the preceding Friday. If the holiday falls on a Sunday, it is observed the following Monday. Unless specified otherwise in the Contract Documents or authorized by the Engineer, do not work on holidays.

New Year's Day	January 1
Martin Luther King Day	3rd Monday in January
Presidents' Day	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	1st Monday in September
Indigenous People's Day	2nd Monday in October
Veteran's Day	November 11
Thanksgiving Day	4th Thursday in November
Thanksgiving Friday	Day after Thanksgiving
Christmas Day	December 25

House Connection Sewer – A sewer, within a public street or right-of-way, proposed to connect any parcel, lot, or part of a lot with a mainline sewer.

House Sewer – A sewer, wholly within private property, proposed to connect any building to a house connection sewer.

Luminaire – The lamp housing including the optical and socket assemblies (and ballast if so specified).

Luminaire Arm – The structural member, bracket, or mast arm, which, mounted on the standard, supports the luminaire.

Minor Bid Item – a single contract item constituting less than 10 percent (10%) of the original Contract Price bid.



Modification – Includes Change Orders and Supplemental Agreements. A Modification may only be used after the effective date of the Contract.

Night Work – See Working Night.

Notice of Award – The written notice by the Agency to the successful Bidder stating that upon compliance by it with the required conditions, the Agency will execute the Contract.

Notice to Proceed – A written notice given by the Agency to the Contractor fixing the date on which the Contract time will start.

Own Organization - When used in Sections 2-3.1 and 2-3.2 – Employees of the Contractor who are hired, directed, supervised and paid by the Contractor to accomplish the completion of the Work. Further, such employees have their employment taxes, State disability insurance payments, State and Federal income taxes paid and administered, as applicable, by the Contractor. Further, “own organization” means construction equipment that the Contractor owns or leases and uses to accomplish the Work. Equipment that is owner operated or leased equipment with an operator is not part of the Contractor's Own Organization and will not be included for the purpose of compliance with Sections 2-3.1 and 2-3.2.

Person – Any individual, firm, association, partnership, corporation, trust, joint venture, or other legal entity.

Plans – The drawings, profiles, cross sections, working drawings, and supplemental drawings, or reproductions thereof, approved by the Engineer, which show the location, character, dimensions, or details of the Work.

Private Contract – Work subject to Agency inspection, control, and approval, involving private funds, not administered by the Agency.

Project Inspector – the Engineer’s designated representative for inspection, contract administration and first level for informal dispute resolution.

Proposal – See Bid.

Reference Specifications – Those bulletins, standards, rules, methods of analysis or test, codes, and specifications of other agencies, engineering societies, or industrial associations referred to in the Contract Documents. These refer to the latest edition, including amendments in effect and published at the time of advertising the project or issuing the permit, unless specifically referred to by edition, volume, or date.

Roadway – The portion of a street reserved for vehicular use.

Service Connection – Service connections are all or any portion of the conduit, cable, or duct, including meter, between a utility distribution line and an individual consumer.

Sewer – Any conduit intended for the reception and transfer of sewage and fluid industrial waste.



Shop Drawings – Drawings showing the details of manufactured or assembled products proposed to be incorporated into the Work.

Sound Level – The weighted sound pressure level obtained using a sound level meter and frequency weighting network as provided in the American National Standards Institute (ANSI) specifications for sound level meters. "Sound level" means the same as "noise level."

Special Provisions – Revisions to the Standard Specifications setting forth conditions and requirements peculiar to the Work.

Specifications – General Provisions, Standard Specifications, Technical Specifications, Reference Specifications, Supplemental Provisions, and specifications in Supplemental Agreements between the Contractor and the Board.

Standard – The shaft or pole used to support street lighting luminaire, traffic signal heads, mast arms, etc.

Standard Plans – Details of standard structures, devices, or instructions referred to on the Plans or in Specifications by title or number.

Standard Specifications – The Standard Specifications for Public Works Construction (SSPWC), the "Greenbook".

State – State of California.

Stipulated Unit Price – Unit prices established by the Agency in the Contract Documents.

Storm Drain – Any conduit and appurtenances intended for the reception and transfer of storm water.

Street – Any road, highway, parkway, freeway, alley, walk, or way.

Subbase – A layer of specified material of planned thickness between a base and the subgrade.

Subcontractor – An individual, firm, or corporation having a direct contract with the Contractor or with any other Subcontractor for the performance of a part of the Work.

Subgrade – For roadways, that portion of the roadbed on which pavement, surfacing, base, subbase, or a layer of other material is placed. For structures, the soil prepared to support a structure.

Supervision – Supervision, where used to indicate supervision by the Engineer, shall mean the performance of obligations, and the exercise of rights, specifically imposed upon and granted to the Agency in becoming a party to the Contract. Except as specifically stated herein, supervision by the Agency shall not mean active and direct superintendence of details of the Work.

Supplemental Agreement – A written amendment of the Contract Documents signed by both parties.



Supplemental Provisions – See Special Provisions.

Surety – Any individual, firm, or corporation, bound with and for the Contractor for the acceptable performance, execution, and completion of the Work, and for the satisfaction of all obligations incurred.

Tonne – Also referred to as “metric ton”. Represents a unit of measure in the International System of Units equal to 1,000 kilograms.

Utility – Tracks, overhead or underground wires, pipelines, conduits, ducts, or structures, sewers, or storm drains owned, operated, or maintained in or across a public right of way or easement.

Work – That which is proposed to be constructed or done under the Contract or permit, including the furnishing of all labor, materials, equipment, and services.

Working Drawings – Drawings showing the details not shown on the Plans which are required to be designed by the Contractor.

Working Night – A period of night-time work, allowed only on Sunday through Thursday, excluding holidays.

1-3 ABBREVIATIONS.

1-3.1 General. The abbreviation herein, together with others in general use, are applicable to these Standard Specifications and to project Plans or other Contract Documents.

All abbreviations and symbols used on Plans for structural steel construction shall conform to those given by the “Manual of Steel Construction” published by the American Institute of Steel Construction, Inc.

1-3.2 Common Usage

<u>Abbreviation</u>	<u>Word or Words</u>	<u>Abbreviation</u>	<u>Word or Words</u>
ABAN	Abandon	CAL/OSHA.....	California Occupational Safety and Health Administration
ABAND.....	Abandoned	CalTrans	California Department of Transportation
ABS	Acrylonitrile – butadiene – styrene	CAP.....	Corrugated aluminum pipe
AC	Asphalt Concrete	CB	Catch Basin
ACP.....	Asbestos cement pipe	Cb	Curb
ACWS	Asphalt concrete wearing surface	CBP.....	Catch Basin Connection Pipe
ALT	Alternate	CBR	California Bearing Ratio
APTS.....	Apartment and Apartments	CCR	California Code of Regulations
AMER STD	American Standard	CCTV	Closed Circuit TV
AWG	American Wire Gage (nonferrous wire)	CES.....	Carlsbad Engineering Standards
BC	Beginning of curve	CF	Curb face
BCR	Beginning of curb return	CF	Cubic foot
BDRY	Boundary	C&G	Curb and gutter
BF	Bottom of footing	CFR.....	Code of Federal Regulations
BLDG	Building and Buildings	CFS.....	Cubic Feet per Second
BM.....	Benchmark	CIP.....	Cast iron pipe
BVC.....	Beginning of vertical curve	CIPP.....	Cast-in place pipe
B/W	Back of wall	CL	Clearance, center line
C/C.....	Center to center	CLF	Chain link fence
CAB.....	Crushed aggregate base		



CMB Crushed miscellaneous base
 CMC Cement mortar-coated
 CML Cement mortar-lined
 CMWD Carlsbad Municipal Water District
 CO Cleanout (Sewer)
 COL Column
 COMM Commercial
 CONC Concrete
 CONN Connection
 CONST Construct, Construction
 COORD Coordinate
 CSP Corrugated steel pipe
 CSD Carlsbad Standard Drawings
 CTB Cement treated base
 CV Check valve
 CY Cubic yard
 D Load of pipe
 dB Decibels
 DBL Double
 DF Douglas fir
 DIA Diameter
 DIP Ductile iron pipe
 DL Dead load
 DR Dimension Ratio
 DT Drain Tile
 DWG Drawing
 DWY Driveway
 DWY APPR Driveway approach
 E Electric
 EA Each
 EC End of curve
 ECR End of curb return
 EF Each face
 EG Edge of gutter
 EGL Energy grade line
 EI Elevation
 ELC Electrolier lighting conduit
 ELT Extra long ton
 ENGR Engineer, Engineering
 EP Edge of pavement
 ESMT Easement
 ETB Emulsion-treated base
 EVC End of vertical curb
 EWA Encina Wastewater Authority
 EXC Excavation
 EXP JT Expansion joint
 EXST Existing
 F Fahrenheit
 F&C Frame and cover
 F&I Furnish and install
 FAB Fabricate
 FAS Flashing arrow sign
 FD Floor drain
 FDN Foundation
 FED SPEC Federal Specification
 FG Finished grade
 FH Fire hydrant
 FL Flow line
 FS Finished surface
 FT-LB Foot-pound
 FTG Footing
 FW Face of wall

G Gas
 GA Gauge
 GAL Gallon and Gallons
 GALV Galvanized
 GAR Garage and Garages
 GIP Galvanized iron pipe
 GL Ground line or grade line
 GM Gas meter
 GNV Ground Not Visible
 GP Guy pole
 GPM gallons per minute
 GR Grade
 GRTG Grating
 GSP Galvanized steel pipe
 H High or height
 HB Hose bib
 HC House connection
 HDWL Headwall
 HGL Hydraulic grade line
 HORIZ Horizontal
 HP Horsepower
 HPG High pressure gas
 HPS High pressure sodium (Light)
 HYDR Hydraulic
 IE Invert Elevation
 ID Inside diameter
 INCL Including
 INSP Inspection
 INV Invert
 IP Iron pipe
 JC Junction chamber
 JCT Junction
 JS Junction structure
 JT Joint
 L Length
 LAB Laboratory
 LAT Lateral
 LB Pound
 LD Local depression
 LF Linear foot
 LH Lamp hole
 LL Live load
 LOL Layout line
 LONG Longitudinal
 LP Lamp post
 LPS Low pressure sodium (Light)
 LS Lump sum
 LTS Lime treated soil
 LWD Leucadia Wastewater District
 MAINT Maintenance
 MAX Maximum
 MCR Middle of curb return
 MEAS Measure
 MH Manhole, maintenance hole
 MIL SPEC Military specification
 MISC Miscellaneous
 MOD Modified, modify
 MON Monument
 MS4 Municipal Separate Storm Sewer System
 MSL Mean Sea Level (Reg. Standard Drawing M-12)
 MTBM Microtunneling Boring Machine
 MULT Multiple
 MUTCD Manual on Uniform Traffic Control Devices
 MVL Mercury vapor light



NCTD	North County Transit District	SPEC	Specifications
NOI	Notice of Intent	SPPWC	Standard Plans for
NOT	Notice of Termination	Public Works Construction	
NRCP	Nonreinforced concrete pipe	SSPWC	Standard Specifications for
OBS	Obsolete	Public Works Construction	
OC	On center	ST HWY	State highway
OD	Outside diameter	STA	Station
OE	Outer edge	STD	Standard
OHE	Overhead Electric	STR	Straight
OMWD	Olivenhain Municipal Water District	STR GR	Straight grade
OPP	Opposite	STRUC	Structural/Structure
ORIG	Original	SW	Sidewalk
PB	Pull box	SWD	Sidewalk drain
PC	Point of curvature	SY	Square yard
PCC	Portland cement concrete or point of compound curvature	T	Telephone
PCVC	Point of compound vertical curve	TAN	Tangent
PE	Polyethylene	TC	Top of curb
PI	Point of intersection	TEL	Telephone
PL	Property line	TF	Top of footing
PMB	Processed miscellaneous base	TOPO	Topography
POC	Point on curve	TR	Tract
POT	Point on tangent	TRANS	Transition
PP	Power pole	TS	Traffic signal or transition structure
PRC	Point of reverse curve	TSC	Traffic signal conduit
PRVC	Point of reverse vertical curve	TSS	Traffic signal standard
PSI	Pounds per square inch	TW	Top of wall
PT	Point of tangency	TYP	Typical
PVC	Polyvinyl chloride	UE	Underground Electric
PVMT	Pavement	USA	Underground Service Alert
PVT R/W	Private right-of-way	VAR	Varies, Variable
Q	Rate of flow in cubic feet per second	VB	Valve box
QUAD	Quadrangle, Quadrant	VC	Vertical curve
R	Radius	VCP	Vitrified clay pipe
R&O	Rock and oil	VERT	Vertical
R/W	Right-of-way	VOL	Volume
RA	Recycling agent	VWD	Vallecitos Water District
RAC	Recycled asphalt concrete	W	Water, Wider or Width, as applicable
RAP	Reclaimed asphalt pavement	WATCH	Work Area Traffic Control Handbook
RBAC	Rubberized asphalt concrete	WI	Wrought iron
RC	Reinforced concrete	WM	Water meter
RCB	Reinforced concrete box	WPJ	Weakened plane joint
RCE	Registered civil engineer	XCONN	Cross connection
RCP	Reinforced concrete pipe	XSEC	Cross section
RCV	Remote control valve		
REF	Reference		
REINF	Reinforced or reinforcement		
RES	Reservoir		
RGE	Registered geotechnical engineer		
ROW	Right-of-Way		
RR	Railroad		
RSE	Registered structural engineer		
RTE	Registered traffic engineer		
S	Sewer or Slope, as applicable		
SCCP	Steel cylinder concrete pipe		
SD	Storm drain		
SDNR	San Diego Northern Railway		
SDR	Standard thermoplastic pipe dimension ratio (ratio of pipe O.D. to minimum wall thickness)		
SDRSD	San Diego Regional Standard Drawings		
SE	Sand Equivalent		
SEC	Section		
SF	Square foot		
SFM	Sewer Force Main		
SI	International System of Units (Metric)		



1-3.3 Institutions.

Abbreviation

Word or Words

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
AREA	American Railway Engineering Association
ASME	American Society of Mechanical Engineers
ASQ	American Society for Quality
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWS	American Welding Society
AWWA	American Water Works Association
EEI	Edison Electric Institute
EIA	Electronic Industries Alliance
EPA	Environmental Protection Agency
ETL	Electrical Testing Laboratories
FCC	Federal Communications Commission
FHWA	Federal Highway Administration
GRI	Geosynthetic Research Institute
IEEE	Institute of Electrical and Electronics Engineers
IMSA	International Municipal Signal Association
ISSA	International Slurry Surfacing Association
ITE	Institute of Transportation Engineers
NCHRP	National Cooperative Highway Research Program
NEMA	National Electrical Manufacturers Association
NSF	National Science Foundation
OSHA	Occupational Safety and Health Administration
PPI	Plastics Pipe Institute
RUS	Rural Utilities Service
SAE	Society of Automotive Engineers
SSPC	Society for Protective Coatings
UL	Underwriters' Laboratories Inc.

1-4 UNITS OF MEASURE.

1-4.1 General. U.S. Standard Measures, also called U.S. Customary System, are the principal measurement system in these specifications. However, certain material specifications and test requirements contained herein use SI units specifically and conversions to U.S. Standard Measures may or may not have been included in these circumstances. When U.S. Standard Measures are not included in parenthesis, then the SI units shall control. S.I. units and U.S. Standard Measures in parenthesis may or may not be exactly equivalent.

Reference is also made to ASTM E 380 for definitions of various units of the SI system and a more extensive set of conversion factors.



1-4.2 Units of Measure and Their Abbreviations.

<u>U.S. Customary Unit</u> <u>(Abbreviations)</u>	(Equal To)	<u>SI Unit</u> <u>(Abbreviations)</u>
1 mil (=0.001 in)		25.4 micrometer (μm)
1 inch (in)		25.4 millimeter (mm)
1 inch (in)		2.54 centimeter (cm)
1 foot (ft)		0.3048 meter (m)
1 yard (yd)		0.9144 meter (m)
1 mile (mi)		1.6093 kilometer (km)
1 square foot (ft ²)		0.0929 square meter (m ²)
1 square yard (yd ²)		0.8361 square meter (m ²)
1 cubic foot (ft ³)		0.0283 cubic meter (m ³)
1 cubic yard (yd ³)		0.7646 cubic meter (m ³)
1 acre		0.4047 hectare (ha)
1 U.S. gallon (gal)		3.7854 Liter (L)
1 fluid ounce (fl. oz.)		29.5735 milliliter (mL)
1 pound mass (lb) (avoirdupois)		0.4536 kilogram (kg)
1 ounce mass (oz)		0.02835 kilogram (kg)
1 Ton (=2000 lb avoirdupois)		0.9072 Tonne (= 907 kg)
1 Poise		0.1 pascal · second (Pa · s)
1 centistoke (cs)		1 square millimeters per second (mm ² /s)
1 pound force (lbf)		4.4482 Newton (N)
1 pounds per square inch (psi)		6.8948 Kilopascal (kPa)
1 pound force per foot (lbf/ft)		1.4594 Newton per meter (N/m)
1 foot-pound force (ft-lbf)		1.3558 Joules (J)
1 foot-pound force per second ([ft-lbf]/s)		1.3558 Watt (W)
1 part per million (ppm)		1 milligram/liter (mg/L)

Temperature Units and Abbreviations

Degree Fahrenheit (°F):	Degree Celsius (°C):
°F = (1.8 x °C) + 32	°C = (°F - 32)/1.8

SI Units (abbreviation) Commonly Used in Both Systems

1 Ampere (A)
1 Volt (V)
1 Candela (cd)
1 Lumen (lm)
1 second (s)

Common Metric Prefixes

kilo (k)	10 ³
centi (c)	10 ⁻²
milli (m)	10 ⁻³
micro (μ)	10 ⁻⁶
nano (n)	10 ⁻⁹
pico (p)	10 ⁻¹²

1-5 SYMBOLS.

Δ	Delta, the central angle or angle between tangents
∠	Angle
%	Percent
'	Feet or minutes
"	Inches or seconds
1	Number
/	per or (between words)
°	Degree
PL	Property line
CL	Centerline
SL	Survey line or station line



SECTION 2 – SCOPE AND CONTROL OF WORK

2-1 AWARD AND EXECUTION OF CONTRACT. Award and execution of Contract will be as provided for in the Specifications, Instruction to Bidders, or Notice Inviting Bids.

2-2 ASSIGNMENT. No Contract or portion thereof may be assigned without consent of the board, except that the contractor may assign money due or which will accrue to it under the contract. If given written notice, such assignment will be recognized by the Board to the extent permitted by law. Any assignment of money shall be subject to all proper withholdings in favor of the Agency and to all deductions provided for in the Contract. All money withheld, whether assigned or not, shall be subject to being used by the Agency for completion of the work, should the Contractor be in default.

2-3 SUBCONTRACTS.

2-3.1 General. Each Bidder shall comply with the Chapter of the Public Contract Code including Sections 4100 through 4113. The following excerpts or summaries of some of the requirements of this Chapter are included below for information:

The Bidder shall set forth in the Bid, as provided in 4104:

“(a) The name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the work or improvements, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the work or improvement according to detailed drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor’s total bid, or, in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor’s total bid or ten thousand dollars (\$10,000), whichever is greater.”

“(b) The portion of the work which will be done by each such subcontractor under this act. The prime contractor shall list only one subcontractor for each such portion as is defined by the prime contractor in his bid.”

If the Contractor fails to specify a Subcontractor or specifies more than one Subcontractor for the same portion of the work to be performed under the Contract (in excess of one-half of 1 percent of the Contractor’s total Bid), the Contractor shall be qualified to perform that portion itself, and shall perform that portion itself, except as otherwise provided in the Code.

As provided in Section 4107, no Contractor whose Bid is accepted shall substitute any person as Subcontractor in place of the Subcontractor listed in the original Bid, except for causes and by procedures established in Section 4107.5. This section provides procedures to correct a clerical error in the listing of a Subcontractor.

Section 4110 provides that a Contractor violating any of the provisions of the Chapter violates the Contract and the Board may exercise the option either to cancel the Contract or assess the Contractor a penalty in an amount of not more than 10 percent of the subcontract involved, after a public hearing.



Should the Contractor fail to adhere to the provisions requiring the Contractor to complete **50 percent** of the contract price with its own organization, the Agency may at its sole discretion elect to cancel the contract or deduct an amount equal to 10 percent of the value of the work performed in excess of **50 percent** of the contract price by other than the Contractor's own organization. The Board shall be the sole body for determination of a violation of these provisions. In any proceedings under this section, the prime contractor shall be entitled to a public hearing before the Board and shall be notified ten (10) days in advance of the time and location of said hearing. The determination of the Board shall be final.

2-3.2 Additional Responsibility. The Contractor shall give personal attention to the fulfillment of the Contract and shall keep the Work under its control.

The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated "Specialty Items" may be performed by subcontract, and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items" will be identified by the Agency in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price. When a portion of an item is subcontracted, the value of work subcontracted will be based on the estimated percentage of the Contract Unit Price. This will be determined from information submitted by the Contractor, and subject to approval by the Engineer.

Before the work of any Subcontractor is started, the Contractor shall submit to the Engineer for approval a written statement showing the work to be subcontracted giving the name and business of each Subcontractor and description and value of each portion of the work to be so subcontracted.

2-3.3 Status of Subcontractors. Subcontractors shall be considered employees of the Contractor, and the Contractor shall be responsible for their work.

2-4 CONTRACT BONDS. Before execution of the Contract, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a surety, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660 (a). The Bidder shall pay all bond premiums, costs, and incidentals.

Before execution of the Contract, the Bidder shall file surety bonds with the Agency to be approved by the Board in the amounts and for the purposes noted below. Bonds issued by a surety, who is authorized to issue bonds in California, and whose bonding limitation shown in said circular is sufficient to provide bonds in the amount required by the Contract shall be deemed to be approved unless specifically rejected by the Agency. Bonds from all other sureties shall be accompanied by all of the documents enumerated in Code of Civil Procedure 995.660 (a). The Bidder shall pay all bond premiums, costs, and incidentals.

Each bond shall incorporate, by reference, the Contract and be signed by both the Bidder and Surety and the signature of the authorized agent of the Surety shall be notarized.



The Contractor shall provide a faithful performance/warranty bond and payment bond (labor and materials bond) for this contract. The faithful performance/warranty bond shall be in a sum not less than one hundred percent of the total amount payable by the terms of this contract. The Contractor shall provide bonds to secure payment of laborers and materials suppliers in a sum not less than one hundred percent of the total amount payable by the terms of this contract.

Both bonds shall extend in full force and effect and be retained by the Agency during this project until they are released according to the provisions of this section.

The faithful performance/warranty bond will be reduced to 25 percent of the original amount 30 days after recordation of the Notice of Completion and will remain in full force and effect for the one-year warranty period and until all warranty repairs are completed to the satisfaction of the Engineer. The bonds to secure payment of laborers and materials suppliers shall be released six months plus 30 days after recordation of the Notice of Completion if all claims have been paid.

All bonds are to be placed with a surety insurance carrier admitted and authorized to transact the business of insurance in California and whose assets exceed their liabilities in an amount equal to or in excess of the amount of the bond. The bonds are to contain the following documents:

1. An original, or a certified copy, of the un-revoked appointment, power of attorney, by laws, or other instrument entitling or authorizing the person who executed the bond to do so.
2. A certified copy of the certificate of authority of the insurer issued by the insurance commissioner.

If the bid is accepted, the Agency may require a financial statement of the assets and liabilities of the insurer at the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond. The financial statement shall be made by an officer's certificate as defined in Section 173 of the Corporations Code. In the case of a foreign insurer, the financial statement may be verified by the oath of the principal officer or manager residing within the United States.

Should any bond become insufficient, the Contractor shall renew the bond within 10 days after receiving notice from the Agency.

Should any Surety at any time be unsatisfactory to the Board, notice will be given the Contractor to that effect. No further payments shall be deemed due or will be made under the contract until a new Surety shall qualify and be accepted by the Board.

Changes in the Work or extensions of time, made pursuant to the Contract, shall in no way release the Contractor or Surety from its obligations. Notice of such changes or extensions shall be waived by the Surety.

2-5 PLANS AND SPECIFICATIONS.

2-5.1 General. The Contractor shall keep at the Work site a copy of the Plans and Specifications, to which the Engineer shall have access at all times.

The specifications for the work include the General Provisions, Supplemental Provisions, Project Technical Specifications, Carlsbad Engineering Standards (CES), Standard Specifications for Public Works Construction (SSPWC) and the latest supplements thereto,



2021 edition as published by the "Greenbook" Committee of Public Works Standards, Inc., hereinafter designated "SSPWC", as amended.

The Plans shall consist of the construction drawings, Drawing No. 544-7 issued under this Contract.

The Standard Drawings consist of the latest edition of the San Diego Area Regional Standard Drawings, hereinafter designated SDRSD, as issued by the San Diego County Department of Public Works, together with the most recent editions of the City of Carlsbad Engineering Standards and Carlsbad Standard Drawings, as issued by the City of Carlsbad and the Carlsbad Municipal Water District, hereinafter designated as CES and CSD, respectively. Modified standard drawings, if applicable, are enclosed in the appendices to these General Provisions.

The Plans, Specifications, and other Contract Documents shall govern the Work. The Contract Documents are intended to be complementary and cooperative. Anything specified in the Specifications and not shown on the Plans or shown on the Plans and not specified in the Specifications, shall be as though shown on or specified in both.

The Plans shall be supplemented by such working drawings and shop drawings as are necessary to adequately control the Work.

The Contractor shall ascertain the existence of any conditions affecting the cost of the Work through a reasonable examination of the Work site prior to submitting the Bid.

Existing improvements visible at the Work site, for which no specific disposition is made on the Plans, but which interfere with the completion of the Work, shall be removed and disposed of by the Contractor.

The Contractor shall, upon discovering any error or omission in the Plans or Specifications, immediately call it to the attention of the Engineer.

2-5.2 Precedence of Contract Documents.

If there is a conflict in the Contract Documents, the document highest in precedence shall control. The precedence shall be the most recent edition of the following documents listed in order of highest to lowest precedence:

1. Permits from other agencies as may be required by law.
2. Change orders, whichever occurs last.
3. Contract addenda, whichever occurs last.
4. Contract.
5. Carlsbad General and Supplemental Provisions.
6. Carlsbad Engineering Standards.
7. Technical Specifications.
8. Plans.
9. Standards Plans.
 - a. City of Carlsbad Standard Drawings.
 - b. City of Carlsbad Standard Drawings.
 - c. City of Carlsbad modifications to the San Diego Area Regional Standard Drawings.
 - d. San Diego Area Regional Standard Drawings.



- e. Traffic Signal Design Guidelines and Standards.
 - f. State of California Department of Transportation Standard Plans.
 - g. State of California Department of Transportation Standard Specifications.
 - h. California Manual on Uniform Traffic Control Devices (CA MUTCD).
10. Standard Specifications for Public Works Construction, as amended.
 11. Reference Specifications.
 12. Manufacturer's Installation Recommendations

Detail drawings shall take precedence over general drawings.

Detailed plans and plan views shall have precedence over general plans.

2-5.2.1 Precedence of Caltrans Specifications. Where Caltrans specifications are used to modify the SSPWC or are added to the SSPWC by the Contract Documents, the Caltrans specifications shall have precedence only in reference to the materials referred to in the Caltrans specifications. The documents listed in Section 2-5.2 above, in their order of precedence above, shall prevail over the Caltrans specifications in all other matters.

2-5.3 Submittals.

2-5.3.1 General. Submittals shall be provided, at the Contractor's expense, as required in 2-5.3.2, 2-5.3.3 and 2-5.3.4, when required by the Plans or Special Provisions, or when requested by the Engineer.

One electronic (PDF) file shall be submitted. If revisions are required, the Engineer will return one redlined copy for resubmission. Upon acceptance, the Engineer will return one electronic copy to the Contractor.

Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor from responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittals.

The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in the Special Provisions. Each submittal shall be accompanied by a letter of transmittal.

Each submittal shall be consecutively numbered. Resubmittals shall be labeled with the number of the original submittal followed by an ascending alphabetical designation (e.g. The label '4-C' would indicate the third instance that the fourth submittal had been given to the Engineer). Each sheet of each submittal shall be consecutively numbered. Each set of shop drawings and submittals shall be accompanied by a letter of transmittal on the Contractor's letterhead. The letter of transmittal shall contain the following:

1. Project title and Agency contract number.
2. Number of complete sets.
3. Contractor's certification statement.
4. Specification section number(s) pertaining to material submitted for review.



5. Submittal number (Submittal numbers shall be consecutive including subsequent submittals for the same materials.)
6. Description of the contents of the submittal.
7. Identification of deviations from the Contract Documents.
8. The signature, printed name, title and company name of the Contractor's representative.

The Contractor shall subscribe to and shall place the following certification on all submittals:

"I hereby certify that the (equipment, material, procedure(s)) shown and marked in this submittal is that proposed to be incorporated into this Project, is in compliance with the Contract Documents, can be installed in the allocated spaces, and is submitted for approval."

Or

"I hereby certify that the (equipment, material, procedure(s)) contained herein meet all requirements shown or specified in the Contract Documents, except for the following deviation(s): _____"

2-5.3.2 Working Drawings. Working drawings are drawings showing details not shown on the Plans which are required to be designed by the Contractor. Working drawings shall be of a size and scale to clearly show all necessary details.

Working drawings are required in the following sections:

TABLE 2-5.3.2

Item	Section Number	Title	Subject
1	7-8.6.1	Dewatering	Excavation Dewatering
2	7-10.4.1	Safety Orders	Trench Shoring
3	7-10.4.8	Steel Plate Covers	Steel Plate Bridging
4	300-3.2	Cofferdams	Structure Excavation & Backfill
5	300-12.1	SWPPP	SWPPP
6	303-1.6.1	General	Falsework
7	303-1.7.1	General	Placing Reinforcement
8	303-3.1	General	Prestressed Concrete Construction
9	304-1.1.2	Falsework Plans	Structural Steel
10	307-1.1	General	Jacking Operations
11	307-2.1	General	Tunneling Operations
12	306-8	Microtunneling	Microtunneling Operations
13	601-2	Temporary Traffic Control Plan	Traffic Control
14	02690	Temporary Sewer Bypass Pumping	Sewer Bypassing

Working drawings listed above as Items 2, 3, 4, 7, 8, 9, 10, 11, 12, and 13 shall be prepared by a Civil or Structural Engineer registered by the State of California.

2-5.3.3 Shop Drawings. Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work. Shop drawings are required in the following sections and as specified in the Special Provisions:



TABLE 2-5.3.3

Item	Section Number	Title	Subject
1	207-2.5	Joints	Reinforced Concrete Pipe
2	207-8.4	Joints	Vitrified Clay Pipe
3	304-1.1.1	Shop Drawings	Structural Steel
4	304-2.1	General	Metal Hand Railings

2-5.3.4 Supporting Information. Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Three hard copies and one electronic (PDF) file of the supporting information shall be submitted to the Engineer prior to the start of the Work unless otherwise specified in the Special Provisions or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, one red lined copy will be returned to the Contractor. Supporting information shall consist of the following and is required unless otherwise specified in the Special Provisions:

1. List of Subcontractors per 2-3.2.
2. List of Materials per 4-1.4.
3. Certifications per 4-1.5.
4. Construction Schedule per 6-1 and Work Plan per 6-2.2.
5. Confined Space Entry Program per 7-10.4.4.
6. Concrete mix designs per 201-1.1.
7. Asphalt concrete mix designs per 203-6.1.
8. Controller Cabinet Wiring Diagrams per 701-17.2.2
9. Data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item. This information is required for irrigation systems, street lighting systems, and traffic signals, and may also be required for any product, manufactured item, or system.
10. Temporary highline plan per Carlsbad Engineering Standards.

2-5.4 Record Drawings. The Contractor shall maintain a complete "as-built" record set of blue-line prints, which shall be corrected in red ink daily and show every change from the original drawings and specifications and the exact "as-built" locations, sizes and kinds of equipment, underground piping, conduits, valves, and all other work not visible at surface grade. Prints for this purpose may be obtained from the Agency at cost. The official record drawing shall accurately reflect all changes and modifications to the original plan. The Contractor shall formally submit the final record drawing at the final walk-through meeting. At the direction of the Engineer, the Contractor shall correct and revise the Record Drawings to accurately reflect field conditions. Re-submittal of the Record Drawings shall be completed within ten (10) working days of the final walk-through meeting date and shall reflect any additional punch list items. Payment for the upkeep, revision, and submittal of the record drawings shall be included in the lump sum price for mobilization.

2-6 WORK TO BE DONE. The Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, the Contractor shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.



2-7 SUBSURFACE DATA. All soil and test hole data, water table elevations, and soil or groundwater analyses shown on the drawings or included in the Specifications apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer.

The Contractor may make independent investigations of the project site, including evaluation of the soil or groundwater conditions and/or the presence of rock, in order to characterize the subsurface conditions that may be encountered to the Contractor's satisfaction. The costs for such investigations shall be considered included in the bid price and no additional compensation will be made therefor.

The indicated elevation of the water table is that which existed on the date when test hole data was determined. It is the Contractor's responsibility to determine and allow for the elevation of groundwater at the time of project construction. A difference in elevation between groundwater shown in soil boring logs and groundwater actually encountered during construction will not be considered as a basis for extra work.

2-8 RIGHT-OF-WAY. Rights-of-way, easements, or rights-of-entry for the Work, when indicated on the Plans, will be provided by the Agency. Unless otherwise provided, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and restoring additional work areas and removing and/or disposing of facilities temporarily required. The Contractor shall indemnify and hold the agency harmless from all claims for damages caused by such actions.

2-9 SURVEYING.

2-9.1 General. The Contractor will perform and be responsible for the accuracy of surveying adequate for construction. The Contractor shall set and preserve construction survey stakes and marks for the duration of their usefulness. If any construction survey stakes are lost or disturbed and need to be replaced, such replacement shall be performed at the expense of the Contractor.

The Contractor shall notify the Engineer in writing at least 2 Working Days before survey services in connection with the laying out of any portion of the Work. The Contractor shall set all stakes for line and grade. Setting tolerances for construction staking shall conform with Chapter 12, Construction Surveys of the Caltrans Surveys Manual. Surveying to determine the boundaries of the public right-of-way or easements shall conform with Chapter 10, Right-of-Way Surveys.

Unless otherwise specified in the Special Provisions, stakes will be set and stationed for alignments for pipelines (sewers, storm drains, potable water, recycled water) and their appurtenances, curbs, headers, structures, rough grade, finish grade and right-of-way or easement boundaries. A corresponding cut or fill to finished grade (or flowline) will be indicated on a grade sheet.

2-9.2 Permanent Survey Markers. The Contractor shall not cover or disturb permanent survey monuments or benchmarks without the consent of the Engineer. Where the Engineer concurs, in writing, with the Contractor that protecting an existing monument in place is impractical, the Contractor shall employ a licensed land surveyor or a registered civil engineer authorized to practice land surveying within the State of California, hereinafter Surveyor, to establish the location of the monument before it is disturbed. The Contractor shall have the



monument replaced by the Surveyor no later than thirty (30) days after construction at the site of the replacement is completed. The Surveyor shall file corner record(s) as required by §§ 8772 and 8773, et seq. of the California Business and Professions Code.

The Contractor shall have a Record of Survey prepared by the Surveyor and file it in conformance with §8700 - 8805 of the State of California Business and Professions Code when the Surveyor performs any surveying that such map is required under §8762 of the State of California Business and Professions Code and whenever the Surveyor shall establish, set or construct any permanent survey monument. SDRS Drawing No. M-10 type monuments, bolts, spikes, leaded tacks and nails (when set in concrete), iron pipes, reinforcing steel and all monuments and marks that are at, or accessory to, property corners and street centerlines are permanent survey monuments. The Record of Survey shall show all monuments set, control monuments used, the basis of bearings and all other data needed to determine the procedure of survey and the degree of accuracy attained by the field surveying including the unadjusted ratio of closure. The unadjusted ratio of closure shall not exceed 1 part in 40,000. The Record of Survey shall show the location and justification of location of all permanent monuments set and their relation to the street right-of-way. Record(s) of Survey(s) shall be submitted for the Engineer's review and approval before submittal to the County Surveyor and before submittal to the County Recorder.

When a change is made in the finished elevation of the pavement of any roadway in which a permanent survey monument is located, the Contractor shall adjust the monument frame and cover to the new grade within 7 days of paving unless the Engineer shall approve otherwise. Monument frames and covers shall be protected during street sealing or painting projects or be cleaned to the satisfaction of the Engineer.

2-9.3 Line and Grade. All work shall conform to the lines, elevations, and grades shown on the Plans.

Three consecutive points set on the same slope shall be used together so that any variation from a straight grade can be detected. Any such variation shall be reported to the Engineer. In the absence of such report, the Contractor shall be responsible for any error in the grade of the Work.

Grades for underground conduits will be set at the surface of the ground. The Contractor shall transfer them to the bottom of the trench.

2-9.4 Payment for Survey, Payment for survey work shall be included in the bid items requiring the survey work and no additional payment will be made. Extension of unit prices for extra work shall include full compensation for attendant survey work and no additional payment will be made. Payment for the replacement of disturbed monuments and the filing of records of survey and/or corner records, including filing fees, shall be incidental to the work necessitating the disturbance of said monuments and no additional payment will be made.

2-10 AUTHORITY OF BOARD AND ENGINEER. The Board has the final authority in all matters affecting the Work. Within the scope of the Contract, the Engineer has the authority to enforce compliance with the Plans and Specifications. The Contractor shall promptly comply with instructions from the Engineer or an authorized representative.

The decision of the Engineer is final and binding on all questions relating to: quantities; acceptability of material, equipment, or work; execution, progress or sequence of work; and



interpretation of the Plans, Specifications, or other drawings. This shall be precedent to any payment under the Contract, unless otherwise ordered by the Board.

2-10.1 Availability of Records, The Contractor shall, at no charge to the Agency, provide copies of all records in the Contractor's or subcontractor's possession pertaining to the work that the Engineer may request.

2-10.2 Audit and Inspection, Contractor agrees to maintain and/or make available, to the Engineer, within San Diego County, accurate books and accounting records relative to all its activities and to contractually require all subcontractors to this Contract to do the same. The Engineer shall have the right to monitor, assess, and evaluate Contractor's and its subcontractors' performance pursuant to this Agreement, said monitoring, assessments, and evaluations to include, but not be limited to, audits, inspection of premises, reports, contracts, subcontracts and interviews of Contractor's staff and the staff of all subcontractors to this contract. At any time during normal business hours and as often as the Engineer may deem necessary, upon reasonable advance notice, Contractor shall make available to the Engineer for examination, all of its, and all subcontractors to this contract, records with respect to all matters covered by this Contract and will permit the Engineer to audit, examine, copy and make excerpts or transcripts from such data and records, and to make audits of all invoices, materials, payrolls, records of personnel, and other data relating to all matters covered by this Contract. However, any such activities shall be carried out in a manner so as to not unreasonably interfere with Contractor's ongoing business operations. Contractor and all subcontractors to this contract shall maintain such data and records for as long as may be required by applicable laws and regulations.

2-11 INSPECTION. The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before noon of the working day before inspection is required. Work shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the Work during its construction at shops and yards as well as the project site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these Specifications. Inspection of the Work shall not relieve the Contractor of the obligation to fulfill all conditions of the Contract.



SECTION 3 – CHANGES IN WORK

3-1 CHANGES REQUESTED BY THE CONTRACTOR.

3-1.1 General. Changes in the Plans and Specifications, requested in writing by the Contractor, which do not materially affect the Work and which are not detrimental to the Work or to the interests of the Agency, may be granted by the Engineer. Nothing herein shall be construed as granting a right to the Contractor to demand acceptance of such changes.

3-1.2 Payment for Changes Requested by the Contractor. If such changes are granted, they shall be made at a reduction in cost or no additional cost to the Agency.

3-2 CHANGES INITIATED BY THE AGENCY.

3-2.1 General. The Agency may change the Plans, Specifications, character of the work, or quantity of work provided the total arithmetic dollar value of all such changes, both additive and deductive, does not exceed 25 percent of the Contract Price. Should it become necessary to exceed this limitation, the change shall be by written Supplemental Agreement between the Contractor and Agency, unless both parties agree to proceed with the change by Change Order.

Change Orders shall be in writing and state the dollar value of the change or established method of payment, any adjustment in contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance.

3-2.2 Payment.

3-2.2.1 Contract Unit Prices. If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve substantial change in character of the work from that shown on the Plans or specified in the Specifications, then an adjustment in payment will be made. This adjustment will be based upon the increase or decrease in quantity and the Contract Unit Price.

If the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications varies from the Bid quantity by 50 percent or less, payment will be made at the Contract Unit Price. If the actual quantity of said item of work varies from the Bid quantity by more than 50 percent, payment will be made per Section 3-2.2.2 or 3-2.2.3 as appropriate.

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per Section 3-2.4.

3-2.2.2 Increases of More Than 50 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price and constructed in conformance with the Plans and Specifications, exceed the Bid quantity by more than 50 percent, payment for the quantity in excess of 150 percent of the Bid quantity will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 3-3. The Extra Work per Section 3-3, basis of payment, shall not include fixed costs. Fixed costs shall be deemed to have been recovered by the Contractor through payment for 150 percent of the Bid quantity at the Contract Unit Price.



3-2.2.3 Decreases of More Than 50 Percent. Should the actual quantity of an item of work covered by a Contract Unit Price, and constructed in conformance with the Plans and Specifications, be less than 50 percent of the Bid quantity, an adjustment in payment will not be made unless so requested in writing by the Contractor. If the Contractor so requests, payment will be made on the basis of an adjustment in the Contract Unit Price mutually agreed to by the Contractor and the Agency, or at the option of the Engineer, on the basis of Extra Work per Section 3-3; however, in no case will payment be less than would be made for the actual quantity at the Contract Unit Price nor more than would be made for 50 percent of the Bid quantity at the Contract Unit Price.

3-2.3 Stipulated Unit Prices. Stipulated Unit Prices are unit prices established by the Agency in the Contract Documents as distinguished from Contract Unit Prices submitted by the Contractor. Stipulated Unit Prices may be used for the adjustment of Contract changes when so specified in the Special Provisions.

3-2.4 Agreed Prices. Agreed Prices are prices for new or unforeseen work, or adjustments in Contract Unit Prices per Section 3-2.2, established by mutual agreement between the Contractor and the Agency. If mutual agreement cannot be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work in accordance per Section 3-3, except as otherwise specified in Sections 3-2.2.2 and 3-2.2.3.

3.2.4.1 Schedule of Values. Prior to construction, Contractor shall provide a schedule of values for all lump sum bid items that shall be used for the purpose of progress payments. The prices shall be valid for the purpose of change orders to the project.

3.2.5 Eliminated Items. Should any Bid item be eliminated in its entirety, payment will be made to the Contractor for its actual costs incurred in connection with the eliminated item prior to notification in writing from the Engineer so stating its elimination. If material conforming to the Plans and Specifications is ordered by the Contractor for use in the eliminated item prior to the date of notification of elimination by the Engineer, and if the order for that material cannot be canceled, payment will be made to the Contractor for the actual cost of the material. In this case, the material shall become the property of the Agency. Payment will be made to the Contractor for its actual costs for any further handling. If the material is returnable, the material shall be returned and payment will be made to the Contractor for the actual cost of charges made by the supplier for returning the material and for handling by the Contractor. Actual costs, as used herein, shall be computed on the basis of Extra Work per Section 3-3.

3-3 EXTRA WORK.

3-3.1 General. New or unforeseen work will be classified as “extra work” when the Engineer determines that it is not covered by Contract Unit Prices or stipulated unit prices.

3-3.2 Payment.

3-3.2.1 General. When the price for the extra work cannot be agreed upon, the Agency will pay for the extra work based on the accumulation of costs as provided herein.



3-3.2.2 Basis for Establishing Costs.

(a) **Labor.** The costs of labor will be the actual cost for wages of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs, resulting from Federal, State, or local laws, as well as assessments or benefits required by lawful collective bargaining agreements.

The use of a labor classification which would increase the extra work cost will not be permitted unless the Contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental. The labor cost for foremen shall be proportioned to all of their assigned work and only that applicable to extra work will be paid.

Nondirect labor costs, including superintendence, shall be considered part of the markup of Section 3-3.2.3 (a).

(b) **Materials.** The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available and delivered to the job site in the quantities involved, plus sales tax, freight, and delivery.

The Agency reserves the right to approve materials and sources of supply, or to supply materials to the Contractor if necessary, for the progress of the Work. No markup shall be applied to any material provided by the Agency.

(c) **Tool and Equipment Rental.** No payment will be made for the use of tools which have a replacement value of \$200 or less.

Regardless of ownership, the rates and right-of-way delay factors to be used in determining rental and delay costs shall be the edition of the, "Labor Surcharge and Equipment Rental Rates" published by Caltrans, current at the time of the actual use of the tool or equipment. The right-of-way delay factors therein shall be used as multipliers of the rental rates for determining the value of costs for delay to the Contractor and subcontractors, if any. The labor surcharge rates published therein are not a part of this contract.

The rental rates paid shall include the cost of fuel, oil, lubrication, supplies, small tools, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, and all incidentals. Necessary loading and transportation costs for equipment used on the extra work shall be included.

If equipment is used intermittently and, when not in use, could be returned to its rental source at less expense to the Agency than holding it at the Work site, it shall be returned, unless the Contractor elects to keep it at the Work site, at no expense to the Agency.

All equipment shall be acceptable to the Engineer, in good working condition, and suitable for the purpose for which it is to be used. Manufacturer's ratings and approved modifications shall be used to classify equipment and it shall be powered by a unit of at least the minimum rating recommended by the manufacturer.



The reported rental time for equipment already at the Work site shall be the duration of its use on the extra work. This time begins when equipment is first put into actual operation on the extra work, plus the time required to move it from its previous site and back, or to a closer site.

(d) **Other Items.** The Agency may authorize other items which may be required on the extra work, including labor, services, material, and equipment. These items must be different in their nature from those required for the Work and be of a type not ordinarily available from the Contractor or Subcontractors.

Invoices covering all such items in detail shall be submitted with the request for payment.

(e) **Invoices.** Vendors' invoices for material, equipment rental and other expenditures shall be submitted with the request for payment. If the request for payment is not substantiated by invoices or other documentation, the Agency may establish the cost of the item involved at the lowest price which was current at the time of the report.

3-3.2.3 Markup.

(a) **Work by Contractor.** The following percentages shall be added to the Contractor's costs and shall constitute the markup for all overhead and profits:

1. Labor 20
2. Materials 15
3. Equipment Rental 15
4. Other Items and Expenditures .. 15

To the sum of the costs and markups provided for in this section, 1 percent shall be added as compensation for bonding.

(b) **Work by Subcontractor.** When all or any part of the extra work is performed by a Subcontractor, the markup established in Section 3-3.2.3(a) shall be applied to the Subcontractor's actual cost of such work. A markup of 10 percent on the first \$5,000 of the subcontracted portion of the extra work and a markup of 5 percent on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

3-3.3 Daily Reports by Contractor. When the price for the extra work cannot be agreed upon, the Contractor shall submit a daily report to the Engineer on forms approved by the Agency. Included are applicable delivery tickets, listing all labor, materials, and equipment involved for that day, and other services and expenditures when authorized. Payment for extra work will not be made until such time that the Contractor submits completed daily reports and all supporting documents to the Engineer. Failure to submit the daily report by the close of the next working day may waive any rights for that day. An attempt shall be made to reconcile the report daily, and it shall be signed by the Engineer and the Contractor. In the event of disagreement, pertinent notes shall be entered by each party to explain points which cannot be resolved immediately. Each party shall retain a signed copy of the report. Reports by Subcontractors or others shall be submitted through the Contractor.

The report shall:

1. Show names of workers, classifications, and hours worked.
2. Describe and list quantities of materials used.



3. Show type of equipment, size, identification number, and hours of operation, including loading and transportation, if applicable.
4. Describe other services and expenditures in such detail as the Agency may require.

3-4 CHANGED CONDITIONS. The Contractor shall promptly notify the Engineer of the following work site conditions (hereinafter called changed conditions), in writing, upon their discovery and before they are disturbed:

1. Subsurface or latent physical conditions differing materially from those represented in the Contract Documents;
2. Unknown physical conditions of an unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in work of the character being performed; and
3. Material differing from that represented in the Contract which the Contractor believes may be hazardous waste, as defined in Section 25117 of the Health and Safety Code, that is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.

The Engineer will promptly investigate conditions which appear to be changed conditions. If the Engineer determines that conditions are changed conditions and they will materially affect performance time, the Contractor, upon submitting a written request, will be granted an extension of time subject to the provisions of 6-6.

If the Engineer determines that the conditions do not justify an adjustment in compensation, the Contractor will be notified in writing. This notice will also advise the Contractor of its obligation to notify the Engineer in writing if the Contractor disagrees.

The Contractor's failure to give notice of changed conditions promptly upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

The Contractor shall not be entitled to the payment of any additional compensation for any act, or failure to act, by the Engineer, including failure or refusal to issue a change order, or for the happening of any event, thing, occurrence, or other cause, unless the Contractor shall have first given the Engineer due written notice of potential claim as hereinafter specified. Compliance with this section shall not be required as a prerequisite to notice provisions in Section 6-7.3 Contract Time Accounting, nor to any claim that is based on differences in measurement or errors of computation as to contract quantities. The written notice of potential claim for changed conditions shall be submitted by the Contractor to the Engineer upon their discovery and prior to the time that the Contractor performs the work giving rise to the potential claim. The Contractor's failure to give written notice of potential claim for changed conditions to the agency upon their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith.

The Contractor shall provide the City with a written document containing a description of the particular circumstances giving rise to the potential claim, the reasons for which the Contractor believes additional compensation may be due and nature of any and all costs involved within 20 working days of the date of service of the written notice of potential claim for changed conditions. Verbal notifications are disallowed.

The potential claim shall include the following certification relative to the California False Claims Act, Government Code Sections 12650-12655:



“The undersigned certifies that the above statements are made in full cognizance of the California False Claims Act, Government Code Sections 12650-12655. The undersigned further understands and agrees that this potential claim, unless resolved, must be restated as a claim in response to the City’s proposed final estimate in order for it to be further considered.”

By: _____ Title: _____

Date: _____

Company Name: _____

The Contractor’s estimate of costs may be updated when actual costs are known. The Contractor shall submit substantiation of its actual costs to the Engineer within 20 working days after the affected work is completed. Failure to do so shall be sufficient cause for denial of any claim subsequently filed on the basis of said notice of potential claim.

It is the intention of this section that differences between the parties arising under and by virtue of the contract be brought to the attention of the Engineer at the earliest possible time in order that such matters be settled, if possible, or other appropriate action promptly taken.

3-5 DISPUTED WORK. The Contractor shall give the Agency written notice of potential claim prior to commencing any disputed work. Failure to give said notice shall constitute a waiver of all claims in connection therewith. If the Contractor and the Agency are unable to reach agreement on disputed work, the Agency may direct the Contractor to proceed with the Work.

Prior to proceeding with dispute resolution pursuant to Public Contract Code provisions specified hereinafter, the contractor shall attempt to resolve all disputes informally through the following dispute resolution chain of command:

1. Project Inspector
2. Construction Manager
3. Deputy City Engineer
4. City Engineer
5. City Manager

The Contractor shall submit a complete report within 20 working days after completion of the disputed work stating its position on the claim, the contractual basis for the claim, along with all documentation supporting the costs and all other evidentiary materials. At each level of claim or appeal of claim the City will, within 10 working days of receipt of said claim or appeal of claim, review the Contractor’s report and respond with a position, request additional information or request that the Contractor meet and present its report. When additional information or a meeting is requested, the City will provide its position within 10 working days of receipt of said additional information or Contractor’s presentation of its report. The Contractor may appeal each level’s position up to the City Manager after which the Contractor may proceed under the provisions of the Public Contract Code.

The authority within the dispute resolution chain of command is limited to recommending a resolution to a claim to the City Manager. Actual approval of the claim is subject to the change order provisions in the contract.



All claims by the -Contractor shall be resolved in accordance with Public Contract Code section 9204, which is set forth below:

9204. (a) The Legislature finds and declares that it is in the best interests of the state and its citizens to ensure that all construction business performed on a public works project in the state that is complete and not in dispute is paid in full and in a timely manner.

(b) Notwithstanding any other law, including, but not limited to, Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2, Chapter 10 (commencing with Section 19100) of Part 2, and Article 1.5 (commencing with Section 20104) of Chapter 1 of Part 3, this section shall apply to any claim by a contractor in connection with a public works project.

(c) For purposes of this section:

(1) "Claim" means a separate demand by a contractor sent by registered mail or certified mail with return receipt requested, for one or more of the following:

(A) A time extension, including, without limitation, for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project.

(B) Payment by the public entity of money or damages arising from work done by, or on behalf of, the contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled.

(C) Payment of an amount that is disputed by the public entity.

(2) "Contractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who has entered into a direct contract with a public entity for a public works project.

(3) (A) "Public entity" means, without limitation, except as provided in subparagraph (B), a state agency, department, office, division, bureau, board, or commission, the California State University, the University of California, a city, including a charter city, county, including a charter county, city and county, including a charter city and county, district, special district, public authority, political subdivision, public corporation, or nonprofit transit corporation wholly owned by a public agency and formed to carry out the purposes of the public agency.

(B) "Public entity" shall not include the following:

(i) The Department of Water Resources as to any project under the jurisdiction of that department.

(ii) The Department of Transportation as to any project under the jurisdiction of that department.

(iii) The Department of Parks and Recreation as to any project under the jurisdiction of that department.

(iv) The Department of Corrections and Rehabilitation with respect to any project under its jurisdiction pursuant to Chapter 11 (commencing with Section 7000) of Title 7 of Part 3 of the Penal Code.

(v) The Military Department as to any project under the jurisdiction of that department.

(vi) The Department of General Services as to all other projects.

(vii) The High-Speed Rail Authority.

(4) "Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

(5) "Subcontractor" means any type of contractor within the meaning of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code who either is in direct contract with a contractor or is a lower tier subcontractor.

(d) (1) (A) Upon receipt of a claim pursuant to this section, the public entity to which the claim applies shall conduct a reasonable review of the claim and, within a period not to exceed 45 days, shall provide the claimant a written statement identifying what portion of the claim is



disputed and what portion is undisputed. Upon receipt of a claim, a public entity and a contractor may, by mutual agreement, extend the time period provided in this subdivision.

(B) The claimant shall furnish reasonable documentation to support the claim.

(C) If the public entity needs approval from its governing body to provide the claimant a written statement identifying the disputed portion and the undisputed portion of the claim, and the governing body does not meet within the 45 days or within the mutually agreed to extension of time following receipt of a claim sent by registered mail or certified mail, return receipt requested, the public entity shall have up to three days following the next duly publicly noticed meeting of the governing body after the 45-day period, or extension, expires to provide the claimant a written statement identifying the disputed portion and the undisputed portion.

(D) Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. If the public entity fails to issue a written statement, paragraph (3) shall apply.

(2) (A) If the claimant disputes the public entity's written response, or if the public entity fails to respond to a claim issued pursuant to this section within the time prescribed, the claimant may demand in writing an informal conference to meet and confer for settlement of the issues in dispute. Upon receipt of a demand in writing sent by registered mail or certified mail, return receipt requested, the public entity shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(B) Within 10 business days following the conclusion of the meet and confer conference, if the claim or any portion of the claim remains in dispute, the public entity shall provide the claimant a written statement identifying the portion of the claim that remains in dispute and the portion that is undisputed. Any payment due on an undisputed portion of the claim shall be processed and made within 60 days after the public entity issues its written statement. Any disputed portion of the claim, as identified by the contractor in writing, shall be submitted to nonbinding mediation, with the public entity and the claimant sharing the associated costs equally. The public entity and claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside this section.

(C) For purposes of this section, mediation includes any nonbinding process, including, but not limited to, neutral evaluation or a dispute review board, in which an independent third party or board assists the parties in dispute resolution through negotiation or by issuance of an evaluation. Any mediation utilized shall conform to the timeframes in this section.

(D) Unless otherwise agreed to by the public entity and the contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under Section 20104.4 to mediate after litigation has been commenced.

(E) This section does not preclude a public entity from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

(3) Failure by the public entity to respond to a claim from a contractor within the time periods described in this subdivision or to otherwise meet the time requirements of this section shall result in the claim being deemed rejected in its entirety. A claim that is denied by reason of the public entity's failure to have responded to a claim, or its failure to otherwise meet the time requirements of this section, shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

(4) Amounts not paid in a timely manner as required by this section shall bear interest at 7 percent per annum.



(5) If a subcontractor or a lower tier subcontractor lacks legal standing to assert a claim against a public entity because privity of contract does not exist, the contractor may present to the public entity a claim on behalf of a subcontractor or lower tier subcontractor. A subcontractor may request in writing, either on his or her own behalf or on behalf of a lower tier subcontractor, that the contractor present a claim for work which was performed by the subcontractor or by a lower tier subcontractor on behalf of the subcontractor. The subcontractor requesting that the claim be presented to the public entity shall furnish reasonable documentation to support the claim. Within 45 days of receipt of this written request, the contractor shall notify the subcontractor in writing as to whether the contractor presented the claim to the public entity and, if the original contractor did not present the claim, provide the subcontractor with a statement of the reasons for not having done so.

(e) The text of this section or a summary of it shall be set forth in the plans or specifications for any public works project that may give rise to a claim under this section.

(f) A waiver of the rights granted by this section is void and contrary to public policy, provided, however, that (1) upon receipt of a claim, the parties may mutually agree to waive, in writing, mediation and proceed directly to the commencement of a civil action or binding arbitration, as applicable; and (2) a public entity may prescribe reasonable change order, claim, and dispute resolution procedures and requirements in addition to the provisions of this section, so long as the contractual provisions do not conflict with or otherwise impair the timeframes and procedures set forth in this section.

(g) This section applies to contracts entered into on or after January 1, 2017.

(h) Nothing in this section shall impose liability upon a public entity that makes loans or grants available through a competitive application process, for the failure of an awardee to meet its contractual obligations.

(i) This section shall remain in effect only until January 1, 2020, and as of that date is repealed, unless a later enacted statute, that is enacted before January 1, 2020, deletes or extends that date.

In addition, all claims by Contractor for \$375,000 or less shall be resolved in accordance with the procedures in the Public Contract Code, Division 2, Part 3, Chapter 1, Article 1.5 (commencing with Section 20104) which is set forth below.

ARTICLE 1.5 RESOLUTION OF CONSTRUCTION CLAIMS

20104. (a)(1) This article applies to all public works claims of three hundred seventy-five thousand dollars (\$375,000) or less which arise between a contractor and a local agency.

(2) This article shall not apply to any claims resulting from a contract between a contractor and a public agency when the public agency has elected to resolve any disputes pursuant to Article 7.1 (commencing with Section 10240) of Chapter 1 of Part 2.

(b)(1) "Public work" has the same meaning as in Sections 3100 and 3106 of the Civil Code, except that "public work" does not include any work or improvement contracted for by the state or the Regents of the University of California.

(2) "Claim" means 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



claimant is not otherwise entitled to, or (C) an amount the payment of which is disputed by the local agency.

(c) The provisions of this article or a summary thereof shall be set forth in the plans or specifications for any work which may give rise to a claim under this article.

(d) This article applies only to contracts entered into on or after January 1, 1991.

20104.2. For any claim subject to this article, the following requirements apply:

(a) The claim shall be in writing and include the documents necessary to substantiate the claim. Claims must be filed on or before the date of final payment. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims.

(b)(1) For claims of less than fifty thousand dollars (\$50,000), the local agency shall respond in writing to any written claim within 45 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 15 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, whichever is greater.

(c)(1) For claims of over fifty thousand dollars (\$50,000) and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the local agency shall respond in writing to all written claims within 60 days of receipt of the claim, or may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses to the claim the local agency may have against the claimant.

(2) If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the local agency and the claimant.

(3) The local agency's written response to the claim, as further documented, shall be submitted to the claimant within 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 requested documentation, whichever is greater.

(d) If the claimant disputes the local agency's written response, or the local agency fails to respond within the time prescribed, the claimant may so notify the local agency, in writing, either within 15 days of receipt of the local agency's response or within 15 days of the local agency'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 local agency shall schedule a meet and confer conference within 30 days for settlement of the dispute.

(e) Following the meet and confer conference, if the claim or any portion remains in dispute, the claimant may file a claim as provided in Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time that claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

(f) This article does not apply to tort claims and nothing in this article is intended nor shall be construed to change the time periods for filing tort claims or actions specified by Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code.



20104.4. The following procedures are established for all civil actions filed to resolve claims subject to this article:

(a) Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to non-binding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.

(b)(1) If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil procedure) shall apply to any proceeding brought under the subdivision consistent with the rules pertaining to judicial arbitration.

(2) Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of this article shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

(3) In addition to Chapter 2.5 (commencing with Section 1141.10) Title 3 of Part 3 of the Code of Civil Procedure, any party who after receiving an arbitration award requests a trial de novo but does not obtain a more favorable judgment shall, in addition to payment of costs and fees under that chapter, pay the attorney's fees of the other party arising out of the trial de novo.

(c) The court may, upon request by any party, order any witnesses to participate in the mediation or arbitration process.

20104.6. (a) No local agency shall fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in the contract.

(b) In any suit filed under Section 20104.4, the local agency shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

Although not to be construed as proceeding under extra work provisions, the Contractor shall keep and furnish records of disputed work in accordance with Section 3-3.



SECTION 4 – CONTROL OF MATERIALS

4-1 MATERIALS AND WORKMANSHIP.

4-1.1. General. All materials, parts, and equipment furnished by the Contractor in the Work shall be new, high grade, and free from defects. Quality of work shall be in accordance with the generally accepted standards. Material and work quality shall be subject to the Engineer's approval.

Materials and work quality not conforming to the requirements of the Specifications shall be considered defective and will be subject to rejection. Defective work or material, whether in place or not, shall be removed immediately from the site by the Contractor, at its expense, when so directed by the Engineer.

If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Engineer may cause such work or materials to be replaced. The replacement expense will be deducted from the amount to be paid to the Contractor.

Used or secondhand materials, parts, and equipment may be used only if permitted by the Specifications.

4-1.2 Protection of Work and Materials. The Contractor shall provide and maintain storage facilities and employ such measures as will preserve the specified quality and fitness of materials to be used in the Work. Stored materials shall be reasonably accessible for inspection. The Contractor shall also adequately protect new and existing work and all items of equipment for the duration of the Contract.

The Contractor shall not, without the Agency's consent, assign, sell, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract.

4-1.3 Inspection Requirements.

4-1.3.1 General. Unless otherwise specified, inspection is required at the source for such typical materials and fabricated items as bituminous paving mixtures, structural concrete, metal fabrication, metal casting, welding, concrete pipe manufacture, protective coating application, and similar shop or plant operations.

Steel pipe in sizes less than 6 inches and vitrified clay and cast-iron pipe in all sizes are acceptable upon certification as to compliance with the Specifications, subject to sampling and testing by the Agency. Standard items of equipment such as electric motors, conveyors, elevators, plumbing fixtures, etc., are subject to inspection at the job site only. Special items of equipment such as designed electrical panel boards, large pumps, sewage plant equipment, etc., are subject to inspection at the source, normally only for performance testing. The Specifications may require inspection at the source for other items not typical of those listed in this section.

The Contractor shall provide the Engineer free and safe access to any and all parts of work at any time. Such free and safe access shall include means of safe access and egress, ventilation, lighting, shoring, dewatering and all elements pertaining to the safety of persons as contained in



the State of California, California Code of Regulations, Title 8, Industrial Relations, Chapter 4, Division of Industrial Safety, Subchapter 4, Construction Safety Orders and such other safety regulations as may apply. Contractor shall furnish Engineer with such information as may be necessary to keep the Engineer fully informed regarding progress and manner of work and character of materials. Inspection or testing of the whole or any portion of the work or materials incorporated in the work shall not relieve Contractor from any obligation to fulfill this Contract.

4-1.3.2 Inspection of Materials Not Locally Produced. When the Contractor intends to purchase materials, fabricated products, or equipment from sources located more than 50 miles outside the geographical limits of the Agency, an inspector or accredited testing laboratory (approved by the Engineer), shall be engaged by the Contractor at its expense, to inspect the materials, equipment or process. This approval shall be obtained before producing any material or equipment. The inspector or representative of the testing laboratory shall judge the materials by the requirements of the Plans and Specifications. The Contractor shall forward reports required by the Engineer. No material or equipment shall be shipped nor shall any processing, fabrication or treatment of such materials be done without proper inspection by the approved agent. Approval by said agent shall not relieve the Contractor of responsibility for complying with the Contract requirements.

4-1.3.3 Inspection by the Agency. The Agency will provide all inspection and testing laboratory services within 50 miles of the geographical limits of the Agency. For private contracts, all costs of inspection at the source, including salaries and mileage costs, shall be paid by the permittee.

4-1.4 Test of Material. Before incorporation in the Work, the Contractor shall submit samples of materials, as the Engineer may require, at no cost to the Agency. The Contractor, at its expense, shall deliver the materials for testing to the place and at the time designated by the Engineer. Unless otherwise provided, all initial testing will be performed under the direction of the Engineer, and at no expense to the Contractor. If the Contractor is to provide and pay for testing, it will be stated in the Specifications. For private contracts, the testing expense shall be borne by the permittee.

The Contractor shall notify the Engineer in writing, at least 15 days in advance, of its intention to use materials for which tests are specified, to allow sufficient time to perform the tests. The notice shall name the proposed supplier and source of material.

If the notice of intent to use is sent before the materials are available for testing or inspection or is sent so far in advance that the materials on hand at the time will not last but will be replaced by a new lot prior to use on the Work, it will be the Contractor's responsibility to renotify the Engineer when samples which are representative may be obtained.

Except as specified in these Provisions, the Agency will bear the cost of testing of locally produced materials and/or on-site workmanship where the results of such tests meet or exceed the requirements indicated in the Standard Specifications, Technical Specification, and any Supplemental Provisions. The cost of all other tests shall be borne by the Contractor.

At the option of the Engineer, the source of supply of each of the materials shall be approved by the Engineer before the delivery is started. All materials proposed for use may be inspected or tested at any time during their preparation and use. If, after incorporating such materials into the Work, it is found that sources of supply that have been approved do not furnish a uniform product, or if the product from any source proves unacceptable at any time, the Contractor shall



furnish approved material from other approved sources. If any product proves unacceptable after improper storage, handling or for any other reason it shall be rejected, not incorporated into the work and shall be removed from the project site all at the Contractor's expense.

Compaction tests may be made by the Engineer and all costs for tests that meet or exceed the requirements of the specifications shall be borne by the Agency. Said tests may be made at any place along the work as deemed necessary by the Engineer. The costs of any retests made necessary by noncompliance with the specifications shall be borne by the Contractor.

4-1.5 Certification. The Engineer may waive materials testing requirements of the Specifications and accept the manufacturer's written certification that the materials to be supplied meet those requirements. Material test data may be required as part of the certification.

4-1.6 Trade Names or Equals. The Contractor may supply any of the materials specified or offer an equivalent. The Engineer shall determine whether the material offered is equivalent to that specified. Adequate time shall be allowed for the Engineer to make this determination.

Whenever any particular material, process, or equipment is indicated by patent, proprietary or brand name, or by name of manufacturer, such wording is used for the purpose of facilitating its description and shall be deemed to be followed by the words "**or equal**". A listing of materials is not intended to be comprehensive, or in order of preference. The Contractor may offer any material, process, or equipment considered to be equivalent to that indicated. The substantiation of offers shall be submitted as provided in the Contract Documents.

The Contractor shall, at its expense, furnish data concerning items offered by it as equivalent to those specified. The Contractor shall have the material tested as required by the Engineer to determine that the quality, strength, physical, chemical, or other characteristics, including durability, finish, efficiency, dimensions, service, and suitability are such that the item will fulfill its intended function.

Test methods shall be subject to the approval of the Engineer. Test results shall be reported promptly to the Engineer, who will evaluate the results and determine if the substitute item is equivalent. The Engineer's findings shall be final. Installation and use of a substitute item shall not be made until approved by the Engineer.

If a substitute offered by the Contractor is not found to be equal to the specified material, the Contractor shall furnish and install the specified material.

The specified Contract completion time shall not be affected by any circumstance developing from the provisions of this section.

The Contractor is responsible for the satisfactory performance of substituted items. If, in the sole opinion of the Engineer, the substitution is determined to be unsatisfactory in performance, appearance, durability, compatibility with associated items, availability of repair parts and suitability of application the Contractor shall remove the substituted item and replace it with the originally specified item at no cost to the Agency.

4-1.7 Weighing and Metering Equipment. All scales and metering equipment used for proportioning materials shall be inspected for accuracy and certified within the past 12 months by the State of California Bureau of Weights and Measures, by the County Director or Sealer of Weights and Measures, or by a scale mechanic registered with or licensed by the County.



The accuracy of the work of a scale service agency, except as stated herein, shall meet the standards of the California Business and Professions Code and the California Code of Regulations pertaining to weighing devices. A certificate of compliance shall be presented, prior to operation, to the Engineer for approval and shall be renewed whenever required by the Engineer at no cost to the Agency.

All scales shall be arranged so they may be read easily from the operator's platform or area. They shall indicate the true net weight without the application of any factor. The figures of the scales shall be clearly legible. Scales shall be accurate to within 1 percent when tested with the plant shut down. Weighing equipment shall be so insulated against vibration or moving of other operating equipment in the plant area that the error in weighing with the entire plant running will not exceed 2 percent for any setting nor 1.5 percent for any batch.

4-1.8 Calibration of Testing Equipment. Testing equipment, such as, but not limited to pressure gages, metering devices, hydraulic systems, force (load) measuring instruments, and strain-measuring devices shall be calibrated by a testing agency acceptable to the Engineer at intervals not to exceed 12 months and following repairs, modification, or relocation of the equipment. Calibration certificates shall be provided when requested by the Engineer.

4-1.9 Construction Materials Dispute Resolution (Soils, Rock Materials, Concrete, Mortar and Related Materials, Masonry Materials, Bituminous Materials, Rock Products, and Modified Asphalts). In the interest of safety and public value, whenever credible evidence arises to contradict the test values of materials, the Agency and the Contractor will initiate an immediate and cooperative investigation. Test values of materials are results of the materials' tests, as defined by these Specifications or by the special provisions, required to accept the Work. Credible evidence is process observations or test values gathered using industry accepted practices. A contradiction exists whenever test values or process observations of the same or similar materials are diverse enough such that the work acceptance or performance becomes suspect. The investigation shall allow access to all test results, procedures, and facilities relevant to the disputed work and consider all available information and, when necessary, gather new and additional information in an attempt to determine the validity, the cause, and if necessary, the remedy to the contradiction. If the cooperative investigation reaches any resolution mechanism acceptable to both the Agency and the Contractor, the contradiction shall be considered resolved and the cooperative investigation concluded. Whenever the cooperative investigation is unable to reach resolution, the investigation may then either conclude without resolution or continue by written notification of one party to the other requesting the implementation of a resolution process by committee. The continuance of the investigation shall be contingent upon recipient's agreement and acknowledged in writing within 3 calendar days after receiving a request. Without acknowledgement, the investigation shall conclude without resolution. The committee shall consist of three State of California Registered Civil Engineers. Within 7 calendar days after the written request notification, the Agency and the Contractor will each select one engineer. Within 14 calendar days of the written request notification, the two selected engineers will select a third engineer. The goal in selection of the third member is to complement the professional experience of the first two engineers. Should the two engineers fail to select the third engineer, the Agency and the Contractor shall each propose 2 engineers to be the third member within 21 calendar days after the written request notification. The first two engineers previously selected shall then select one of the four proposed engineers in a blind draw. The committee shall be a continuance of the cooperative investigation and will re-consider all available information and if necessary, gather new and additional information to determine the validity, the cause, and if necessary, the remedy to the contradiction. The committee will focus upon the performance adequacy of the material(s) using



standard engineering principles and practices and to ensure public value, the committee may provide engineering recommendations as necessary. Unless otherwise agreed, the committee will have 30 calendar days from its formation to complete their review and submit their findings. The final resolution of the committee shall be by majority opinion, in writing, stamped and signed. Should the final resolution not be unanimous, the dissenter may attach a written, stamped, and signed minority opinion. Once started, the resolution process by committee shall continue to full conclusion unless:

1. Within 7 days of the formation of the committee, the Agency and the Contractor reach an acceptable resolution mechanism; or
2. Within 14 days of the formation of the committee, the initiating party withdraws its written notification and agrees to bear all investigative related costs thus far incurred; or
3. At any point by the mutual agreement of the Agency and the Contractor. Unless otherwise agreed, the Contractor shall bear and maintain a record for all the investigative costs until resolution. Should the investigation discover assignable causes for the contradiction, the assignable party, the Agency or the Contractor, shall bear all costs associated with the investigation. Should assignable causes for the contradiction extended to both parties, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation substantiate a contradiction without assignable cause, the investigation will assign costs cooperatively with each party or when necessary, equally. Should the investigation be unable to substantiate a contradiction, the initiator of the investigation shall bear all investigative costs. All claim notification requirements of the contract pertaining to the contradiction shall be suspended until the investigation is concluded.

4-2 MATERIALS TRANSPORTATION, HANDLING AND STORAGE. The Contractor shall order, purchase, transport, coordinate delivery, accept delivery, confirm the quantity and quality received, prepare storage area(s), store, handle, protect, move, relocate, remove and dispose excess of all materials used to accomplish the Work. Materials shall be delivered to the site of the work only during working hours, as defined in Section 6-7.2, and shall be accompanied by bills of lading that shall clearly state for each delivery: the name of the Contractor as consignee, the project name and number, address of delivery and name of consignor and a description of the material(s) shipped. Prior to storage of any materials which have been shipped to or by the Contractor to any location within the Agency's boundaries the Contractor shall provide the Engineer a copy of lease agreements for each property where such materials are stored. The lease agreement shall clearly state the term of the lease, the description of materials allowed to be stored and shall provide for the removal of the materials and restoration of the storage site within the time allowed for the Work. All such storage shall conform to all laws and ordinances that may pertain to the materials stored and to preparation of the storage site and the location of the site on which the materials are stored. Loss, damage or deterioration of all stored materials shall be the Contractor's responsibility. Conformance to the requirements of this section, both within and outside the limits of work are a part of the Work. The Engineer shall have the right to verify the suitability of materials and their proper storage at any time during the Work.



SECTION 5 – UTILITIES

5-1 LOCATION. The Agency and affected utility companies have, by a search of known records, endeavored to locate and indicate on the Plans, all utilities which are known to exist within the limits of the work. However, the accuracy and/or completeness of the nature, size and/or location of utilities indicated on the Plans is not guaranteed.

Where underground main distribution conduits such as water, gas, sewer, electric power, telephone, or cable television are shown on the Plans, the Contractor shall assume that every property parcel will be served by a service connection for each type of utility.

As provided in Section 4216 of the California Government Code, at least 2 working days prior to commencing any excavation, the Contractor shall contact the regional notification center (Underground Service Alert of Southern California) and obtain an inquiry identification number.

The California Department of Transportation is not required by Section 4216 to become a member of the regional notification center. The Contractor shall contact it for location of its subsurface installations.

Prior to pipeline excavation, the Contractor shall determine, by potholing, the locations and depths of all utilities which are shown on the Contract Documents or have been marked by the utility owners and which may affect or be affected by its operations. The Contractor shall pothole all service connections, utilities that cross or parallel (within 5 feet) the proposed construction, and all connection points to existing utilities. The Contractor shall record the material size (outside diameter), type, and horizontal and vertical locations (bearing and slope) and submit the data and allow time for the Engineer's review in accordance with Section 2-5.3.

If no separate pay item is provided in the Contract for potholing, full compensation for such work shall be considered included in the bid item of work requiring the potholing and no separate payment shall be made therefor.

5-2 PROTECTION. The Contractor shall not interrupt the service function or disturb the support of any utility without authority from the owner or order from the Agency. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Where protection is required to ensure support of utilities located as shown on the Plans or in accordance with Section 5-1, the Contractor shall, unless otherwise provided, furnish and place the necessary protection at its expense.

Upon learning of the existence and location of any utility omitted from or shown incorrectly on the Plans, the Contractor shall immediately notify the Engineer in writing. When authorized by the Engineer, support or protection of the utility will be paid for as provided in Section 3-2.2.3 or 3-3.

The Contractor shall immediately notify the Engineer and the utility owner if any utility is disturbed or damaged. The Contractor shall bear the costs of repair or replacement of any utility damaged if located as noted in Section 5-1.

When placing concrete around or contiguous to any non-metallic utility installation, the Contractor shall at its expense:



1. Furnish and install a 2-inch cushion of expansion joint material or other similar resilient material; or
2. Provide a sleeve or other opening which will result in a 2-inch minimum-clear annular space between the concrete and the utility; or
3. Provide other acceptable means to prevent embedment in or bonding to the concrete.

Where concrete is used for backfill or for structures which would result in embedment, or partial embedment, of a metallic utility installation; or where the coating, bedding or other cathodic protection system is exposed or damaged by the Contractor's operations, the Contractor shall notify the Engineer and arrange to secure the advice of the affected utility owner regarding the procedures required to maintain or restore the integrity of the system.

5-3 REMOVAL. Unless otherwise specified, the Contractor shall remove all interfering portions of utilities shown on the Plans or indicated in the Bid documents as "abandoned" or "to be abandoned in place". Before starting removal operations, the Contractor shall ascertain from the Agency whether the abandonment is complete, and the costs involved in the removal and disposal shall be included in the Bid for the items of work necessitating such removals.

The costs involved in the removal and disposal shall be considered incidental to the bid items of work necessitating such removals and no separate payment shall be made therefor, unless a bid item for "Removal" is specifically included in the bid proposal.

5-4 RELOCATION. When feasible, the owners responsible for utilities within the area affected by the Work will complete their necessary installations, relocations, repairs, or replacements before commencement of work by the Contractor. When the Plans or Specifications indicate that a utility installation is to be relocated, altered, or constructed by others, the Agency will conduct all negotiations with the owners and work will be done at no cost to the Contractor, except for manhole frame and cover sets to be brought to grade as directed and approved by the City. Utilities which are relocated in order to avoid interference shall be protected in their position and the cost of such protection shall be included in the Bid for the items of work necessitating such relocation.

After award of the Contract, portions of utilities which are found to interfere with the Work will be relocated, altered or reconstructed by the owners, or the Engineer may order changes in the Work to avoid interference. Such changes will be paid for in accordance with Section 3-2.

When the Plans or Specifications provide for the Contractor to alter, relocate, or reconstruct a utility, all costs for such work shall be included in the Bid for the items of work necessitating such work. Temporary or permanent relocation or alteration of utilities requested by the Contractor for its convenience shall be its responsibility and it shall make all arrangements and bear all costs.

The utility owner will relocate service connections as necessary within the limits of the Work or within temporary construction or slope easements. When directed by the Engineer, the Contractor shall arrange for the relocation of service connections as necessary between the meter and property line, or between a meter and the limits of temporary construction or slope easements. The relocation of such service connections will be paid for in accordance with provisions of Section 3-3. Payment will include the restoration of all existing improvements which may be affected thereby. The Contractor may agree with the owner of any utility to disconnect and reconnect interfering service connections. The Agency will not be involved in any such agreement.



In conformance with Section 5-6 the Contractor shall coordinate the work with utility agencies and companies. Prior to the installation of any and all utility structures within the limits of work by any utility agency or company, or its contractor, the Contractor shall place all curb or curb and gutter that is a part of the work and adjacent to the location where such utility structures are shown on the plans and are noted as being located, relocated or are otherwise shown as installed by others. In order to minimize delays to the Contractor caused by the failure of other parties to relocate utilities that interfere with the construction, the Contractor, upon the Engineer's approval, may be permitted to temporarily omit the portion of work affected by the utility. If such temporary omission is approved by the Engineer, the Contractor shall place survey or other physical control markers sufficient to locate the curb or curb and gutter to the satisfaction of the utility agency or company. Such temporary omission shall be for the Contractor's convenience and no additional compensation will be allowed therefore or for additional work, materials or delay associated with the temporary omission. The portion thus omitted shall be constructed by the Contractor immediately following the relocation of the utility involved unless otherwise directed by the Engineer.

5-5 DELAYS. The Contractor shall notify the Engineer of its construction schedule insofar as it affects the protection, removal, or relocation of utilities. Said notification shall be included as a part of the construction schedule required in Section 6-1. The Contractor shall notify the Engineer in writing of any subsequent changes in the construction schedule which will affect the time available for protection, removal, or relocation of utilities.

The Contractor will not be entitled to damages or additional payment for delays attributable to utility relocations or alterations if correctly located, noted, and completed in accordance with Section 5-1.

The Contractor may be given an extension of time for unforeseen delays attributable to unreasonably protracted interference by utilities in performing work correctly shown on the Plans.

The Agency will assume responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities within the area affected by the Work if such utilities are not identified in the Contract Documents. The Contractor will not be assessed liquidated damages for any delay caused by failure of Agency to provide for the timely removal, relocation, or protection of such existing facilities.

If the Contractor sustains loss due to delays attributable to interferences, relocations, or alterations not covered by Section 5-1, which could not have been avoided by the judicious handling of forces, equipment, or plant, there shall be paid to the Contractor such amount as the Engineer may find to be fair and reasonable compensation for such part of the Contractor's actual loss as was unavoidable and the Contractor may be granted an extension of time.

5-6 COOPERATION. When necessary, the Contractor shall so conduct its operations as to permit access to the Work site and provide time for utility work to be accomplished during the progress of the Work. Cooperation with CMWD and City staff will be required for all work affecting existing utility systems or facilities and prior to water utility shutdowns, sewer bypass operations, testing and inspections, and project completion.



SECTION 6 – PROSECUTION, PROGRESS, AND ACCEPTANCE OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF WORK. Except as otherwise provided herein and unless otherwise prohibited by permits from other agencies as may be required by law the Contractor shall begin work within ten (10) calendar days after receipt of the "Notice to Proceed".

6-1.1 Pre-Construction Meeting. After, or upon, notification of contract award, the Engineer will set the time and location for the Preconstruction Meeting. Attendance of the Contractor's management personnel responsible for the management, administration, and execution of the project is mandatory for the meeting to be convened. Failure of the Contractor to have the Contractor's responsible project personnel attend the Preconstruction Meeting will be grounds for default by Contractor per Section 6-4. No separate payment will be made for the Contractor's attendance at the meeting. The notice to proceed will only be issued on or after the completion of the preconstruction meeting.

6-1.1.1 Baseline Construction Schedule. The Contractor shall prepare the Baseline Construction Schedule as a Critical Path Method (CPM) Schedule in the precedence diagram method (activity-on-node) format and submit the schedule in accordance with 2-5.3. The schedule shall:

- A. Be prepared using a commercially available, Windows compatible software program, "Suretrak" by Primavera or "Project" by Microsoft Corporation or approved equal.
- B. Be prepared in hard copy (paper) and electronic (Adobe PDF) format and free of file locking, encryption or any other protocol that would impede full access to the data and labeled with the project name and number, the Contractor's name and the date of preparation.
- C. Begin with the date projected for the Notice to Proceed and conclude with the date of final completion conforming with the Contract time.
- D. Depict a time-scaled network diagram of all activities, logic relationships of interdependent activities, and milestones comprising the complete period of Work with tasks on the vertical axis and their durations on the horizontal axis. Use distinctive texture patterns or line types to show the critical path within the Contract time. Include a tabular listing of each activity and its identification number, description, duration, early start, early finish, late start, late finish, total float, and all predecessor and successor activities. The number of activities will communicate the Contractor's plan for project execution, accurately describe the project work and allow monitoring and evaluation of progress and time impacts. Activity descriptions shall accurately define the work planned for the activity. Activity durations shall not be shorter than 1 working day or longer than 15 working days unless approved by the Engineer.
- E. Include detail of all project phasing, staging and sequencing including all milestones necessary to define beginning and ending of each phase or stage and constraints which may impact any activity. Include time allowances for coordination with utility companies and other agencies, equipment and material deliveries, submittal reviews and approvals,



traffic control setup and phasing, Work performed by others, inspections, testing and commissioning, corrective work, and any non-work periods.

Float or slack time within the schedule is available without charge or compensation to the party or contingency that first exhausts it. A schedule which shows a project duration longer than the Contract time will not be accepted by the Engineer.

If the Baseline Construction Schedule does not meet the requirements of these specifications, the Contractor shall revise the schedule and resubmit it to the Engineer. Failure to obtain the Engineer's approval of the schedule within fifteen (15) Working Days after the date of the Preconstruction Meeting shall be grounds to consider the Contractor in default of the Contract per 6-4. The time required by the Engineer to review the initial Baseline Construction Schedule submittal will not be included in the 15 Working Days. The Engineer shall complete subsequent reviews of the revised schedule and progress updates within 5 working days of receipt.

The Contractor shall not be permitted to commence any excavation or demolition activities until the Engineer accepts the Baseline Construction Schedule. For each day of delay beyond the 15 Working Days after the Preconstruction Meeting that the Baseline Construction Schedule is not accepted by the Engineer, the Contractor shall be charged \$100 through a deductive Change Order.

The Engineer's response to each review will consist of one of the following:

"Accepted." The Contractor may proceed with the Work.

"Accepted with Comments." The Contractor may proceed with the Work, but must revise and resubmit the schedule prior to submittal of the first progress payment application. The Engineer's acceptance of the schedule is a condition precedent to payment of any progress payment.

"Not Accepted." The Contractor may not proceed with the Work and must revise and resubmit the schedule.

6-1.1.2 Schedule Updates and Revisions. The Contractor shall meet with the Engineer during the last week of each month to agree upon the completion level of each activity as a basis for progress payments. Schedule updates shall conform with the requirements for the initial submittal in 6-1.1.1 and shall:

- A. Show the actual dates of each activity start and/or finish during the month. The schedule update shall include specific notation for any changes in actual dates after they are first reported.
- B. Report the percent complete for each activity in progress at the end of the month as determined by the Engineer.
- C. Include a list and explanation of all changes made to the activities, dates or interconnecting logic.
- D. Include activity and network revisions reflecting the Change Orders approved in the previous month as agreed upon during the review and acceptance of the Change Orders.



The Engineer's responses to the progress schedule updates shall be as described in 6-1.1.1. The Contractor shall proceed with Work and request payment for the progress schedule updates as described therein.

Should the actual or projected progress of the Work exceed 5 percent of the Contract time, the Contractor shall prepare and submit a revised Baseline Construction Schedule independently of and prior to the next progress schedule update. The Contractor shall provide an explanation for each change made to the schedule.

If the Contractor fails to submit the progress schedule updates as required herein, the Contractor may elect to proceed with the Work at its own risk and shall forfeit payment for the progress schedule update until compliance is met. If the Contractor elects to delay or cease Work after failure to submit the progress schedule updates, any resulting delay, impact, or disruption to the Work will be the Contractor's responsibility.

6-1.1.3 Interim Revisions. Should the actual or projected progress of the Work exceed 5 percent of the Contract Time, the Contractor shall prepare and submit a revised Baseline Construction Schedule independently of and prior to the next progress schedule update with a list and explanation of each change made to the schedule. The submittal, schedule review and acceptance requirements of 6-1.1.2 shall apply.

6-1.1.4 Late Completion or Milestone Dates. If a schedule update indicates a completion date later than the Contract time or contractually required milestone completion date, the Agency may withhold Liquidated Damages for the number of days late. Should a subsequent schedule update which removes all or a portion of the delay be "Accepted" by the Engineer, all or the allocated portion of the previously held Liquidated Damages shall be released in the monthly payment to the Contractor immediately following such acceptance.

6-1.1.5 Final Schedule Update. The Contractor shall prepare and submit a final schedule update when one hundred percent of the Work is completed. The update must accurately represent the actual dates for all activities. The final schedule update shall be prepared and reviewed in accordance with 6-1.1.2. Acceptance of the final schedule update is required for release of funds retained per 9-3.2.

6-1.1.6 Three-Week Look Ahead Schedules. The Contractor shall submit a detailed 3-week look ahead schedule prior to each progress meeting throughout project duration. The schedules shall be revised weekly to identify the construction activities and durations for each bid item of work for the current week and the succeeding two weeks. The Contractor shall revise the schedule to include additional activities or actual progress when so requested by the Engineer.

6-1.1.7 Measurement and Payment. The Contractor's preparation, revision and maintenance of the Construction Schedule are incidental to the Work and no separate payment will be made therefor.

6-2 PROSECUTION OF WORK. To minimize public inconvenience and possible hazard and to restore street and other work areas to their original condition and state of usefulness as soon as practicable, the Contractor shall diligently prosecute the Work to completion. If the Engineer determines that the Contractor is failing to prosecute the Work to the proper extent, the Contractor shall, upon orders from the Engineer, immediately take steps to remedy the situation. All costs of prosecuting the Work as described herein shall be included in the Contractor's Bid.



Should the Contractor fail to take the necessary steps to fully accomplish said purposes, after orders of the Engineer, the Engineer may suspend the work in whole or part, until the Contractor takes said steps.

As soon as possible under the provisions of the Specifications, the Contractor shall backfill all excavations and restore to usefulness all improvements existing prior to the start of the Work.

If Work is suspended through no fault of the Agency, all expenses and losses incurred by the Contractor during such suspensions shall be borne by the Contractor. If the Contractor fails to properly provide for public safety, traffic, and protection of the Work during periods of suspension, the Agency may elect to do so, and deduct the cost thereof from monies due the Contractor. Such actions will not relieve the Contractor from liability.

The Contractor shall incorporate non-workdays, moratoriums or special events specified in the Contract Documents into the Construction Schedule required by Section 6.1. No additional payment, adjustment of bid prices or adjustments of contract time will be allowed as a consequence of these events.

6-2.1 Order of Work. The work to be done shall consist of furnishing all labor, equipment and materials, and performing all operations necessary to complete the Work as shown or specified on the Contract Documents. The work descriptions in this section are an overview only and shall not relieve the Contractor from its responsibilities to conduct all coordination and perform the Work in accordance with the Contract Documents. The Contractor shall conduct the following general work activities:

1. Submit construction schedule, schedule of values, working drawings, submittals, shop drawings, sewer bypass plan, groundwater dewatering plan, and force main dewatering plan. Secure necessary permits and approvals in accordance with the Contract Documents.
2. Secure laydown/staging areas including any off-site staging area(s) if necessary.
3. Conduct surveying and staking of pipeline alignments, locations of appurtenances, limits of right-of-way or easements and pre-construction video and photographs. Conduct Underground Service Alert (DigAlert) notification and utility mark-out. Mobilize labor force, materials and equipment for subsequent phases of Work and install temporary facilities and BMPs, traffic control and excavation safety measures.
4. Pothe all utilities that cross or parallel (within 5 feet of) planned excavations and immediately notify the Engineer of any potential conflicts. Submit potholing data in accordance with Section 2-5.3. Pavement saw-cutting or excavation shall not commence at any construction heading until the project alignments have been staked and existing utilities have been potholed and confirmed by the Contractor to have no conflict with the Work.
5. Permit, furnish, install and test the groundwater dewatering system.
6. Permit, furnish and operate temporary standby generator.
7. Furnish, install and test the sewer bypass system.
8. Dewater the force main. Install temporary cut and cap on HDPE force main. Begin sewer bypassing.
9. Demolish the existing flow meter and chemical injection manhole and appurtenances.
10. Install the new manhole, flow meter, valves and piping. Replace the plug valves and check valves and install the new electrical improvements as shown or specified.



11. Dewater the force main per contract document requirements. Connect the new force main piping to the existing HDPE force main. Remove sewer bypass and restore sewer force main flow.

6-2.2 Construction Phasing. The following construction phase guidelines are provided for the Contractor's use in developing the construction schedule and a Work Plan that describes the labor, materials, equipment and procedures to conduct the Work. The phasing guidelines listed herein are not intended to be a complete list of all construction activities and shall not relieve the Contractor from its responsibilities to coordinate and perform the Work, revise the phasing descriptions, or to develop additional phases or revise the order of phasing as necessary to complete the Work in its entirety in accordance with the Contract Documents.

The Contractor shall develop a detailed Work Plan describing the materials, equipment and procedures for each phase of the Work and submit the Work Plan in accordance with Section 2-5.3. Any modification of the phasing described below shall be approved by the Engineer.

6-2.2.1 Phasing Criteria. The Contractor shall accommodate the following criteria into the construction schedule and Work Plan:

1. All construction activities shall meet the scheduling restrictions identified in these specifications or as determined by the City during review of the Contractor's Work Plan. Refer to Section 6-2.
2. Contractor shall submit a Site Work Plan. The Work Plan shall identify staging areas; describe the methods for the protection of private improvements and existing utilities; and include a listing of materials and equipment and other pertinent details necessary to complete the work.
3. Contractor shall submit a sewer bypass plan and an excavation shoring and dewatering plan.
4. Contractor shall maintain two traffic lanes through the project site outside of work hours. One lane of travel with a flagging operation may be allowed during work hours, subject to approval of the Contractor's traffic control plan submittal.
5. Excavations must be backfilled or securely shored and plated at the end of each workday.
6. When water or fire service interruptions are necessary and approved, no customer shall be without water for longer than 8 hours. If a planned water service shutdown duration exceeds 8 hours, the Contractor shall submit a highline plan for approval and provide all highlining prior to the shutdown.
7. Excavations shall be backfilled and base paved within 3 working days of completing pipeline connections.
8. Site restoration shall be completed within ten working days of completion of construction of all improvements.

6-2.3 Project Meetings. The Engineer will establish the time and location of weekly Project Meetings. The Contractor's Representative shall attend each Project Meeting. The Project Representative shall be the individual determined under Section 7-6, "The Contractor's Representative". No separate payment for attendance of the Contractor, the Contractor's Representative or any other employee or subcontractor or subcontractor's employee at these meetings will be made. If the Contractor's Representative cannot attend, the Contractor shall notify the Engineer a minimum of 24 hours prior to the start of the scheduled meeting. If the Contractor does not provide the required notification, the Contractor shall pay the Agency's



costs for staff and consultants that attended. The Contractor shall be charged a minimum of 2 hours of each attendee's time via a deductive Change Order.

6-3 SUSPENSION OF WORK.

6-3.1 General. The Work may be suspended in whole or in part when determined by the Engineer that the suspension is necessary in the interest of the Agency. The Contractor shall comply immediately with any written order of the Engineer. Such suspension shall be without liability to the Contractor on the part of the Agency except as otherwise specified in Section 6-6.3.

6-3.2 Archaeological and Paleontological Discoveries. The Contractor shall coordinate with the Archaeological and Cultural Monitor during excavation activities.

If discovery is made of items of archaeological or paleontological interest, the Contractor shall immediately cease excavation in the area of discovery and shall not continue until ordered by the Engineer. When resumed, excavation operations within the area of discovery shall be as directed by the Engineer.

Discoveries which may be encountered may include, but not be limited to, dwelling sites, stone implements or other artifacts, animal bones, human bones, and fossils.

The Contractor shall be entitled to an extension and compensation in accordance with Section 6-6.

6-4 DEFAULT BY CONTRACTOR. If the Contractor fails to promptly begin procurement or delivery of material and equipment, to commence the Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or fails to maintain the Work schedule which will insure the Agency's interest, or, if the Contractor is not carrying out the intent of the Contract, the Agency may serve written notice upon the Contractor and the Surety on its Faithful Performance Bond demanding satisfactory compliance with the Contract.

The Contract may be canceled by the Board without liability for damage, when in the Board's opinion the Contractor is not complying in good faith, has become insolvent, or has assigned or subcontracted any part of the Work without the Board's consent. In the event of such cancellation, the Contractor will be paid the actual amount due based on Contract Unit Prices or lump sums bid and the quantity of the Work completed at the time of cancellation, less damages caused to the Agency by acts of the Contractor. The Contractor, in having tendered a Bid, shall be deemed to have waived any and all claims for damages because of cancellation of Contract for any such reason. If the Agency declares the Contract canceled for any of the above reasons, written notice to that effect shall be served upon the Surety. The Surety shall, within five (5) days, assume control and perform the Work as successor to the Contractor.

If the Surety assumes any part of the Work, it shall take the Contractor's place in all respects for that part and shall be paid by the Agency for all work performed by it in accordance with the Contract. If the Surety assumes the entire Contract, all money due the Contractor at the time of its default shall be payable to the Surety as the Work progresses, subject to the terms of the Contract.



If the Surety does not assume control and perform the Work within 5 days after receiving notice of cancellation, or fails to continue to comply, the Agency may exclude the Surety from the premises. The Agency may then take possession of all material and equipment and complete the Work by Agency forces, by letting the unfinished Work to another Contractor, or by a combination of such methods. In any event, the cost of completing the Work shall be charged against the Contractor and its Surety and may be deducted from any money due or becoming due from the Agency. If the sums due under the Contract are insufficient for completion, the Contractor or Surety shall pay to the Agency within 5 days after the completion, all costs in excess of the sums due.

The provisions of this section shall be in addition to all other rights and remedies available to the Agency under law.

6-5 TERMINATION OF CONTRACT. The Board may terminate the Contract at its own discretion or when conditions encountered during the Work make it impossible or impracticable to proceed, or when the Agency is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority.

6-6 DELAYS AND EXTENSIONS OF TIME.

6-6.1 General. If delays are caused by unforeseen events beyond the control of the Contractor, such delays will entitle the Contractor to an extension of time as provided herein, but the Contractor will not be entitled to damages or additional payment due to such delays, except as provided in 6-6.3. Such unforeseen events may include war, government regulations, labor disputes, strikes, fires, floods, adverse weather or elements necessitating cessation of work, inability to obtain materials, labor or equipment, required extra work, or other specific events as may be further described in the Specifications.

No extension of time will be granted for a delay caused by the Contractor's inability to obtain materials unless the Contractor furnishes to the Engineer documentary proof. The proof must be provided in a timely manner in accordance with the sequence of the Contractor's operations and the approved construction schedule.

If delays beyond the Contractor's control are caused by events other than those mentioned above, the Engineer may deem an extension of time to be in the best interest of the Agency. The Contractor will not be entitled to damages or additional payment due to such delays, except as provided in Section 6-6.3.

If delays beyond the Contractor's control are caused solely by action or inaction by the Agency, such delays will entitle the Contractor to an extension of time as provided in Section 6-6.2.

6-6.2 Extensions of Time. Extensions of time, when granted, will be based upon the effect of delays to the Work. They will not be granted for noncontrolling delays to minor portions of the Work unless it can be shown that such delays did or will delay the progress of the Work.

6-6.3 Payment for Delays to Contractor. The Contractor will be compensated for damages incurred due to delays for which the Agency is responsible. Such actual costs will be determined by the Engineer. The Agency will not be liable for damages which the Contractor could have avoided by any reasonable means, such as judicious handling of forces, equipment, or plant. The determination of what damages the Contractor could have avoided will be made by the Engineer.



6-6.4 Written Notice and Report. The Contractor shall provide written notice to the Engineer within two hours of the beginning of any period that the Contractor has placed any workers or equipment on standby for any reason that the Contractor has determined to be caused by the Agency or by any organization that the Agency may otherwise be obligated by. The Contractor shall provide continuing daily written notice to the Engineer, each working day, throughout the duration of such period of delay. The initial and continuing written notices shall include the classification of each workman and supervisor and the make and model of each piece of equipment placed on standby, the cumulative duration of the standby, the Contractor's opinion of the cause of the delay and a cogent explanation of why the Contractor could not avoid the delay by reasonable means. Should the Contractor fail to provide the notice(s) required by this section the Contractor agrees that no delay has occurred and that it will not submit any claim(s) therefore.

6-7 TIME OF COMPLETION.

6-7.1 General. The Contractor shall complete the Work within the time set forth in the Contract. The Contractor shall complete each portion of the Work within such time as set forth in the Contract for such portion. The time of completion of the Contract shall be expressed in calendar days. The Contractor shall diligently prosecute the work to completion within **one hundred eighty (180) Working Days** after the starting date specified in the Notice to Proceed.

6-7.2 Working Day. A working day is any day within the period between the start of the Contract time as defined in Section 6-1 and the date provided for completion, or upon field acceptance by the Engineer for all work provided for in the Contract, whichever occurs first, other than:

1. Saturday, Sunday, and any day designated as a holiday by the Agency;
2. any day identified as a construction moratorium due to special events or holiday periods;
3. any other day designated as a holiday in a Master Labor Agreement entered into by the Contractor or on behalf of the Contractor as an eligible member of a contractor association;
4. any day the Contractor is prevented from working at the beginning of the workday for cause as defined in Section 6-6.1;
5. any day the Contractor is prevented from working during the first 5 hours with at least 60 percent of the normal work force for cause as defined in Section 6-6.1.

In addition to Agency holidays, open excavations and service shutdowns will not be allowed on the day prior to Thanksgiving and between December 23 and January 1.

Main line or service shutdowns will not be allowed on Mondays and Fridays.

Unless otherwise approved in writing by the Engineer, the hours of work shall be between the hours of 7 a.m. and 4 p.m. on Mondays through Fridays, excluding Agency holidays and other restricted days or times as specified in 6-2.

The Contractor shall obtain the written approval of the Engineer if the Contractor desires to work outside said hours or at any time during weekends and/or holidays. This written permission must be obtained at least 48 hours prior to such work. The Engineer may approve work outside the hours and/or days stated herein when, in his/her sole opinion, such work conducted by the



Contractor is beneficial to the best interests of the Agency. The Contractor shall pay the inspection costs of such work.

The Contractor shall incorporate the dates, areas and types of work prohibited elsewhere in the Contract Documents into the construction schedule. No additional payment, adjustment of bid prices or adjustment of contract time of completion will be allowed as a consequence of the prohibition of work being performed within the dates, areas and/or types of work prohibited in this section.

Contractor is hereby advised that the Engineer may require after hours or weekend work if required for the protection and safety of existing facilities, workers or the public.

6-7.3 Contract Time Accounting. The Engineer will make a daily determination of each working day to be charged against the Contract time. These determinations will be discussed and the Contractor will be furnished a periodic statement showing allowable number of working days of Contract time, as adjusted, at the beginning of the reporting period. The statement will also indicate the number of working days charged during the reporting period and the number of working days of Contract time remaining. If the Contractor does not agree with the statement, it shall file a written protest within 15 days after receipt, setting forth the facts of the protest. Otherwise, the statement will be deemed to have been accepted.

6-8 COMPLETION, ACCEPTANCE, AND WARRANTY.

6-8.1 Site Walk-Through. After the site has been fully restored, the Inspector will schedule an inspection within five days of the Contractor's request. The Contractor and Inspector shall attend the inspection and all outstanding deficiencies shall be identified in a List of Deficiencies.

A review of the red-line record drawings and asset schedule shall also be completed at the Site Walk-Through and all red-line deficiencies will be added to the List of Deficiencies.

6-8.2 List of Deficiencies. Following the Site Walk-Through, the Inspector will generate the List of Deficiencies (also known as the punchlist) within five working days. The Contractor shall then have 10 working days to perform corrective work and provide a written response to each punchlist item.

6-8.3 Site Follow-Up Walk-Through. Upon receipt of written responses to the List of Deficiencies, the Inspector will complete a follow-up inspection. Any outstanding deficiencies will be noted and returned to the Contractor. Outstanding deficiencies will delay full payment of any relevant bid items.

6-8.4 Request for Final Walk-Through. Once the Contractor asserts they have satisfied the terms of the Contract and with the Inspector's permission, the Contractor may submit written assertion in the form of a Request for Final Walk-Through, certifying that all deficiencies identified through the Site Walk-Through process have been addressed and request a Final Inspection to demonstrate project completion to the Agency. The Contractor shall provide an attachment to the Request for Final Inspection with the Contractor's written response to each deficiency. The Request for Final Inspection shall not be considered complete without the Contractor's written response to each deficiency.

6-8.5 Final Walk-Through. Upon receipt of the Request for Final Walk-Through, the Inspector shall schedule the Final Inspection. The Inspector and Contractor shall attend the final



inspection. Representatives from other Agency departments reserve the right to be present at the Final Inspection.

The red-line record drawings and asset schedules shall also be reviewed.

If any deficiencies are not satisfactorily addressed or additional deficiencies are identified, the Contractor will have 10 working days to complete the corrective work.

6-8.6 Request for Completion. The Engineer will not accept the Work or any portion of the Work before all of the Work is completed and all outstanding deficiencies are corrected by the Contractor, and the Engineer is satisfied that all of the Work meets the requirements of the Contract Documents.

Once the Final Walk-Through has been completed and all outstanding deficiencies satisfactorily completed to Agency's approval, the Contractor shall submit a written assertion in the form of Request for Completion letter, certifying that the Work has been completed.

6-8.7 Completion. Upon receipt of the Request for Completion letter, the Agency shall review the written assertion within 2 working days. If, in the Engineer's judgment, the Work has been completed in accordance with the Contract Documents, the Agency will issue a Completion Letter.

The completion date will be the date to which liquidated damages will be computed.

Use, temporary, interim or permanent, of all, or portions of, the Work does not constitute completion or acceptance of the Work.

6-8.8 Acceptance. Acceptance will occur after all the requirements contained in the Contract Documents have been fulfilled. If, in the Engineer's judgment, the Contractor has fully performed the Contract, the Engineer will so certify to the Board. Upon such certification by the Engineer, the Board may accept the Work. Upon the Board's acceptance of the Work, the Agency will cause a "Notice of Completion" to be filed in the office of the San Diego County Recorder. The date of recordation shall be the date of acceptance of the Work.

6-8.9 Warranty. All work shall be warranted for one (1) year after acceptance of the Work and any faulty work or materials discovered during the warranty period shall be repaired or replaced by the Contractor, at its expense. Twenty-five percent of the faithful performance bond shall be retained as a warranty bond for the warranty period. The Contractor shall replace or repair any such defective work in a manner satisfactory to the Engineer, after notice to do so from the Engineer, and within the time specified in the notice. If the Contractor fails to make such replacement or repairs within the time specified in the notice, the Agency may perform this work and the Contractor's sureties shall be liable for the cost thereof.

6-9 LIQUIDATED DAMAGES. Failure of the Contractor to complete the Work within the time allowed will result in damages being sustained by the Agency. For each consecutive calendar day in excess of the time specified for completion of Work, as adjusted in accordance with Section 6-6, the Contractor shall pay the Agency, or have withheld monies due it, the sum of **two thousand dollars (\$2,000.00)**. Such sum is liquidated damages and shall not be construed as a penalty and may be deducted from payments due the Contractor if such delay occurs.



Execution of the Contract shall constitute agreement by the Agency and Contractor that the amount specified above per day is the minimum value of costs and actual damages caused by the Contractor to complete the Work within the allotted time. Any progress payments made after the specified completion date shall not constitute a waiver of this paragraph or of any damages.

6-10 USE OF IMPROVEMENT DURING CONSTRUCTION. The Agency reserves the right to take over and utilize all or part of any completed facility or appurtenance. The Contractor will be notified in writing in advance of such action. Such action by the Agency will relieve the Contractor of responsibility for injury or damage to said completed portions of the improvement resulting from use by public traffic or from the action of the elements or from any other cause, except Contractor operations or negligence. The Contractor will not be required to reclean such portions of the improvement before field acceptance, except for cleanup made necessary by its operations. Nothing in this section shall be construed as relieving the Contractor from full responsibility for correcting defective work or materials.

In the event the Agency exercises its right to place into service and utilize all or part of any completed facility or appurtenance, the Agency will assume the responsibility and liability for injury to persons or property resulting from the utilization of the facility or appurtenance so placed into service, except for any such injury to persons or property caused by any willful or negligent act or omission by the Contractor, Subcontractor, their officers, employees, or agents.



SECTION 7 – RESPONSIBILITIES OF THE CONTRACTOR

7-1 CONTRACTOR'S EQUIPMENT AND FACILITIES. The Contractor shall furnish and maintain in good condition all equipment and facilities as required for the proper execution and inspection of the Work. Such equipment and facilities shall meet all requirements of applicable ordinances and laws.

7-2 LABOR.

7-2.1 General. Only competent workers shall be employed on the Work. Any person employed who is found to be incompetent, intemperate, troublesome, disorderly, or otherwise objectionable, or who fails or refuses to perform work properly and acceptably, shall be immediately removed from the Work by the Contractor and not be reemployed on the Work.

7-2.2 Laws. The Contractor, its agents, and employees shall be bound by and comply with applicable provisions of the Labor Code and Federal, State, and local laws related to labor.

The Contractor shall strictly adhere to the provisions of the Labor Code regarding minimum wages; the 8-hour day and 40-hour week; overtime; Saturday, Sunday, and holiday work; and nondiscrimination because of race, color, national origin, sex, or religion. The Contractor shall forfeit to the Agency the penalties prescribed in the Labor Code for violations.

In accordance with the Labor Code, the Board has on file and will publish a schedule of prevailing wage rates for the types of work to be done under the Contract. The Contractor shall not pay less than these rates.

Each worker shall be paid subsistence and travel as required by the collective bargaining agreement on file with the State of California Department of Industrial Relations.

The Contractor's attention is directed to Section 1776 of the Labor Code which imposes responsibility upon the Contractor for the maintenance, certification, and availability for inspection of such records for all persons employed by the Contractor or Subcontractor in connection with the project. The Contractor shall agree through the Contract to comply with this Section and the remaining provisions of the Labor Code.

7-3 LIABILITY INSURANCE. Insurance shall be required as specified in section 10 of the Public Works Contract.

The cost of this insurance shall be included in the Contractor's Bid.

7-4 WORKERS' COMPENSATION INSURANCE. Before execution of the Contract by the Board, the Contractor shall file with the Engineer the following signed certification:

"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."



The Contractor shall also comply with Section 3800 of the Labor Code by securing, paying for, and maintaining in full force and effect for the duration of the contract, complete Workers' Compensation Insurance, and shall furnish a Certificate of Insurance to the Engineer before execution of the Contract. The Agency, its officers, or employees, will not be responsible for any claims in law or equity occasioned by failure of the Contractor to comply with this paragraph.

All compensation insurance policies shall bear an endorsement or shall have attached a rider whereby it is provided that, in the event of expiration or proposed cancellation of such policies for any reason whatsoever, the Agency shall be notified by registered mail not less than 30 days before expiration or cancellation is effective.

All insurance is to be placed with insurers that are admitted and authorized to conduct business in the state of California and are listed in the official publication of the Department of Insurance of the State of California. Policies issued by the State Compensation Fund meet the requirement for workers' compensation insurance.

7-5 PERMITS. Except as specified herein the Contractor will obtain, at no cost to the Contractor all City of Carlsbad encroachment, right-of-way, grading and building permits necessary to perform work for this contract on Agency property, streets, or other rights-of-way. Contractor shall not begin work until all permits incidental to the work are obtained. The Contractor shall obtain and pay for all permits for the disposal of all materials removed from the project. The cost of said permit(s) shall be included in the price bid for the appropriate bid item and no additional compensation will be allowed therefor. The Contractor shall obtain and pay for all costs incurred for permits necessitated by its operations such as, but not limited to, those permits required for night work, oversize load, blasting, and demolition. For private contracts, the Contractor shall obtain all permits incidental to the Work or made necessary by its operations, and pay all costs incurred by the permit requirements.

The Contractor shall pay all business taxes or license fees that are required for the work.

Refer to 7.8.6 and 7.8.6.1 for water pollution control and groundwater dewatering permits, respectively.

7-5.1 Resource Agency Permits. No resource agency permits are required for the Work.

7-5.2 Air Pollution Control Permits. The use of materials or activities that can generate air emissions are regulated by the California Air Resource Board (CARB) and the San Diego County Air Pollution Control District (SDAPCD) and either require permits or are subject to state or local air regulations which establish limitations on equipment or product use or VOC content and requirements for recordkeeping and reporting. These materials and activities include, but are not limited to the following:

- Abrasive blasting
- Adhesives
- Asbestos abatement, removal or disruption
- Coating or painting
- Concrete curing compounds
- Demolition of buildings, equipment or structures
- Fiberglass/polyester resin layup or machining



- Operation of non-road diesel engines greater than 49 hp (including generators, compressors, pumps, hydro blasters, etc.)
- Operation of off-road diesel engines greater than 25 hp (including forklifts, construction equipment, load handlers, etc.)
- Solvents
- Welding

Operators of portable engines and other types of equipment can register their units under the CARB Statewide Portable Equipment Registration Program (PERP) in order to operate their equipment throughout California. However, the use of portable equipment (e.g., bypass pumps) to perform the function of permitted stationary equipment is subject to SDAPCD regulation in addition to CARB requirements.

Diesel-engine driven generators or equipment shall have a valid permit or registration in accordance with the California Air Resources Board and/or the San Diego County Air Pollution Control District regulations prior to mobilization to the site. The Contractor shall submit a copy of the permit or registration documents for all equipment subject to state or local air pollution control regulations and maintain the permit or registration documents in valid standing during the performance of the Work.

Products such as paints, adhesives, resins, solvents and other products shall comply with the Volatile Organic Compound (VOC) content limits established by CARB and/or the SDAPCD. The Contractor shall be responsible for determining that such products can be used legally in the performance of the Work. The Contractor shall maintain and submit records to the City Engineer on the quantities of paints or solvents used as may be required by applicable regulations.

Prior to starting any activity that is required to have an air pollution control permit or registration, the Contractor shall verify the applicability of the latest air pollution control regulations pertaining to the proposed materials, equipment and operations and obtain and comply with applicable requirements:

- Rule 11 – Exemptions from Rule 10 Permit Requirements
- Rule 12 – Registration of Specified Equipment
- Rule 12.1 – Portable Equipment Registration
- Rule 51 – Nuisance
- Rule 67.0.1 – Architectural Coatings
- Rule 67.17 – Storage of Materials Containing Volatile Organic Compounds
- Rule 71 – Abrasive Blasting

San Diego Air Pollution Control District: 858-586-2600

<https://www.sdapcd.org/content/sdapcd/permits.html>

California Air Resource Board:

<https://ww2.arb.ca.gov/our-work/programs/portable-equipment-registration-program-perp/about>

7-6 THE CONTRACTOR'S REPRESENTATIVE. Before starting work, the Contractor shall designate in writing a representative who shall have complete authority to act for it. An alternative representative may be designated as well. The representative or alternate shall be present at the Work site whenever work is in progress or whenever actions of the elements



necessitate its presence to take measures necessary to protect the Work, persons, or property. Any order or communication given to this representative shall be deemed delivered to the Contractor. A joint venture shall designate only one representative and alternate. In the absence of the Contractor or its representative, instructions or directions may be given by the Engineer to the superintendent or person in charge of the specific work to which the order applies. Such order shall be complied with promptly and referred to the Contractor or its representative.

In order to communicate with the Agency, the Contractor's representative, superintendent, or person in charge of specific work shall be able to speak, read, and write the English language.

The qualifications for the Contractor's Representative shall include at a minimum:

1. At least three years of experience in a superintendent capacity for qualifying projects that are submitted in the Contractor's Statement of Technical Ability and Experience form submitted with the bid, which shall meet the requirements specified therein. The Contractor shall be responsible for submitting verifiable experience records.
2. Completion of OSHA 30-hour Construction Training Course. Submit certification as proof.

The City reserves the right to disqualify bidders if the required technical ability and experience for the Contractor's Representative is not established.

In the event that the Contractor proposes to change the Contractor's Representative prior to Project completion, the Contractor shall notify the Agency and submit the qualifications of the proposed Contractor's Representative for the Engineer's review at least two weeks prior to the proposed change. The qualifications shall demonstrate that the minimum requirements of the position, as described herein, are satisfied. The Engineer will review the qualifications of proposed Contractor's Representative within 5 working days of receipt.

No change in Contractor's Representative will be allowed without the Agency's approval. In the event of a change in Contractor's Representative without prior approval, Agency reserves the right to suspend work, at the Contractor's cost, until a qualified Contractor's Representative is approved for the Project.

7-7 COOPERATION AND COLLATERAL WORK. The Contractor shall be responsible for ascertaining the nature and extent of any simultaneous, collateral, and essential work by others. The Agency, its workers and contractors and others, shall have the right to operate within or adjacent to the Work site during the performance of such work.

The Agency, the Contractor, and each of such workers, contractors and others, shall coordinate their operations and cooperate to minimize interference.

The Contractor shall include in its Bid all costs involved as a result of coordinating its work with others. The Contractor will not be entitled to additional compensation from the Agency for damages resulting from such simultaneous, collateral, and essential work. If necessary to avoid or minimize such damage or delay, the Contractor shall redeploy its work force to other parts of the Work.

Should the Contractor be delayed by the Agency, and such delay could not have been reasonably foreseen or prevented by the Contractor, the Engineer will determine the extent of the delay, the effect on the project, and any extension of time.



7-7.1 Coordination. The Contractor shall coordinate and cooperate with all utility companies during the mark-out and locating of their lines or during their relocation or construction if necessary. The Contractor may be granted a time extension if, in the opinion of the Engineer, a delay is caused by the utility company. No additional compensation will be made to the Contractor for any such delay.

7-8 PROJECT SITE MAINTENANCE.

7-8.1 Cleanup and Dust Control. Throughout all phases of construction, including suspension of work, and until the final acceptance, the Contractor shall keep the site clean and free from rubbish and debris. The Contractor shall also abate dust nuisance by cleaning, sweeping and sprinkling with water, or other means as necessary. The use of water resulting in mud on public streets will not be permitted as a substitute for sweeping or other methods.

When required by the Plans or Specifications, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzles at least once each working day for the purpose of keeping paved areas acceptably clean wherever construction, including restoration, is incomplete.

Materials and equipment shall be removed from the site as soon as they are no longer necessary. Before the final inspection, the site shall be cleared of equipment, unused materials, and rubbish so as to present a satisfactory clean and neat appearance. All cleanup costs shall be included in the Contractor's Bid.

Care shall be taken to prevent spillage on haul routes. Any such spillage shall be removed immediately and the area cleaned.

Excess excavation material from catch basins or similar structures shall be removed from the site immediately. Sufficient material may remain for use as backfill if permitted by the Specifications. Forms and form lumber shall be removed from the site as soon as practicable after stripping.

Failure of the Contractor to comply with the Engineer's cleanup orders may result in an order to suspend work until the condition is corrected. No additional compensation will be allowed as a result of such suspension.

Cleanup and dust control required herein shall also be executed on weekends and other non-working days when needed to preserve the health safety or welfare of the public. The Contractor shall conduct effective cleanup and dust control throughout the duration of the Contract. The Engineer may require increased levels of cleanup and dust control that, in his/her sole discretion, are necessary to preserve the health, safety and welfare of the public. Cleanup and dust control shall be considered incidental to the items of work that they are associated with and no additional payment will be made therefore.

7-8.2 Air Pollution Control. The Contractor shall not discharge smoke, dust, or any other air contaminants into the atmosphere in such quantity as will violate the regulations of any legally constituted authority.

7-8.3 Vermin Control. At the time of acceptance, structures entirely constructed under the Contract shall be free of rodents, insects, vermin, and pests. Necessary extermination work



shall be arranged and paid for by the Contractor as part of the Work within the Contract time and shall be performed by a licensed exterminator in accordance with requirements of governing authorities. The Contractor shall be liable for injury to persons or property and responsible for the elimination of offensive odors resulting from extermination operations.

7-8.4 Sanitation. The Contractor shall provide and maintain enclosed toilets for the use of employees engaged in the Work. These accommodations shall be maintained in a neat and sanitary condition. They shall also comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps.

Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

7-8.5 Temporary Light, Power, and Water. The Contractor shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps, and other equipment necessary for the Work. The Contractor shall not draw water from any fire hydrant (except to extinguish a fire), without obtaining permission from the water agency concerned. The Contractor shall obtain a construction meter for water used for the construction, plant establishment, maintenance, cleanup, testing and all other work requiring water related to this contract. The Contractor shall contact the appropriate water agency for requirements. The Contractor shall pay all costs of temporary light, power and water including hookup, service, meter and any, and all, other charges, deposits and/or fees therefor. Said costs shall be considered incidental to the items of work that they are associated with and no additional payment will be made therefor.

7-8.6 Water Pollution Control. The Contractor shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution. It shall conduct and schedule operations so as to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing those facilities which may be required to provide prevention, control, and abatement of water pollution.

The Contractor shall comply with the California State Water Resources Control Board (SWRCB) Order Number R9-2013-0001, National Pollutant Discharge Elimination System (NPDES) Permit and Waste Discharge Requirements for Discharges from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds within the San Diego Region, and amendments thereto, and with all requirements of the Storm Water Pollution Prevention Plan for this project in accordance with these regulations.

A Tier 2 Storm Water Pollution Prevention Plan (SWPPP) is provided to the Contractor, in Appendix "A", for use in preparing the Project SWPPP for approval by the City. The Contractor shall be responsible for the preparation and implementation of the SWPPP and coordination with the City and the Regional Water Quality Control Board. Refer to Section 300-12.

7-8.6.1 Dewatering. Dewatering shall be performed by the Contractor when specifically required by the Plans or Specifications or specified in the bid schedule, and as necessary for construction of the Work. Dewatering shall be performed in conformance with all applicable local, state and Federal laws and permits issued by jurisdictional regulatory agencies.



Permits necessary for the discharge of groundwater to land or the sanitary sewer system shall be obtained by the Contractor unless provided by the City. Water shall be treated prior to disposal if so specified in the Special Provisions or required by any permit.

The Contractor shall submit a Dewatering Plan and related supporting information detailing its proposed plan and methodology of dewatering, treatment/pretreatment (when required for permit compliance) and disposal of accumulated water. The plan shall identify the following:

1. location, type and size of dewatering devices and related equipment,
2. size and type of materials composing the collection system,
3. size and type of equipment to be used to retain and, if required, treat accumulated water,
4. the proposed disposal locations, and
5. any other information required by the jurisdictional agency.

If the proposed disposal location is a sanitary sewer, the Contractor shall comply with the Special Use Discharge Permit from the Encina Wastewater Authority (Appendix C). If the proposed disposal location is a storm drain system or receiving body of water, the Contractor shall obtain permits from jurisdictional regulatory agencies or written evidence that such permits are not required.

Short-term construction dewatering operations not exceeding an average of 5,000 GPD for any continuous 180-day period may qualify under Order No. R9-2024-0001, Conditional Waivers of Waste Discharge Requirements for Low Threat Discharges in the San Diego Region, Waiver No. 2 – Miscellaneous “Low Threat” Discharges to Land. These discharges are prohibited from entering MS4s, and any surface waters, including, but not be limited to, ephemeral streams, or vernal pools.

For dewatering operations discharges exceeding an average of 5,000 GPD for any continuous 180-day period, the discharger must file a Notice of Intent containing information about the operator, location, planned period and rate of discharge, and measures that will be taken to minimize or eliminate the discharge of pollutants that might affect groundwater quality. Written notice of enrollment in the Waiver must be received from the San Diego Water Board prior to initiating the discharge.

The City will furnish groundwater monitoring and/or test results conducted by the City to the Contractor prior to the start of construction if such investigation has been conducted. The Contractor shall perform additional sampling and testing to demonstrate compliance with the Special Use Discharge Permit or any other permit, or to support the application for any other permit as required.

Contractor shall avoid inducing settlement or damage to existing facilities, pavement, or adjacent property. Contractor shall submit preconstruction photographs before dewatering to document existing cracks of surfaces which may subsequently be attributed to dewatering operations. Contractor shall monitor ground surface to detect excessive and unacceptable ground subsidence associated with dewatering operations. The monitoring and repair of damage caused by such subsidence shall be borne by the Contractor at no additional cost to the City.

Contractor shall provide dewatering design plans and engineering calculations demonstrating adequacy of proposed dewatering system. Contractor shall make his own judgment regarding the transmissivity of the ground to convey groundwater unto open excavations. Contractor's bid



price shall be deemed to cover all costs associated with groundwater dewatering, including desilting and pre-treatment, regardless of the actual depth to groundwater and regardless of the actual volume of groundwater pumped and discharged or disposed of.

All costs for dewatering including sample collection, testing, permit application fees and installation, testing and operation of the dewatering system shall be made at the contract price specified in the bid schedule for Dewatering. If no such bid item is listed, payment shall be considered included in the bid item of work requiring dewatering and no separate or additional payment shall be made therefor.

7-8.7 Drainage Control. The Contractor shall maintain drainage within and through the work areas. Earth dams will not be permitted in paved areas. Temporary dams of sandbags, asphaltic concrete, or other acceptable material will be permitted when necessary. Such dams shall be removed from the site as soon as their use is no longer necessary.

7-8.8 Noise Control. All internal combustion engines used in the construction shall be equipped with mufflers in good repair when in use on the project with special attention to the City Noise Control Ordinance, Carlsbad Municipal Code Chapter 8.48.

7-9 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS. The Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due caution to avoid damage to such property.

The Contractor shall repair or replace all existing improvements within the right-of-way which are not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system within the right-of-way must be removed, the remaining lines shall be capped. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.

Maintenance of street and traffic signal systems that are damaged, temporarily removed or relocated shall be done in conformance with 307-1.5.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible. Lawns shall be restored with sod and unpaved areas covered with suitable mulch.

The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements, within the right-of-way which are designated for removal and would be destroyed because of the Work.

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.

7-9.1 Preconstruction Survey. The Contractor shall perform a preconstruction survey of the project site to provide a record of preconstruction conditions. This survey shall include the following as a minimum:



1. Video of existing public right-of-way, proposed alignment, utility mark-outs, working areas, staging and storage areas. Conduct the survey after construction staking has been completed.
2. Video of construction access roads to be used by the Contractor, including all public and private streets used for access to and from the work site. Indicate areas of damaged paving.
3. Any other areas as directed by the Owner which may be disturbed or which are to be protected from the Contractor's operations.
4. Photographs and video of potential "problem areas".
5. Notify the Owner seven calendar days in advance and coordinate the scheduling of the video so that a representative of the Owner may accompany the Contractor during the videotaping.
6. At the completion of the survey, the Contractor shall present the Owner with a report detailing the existing conditions at each proposed pipeline site, staging, and stockpile areas. The report shall include the following as a minimum:
 - a. One copy of the video in color in digital format.
 - b. One copy of each "potential problem area" photograph (4-inch by 6-inch colored photos).
 - c. Written summary of "potential problem areas" and the Contractor's recommendations to address these problem areas.
7. Documentation (including report) of existing conditions shall be completed within 15 days of the Notice to Proceed. The Contractor will not be allowed to begin excavation or dewatering activities until the final report has been submitted and accepted by the Owner.

7-10 PUBLIC CONVENIENCE AND SAFETY.

7-10.1 Traffic and Access. The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times. Unless otherwise authorized, traffic shall be permitted to pass through the Work, or an approved detour shall be provided.

In areas where site access is restricted, the Contractor is responsible for coordinating site access. All communications shall be made through the City inspector unless otherwise approved.

No excavation or vehicle access will be allowed to occur outside of the easement, outside of the right-of-way, or in vegetated or landscaped areas unless otherwise shown on the Plans or as approved by the Engineer.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to fire hydrants; commercial and industrial establishments; churches, schools and parking lots; service stations and motels; hospitals; police and fire stations; public transportation stops and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer. Pedestrian crossings of the Work at intervals not exceeding 300 feet (90 m) shall be provided and maintained unless otherwise approved by the Engineer.

The Contractor shall refer to and comply with the requirements of Section 302-15 and Part 6 of the Supplemental Provisions.



7-10.2 Storage of Equipment and Materials in Public Streets. Construction materials shall not be stored in streets, roads, or highways after unloading. Construction equipment shall not be stored at the Work site before its actual use on the Work or after it is no longer needed. All materials or equipment not installed or used in construction on any given day shall be stored elsewhere by the Contractor at its expense unless otherwise approved by the Engineer.

Excavated material, except that which is to be used as backfill in the adjacent trench on the same day, shall not be stored in public streets. After placing backfill, all excess material shall be removed immediately from the site.

7-10.3 Street Closures, Detours, Barricades. The Contractor shall comply with all applicable State, County, and City requirements for closure of streets. The Contractor shall provide barriers, guards, lights, signs, temporary bridges, flag persons, and watchpersons. The Contractor shall be responsible for compliance with additional public safety requirements which may arise. The Contractor shall furnish and install signs and warning devices and promptly remove them upon completion of the Work.

After obtaining the Engineers approval and at least 5 working days before closing, detouring, partially closing or reopening any street, alley or other public thoroughfare the Contractor shall notify the following:

The Engineer.....	442-339-2766
Carlsbad Fire Administration	442-339-2141
Carlsbad Police Department Dispatch.....	442-339-2197
Carlsbad Traffic Signals Maintenance	760-438-2980
Carlsbad Traffic Signals Operations.....	442-339-2736
North County Transit District	760-966-6500
Republic Services	760-332-6464

The Contractor shall comply with their requirements. The Contractor shall obtain the Engineer’s written approval prior to deviating from the requirements of 2) through, and including, 7) above. The Contractor shall obtain the written approval no less than five working days prior to placing any traffic control that affects bus stops.

The Contractor shall secure approval, in advance, from authorities concerned for the use of any bridges proposed by it for public use. Temporary bridges shall be clearly posted as to load limit, with signs and posting conforming to current requirements covering “signs” as set forth in the Traffic Manual published by the California Department of Transportation. This manual shall also apply to the street closures, barricades, detours, lights, and other safety devices required.

All costs involved shall be included in the Bid.

Temporary traffic controls shall be in accordance with the Plans, the TCP, the California Manual on Uniform Traffic Control Devices (MUTCD), current edition, and the Contract Documents.

7-10.3.1 Construction Area Signs and Control Devices. All construction traffic signs and control devices shall be maintained throughout the duration of work in good order and according to the approved traffic control plan. All temporary traffic control devices shall conform to Caltrans Standard Specification 12-3.



Warning and advisory signs, lights and devices shall be furnished, installed and maintained by the Contractor and shall be promptly removed by the Contractor when no longer required. Warning and advisory signs that remain in place overnight shall be stationary mounted signs. Stationary signs that warn of non-existent conditions shall be removed from the traveled way and from the view of motorists in the traveled way or shielded from the view of the traveling public during such periods that their message does not pertain to existing conditions.

All excavation required to install stationary construction area signs shall be performed by hand methods without the use of power equipment. Warning and advisory signs that are used only during working hours may be portable signs. Portable signs shall be removed from the traveled way and shielded from the view of the traveling public during non-working hours.

Personal vehicles of the Contractor's employees shall not be parked within the traveled way, including any Section closed to public traffic. Whenever the Contractor's vehicles or equipment are parked on the shoulder within 6' of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at not less than 25' intervals to a point not less than 25' past the last vehicle or equipment. A minimum of nine (9) cones or portable delineators shall be used for the taper. A W20-1 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted, as required herein, on a signpost or telescoping flag tree with flags. The signpost or flag tree shall be placed where directed by the Engineer.

7-10.3.2 Maintaining Traffic. The Contractor's personnel shall not work closer than 1.8 m (6') nor operate equipment within 0.6 m (2') from any traffic lane occupied by traffic. For equipment, the distance shall be measured from the closest approach of any part of the equipment as it is operated and/or maneuvered in performing the work. This requirement may be waived when the Engineer has given written authorization to the reduction in clearance that is specific to the time, duration and location of such waiver, when such reduction is shown on the traffic control plans included in these Contract Documents, when such reduction is shown on the traffic control plans prepared by the Contractor and approved by the Engineer or for the work of installing, maintaining and removing traffic control devices. As a condition of such waiver the Engineer may require the Contractor to detour traffic, adjust the width of, or realign the adjacent traffic lane, close the adjacent traffic lane or provide barriers.

During the entire construction, a minimum of one, 12-foot wide paved traffic lane shall be open for use by public traffic in each direction of travel.

7-10.3.3 Traffic Control System for Lane Closure. A traffic control system consists of closing traffic lanes or pedestrian walkways in accordance with the details shown on the plans, California Manual on Uniform Traffic Control Devices (FHWA MUTCD, current edition, as amended for use in California) and provisions under "Maintaining Traffic" elsewhere in these Provisions. The provisions in this section will not relieve the Contractor from its responsibility to provide such additional devices or take such measures as may be necessary to maintain public safety.

When lanes are closed for only the duration of work periods, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way, shall be removed from the traveled way and shoulder at the end work period. If the Contractor so elects, said components may be stored at selected central locations, approved by the Engineer, within the limits of the right-of-way.



7-10.3.4 Traffic Control for Permanent and Temporary Traffic Striping. During traffic striping operations, traffic shall be controlled with lane closures, as provided for under "Traffic Control System for Lane Closure" of these Supplemental Provisions or by use of an alternative traffic control plan proposed by the Contractor and approved by the Engineer. The Contractor shall not start traffic striping operations using an alternative plan until the Contractor has submitted its plan to the Engineer and has received the Engineer's written approval of said plan.

7-10.3.5 Temporary Pavement Delineation. Temporary pavement delineation shall be furnished, placed, maintained and removed in accordance with the minimum standards specified in the latest California Manual on Uniform Traffic Control Devices (CAMUTCD) published by Caltrans. Whenever the work causes obliteration of pavement delineation, temporary or permanent pavement delineation shall be in place prior to opening the traveled way to public traffic. Lane line or centerline pavement delineation shall be provided at all times for traveled ways open to public traffic. All work necessary, including any required lines or marks, to establish the alignment of temporary pavement delineation shall be performed by the Contractor. When temporary pavement delineation is removed, all lines and marks used to establish the alignment of the temporary pavement delineation shall be removed by grinding.

Surfaces to receive temporary pavement delineation shall be dry and free of dirt and loose material. Temporary pavement delineation shall not be applied over existing pavement delineation or other temporary pavement delineation. Temporary pavement delineation shall be maintained until superseded or replaced with permanent pavement delineation.

Temporary pavement delineation shall be removed when, as determined by the Engineer, the temporary pavement delineation conflicts with the permanent pavement delineation or with a new traffic pattern for the area and is no longer required for the direction of public traffic. When temporary pavement delineation is required to be removed, all lines and marks used to establish the alignment of the temporary pavement delineation shall be removed.

7-10.3.6 Preparation of Traffic Control Plans. The Contractor shall submit traffic control plans (TCPs) as a part of the Work for all construction activities that are located within the traveled way. TCPs shall be prepared by a professional engineer registered in the State of California and regularly engaged in the preparation of traffic control plans. Design of TCPs for construction shall meet the requirements of the City and the California Manual on Uniform Traffic Control Devices as published by Caltrans. Submittal and review requirements for TCPs shall conform to Section 2-5.3 Shop Drawings and Submittals.

The Contractor must obtain the Engineer's approval prior to implementing TCPs. The minimum 20-day review period specified in Section 2-5.3.1 for shop drawings and submittals shall pertain to each submittal of TCPs. New or revised TCP submittals shall include all TCPs needed for the entire duration of the Work. Each TCP phase shall be prepared in sufficient scale and detail to show the lane widths, transition lengths, curve radii, stationing of features affecting the traffic control plan and the methodology proposed to transition to the subsequent TCP phase. When the vertical alignment of the traveled surface differs from the finished pavement elevation, vertical curves must also be shown. The Engineer shall be the sole judge of the suitability and quality of any such TCPs.

7-10.3.7 Payment. The contract price paid for Traffic Control shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for performing all work involved to implement the traffic control system, complete in-place, including, but not limited to, preparing and revising TCPs, flag persons, installing temporary or permanent traffic control



devices such as barriers, delineators, lighting, signage, portable changeable message signs, striping, pavement markers and markings in accordance with the Contract Documents and as directed by the Engineer. Progress payments for Traffic Control will be based on the percentage of the improvement work necessitating traffic control and completed.

7-10.4 Safety.

7-10.4.1 Safety Orders. The Contractor shall have at the Work site, copies or suitable extracts of: Construction Safety Orders, Tunnel Safety Orders and General Industry Safety Orders issued by the State Division of Industrial Safety. The Contractor shall comply with provisions of these and all other applicable laws, ordinances, and regulations.

Before excavating any trench 5 feet or more in depth, the Contractor shall submit a detailed plan to the Agency showing the design of shoring, bracing, sloping, or other provisions to be made for the workers' protection from the hazard of caving ground during the excavation of such trench. If the plan varies from the shoring system standards, the plan shall be prepared by a registered Civil or Structural Engineer registered in the state of California and regularly engaged in the design of excavation support systems. No excavation shall start until the Engineer has accepted the plan and the Contractor has obtained a permit from the State Division of Industrial Safety. A copy of the permit shall be submitted to the Engineer.

Sloped excavations, trench boxes, or unbraced temporary excavations will not be allowed. Temporary excavations shall be fully sheeted and tightly braced such that the surrounding ground is in intimate contact with the shoring and bracing system at all times during construction. The temporary excavation support system design must adhere to the minimum requirements of the geotechnical report (see Appendix B).

Payment for performing all work necessary to provide safety measures shall be included in the prices bid for other items of work except where separate bid items for excavation safety are provided or required by law.

7-10.4.2 Use of Explosives. Explosives may be used only when authorized in writing by the Engineer, or as otherwise stated in the Specifications. Explosives shall be handled, used, and stored in accordance with all applicable regulations.

The Engineer's approval of the use of explosives shall not relieve the Contractor from liability for claims caused by blasting operations.

7-10.4.3 Special Hazardous Substances and Processes. Materials that contain hazardous substances or mixtures may be required on the Work. A Material Safety Data Sheet as described in Section 5194 of the California Code of Regulations shall be requested by the Contractor from the manufacturer of any hazardous products used.

Material usage shall be accomplished with strict adherence to California Division of Industrial Safety requirements and all manufacturer warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.

The Contractor shall notify the Engineer if a specified product cannot be used under safe conditions.



7-10.4.4 Confined Spaces.

(a) Confined Space Entry Program. The Contractor shall be responsible for implementing, administering and maintaining a confined space entry program (CSEP) in accordance with Sections 5156, 5157 and 5158, Title 8, CCR.

Prior to starting the Work, the Contractor shall prepare and submit its comprehensive CSEP to the Engineer. The CSEP shall address all potential physical and environmental hazards and contain procedures for safe entry into confined spaces, including, but not limited to the following:

1. Training of personnel
2. Purging and cleaning the space of materials and residue
3. Potential isolation and control of energy and material inflow
4. Controlled access to the space
5. Atmospheric testing of the space
6. Ventilation of the space
7. Special hazards consideration
8. Personal protective equipment
9. Rescue plan provisions

The Contractor's submittal shall include the names of its personnel, including subcontractor personnel, assigned to the project who will have CSEP responsibilities, their CSEP training, and their specific assignment and responsibility in carrying out the CSEP.

(b) Permit-Required Confined Spaces. Entry into permit-required confined spaces as defined in Section 5157, Title 8, CCR may be required as a part of the Work. All manholes, tanks, vaults, pipelines, excavations, or other enclosed or partially enclosed spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Contractor shall implement a permit space program prior to performing any work in a permit-required confined space. A copy of the permit shall be available at all times for review by Contractor and Agency personnel at the Work site.

(c) Payment. Payment for implementing, administering, and providing all equipment and personnel to perform the CSEP shall be included in the bid items for which the CSEP is required.

7-10.4.5 Safety and Protection of Workers and Public. The Contractor shall take all necessary precautions for the safety of employees on the work and shall comply with all applicable provisions of Federal, State and Municipal safety laws and building codes to prevent accidents or injury to persons on, about, or adjacent to the premises where the work is being performed. The Contractor shall erect and properly maintain at all times, as required by the conditions and progress of the work, all necessary safeguards for the protection of workers and public and shall use danger signs warning against hazards created by such features of construction as protruding nails, hoists, well holes, and falling materials.

7-10.4.6 Flood Lighting.

7-10.4.6.1 General. When work is being performed during hours of darkness, as defined in Division 1, Section 280, of the California Vehicle Code, flood lighting shall be used to illuminate the Work site, flagger stations, equipment crossings and other hazardous areas. Flood lighting shall provide visibility for a distance of 1/2 mile (800 m). Flood lights shall not shine directly into the view of oncoming traffic.



7-10.4.6.2 Payment. No separate or additional payment will be made for flood lighting. Payment shall be included in the Contract Unit Price or lump sum price in the Bid for the various Bid items.

7-10.4.7 Security and Protective Devices.

7-10.4.7.1 General. Security and protective devices shall consist of fencing, steel plates, or other devices as specified in the Special Provisions to protect open excavations.

7-10.4.7.2 Security Fencing. The Contractor shall completely fence open excavations. Security fencing shall conform to 304-5. Security fencing shall remain in place unless workers are present and construction operations are in progress during which time the Contractor shall provide equivalent security.

7-10.4.7.3 Payment. No separate or additional payment will be made for security fencing or protective devices. Payment shall be included in the Contract Unit Price or lump sum price in the Bid for the various Bid items.

7-10.4.8 Steel Plate Covers.

7-10.4.8.1 General. The Contractor shall provide, install, and maintain steel plate covers as necessary to protect from accidental entry into openings, trenches, and excavations. Plates shall provide complete coverage to prevent any person, bicycle, motorcycle, or motor vehicle from being endangered due to plate movement causing separations or gaps. The Contractor shall submit the design in accordance with Section 2-5.3 which shall include the following criteria:

1. The approval of steel plate bridging shall be at the sole discretion of the Engineer.
2. Steel plate bridging shall be designed to support HS20-44 truck loading per Caltrans Bridge Design Specifications Manual.
3. Surfaces exposed to pedestrian or vehicular traffic shall be non-skid. The Contractor shall maintain a non-skid surface on the steel plate having a minimum coefficient of friction equivalent to 0.35 as determined by California Test Method 342. If a different test method is used, the Contractor may utilize standard test plates with known coefficients of friction available from each Caltrans District Materials Engineer to correlate skid resistance results to California Test Method 342.
4. The Contractor shall install signage with a 2-inch (51 mm) minimum letter height indicating the steel plate cover load limit, the Company's name, and a 24-hour emergency contact phone number. The
5. Contractor shall install Rough Road (W33) sign with black lettering on an orange background in advance of steel plate bridging.
6. The Contractor is responsible for the maintenance of the plates and asphalt concrete ramps or other devices used to secure the plates and shoring of the trench to support all loads.
7. Contractor shall immediately mobilize necessary personnel and equipment to repair plate movements, separation, noise, anchors, asphalt ramps or any other deficiency. Failure to respond within 2 hours after being notified by the Engineer shall be grounds for the City to perform necessary repairs at the expense of the Contractor.
8. When plates are removed, the pavement surface shall be repaired to the satisfaction of the Engineer.



9. For trench widths exceeding those in Table 7-10.4.8.2, a structural design shall be prepared by a California registered civil or structural engineer regularly engaged in the design of shoring systems.

7-10.4.8.2 Thickness. Steel plate covers shall conform to Table 7-10.4.8.2.

TABLE 7-10.4.8.2

Trench Width	Steel Plate Cover Thickness
Less than 10"	1/2" (12.5 mm)
10" (250 mm) to 1'-11" (580 mm)	3/4" (19 mm)
2' (600 mm) to 2'-7" (790 mm)	7/8" (22 mm)
2'-8" (820 mm) to 3'-5" (1040 mm)	1" (25 mm)
3'-6" (1070 mm) to 5'-3" (1600 mm)	1-1/4" (32 mm)
More than 5'-3" (1600 mm)	See Note 1

Notes:

The Contractor shall submit a Working Drawing and calculations based on AASHTO H20-44 bridge loading.

7-10.4.8.3 Installation. Steel plate covers shall extend a minimum of 2 feet (600 mm) beyond trench edges. Unless otherwise specified in the Special Provisions or approved by the Engineer for the site conditions prior to use, steel plate covers shall be installed using Method 1. Method 2 shall not be used in a traveled lane.

Method 1. The pavement shall be cold milled to a depth equal to the thickness of the plate and to a width and length equal to the dimensions of the plate. The cold milling shall produce a flat surface to support the plate with no horizontal or vertical movement. Horizontal gaps between the unmilled pavement and the plate shall not exceed 1 inch (25 mm) and shall be filled with elastomeric sealant material which may, at the Contractor's option, be mixed with no more than 50%, by volume, of Type I aggregate conforming to the requirements of Tables 203-5.2(B) and 203-5.3(A).

Method 2. The approach plate and ending plate (in longitudinal placement) shall be attached to the surface by a minimum of 2 dowels, 3/4" diameter (19 mm), drilled at the corners of the plate and drilled 6 inches (150 mm) into the pavement. Subsequent plates may be butted next to each other. Temporary asphalt concrete (D2-SC 800) shall be used to construct tapers from the steel plate surface to the existing surface at a 12-inch (300 mm) run for each 1 inch (25 mm) thickness of steel plate. When steel plates are removed, the dowel holes in the pavement section shall be completely filled with elastomeric sealant material.

Advance traffic warning signs shall be installed as specified in the Special Provisions or shown on the TCP.

7-10.4.8.4 Payment. Steel plate bridging materials including, but not limited to steel plates, anchoring devices, cold milling, elastomeric sealant material, asphalt ramping and padding, signage, placing, installation, removal, relocation, preparation and processing of shop drawings and submittals to support the use of steel plate bridging and all other materials, labor, supervision, overhead of any type or description will be considered as incidental to the work. No separate or additional payment for steel plate bridging will be made. No extension to contract time will be allowed for, or because of, the use of steel plate bridging.

7-11 PATENT FEES OR ROYALTIES. The Contractor shall absorb in its Bid the patent fees or royalties on any patented article or process furnished or used in the Work. The Contractor



shall indemnify and hold the Agency harmless from any legal action that may be brought for infringement of patents.

7-12 ADVERTISING. The names, addresses and specialties of Contractors, Subcontractors, architects, or engineers may be displayed on removable signs. The size and location shall be subject to the Engineer's approval.

Commercial advertising matter shall not be attached to or painted on the surfaces of buildings, fences, canopies, or barricades.

7-13 LAWS TO BE OBSERVED. The Contractor shall keep fully informed of State and National laws and County and Municipal ordinances and regulations which in any manner affect those employed in the Work or the materials used in the Work or in any way affect the conduct of the Work. The Contractor shall at all times observe and comply with such laws, ordinances, and regulations. Municipal ordinances that affect this work include Chapter 11.06. Excavation and Grading. If this notice specifies locations or possible materials, such as borrow pits or gravel beds, for use in the proposed construction project which would be subject to Section 1601 or Section 1603 of the Fish and Game Code, the conditions established pursuant to Section 1601 et seq. of the Fish and Game Code shall become conditions of the contract.

7-14 ANTITRUST CLAIMS. Section 7103.5 of the Public Contract Code provides:

"In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works 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 it may have under Section 4 of the Clayton Act (15 U.S.C. Sec 15) or 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 the public works contract or subcontract. The assignment shall be made and become effective at the time the awarding body tenders final payment to the contractor, without further acknowledgment of the parties."



SECTION 8 – FACILITIES FOR AGENCY PERSONNEL

8-1 GENERAL. Field Facilities for Agency personnel are not required.



SECTION 9 – MEASUREMENT AND PAYMENT

9-1 MEASUREMENT OF QUANTITIES FOR UNIT PRICE WORK.

9-1.1 General. Unless otherwise specified, quantities of work shall be determined from measurements or dimensions in horizontal planes. However, linear quantities of pipe, piling, fencing and timber shall be considered as being the true length measured along longitudinal axis.

Unless otherwise provided in Specifications, volumetric quantities shall be the product of the mean area of vertical or horizontal sections and the intervening horizontal or vertical dimension. The planimeter shall be considered an instrument of precision adapted to measurement of all areas.

9-1.2 Methods of Measurement. Materials and items of work which are to be paid for on basis of measurement shall be measured in accordance with methods stipulated in the particular sections involved.

9-1.3 Certified Weights. When payment is to be made on the basis of weight, the weighing shall be done on certified platform scales or, when approved by the Engineer, on a completely automated weighing and recording system. The Contractor shall furnish the Engineer with duplicate licensed weighmaster's certificates showing actual net weights. The Agency will accept the certificates as evidence of weights delivered.

9-1.4 Units of Measurement. The system of measure for this contract shall be the U.S. Standard Measures.

9-2 LUMP SUM WORK. Items for which quantities are indicated "Lump Sum", "L.S.", or "Job", shall be paid for at the price indicated in the Bid. Such payment shall be full compensation for the items of work and all work appurtenant thereto.

The Contractor shall submit to the Engineer within 15 days after award of Contract, a detailed schedule in triplicate, to be used as a basis for determining progress payments on a lump sum contract or designated lump sum bid item. This schedule shall equal the lump sum bid and shall be in such form and sufficiently detailed as to satisfy the Engineer that it correctly represents a reasonable apportionment of the lump sum.

9-3 PAYMENT.

9-3.1 General. The quantities listed in the Bid schedule will not govern final payment. Payment to the Contractor will be made only for actual quantities of Contract items constructed in accordance with the Plans and Specifications. Upon completion of construction, if the actual quantities show either an increase or decrease from the quantities given in the Bid schedule, the Contract Unit Prices will prevail subject to the provisions of Section 3-2.2.1.

The unit and lump sum prices to be paid shall be full compensation for the items of work and all appurtenant work, including furnishing all materials, labor, equipment, tools, and incidentals.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract. This includes rejected material not unloaded from vehicles, material rejected after



it has been placed, and material placed outside of the Plan lines. No compensation will be allowed for disposing of rejected or excess material.

Payment for work performed or materials furnished under an Assessment Act Contract will be made as provided in particular proceedings or legislative act under which such contract was awarded.

Whenever any portion of the Work is performed by the Agency at the Contractor's request, the cost thereof shall be charged against the Contractor, and may be deducted from any amount due or becoming due from the Agency.

Whenever immediate action is required to prevent violation of any law, injury, death, or property damage, and precautions which are the Contractor's responsibility have not been taken and are not reasonably expected to be taken, the Agency may, after reasonable attempt to notify the Contractor, cause such precautions to be taken and shall charge the cost thereof against the Contractor, or may deduct such cost from any amount due or becoming due from the Agency. Agency action or inaction under such circumstances shall not be construed as relieving the Contractor or its Surety from liability.

Payment shall not relieve the Contractor from its obligations under the Contract; nor shall such payment be construed to be acceptance of any of the Work. Payment shall not be construed as the transfer of ownership of any equipment or materials to the Agency. Responsibility of ownership shall remain with the Contractor who shall be obligated to store any fully or partially completed work or structure for which payment has been made; or replace any materials or equipment required to be provided under the Contract which may be damaged, lost, stolen or otherwise degraded in any way prior to acceptance of the Work, except as provided in Section 6-10.

Guarantee periods shall not be affected by any payment but shall commence on the date of recordation of the "Notice of Completion."

If, within the time fixed by law, a properly executed notice to stop payment is filed with the Agency, due to the Contractor's failure to pay for labor or materials used in the Work, all money due for such labor or materials will be withheld from payment to the Contractor in accordance with applicable laws.

At the expiration of 35 days from the date of acceptance of the Work by the Board, or as prescribed by law, the amount deducted from the final estimate and retained by the Agency will be paid to the Contractor except such amounts as are required by law to be withheld by properly executed and filed notices to stop payment, or as may be authorized by the Contract to be further retained.

9-3.2 Partial and Final Payment. The Engineer will, after award of Contract, establish a closure date for the purpose of making monthly progress payments. The Contractor may request in writing that such monthly closure date be changed. The Engineer may approve such request when it is compatible with the Agency's payment procedure.

Each month, the Engineer will make an approximate measurement of the work performed to the closure date as basis for making monthly progress payments. The estimated value will be based on contract unit prices, completed change order work and as provided for in Section 9-2 of these General Provisions. Progress payments shall be made no later than thirty (30) calendar



days after the closure date. Five (5) working days following the closure date, the Engineer shall complete the detailed progress pay estimate and submit it to the Contractor for the Contractor's information. Should the Contractor assert that additional payment is due, the Contractor shall within ten (10) days of receipt of the progress estimate, submit a supplemental payment request to the Engineer with adequate justification supporting the amount of supplemental payment request. Upon receipt of the supplemental payment request, the Engineer shall, as soon as practicable after receipt, determine whether the supplemental payment request is a proper payment request. If the Engineer determines that the supplemental payment request is not proper, then the request shall be returned to the Contractor as soon as practicable, but not later than seven (7) days after receipt. The returned request shall be accompanied by a document setting forth in writing the reasons why the supplemental payment request was not proper. In conformance with Public Contract Code Section 20104.50, the City shall make payments within thirty (30) days after receipt of an undisputed and properly submitted supplemental payment request from the Contractor. If payment of the undisputed supplemental payment request is not made within thirty (30) days after receipt by the Engineer, then the City shall pay interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.

From each progress estimate, 10 percent will be deducted and retained by the Agency, and the remainder less the amount of all previous payments will be paid. After 50 percent of the Work has been completed and if progress on the Work is satisfactory, the deduction to be made from remaining progress estimates and from the final estimate may be limited to \$500 or 10 percent of the first half of total Contract amount, whichever is greater.

No progress payment made to the Contractor or its sureties will constitute a waiver of the liquidated damages under 6-9.

As provided in Section 22300 of the California Public Contract Code, the Contractor may substitute securities for any monies withheld by the Agency to ensure performance under the Contract.

After final inspection, the Engineer will make a Final Payment Estimate and process a corresponding payment. This estimate will be in writing and shall be for the total amount owed the Contractor as determined by the Engineer and shall be itemized by the contract bid item and change order item with quantities and payment amounts and shall show all deductions made or to be made for prior payments and amounts to be deducted under provisions of the contract. All prior estimates and progress payments shall be subject to correction in the Final Payment Estimate.

The Contractor shall have 30 calendar days from receipt of the Final Payment Estimate to make written statement disputing any bid item or change order item quantity or payment amount. The Contractor shall provide all documentation at the time of submitting the statement supporting its position. Should the Contractor fail to submit the statement and supporting documentation within the time specified, the Contractor acknowledges that full and final payment has been made for all contract bid items and change order items.

If the Contractor submits a written statement with documentation in the aforementioned time, the Engineer will review the disputed item within 30 calendar days and make any appropriate adjustments on the Final Payment. Remaining disputed quantities or amounts not approved by the Engineer will be subject to resolution as specified in Section 3-5, Disputed Work.



The written statement filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of said disputed items. The Engineer will consider the merits of the Contractor's claims. It will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying payment for the disputed items.

9-3.2.1 Payment for Claims. Except for those final payment items disputed in the written statement required in Section 9-3.2 all claims of any dollar amount shall be submitted in a written statement by the Contractor no later than the date of receipt of the final payment estimate. Those final payment items disputed in the written statement required in Section 9-3.2 shall be submitted no later than 30 days after receipt of the Final Payment estimate. No claim will be considered that was not included in this written statement, nor will any claim be allowed for which written notice or protest is required under any provision of this contract including Sections 3-4 Changed Conditions, 3-5 Disputed Work, 6-6.3 Payment for Delays to Contractor, 6-6.4 Written Notice and Report, or 6-7.3 Contract Time Accounting, unless the Contractor has complied with notice or protest requirements.

The claims filed by the Contractor shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of said claims. The Engineer will consider and determine the Contractor's claims and it will be the responsibility of the Contractor to furnish within a reasonable time such further information and details as may be required by the Engineer to determine the facts or contentions involved in its claims. Failure to submit such information and details will be sufficient cause for denying the claims.

Payment for claims shall be processed within 30 calendar days of their resolution for those claims approved by the Engineer. The Contractor shall proceed with informal dispute resolution under Section 3-5, Disputed Work, for those claims remaining in dispute.

9-3.3 Delivered Materials. The cost of materials and equipment delivered but not incorporated into the work will not be included in the progress estimate.

9-3.4 Mobilization. When a bid item is included in the Proposal form for Mobilization and subject to the conditions and limitations in the Specifications, the costs of work in advance of construction operations and not directly attributable to any specific bid item will be included in the progress estimate. When no such bid item is provided, payment for such costs will be considered to be included in the other items of work.

9-3.4.1 Mobilization and Preparatory Work. Payment for Mobilization and Preparatory Work will be made at the Contract price and includes full compensation for furnishing all insurance, bonds, licenses, labor, materials, utilities, tools, equipment and incidentals, and for doing all the work involved in mobilization and preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidental to preparing to conduct work on and off the project site and other offsite facilities necessary for work on the project; for all other facilities, sureties, work and operations which must be performed or costs incurred prior to beginning work on various contract items on or off the project site, excepting those specifically paid for under separate bid items. Such activities shall include, but are not limited to, coordination with Agency forces, securing permits, surveying and staking, preconstruction surveys, securing construction water supply, providing power necessary for construction, providing all temporary construction fencing; installing, maintaining and removing project signs; providing on-site sanitary facilities; posting OSHA requirements and



establishing safety programs, demobilization and any other work or services not included in any other bid item. This work also includes the cost for maintaining and submitting the project record drawings at the end of the project. These record drawings must be reviewed monthly with the Agency to receive progress or final payments for any work. The Contractor hereby agrees that the price paid is sufficient for Mobilization and Preparatory Work, as described in this section, and that the Contractor shall have no right to additional compensation for Mobilization and Preparatory Work.

Progress payments for Mobilization and Preparatory Work will be made as follows:

For the first progress payment (after the issuance of the Notice to Proceed), payment will be made at thirty percent (30%) of the amount bid for Mobilization and Preparatory Work. For the second progress payment, payment will be made at fifty percent (50%) of the amount bid for Mobilization and Preparatory Work. The remaining twenty percent (20%) of the amount bid for Mobilization and Preparatory Work will be made when all punch list items are signed-off and completed to the satisfaction of the City Inspector, and the Contractor has completely demobilized from the project site(s).

9-4 BID ITEMS. Payment for each Bid Item shall be made at the quantity and type as listed in the Contractor's Proposal. All work shown or mentioned on the plans, in the Contract Documents, General Provisions, or Technical Provisions/Specifications shall be considered as included in the Bid Items. Contractor must protect existing utilities, improvements, landscaping, irrigation systems, and vegetation in place. If damaged during the work, Contractor is responsible to repair or replace any utilities, improvements, landscaping, irrigation systems, and vegetation at his expense.

Mobilization.

The contract price paid for this bid item shall constitute payment for all mobilization work in accordance with Section 9-3.4 of these General Conditions.

A field office or field laboratory or bathhouse facilities will not be required.

Temporary Traffic Control.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials, equipment and incidentals, prepare traffic control plans and implement temporary traffic control systems, complete in-place and in accordance with the Contract Documents, including Sections 7-10.1 through 7-10.3 and 601 and its subsections, and all work required to be obtain a no-fee Right-of-Way permit(s) and Haul Route permit.

Preconstruction Survey.

The contract price for work under this item shall include, but not be limited to, furnishing all labor, material, tools and equipment, and performing all work required for preconstruction survey in accordance with 7-9.1 and all other work necessary to complete this item of work as described in the Contract Documents.

Storm Water Pollution Control (SWPPP).

The contract price paid for this bid item shall constitute full compensation for furnishing all labor, materials, tools, equipment and incidentals for preparing, amending and implementing the SWPPP in accordance with Section 7-8.6 and 300-12.



Utility Locating and Potholing.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials, tools and equipment to determine, by potholing or other approved methods, the location and depth of all existing utilities in accordance with the Contract Documents. This bid item shall include notification to Underground Service Alert and utility mark-out, coordination and standby inspection of potholing excavations, backfilling of excavations, patching of pothole excavations with temporary AC paving, and submitting results to the Engineer in advance of pavement saw-cutting or excavations.

Excavation Support System.

The contract price paid for this bid item shall constitute full compensation to furnish and install sheeting, shoring, bracing, or equivalent method of support for excavations for the protection of life or limb which shall conform to applicable safety orders and the requirements of 7-10.4.1. This includes, but is not limited to, the preparation and submittal of a detailed plan showing the design of shoring, bracing, or other provisions to be made for worker protection from the hazard of caving ground in or adjacent to trenches or open excavations, and acceptance of said plan by the Engineer, in accordance with California Labor Codes 6705 and 6707. This bid item shall also include obtaining any required permit from the State Division of Industrial Safety.

Dewatering.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment to design, install and maintain a temporary groundwater dewatering system during construction in accordance with the Contract Documents. The price paid shall include, but is not limited to, applying for and obtaining a Special Use Discharge permit (Appendix C) with Encina Wastewater Authority (EWA) for groundwater discharge to the sanitary sewer; groundwater sampling and analysis to comply with EWA local discharge limits; submittal of a dewatering plan; temporary asphalt (cold mix); protective barriers, ramps or plating; system testing and maintenance for the duration of the work; redundant pumping unit; security; disposal of all dewatering discharge; removal of the system upon completion of work and site restoration.

Force Main Dewatering.

The contract price paid for this item shall constitute full compensation for all sewer force main dewatering operations, cut and cap of the HDPE force main, and for final connection of new piping to the force main in accordance with the Contract Documents. This item shall include, but is not limited to, preparation and submittal of a force main dewatering plan; Contractor supplied tanker truck(s) for force main dewatering and discharge at City designated manholes near the Cannon Lift Station; full time supervision of sewer flows to prevent a sewer system overflow; night work; and all incidental work or services.

This bid item shall not include excavation or pavement structural section restoration which are measured and paid for under separate bid items.

Demolition.

The contract price paid for this item constitutes payment for all demolition, removals and disposals of the existing chemical injection manhole, existing HDPE force main and pipe supports, existing flow meter, existing 2" chemical injection feed, existing 12" drain, and existing plug valves and check valves to be replaced as shown or specified in the Contract Documents.



Temporary Sewer Bypass.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment to design, install and maintain temporary sewer bypass system during construction in accordance with the Contract Documents. The price paid shall include, but is not limited to, submittal of a sewer bypass plan; all connections, piping, redundant pumping units; security; temporary asphalt (cold mix); protective barriers, ramps or plating; testing and maintenance of the system for the duration of the work; applying for and obtaining all required SDAPCD permits for sewer bypass temporary generators as required in Specification 02960 – Temporary Bypass Pumping; removal of the system upon completion of work; and site restoration. Sewer bypass plan shall be designed to provide full system redundancy for required bypass flows.

Construct 8' Diameter Manhole.

The contract price paid for this bid item shall constitute full compensation for all labor, materials and equipment required to construct a new reinforced concrete precast manhole and appurtenances in accordance with the Contract Documents. This item shall include, but is not limited to, preparation and submittal of shop drawings by a California registered civil or structural engineer; protection of existing utilities; removal and replacement of existing utilities and conduits impacted by manhole construction; excavation; subgrade preparation; crushed rock; concrete manhole and riser; concrete top slab; access hatch; ladders and ladder-up safety devices; joint sealants; manhole exterior waterproofing systems; mechanical link seals; import, placement and compaction of backfill; site restoration; disposal of waste or surplus materials; and all incidental work or services.

Over-excavation and Backfill.

The contract price per for this bid item shall constitute full compensation to furnish all labor, materials and equipment and remove unsuitable materials encountered in the excavation subgrade to a depth of 24 inches, disposal in accordance with applicable regulations, and placement of crushed rock and/or imported pipe zone backfill to the design trench subgrade elevation. The removal limits shall be as ordered by the Engineer.

Furnish and Install HDPE and Fittings.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials, tools and equipment and install HDPE force main piping and fittings of the size and to the limits specified in accordance with the Contract Documents. This bid item shall include, but is not limited to, pavement saw-cutting; demolition of pavements; excavation; removal of existing or to be abandoned HDPE force main, conduits or structures; placement and compaction of imported pipe zone bedding and backfill and trench zone backfill; pipe; gaskets; hardware; fittings (including couplings, electrofusion fittings, reducers and dismantling joints); HDPE field butt fusion as required, pipe supports; corrosion protection of fittings and hardware; thrust blocks and thrust restraint devices; installation of utility warning tape; hydrostatic pressure testing; disposal of surplus materials and all incidental work.

This bid item shall not include pavement structural section restoration which is measured and paid for under a separate bid item.

Furnish and Install Flow Meter.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment and install a new electromagnetic flow meter in accordance with the Contract Documents. This item includes all incidental work or services.



This bid item shall not include electrical or communication improvements which are measured and paid for under a separate bid item.

Furnish and Install Plug Valve.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment and install new plug valves of the size specified and in accordance with the Contract Documents. This item includes all incidental work or services.

Furnish and Install Check Valve.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment and install new check valves of the type and size specified and in accordance with the Contract Documents. This item includes all incidental work or services.

Furnish and Install Electrical and Instrumentation Improvements.

The contract price paid for this bid item shall constitute full compensation for all labor, materials and equipment required to furnish and install electrical improvements in accordance with the Contract Documents. This item shall include, but is not limited to, excavation; protecting existing utilities; electrical conduit and conductors; imported bedding and backfill material; concrete encasements; junction and pull boxes; conduit straps and anchorages; conduit seals and pipe penetration sealing through structures; sump pump and discharge piping; electrical panels and enclosures; start-up and testing of electrical, instrumentation and communications systems for the flow meter; disposal of waste or surplus materials and all incidental work or services.

Furnish and Install Aggregate Base.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment and place untreated aggregate base (Caltrans Class II, Section 26-1.02B), complete in-place in accordance with City of Carlsbad Standard Drawings (GS-17 and GS-25 or GS-26) and other requirements of the Contract Documents. The price paid shall include, but not be limited to preparing and compacting the subgrade; importing, placing and compacting aggregate base above the trench zone, beneath asphalt concrete, beneath Portland cement concrete pavement, flatwork or curb and gutter; and all incidental work or services.

Furnish and Install Asphalt Concrete.

The contract price paid for this bid item shall constitute full compensation to furnish all labor, materials and equipment to place asphalt concrete pavement, complete in-place in accordance with City of Carlsbad Standard Drawings (GS-17 and GS-25 or GS-26, as modified) and other requirements of the Contract Documents. The price paid shall include, but not be limited to, saw-cutting and cold milling not included in any other bid item; applying tackifiers; placing and compacting asphalt concrete along trench or site excavations, areas damaged by construction, or grind and overlay areas; applying seal coat; disposal of waste or surplus materials and all incidental work or services. Pavement that is damaged during construction, when such damage could have been prevented using rubber-tired equipment, steel plating or similar protective measures, will not be measured for payment and shall be replaced at the Contractor's expense.



SUPPLEMENTAL PROVISIONS TO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PART 2, CONSTRUCTION MATERIALS

SECTION 200 - ROCK MATERIALS

200-2 UNTREATED BASE MATERIALS.

200-2.2 Crushed Aggregate Base.

200-2.2.1 General.

Add the following:

1. Samples for testing shall represent every 500 cubic yards or one day's production, whichever is less. If the results of the aggregate grading tests do not meet the grading requirements in Table 200-2.2.2 but meet the Quality Requirements specified in Table 200-2.2.3, placement of the aggregate base may be continued for the remainder of that day. However, another day's Work may not be started until test results indicate that the next material to be used in the Work will comply with the specified gradation and quality requirements.
2. If the results of both the aggregate grading and Sand Equivalent tests do not meet the requirements of Section 200-2.2, the aggregate base which is represented by these tests shall be removed. However, if requested by the Contractor, and approved at the sole discretion of the Engineer, the aggregate base may remain in place and the Contractor shall pay to the Agency \$50 per cubic yard for such aggregate base left in place. The Agency may deduct this amount from any moneys due, or that may be come due, to the Contractor under the Contract.

SECTION 201 - CONCRETE, MORTAR, AND RELATED MATERIALS

201-1 PORTLAND CEMENT CONCRETE

TABLE 201-1.1.2(A) Modify as follows:

**TABLE 201-1.1.2(A) ⁽³⁾
PORTLAND CEMENT CONCRETE**

Type of Construction	Concrete Class	Maximum Slump Inches
All Concrete Used Within the Right-of-Way	560-C-3250 ⁽¹⁾	⁽²⁾
Trench Backfill Slurry	190-E-400	8"
Street Light Foundations and Survey Monuments	560-C-3250	4"
Traffic Signal Foundations	590-C-3750	4"
Concreted-Rock Erosion Protection	520-C-2500P 310-C-17	per Table 300-11.3.1



- (1) Except that concrete required to be of higher strength by Table 201-1.1.2(A) SSPWC shall be as per Table 201-1.1.2(A) SSPWC.
- (2) As per Table 201-1.1.2(A) SSPWC.
- (3) Portions of Table 201-1.1.2(A) of the Standard Specifications for Public Works Construction not shown herein as changed are not affected by this table.

201-1.2.4 Chemical Admixtures.

Substitute the following:

(d) Air-Entraining Admixtures. The air content shall not deviate from the percentage specified or permitted by more than 1-1/2 percentage points. The air content of freshly mixed concrete will be determined by California Test 504.

SECTION 203 - BITUMINOUS MATERIALS

203-6 ASPHALT CONCRETE.

203-6.2.1. Asphalt Binder.

Add the following:

Wet Mix or Core sampled asphalt concrete will be considered in conformance with the mix design when the Asphalt Binder content is within +/-0.5% of the design mix and the gradation conforms to the grading as shown in Table 203-6.4.4. Deviations in gradation may be considered in conformance with the mix design provided the stability of the completed mix complies with the requirements for Hveem Stability per Table 203-6.4.4.

203-6.4 Asphalt Concrete Mixtures.

Add the following:

Conventional Asphalt concrete shall be class C2-PG64-10 for a surface course 2 inches in depth and B-PG64-10 for all base courses. Asphalt concrete shall be class D2-PG70-10 for dikes and class E-PG70-10 ditches.

203-6.4.4 Composition and Grading.

Add the following:

Evaluation of asphalt concrete shall be determined from samples of asphalt concrete taken after completion of all processing (Wet Mix) or by core sample analysis of the in-place asphalt concrete or by direct central plant inspection that confirms the production of a particular mix design and verifies using samples of aggregate taken before the addition of asphalt and mineral filler (Bin). All samples shall be taken in accordance with Calif. Test 125.

When Wet Mix or Core samples of asphalt concrete are to be used for evaluation, sufficient size samples shall be taken to ensure representative and adequate quantity of material for:

1. Asphalt Content and Gradation of Extraction using Calif. Test 382 or ASTM 2172, and Calif. Test 202.
2. Stability using:
 - a. Hveem stability Value using Calif. Tests 304 and 366 shall be the average of three individual Values and/or
 - b. Marshall Stability¹ in accordance with the Asphalt Institute's MS-2 fabricated and tested for traffic volume and shall be the average of three specimens.



¹Only use Marshall Stability when the deviation between individual Hveem Stabilometer Values are greater than +/-5.

When using core sample analysis, the samples must be properly prepared to safeguard against influx of outside contaminants and so that the cut surfaces do not influence the test results.

The amount of asphalt binder used in asphalt concrete placed in dikes, gutters, gutter flares, overside drains and aprons at the ends of drainage structures shall be increased one percent by mass of the aggregate over the amount of asphalt binder determined for use in asphalt concrete placed on the traveled way.

Wet Mix or Core sampled asphalt concrete will be considered in conformance with the mix design when the asphalt content is within +/- .40 of the design mix and the gradation conforms to the grading as shown in Table 203-6.4.4. Deviations in gradation may be considered in conformance with the mix design provided the stability of the completed mix complies with the requirements for Hveem Stability per Table 203-6.4.4.

SECTION 213 - ENGINEERING GEOSYNTHETICS

213-5 GEOTEXTILES AND GEOGRIDS.

Add the following section:

213-5.1 General. Geotextile types shall be used for the applications listed in Table 213-5.1.

**Table 213-5.1
GEOTEXTILE APPLICATIONS**

Application of Geotextile	Type Designation
Separation of Soil and Street Structural Section	90WS
Separation of Soil and Subsurface Aggregate Drain	180N
Reinforcement of Street Structural Section	200WS
Remediation and Separation of Soil	270WS
Reinforcement of Soil	270WS
Drainage at the Interface of Soil Structures	N/A
Drainage at the Interface of Soil and Structures	N/A
Rock Slope Protection Fabric for Rock Sizes Below 225 kg (¼ Ton)	180N
Rock Slope Protection Fabric for Rock Sizes Including and Above 225 kg (¼ Ton)	250N
Plant Protection Covering	90N
Erosion Control Fence with 14 AWG - 150 mm x 150 mm (6"x6") Wire and 3 m (10') Post Spacing	90WS
Erosion Control Fence with 1.8 m (6') Post Spacing and No Wire Fencing	200WS

Add the following section:

213-5.2 Erosion Control Specialties. Storm water erosion control plans shall be prepared, implemented, and maintained by individuals with the respective qualifications and certification as specified in the City of Carlsbad Engineering Standards Volume 4.



Add the following section:

213-5.3 Gravel bags. Gravel bags for the use of temporary erosion control shall be burlap type, filled with no less than 23kg (50lbs) of 19 mm (³/₄") crushed rock and securely tied closed. Plastic bags are not acceptable.

SECTION 300 – EARTHWORK

Add the following section:

300-2.10 Grading Tolerance. The Contractor shall finish excavated areas other than slopes and subgrade below structures, within the roadway and sidewalk areas within 30 mm (0.1') of the grades shown on the plans. Subgrade tolerances shall conform to the requirements of section 301-1.4.

Add the following section:

300-12 STORM WATER POLLUTION PREVENTION PLAN.

300-12.1 Storm Water Pollution Prevention Plan. As part of the storm water pollution prevention work, the Contractor shall prepare and submit Storm Water Pollution Prevention Plan, hereafter referred to as the "SWPPP,". The SWPPP shall conform to the requirements of the City of Carlsbad Engineering Standards Volume 4 "*SWPPP Manual*", "Greenbook" Standard Specifications for Public Works Construction, the requirements in the California Storm Water Quality Association, Stormwater Best Management Practice Handbook, Construction ("Handbook"), the requirements of the Permit, the requirements in the plans and these supplemental provisions.

300-12.2 SWPPP Document. Within 15 calendar days after the execution of the contract, the Contractor shall submit 3 copies of the SWPPP to the Engineer, in accordance with Section 2-5.3. If revisions are required, the Contractor shall revise and resubmit the SWPPP within 15 days of receipt of the Engineer's comments and shall allow 5 days for the Engineer to review the revisions. Upon the Engineer's acceptance of the SWPPP, 3 additional copies of the SWPPP, incorporating the required changes, shall be submitted to the Engineer.

The objectives of the SWPPP shall be to identify pollution sources that may adversely affect the quality of storm water discharges associated with the project and to identify, construct, implement and maintain storm water pollution prevention measures, hereafter referred to as control measures, to reduce to the extent feasible pollutants in storm water discharges from the construction site both during and after construction is completed under this contract.

The SWPPP shall incorporate control measures in the following categories:

1. Soil stabilization practices;
2. Sediment control practices;
3. Wind erosion control practices;
4. Non-storm water management and waste management and disposal control practices;
and
5. Daily street sweeping

Specific objectives and minimum requirements for each category of control measures are contained in the Handbook.



The Contractor shall designate a Water Pollution Control Manager who will have the responsibilities outlined in the SWPPP.

The SWPPP shall include, but not be limited to, the following items as described in the SWPPP:

1. Source Identification;
2. Erosion and Sediment Controls;
3. Non-Storm Water Management;
4. Waste Management and Disposal;
5. Maintenance, Inspection and Repair;
6. Training;
7. List of Contractors and Subcontractors;
8. Post-Construction Storm Water Management;
9. Preparer;
10. Copy of the local permit;
11. BMP Consideration Checklist;
12. SWPPP Checklist;
13. Schedule of Values; and
14. Storm Water Pollution Prevention Drawings.

The Contractor shall amend the SWPPP, graphically and in narrative form, whenever there is a change in construction activities or operations which may affect the discharge of significant quantities of pollutants to surface waters, ground waters, municipal storm drain systems, or when deemed necessary by the Engineer. The SWPPP shall also be amended if it is in violation of any condition of the Permit or has not effectively achieved the objective of reducing pollutants in storm water discharges. Amendments shall show additional control measures or revised operations, including those in areas not shown in the initially accepted SWPPP, which are required on the project to control water pollution effectively. Amendments to the SWPPP shall be submitted for review and acceptance by the Engineer in the same manner specified for the initially accepted SWPPP. Accepted amendments shall be dated and logged in the SWPPP. Upon acceptance of the amendment, the Contractor shall implement the additional control measures or revised operations.

The Contractor shall keep a copy of the accepted SWPPP and accepted amendments at the project site. The SWPPP shall be made available upon request of a representative of the Regional Water Quality Control Board, State Water Resources Control Board, U.S. Environmental Protection Agency or local storm water management agency. Requests by the public shall be directed to the Engineer.

300-12.3 SWPPP Implementation. Upon acceptance of the SWPPP, the Contractor shall be responsible throughout the duration of the project for installing, constructing, inspecting and maintaining the control measures included in the SWPPP and any amendments thereto and for removing and disposing of temporary control measures. Unless otherwise directed by the Engineer or specified in these supplemental provisions, the Contractor's responsibility for SWPPP implementation shall continue throughout any temporary suspension of work ordered in accordance with Section 6-3, "Suspension of Work". Requirements for installation, construction, inspection, maintenance, removal and disposal of control measures are specified in the "Handbook" and these supplemental provisions.



Soil stabilization practices and sediment control measures, including minimum requirements, shall be provided throughout the rainy season, defined as between October 1 and April 30.

Implementation of soil stabilization practices and sediment control measures for soil-disturbed areas of the project site shall be completed, except as provided for below, no later than 20 days prior to the beginning of the rainy season or upon start of applicable construction activities for projects which begin either during or within 20 days of the rainy season.

The Contractor shall implement, year-round and throughout the duration of the project, control measures included in the SWPPP for sediment tracking, wind erosion, non-storm water management and waste management and disposal.

The Engineer may order the suspension of construction operations, at the Contractor's cost, which create water pollution if the Contractor fails to conform to the requirements of this section as determined by the Engineer.

300-12.4 Maintenance. To ensure the proper implementation and functioning of control measures, the Contractor shall regularly inspect and maintain the construction site for the control measures identified in the SWPPP, as described in Section 7-8. The Contractor shall identify corrective actions and time frames to address any damaged measures or reinstate any measures that have been discontinued.

The construction site inspection checklist provided in the "Handbook" shall be used to ensure that the necessary measures are being properly implemented, and to ensure that the control measures are functioning adequately. The Contractor shall submit one copy of each site inspection record to the Engineer, within two days of the inspection.

During the rainy season, inspections of the construction site shall be conducted by the Contractor to identify deficient measures, as follows:

1. When the five-day rain probability forecast exceeds forty percent (40%).
2. After any precipitation which causes runoff capable of carrying sediment from the construction site;
3. At 24-hour intervals during extended precipitation events; and
4. Routinely, at a minimum of once every week.

If the Contractor or the Engineer identifies a deficiency in the deployment or functioning of an identified control measure, the deficiency shall be corrected by the Contractor immediately, or by a later date and time if requested by the Contractor and accepted by the Engineer in writing, but not later than the onset of subsequent precipitation events. The correction of deficiencies shall be at no additional cost to the City.

300-12.5 Payment. The contract lump sum price paid for the SWPPP work shall include full compensation for the design, submittal, obtaining approval, and amending the Tier 2 SWPPP and for furnishing all labor, materials, tools, equipment, and incidentals to install, implement, maintain and remove construction BMPs per the approved SWPPP. The most recent Tier 2 construction SWPPP Template is available on the City Website and an example is included in Appendix "A".

Partial payment shall be based on the percentage of the total value of work completed.



SECTION 301 - SUBGRADE PREPARATION, TREATED MATERIALS AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION.

301-1.2 Preparation of Subgrade.

Modify the second and third paragraphs as follows:
Change each instance reading "6 inches" to "12 inches".

301-1.3 Relative Compaction.

Delete the first paragraph and substitute the following:
The Contractor shall compact the upper 300 mm (12") of subgrade beneath areas to be paved, have base or subbase material placed on them (including pipelines), or curb, gutter, curb and gutter, alley pavement, driveway, sidewalk constructed over them, to no less than 95 percent maximum dry density as determined by ASTM D1557.

301-1.7 Payment.

Modify the first paragraph as follows:
Payment for subgrade preparation shall be incidental to the contract bid price for which the subgrade is prepared and shall include all labor, materials; including water, operations and equipment to scarify, adjust moisture, compact or recompact the subgrade, both in cut areas and in fill areas, and no further compensation will be allowed.

SECTION 302 - ROADWAY SURFACING

302-5 ASPHALT CONCRETE PAVEMENT.

Add the following section:

302-5.2 Pavement Transitions. The Contractor shall ramp the approaches and termini to all structures and vertical joints in the cold-milled area which are transverse to through traffic with temporary asphalt concrete pavement as specified in Section 306-13.1. Ramps shall be constructed the same day as cold milling and removed the same day as permanent paving. Ramp dimensions and compaction shall be as approved by the Engineer.

302-5.4 Tack Coat. Add the following: If the asphalt concrete pavement is being constructed directly upon an existing hard-surfaced pavement, a tack coat of PG 64-10 paving asphalt at a rate of 0.05 gallon per square yard or SS-1h emulsion at a rate between 0.05 and 0.10 gal/SY shall be uniformly applied upon the existing pavement preceding the placement of the asphalt concrete.

The contact surfaces of all cold pavement joints, curbs, gutters, manholes, and the like shall be painted with PG 64-10 paving asphalt, or SS-1h emulsion, immediately before the adjoining asphalt concrete is placed.

The Contractor shall place a tack coat between the successive interfaces of existing pavement and new asphalt concrete.



302-5.5 Distribution and Spreading.

Add after the second sentence of sixth paragraph:

The Contractor shall provide the self-propelled spreading and finishing machine used to construct the asphalt concrete surface course with an automatic screed control. The automatic screed control shall be 5.5 m (18') minimum length. The paving machine shall be operated by an operator and two full-time screed men during all paving. The Contractor shall provide an on-site backup paving during all paving operations. No conveyor belt systems will be allowed for moving the AC. No AC windrows will be allowed. Only a surge volume/remix material transfer vehicle (MTV) is allowed to receive the AC from the haul trucks and then place it in the self-propelled spreading and finishing machine. If the Engineer determines the use of the MTV is not practical for a portion of the project, the Engineer may waive its requirement for that portion.

302-5.6.1 General.

Add to the second paragraph, Part (2):

Pinched joint rolling procedures shall be required, and vibratory rollers shall be limited to breakdown, unless otherwise directed by the Engineer.

Add after the last paragraph:

Unless directed otherwise by the Engineer, the initial breakdown rolling shall be followed by a pneumatic-tired roller as described in this section.

302-5.9 Measurement and Payment. Replace the first sentence with the following: Payment for pavement resurfacing shall be made at the unit bid price for the item requiring such work.

Add the following section:

302-15 PUBLIC CONVENIENCE AND TRAFFIC CONTROL.

The Contractor shall schedule the work so as to prevent damage by all traffic. The Contractor shall not schedule work so as to conflict with trash pickup. The trash hauling schedule can be obtained by calling the city's contracted waste company. The Contractor shall accommodate mail delivery to residences and businesses during the work.

At least two weeks prior to work, Contractor shall send, by first class mail, notification letters to all property addresses on which resurfacing shall occur. Obtaining the appropriate addresses shall be the Contractor's responsibility. A sample letter shall be provided by the city and the Contractor shall use the city's sample letter and modify it with the appropriate street names, dates, times, and phone numbers specific to the work.

The limits and sequencing of the Contractor's resurfacing operations shall impact no more than 900 lineal feet of street or curb-side parking for residents and business on any given day.

Seventy-two hours prior to the start of any construction in the public right-of-way that affects vehicular traffic and/or parking or pedestrian routes, the Contract shall give written notification of the impending disruption via door hangers. For a full street closure, all residences and/or businesses on the affected street or alley shall be notified. For partial street closures, or curb, sidewalk and driveway repairs, the residences and/or businesses directly affected by the work shall be notified.

The Contractor shall deliver the advance notification door hanger which shall state the date and time the work will begin and its anticipated duration. The notification shall list two telephone numbers that may be called to obtain additional information. One number shall be the



Contractor's permanent office or field office and the other number shall be a 24-hour number answered by a representative of the Contractor who is knowledgeable about the project. At least one of the phone numbers shall be in the 760 area code. An answering machine shall not be connected to either number. The notification shall also give a brief description of the work and simple instructions to the home or business owner on what they need to do to facilitate the construction. The Contractor shall use the sample door hanger provided by the city and submit door hangars to the Inspector for approval. Notices shall not be distributed until approved by the Inspector.

The notification shall be pre-cut in a manner that enables it to be affixed to a doorknob without adhesives. It shall be a minimum size of 4 inches by 8-1/2 inches and shall be brightly colored with contrasting printing. The material shall be equivalent in strength and durability to 65-lb card stock. The printing on the notice shall be no smaller than 12-point. The door hanger shall list the street name, date, time, phone numbers, and appropriate information specific to the work.

The preparation, materials, printing and distribution of the notifications shall be included in the contract price for the Work requiring such notifications and no separate or additional payment shall be made.

SECTION 303 CONCRETE AND MASONRY CONSTRUCTION.

303-1 CONCRETE STRUCTURES.

303-1.2 Subgrade for Concrete Structures.

Add the following:

If groundwater is encountered, Contractor shall work a minimum 2' deep of ¾" gravel into soil to provide an adequate base for construction of concrete structure.

303-1.11 Measurement.

Delete the subsection in its entirety and replace with the following:

Concrete structures will be measured for payment by each structure installed as specified in the bid schedule and in accordance to the plan and any referenced standard drawings.

303-1.12 Payment.

Delete the subsection in its entirety and replace with the following:

Payment for concrete structures will be made as set forth in the Bid Schedule. Payment shall include compensation for furnishing all labor, materials, tools, and equipment necessary to construct the concrete structures complete in place. Items shall include submittal of PCC mix design for approval, structure excavation, subgrade and base preparation, furnishing PCC and casting-in-place, steel reinforcement, forms, covers, rims, grates, frames, collars, cone and draft sections, bases, steps, clean up; and for all other work necessary to install the concrete structure, complete in place, and no additional compensation will be allowed therefor.

303-5 CONCRETE CURBS, WALKS, GUTTERS, CROSS GUTTERS, ALLEY INTERSECTIONS, ACCESS RAMPS, AND DRIVEWAYS.

303-5.1.1 General.



Add the following:

Portland Cement Concrete construction shall include, but not limited to, curbs, walkways, cross gutters, access ramps, driveways, concrete curb outlet, terrace ditches, and all other miscellaneous PCC construction items as indicated on the plans and per these Specifications.

Removal of adjacent asphalt concrete and aggregate base removal associated with concrete curb construction shall be replaced with full depth asphalt concrete with a minimum width of one foot perpendicular to the face of concrete edge. The replaced section shall conform to the requirements of Sections 203-6, 302-5, 401-3 and match the depth of the adjacent concrete gutter.

The Contractor shall verify with a “smart level”, string line and/or water testing that positive drainage is maintained upon completion of finishing, and any irregularities causing water ponding shall be corrected and refinished. The CITY shall be present to verify the concrete forms, prior to pouring any PCC construction improvements.

303-5.5.2 Curb.

Add the following:

The Contractor shall stamp the curb face with 75 mm (3”) high block letters directly above the point that it is crossed by underground facilities with the marking specified in Table 303-5.5.2(A)

**TABLE 303-5.5.2(A)
Curb Face Markings**

Type of underground facilities	Marking
Water Service Lateral	W
Sewer Service Lateral	S
Irrigation Water Lateral or Sleeve	RW

303-5.9 Measurement and Payment.

Add the following:

Curb and gutter, and curb, shall be considered as continuing across driveways, access ramps and drainage inlets when constructed adjacent thereto. Neither curb and gutter nor curb will be paid for across the length of local depressions, except that which occurs in gutter transitions at each side of an inlet.

SECTION 306 – OPEN TRENCH CONDUIT CONSTRUCTION

306-3 TRENCH EXCAVATION.

Add the following:

306-3.1 General. When the actual elevation or position of any existing pipe, conduit, or other underground appurtenances cannot be determined without excavation, the Contractor shall excavate and expose the existing improvement at the location shown on the Plans and any other locations deemed necessary by the Engineer. Such excavation shall be considered as part of the excavation necessary for the work. The Engineer shall be given the opportunity to inspect the existing improvements when it is exposed. Any adjustments in line or grade which may be necessary to accomplish the intent of the plans shall be made at no additional costs.



Add the following:

306-3.2 Removal of Surface Improvements.

Add the following:

Bituminous pavement, concrete pavement, curbs, sidewalks, or driveways removed in connection with construction shall be removed in accordance with Subsection 401 of the Standard Specifications and these Special Provisions and reconstructed in-kind.

306-3.5 Maximum Length of Open Trench.

Delete the first sentence for the first paragraph and replace with the following:

Except by permission of the Engineer, the maximum length of open trench where prefabricated pipe is used shall be the distance necessary to accommodate the amount of pipe installed in a single day.

306-12 BACKFILL.

306-12.1 General.

Add the following:

The Contractor shall install detectable underground utility marking tape above each or, in the case of bundled underground conduit of the same type, the upper underground conduit being installed by the open trench method.

Delete the following section in its entirety and replace with the following:

306-12.3.2 Compaction Requirements. The Contractor shall densify trench backfill to a minimum of 90 percent relative compaction except that in the top 915 mm (36") of the street right-of-way, compaction shall be 95 percent.

306-13 TRENCH RESURFACING.

306-13.1 Temporary Resurfacing.

Add the following:

Temporary bituminous resurfacing materials which are placed by the Contractor are for its convenience and shall be at no cost to the Agency. Temporary bituminous resurfacing materials shall be used in lieu of permanent resurfacing only when approved by the Engineer. When temporary bituminous resurfacing materials are used in lieu of permanent resurfacing it shall be removed and replaced with permanent resurfacing within 7 days of placement. No additional payment will be made for temporary bituminous resurfacing materials. The price bid for the associated conduit or structure shall include full compensation for furnishing, placing, maintaining, removing, and disposing of such temporary resurfacing materials.

306-13.2 Permanent Resurfacing.

Add the following:

Except as provided in section 306-13.1, "Temporary Resurfacing," the Contractor shall perform permanent trench resurfacing within 24 hours after the completion of backfill and compaction of backfill and aggregate base materials.



SECTION 400 – PROTECTION AND RESTORATION

400-1 GENERAL.

Add the following:

The Contractor shall replace all pavement striping, markings and markers which are not designated for removal and are damaged as a result of its operations.

400-2 PERMANENT SURVEY MARKERS.

Delete the second paragraph and subparagraphs a), b) and c).

400-3 PAYMENT.

Delete in its entirety and replace with the following:

No separate or additional payment will be made for 1) protection of existing improvements, and 2) restoration of existing improvements.

No separate or additional payment will be made to restore permanent survey makers.

SECTION 401 – REMOVAL

401-3 CONCRETE AND MASONRY IMPROVEMENTS.

401-3.2 Concrete Curb, Walk, Gutters, Cross Gutters, Curb Ramps, Driveway and Alley Intersections.

Delete the third and fourth sentence and add the following:

All existing concrete shall be removed to the nearest joint. Concrete shall be removed to neatly sawed edges with saw cuts made to a depth deep enough to produce a clean straight break without loosening, cracking or damaging adjoining improvements. PCC and all other material unsuitable for use as fill, as determined by the Engineer, shall be removed from the right-of-way and disposed of by the Contractor at a site of his own choice and shall pay all costs incidental to the disposal.

Add the following section:

401-3.2.1 Adjacent Asphalt Concrete Removal. Removal of asphalt concrete and aggregate base associated with concrete driveway, ramp and curb and gutter construction shall be replaced with full depth asphalt concrete to a minimum width of one foot perpendicular from face of nearest concrete edge. Removal of adjoining asphalt section and the full depth replacement is incidental to the concrete curb and gutter work as described in section 303-5.



**SUPPLEMENTAL PROVISIONS
TO
STANDARD SPECIFICATIONS FOR PUBLIC WORKS
CONSTRUCTION**

PART 6 TEMPORARY TRAFFIC CONTROL

**SECTION 601 – TEMPORARY TRAFFIC CONTROL FOR
CONSTRUCTION AND MAINTENANCE WORK ZONES**

Add the following section:

601-1.2 Payment.

The Contract price paid for Temporary Traffic Control shall include full compensation for, but not limited to, design, submittal and approval of the temporary traffic control plan (TCP) and furnishing all labor, materials, tools, equipment, and incidentals for storing, placing, maintaining, moving to new locations, replacing and removing all traffic control zone devices including flaggers, construction area signs and signage, channelizing devices including traffic barriers and end treatments, traffic sign enhancement devices including portable changeable message signs and flashing arrow signs, temporary traffic striping and pavement markings and as shown on the Plans or approved TCP and in accordance with the Contract Documents.

Full compensation for removing and salvaging the traffic control equipment and materials that are to be reused or reset in the Work shall be considered included in the Contract price paid for Temporary Traffic Control and no additional compensation will be allowed therefor.

Progress payments for Temporary Traffic Control shall be based on the percentage of the total value of work completed.

601-3 TEMPORARY TRAFFIC CONTROL (TTC) ZONE DEVICES.

601-3.1 General.

Add the following:

The Contractor shall furnish and install temporary traffic pavement markers, channelizers, signage, railing (type K), barriers, crash cushions and end treatments for railings and barriers at the locations shown on the Plans or the approved TCP and as required by the Contract Documents.

Add the following section:

601-3.4.1 General.

Add the following:

If temporary traffic signs are displaced or overturned by any cause during the progress of the Work, the Contractor shall immediately replace the signs in their approved locations. The Contractor shall maintain all temporary traffic signs used in the Work in a clean, reflective and readable condition. The Contractor shall replace or restore graffiti marked temporary traffic signs and posts used in the Work within 8 hours of such discovery.



In the event that the Contractor fails to install and/or maintain barricades or such other traffic signs, markings, delineation or devices, the Engineer may, at his/her sole option, may correct the deficiency and charge the Contractor fifty dollars (\$50.00) per day per traffic sign or device, or the actual cost of providing such traffic control facility, whichever is greater.

601-3.5 Signs and Signage.

601-3.5.1 General.

Delete in its entirety and replace with the following:

Unless otherwise specified, signs shall conform to the California MUTCD. Portable signs shall consist of a base, standard or framework, and a sign panel and conform with applicable provisions for portable signs in Caltrans Standard Specification 12-3.11. Sign units shall be capable of being delivered to the Work site and placed into immediate operation. The Contractor shall provide and install all temporary traffic control signs, markers, markings, and delineators at locations shown on plans and specified herein.

Signage shall include all temporary signs required for the direction of traffic through or around the Work site. Sign placement shall conform to the California MUTCD and the TCP.

Temporary "No Parking" and "No Stopping" signs shall be installed at least 24 hours before enforcement. Public notification of temporary "No Parking" restriction shall be posted at least 72 hours before enforcement of the "No Parking" zone. The notification shall state the date and time of parking restriction for a duration not to exceed the time necessary to complete the Work at that location. Failure to meet the date so indicated will require re-posting the notification in advance of the rescheduled Work.

601-3.5.2 Payment.

Modify this section as follows:

Payment for signs and signage shall be included in the contract price for Temporary Traffic Control as specified in Section 601-2.2.

601-3.6 Channelizing Devices.

601-3.6.1 General.

Replace this section with the following:

Channelizers shall be new surface-mounted type and shall be furnished, placed, and maintained at the locations shown on the plans. Channelizer posts shall be orange in color. Channelizers shall have affixed white reflective sheeting as specified in the special provisions. The reflective sheeting shall be 75 mm x 300 mm (3" x 12") in size. The reflective sheeting shall be visible at 300 m (1000') at night under illumination of legal high beam headlights, by persons with vision of or corrected to 20/20. The channelizer bases shall be cemented to the pavement in the same manner as provided for cementing pavement markers to pavement in Section 312-1, "Placement." Channelizers shall be applied only on a clean, dry surface. Channelizers shall be placed on the alignment and location shown on the plans and as directed by the Engineer. The channelizers shall be placed uniformly, straight on tangent alignment and on a true arc on curved alignment. All layout work necessary to place the channelizers to the proper alignment shall be performed by the Contractor. If the channelizers are displaced or fail to remain in an upright position, from any cause, the channelizers shall immediately be replaced or restored to their original location, by the Contractor. The Contractor shall provide the Engineer with a Certificate of Compliance in accordance with the provisions of Section 4-1.5, "Certification". Said certificate shall certify that the channelizers comply with the plans and specifications and



conform to the prequalified design and material requirements approved by the Engineer and were manufactured in accordance with a quality control program approved by the Engineer.

Add the following subsection:

601-3.6.5.1 Temporary Railing and Crash Cushions. Temporary railing (Type K) shall consist of interconnected new or undamaged used precast concrete barrier units as shown on the plans. Temporary sand-filled crash cushions shall consist of new or undamaged used temporary sand-filled crash cushions units as shown on the plans.

Add the following subsection:

601-3.6.5.2 Appearance. Exposed surfaces of new and used units of temporary railing (Type K) shall be freshly coated with a white color paint prior to their first use on the project. The paint shall conform to the provisions in sections 210-1.5 "Paint Systems" and 310 "Painting". Contractor shall be responsible for the removal and cleanup or painting over the graffiti from the K-Rails within 48 hours. The Contractor shall replace or repaint units of temporary railing (Type K) or shall remove graffiti, tire or vehicle marks, dirt or other materials that mar the appearance when ordered by the Engineer.

Add the following subsection:

601-3.6.5.3 Manufacture of Temporary Railing. In addition to the requirements herein, the temporary railing (Type K) shall be manufactured per Caltrans Standard Drawing T3. Concrete used to manufacture Temporary railing (Type K) shall conform to the provisions in sections 201-1, "Portland Cement Concrete" and 303-1 "Concrete Structures". Load tickets and a Certificate of Compliance will not be required. Reinforcing steel shall conform to Section 201-1, "Portland Cement Concrete" and Section 303-1 "Concrete Structures". Steel bars to receive bolts at ends of concrete panels shall conform to ASTM A36/A36M. The bolts shall conform to ASTM A307. A round bar of the same diameter may be substituted for the end-connecting bolt shown on the plans. The bar shall conform to ASTM A36/A36M, shall have a minimum length of 660 mm and shall have a 75 mm (3") diameter by 9 mm (3/8") thick plate welded on the upper end with a 5 mm (3/16") fillet weld. The final surface finish of temporary railings (Type K) shall conform to the provisions in Section 303-1.9.2 "Ordinary Surface Finish." Exposed surfaces of concrete elements shall be cured by the water method, the forms-in-place method, or the pigmented curing compound method. The pigmented curing compound shall be type 2 curing compound. Temporary railing (Type K) may have the Contractor's name or logo on each panel. The name or logo shall not be more than 100 mm in height and shall be located not more than 300 mm above the bottom of the rail panel.

Add the following subsections:

601-3.6.5.4 Installation of Temporary Railing. In addition to the requirements herein, the temporary railing (Type K) shall be installed per Caltrans Standard Drawing T3. Temporary railing (Type K) shall be set on firm, stable foundation. The foundation shall be graded to provide a uniform bearing throughout the entire length of the railing. Abutting ends of precast concrete units shall be placed and maintained in alignment without substantial offset to each other. The precast concrete units shall be positioned straight on tangent alignment and on a true arc on curved alignment. Each rail unit placed within 3 m (10') of a traffic lane shall have a reflector installed on top of the rail as directed by the Engineer. Reflectors and adhesive will be furnished by the Contractor. A Type P marker panel conforming to the requirements of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition as amended by the MUTCD 2009 California Supplement shall also be installed at each end of railing installed adjacent to a two-lane, two-way highway and at the end facing traffic of railing installed adjacent to a one-way roadbed. If the railing is placed on a skew, the



marker shall be installed at the end of the skew nearest the traveled way. Type P marker panels shall conform to the provisions of Section 206-7.2, "Temporary Traffic Signs". Where shown on the plans, threaded rods or dowels shall be bonded in holes drilled in existing concrete. When temporary railings (Type K) are removed, any area where temporary excavation or embankment was used to accommodate the temporary railing shall be restored to its previous condition or constructed to its planned condition.

601-3.6.5.5 Temporary Sand-Filled Crash Cushions. Temporary sand-filled crash cushion units shall be selected from the latest Caltrans Authorized Material List for highway safety features and shall meet NCHRP 350 standards. Other features will be suitability to application, operational characteristics, durability and other such characteristics that the Engineer shall determine. Temporary sand-filled crash cushions (TSFCC) shall be of the type and array configurations shown on plans, and installed at every end of, or gap in, the temporary railing (Type K) whenever the closest point of approach of traffic, regardless of direction, is 4.6 m (15') or less to the end of the temporary railing (Type K) being considered. The TSFCC shall be installed per Caltrans Standard Drawings T1 and T2 for approach speeds no less than the posted speed of the street prior to construction or 55 kilometers per hour (35 mph), whichever is the greater. The TSFCC array shall be appropriate to the application as shown on said standard drawings. A Type J and/or P marker panel conforming to the requirements of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD) 2009 Edition as amended by the MUTCD 2009 California Supplement shall also be installed at each TSFCC array as shown in Caltrans Standard Drawings T1 and T2. Particular care shall be taken to assure that crash cushions are installed with the soil supporting them and the adjacent soil leveled to match the elevation of the bottom of the temporary railing immediately adjacent to the crash cushion. All routes of approach to the TSCFF array shall be graded such that any vehicle diverging from the travelled way to strike the TSCFF will travel on a vertical alignment parallel to the segment of the travel lane that it departed from.

601-3.7.5 Portable Changeable Message Signs (PCMS).

Add the following:

601-3.7.5.1 General. Each portable changeable message sign (PCMS) unit shall consist of a controller unit, a power supply, and a structural support system all mounted on a trailer. The PCMS unit shall be assembled to form a complete self-contained portable changeable message sign, which can be delivered to the site of the work and placed in immediate operation. The complete PCMS unit shall be capable of operating in an ambient air temperature range of -20°C (-4°F) to +70°C (158°F) and shall not be affected by unauthorized mobile radio transmissions.

The trailer shall be equipped so that it can be leveled and plumbed. Full operation height shall be with the bottom of the sign at least 2.1 m (7') above the ground and the top no more than 4.4 m (14.5') above the ground. After initial placement, PCMS shall be moved from location to location as directed by the Engineer.

601-3.7.5.2 Message Board. The message displayed on the PCMS shall be visible from a distance of 460 m (1500') and shall be legible from a distance of 230 m (750'), at noon on a cloudless day, by persons with vision corrected to 20/20. The sign panel shall be 3-line matrix and shall display not less than 7 characters per line. Sign messages to be displayed shall be as approved by the Engineer. The sign face shall be flat black and shall be protected from glare of the sun by a method which does not interfere with the clarity of the sign message. The sign shall be raised and lowered by means of a power driven lifting mechanism. The matrix sign shall be capable of complete alphanumeric selection.



Lamp matrix type signs shall be equipped with an automatic dimming operational mode that automatically compensates for the influence of a temporary light source or other abnormal lighting conditions. The sign shall have manual dimming operation modes of 3 or more different lamp intensities.

Matrix signs not utilizing lamps shall be either internally or externally illuminated at night.

The controller shall be an all solid-state unit containing all the necessary circuitry for the storage of at least 5 pre-programmed messages. The controller shall be installed in a location allowing the operator to perform all functions from one position. A keyboard entry system shall be provided to allow an operator to generate an infinite number of additional messages over the pre-programmed stored messages. The keyboard shall be equipped with a security lockout feature to prevent unauthorized use of the controller. The controller shall contain a nonvolatile memory to hold the keyboard created messages in memory during periods when the power is not activated. The controller shall provide for a variable message display rate which allows the operator to match the information display to the speed of the approaching traffic. The flashing off time shall be operator adjustable within the control cabinet.

601-3.7.5.3 Operation and Maintenance. PCMS shall be furnished, placed, operated, and maintained at locations shown on the plans, specified herein, or designated by the Engineer. The PCMS will be diligently maintained and repaired by the Contractor throughout the project in accordance with the manufacturer's recommendations. When ownership is transferred to the City (at the end of the job), it must be demonstrated to be in good working condition, and meet the provisions of these specifications, including current registration.

601-3.7.5.4 Measurement and Payment. Payment for all traffic signs, including Portable Changeable Message Signs, are incidental to the bid item for Temporary Traffic Control and no other compensation will be made therefor.

601-4 TEMPORARY TRAFFIC STRIPING AND PAVEMENT MARKINGS.

601-4.2.1 Application of Temporary Pavement Markers. Temporary reflective raised pavement markers shall be placed in accordance with the manufacturer's instructions. Temporary reflective raised pavement markers shall be cemented to the surfacing with the adhesive recommended by the manufacturer, except epoxy adhesive shall not be used to place temporary reflective raised pavement markers in areas where removal of the markers will be required. Pavement striping, legends and markers which conflict with any traffic pattern shall be removed by grinding as determined by the Engineer. The Contractor shall use temporary reflective raised pavement markers for temporary pavement marking, except when the temporary pavement markers are used to replace patterns of temporary traffic stripe that will be in place for less than 30 days. Reflective pavement markers used in place of the removable-type pavement markers shall conform to the Section 314-3 *Removal of Pavement Markers* and Section 314-5 *Pavement Markers*, except the 14-day waiting period before placing the pavement markers on new asphalt concrete surfacing as specified in Section 314-5.4 *Placement*, shall not apply; and epoxy adhesive shall not be used to place pavement markers in areas where removal of the markers will be required.



TECHNICAL SPECIFICATIONS

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

PART 1 - GENERAL

1.1 REQUIREMENTS

- A. This section describes the requirements for temporary bypass pumping of sewage flows. When sewage bypass and pumping is required, or the Contractor elects to perform, the Contractor shall submit a Temporary Bypass Plan conforming with the requirements of this Section.
- B. Contractor shall provide labor, materials, equipment, and supervision to temporarily provide bypass pumping around the Work. No interruption of sewage flow shall be permitted throughout the duration of the project.
- C. Bypass Operation: 24 hours per day during the period of Work. Operation of the bypass system shall be continuously monitored by the Contractor's personnel.
- D. The Contractor shall observe and comply with all Federal, State, and local laws, ordinances, codes, orders, and regulations which in any manner affect the conduct of the work, specifically as they relate to wastewater discharges, spills, or overflows to the environment. The Contractor shall be fully responsible for preventing wastewater discharges, spills or overflows; containing the wastewater; and recovery and legal disposal of wastewater. The Contractor shall be responsible for payment of any fines or penalties assessed against the Agency and for claims and liability arising from negligent or willful discharge of wastewater including attorney fees and costs associated with defending any action against the Agency resulting from such discharges, spills or overflows.
- E. The Contractor shall not interrupt existing services and/or facility operations which may cause a wastewater discharge, spill or overflow. The Contractor will be charged for all costs associated with the Agency's efforts if they are dispatched to the discharge, spill or overflow.
- F. The Contractor is prohibited from discharging any groundwater, stormwater or hazardous waste encountered during construction project without prior written approval by the San Diego Regional Water Quality Control Board and the Encina Wastewater Authority. Refer to the General Provisions Section 7-8.6.
- G. The Contractor is responsible for noise attenuation equipment and odor control measures if determined necessary by the Agency or County based on site conditions and impact to adjacent property owners.
- H. The Contractor is responsible for contacting property owners and business that are affected by the construction activities to inform them of the Work and the estimated schedule. Written notice shall be delivered to each home or business in accordance with the General Provisions. A doorhanger notice to residential properties template is available from Agency.
- I. Two (2) working days prior to any work affecting a sewer lateral, a follow-up notice shall be delivered to each home or business. The notice shall instruct occupants to minimize

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

water usage on the day of the work and to fill floor drain traps with water to prevent potential odors.

1.2 SUBMITTALS

- A. The Contractor shall submit a Temporary Bypass Pumping Plan (Plan) to the Agency in accordance with 2-5.3 Submittals prior to the implementation of flow diversion/bypass.
1. The Plan shall indicate the sequence of construction and the diversion operations and all other operations the Contractor will establish to maintain wastewater service during the diversion/bypass period.
 2. The Plan shall be reviewed and approved by the Agency before flow can be diverted/bypassed. No deviation from the approved diversion/bypass plan will be allowed without prior approval from the Agency.
 3. The Plan shall include an Overflow Emergency Response Plan (OERP) indicating the procedures, personnel, equipment, and activities that will be implemented in the event of a wastewater discharge, spill or overflow to the environment, or diversion system failure. The Contractor shall be responsible for implementation of the OERP in accordance with this Section.
- B. Bypass Pumping Plan.
1. Provide for each bypass pumping scenario for the project. Bypass pumping plan shall include at least the following:
 - a. A plan view drawing to graphically show the location of the bypass pumping equipment and appurtenances.
 - b. Staging areas for pumps.
 - c. Sewer plugging method and types of plugs.
 - d. Size and location of manholes or access points for suction and discharge piping.
 - e. Size of pipeline or conveyance system to be bypassed.
 - f. Number, size, material, location and method of installation and protection of suction and discharge piping.
 - g. Bypass pump sizes, capacities, and number of each size to be provided on-site including all primary, secondary, and spare pumping units.
 - h. Backup pumping unit complete with suction and discharge piping for a fully redundant bypass system.
 - i. Calculations of static lift, friction losses, and flow velocity for selection of pumps and piping and pump head-capacity curves and operating ranges.
 - j. System pressure for calculation of hydrostatic testing requirements.
 - k. Downstream discharge plan.
 - l. Method of protecting discharge manholes or structures from erosion and damage.
 - m. Temporary pipe supports and anchoring requirements.
 - n. Thrust and restraint block sizes and locations. Provide the details necessary to demonstrate the integrity of all suction and discharge piping.
 - o. Sections showing suction and discharge pipe depth, embedment, select fill and special backfill.
 - p. When required, sound attenuation features for each pump and any additional equipment that is included in the Bypass Pumping Plan.
 - q. Access plans to all bypass pumping locations indicated on the drawings.

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

- r. Schedule for installation, testing and maintenance of bypass pumping system.
 - s. Emergency plan for adverse weather and flooding.
 - t. Contractor's plan for providing continuous monitoring of the bypass pumping operation as well as the monitoring persons' qualifications.
 - u. Flow-thru plugs: If flow-thru plugs are utilized for bypass, provide detailed design including, but not limited to, the flow-thru pipe size(s), configuration and location, and a capacity analysis to verify plug capacity vs design flow. The flow-thru plug shall be tethered or adequately braced during all diversion activities.
2. Subject to the approval of the Agency, if bypass pumping is not required for a location, the Contractor may elect to plug and vector sewage flows for the duration of the Work. The Contractor shall submit a plug and vector plan for each location which shall include at least the following:
 - a. Sewer plugging method and types of plugs.
 - b. Size of pipeline or conveyance system to be bypassed.
 - c. Duration of plugging and calculated volume of sewage, including elevation of sewage head.
 - d. Emergency plan for adverse weather and flooding for various phases of the Work.
 - e. Contractors plan for providing continuous monitoring of the sewage flows as well as the monitoring persons' qualifications.
 3. Emergency Contact List: Provide three emergency contacts who are able to respond and be on site within two hours of contact. Provide name, cell phone, and email addresses. List shall be posted in a conspicuous location at the bypass pump location.

C. Overflow Emergency Response Plan (OERP)

1. The OERP shall be developed to respond to any construction related wastewater discharge, spill or overflow to the environment. The Contractor's OERP shall not rely on Agency personnel for emergency response, but they may be dispatched, at the Agency's discretion and/or availability, to assist the Contractor. If the Agency's personnel respond, the Contractor shall be responsible for all associated costs.
2. The Contractor is prohibited from unauthorized discharge of any wastewater, groundwater, storm water, or hazardous waste encountered during the construction project.
3. The Contractor shall immediately contact the Agency upon discovery or knowledge of an unauthorized discharge and proceed to control, contain or capture such discharge to the maximum extent possible. The Contractor shall cooperate with the Agency for the Agency's reporting requirements for the unauthorized discharge.
4. The OERP shall include at a minimum:
 - a. Identification of environmentally sensitive areas that could be affected by a wastewater discharge, spill or overflow, including but not limited to, waterways, channels, catch basins and entrances to existing underground storm drains.
 - b. An emergency notification procedure that complies with the state and federal requirements including but not limited to, California Health and Safety Code Section 5411.5. The Contractor shall designate primary and secondary representatives, their respective home and mobile phone numbers. Agency contacts for City Contractors shall also be listed.

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

- c. Identification of personnel and equipment/tools that will be utilized in the event of a wastewater discharge, spill or overflow to the environment. Include an emergency team with arrangements for backup personnel and equipment. The emergency response team shall be able to dispatch to the site 24 hours a day, 7 days a week including weekends and holidays to respond immediately to any wastewater discharge, spill or overflow to the environment related to the Project work.
 - d. Identification of downstream public water systems.
 - e. Identification of owners of storm water inlets in the immediate vicinity.
 - f. Step-by-step procedures to contain, control, and minimize wastewater discharges, spills or overflows to the environment.
5. At the pre-construction meeting, the Contractor will be provided with a list of Agency representatives to contact in case of a wastewater discharge, spill, or overflow to the environment. These contacts shall be added to the OERP.
 6. The Contractor cannot begin work until the Agency has approved the OERP in writing. An approved copy of the OERP shall be available on the job site at all times.
 7. It is the Contractor's responsibility to assure that all employees, including subcontractors, know and obey all emergency procedures included in the OERP.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall notify the Engineer 48 hours prior to bypassing or diverting flow in any of the pipelines or laterals. Notification shall include location of bypass, when bypass will be activated, and length of time bypass will be in place.
- B. Contractor shall maintain sufficient equipment and materials on site to ensure continuous and successful operation of the bypass systems. The Contractor shall maintain spare valves, pumps, tees, elbows, connections, tools, sewer plugs, piping, fuel and/or back-up generator, and other parts or system hardware to ensure immediate repair or modification of any part of the system as necessary.
- C. Bypass piping cannot be placed within private property without the written approval of the Agency.
- D. The Contractor must obtain all permits required by San Diego County Air Pollution Control District (APCD) Rule 10, Permits Required. Any reciprocating internal combustion engine, including engine-driven generators or pumps, rated for 50 BHP or greater will require APCD permitting.

3.2 BYPASS PUMPING EQUIPMENT

- A. All equipment, including but not limited to vacuums and pumps shall be fully installed, operational, and ready for immediate use.
- B. Noise Restrictions

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

1. Pumps and generators shall keep the noise level below 70 dBA at 30 feet.
2. Equipment used in residential areas or night time operation shall have sound attenuation enclosures.

C. Capacity

1. Pumps and bypass lines shall be of adequate capacity and size to handle all sewer flow. The bypass pumping equipment shall be sized to handle 100% of the required flows:

Peak Wet Weather Flow: As shown on the Plans

2. Bypass lines, fittings and all accessories shall withstand twice the maximum pressure required for bypassing and shall be in good working condition.
 3. The Contractor is responsible for verifying the actual peak flow rate and designing the flow diversion/bypass pumping system.
 4. Spare pumps and generators, with a total capacity equal to 100% of the peak flows, must also be supplied to provide 100% redundancy.
- D. The Contractor shall perform the necessary maintenance and repairs on the flow bypass system, and exercise and ensure the operation of the backup pumps. The Contractor shall operate backup pumps for a minimum of 25% of the total bypass time on a daily basis
- E. The Contractor shall provide one dedicated fuel tank for each pump/generator if fuel/generator driven pumps are used. Each fuel tank shall have a fuel level indicator. The Contractor shall continuously monitor the fuel level in the tanks and ensure that the fuel level does not drop below a level equivalent of two hours of continuous flow diversion system operation. The Contractor shall protect the fuel supply from contamination. This could include but is not limited to fuel line water traps, fuel line filters, and protecting fuel stores from precipitation. The Contractor shall also monitor all hoses and repair leaks immediately.
- F. The bypass pumping system shall be manned at all times, including any bypass pumping performed after normal work hours, weekends and holidays.

3.3 PROTECTION

- A. Contractor shall mark and protect suction and discharge pipes.
- B. The Contractor shall inspect the entire bypass pumping and piping system for leaks or spills on a continuous basis.
- C. No bypassing to the ground surface, receiving waters, storm drains, or bypassing which results in soil or groundwater contamination or any potential health hazards shall be permitted.
- D. In the event of any sewage spill the Contractor shall follow the approved OERP and the steps outlined in Paragraph 3.4.

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

3.4 WASTERWATER DISCHARGE EVENT

- A. In event of wastewater discharge, spill, or overflow to the environment, the Contractor shall:
1. Immediately implement the OERP without direction from the Agency, to control and contain the discharge, spill, or overflow.
 2. Contact Agency personnel immediately. Information to provide shall include at minimum, the following:
 - a. Location of discharge, spill, or overflow
 - b. Start time of discharge, spill, or overflow
 - c. Duration if already terminated, or expected duration if in progress
 - d. Estimated wastewater volume spilled
 - e. Cause (if known)
 - f. Control measures implemented
 - g. Type of remedial and/or clean up measures taken
 - h. Description of affected or potentially affected sensitive areas such as waterways, channels, catch basins and entrances to existing underground storm drains
 3. Based on the above information, the Agency will determine if the discharge, spill or overflow is contained, and whether Agency personnel should be dispatched to the site. If dispatched, the Contractor shall be responsible for all costs incurred by the Agency as associated with the discharge, spill, or overflow.
 4. Contact owner of stormwater inlets if discharge, spill or overflow enters stormwater system.
 5. Report the spill to the applicable jurisdictional agency following the procedures in the OERP.
- B. The Contractor shall, within 24 hours of the wastewater discharge, spill or overflow, submit to the Agency a written Wastewater Discharge Incident Report.
- C. The Agency will evaluate the need for procedural changes to avoid further discharges, spills or overflows and the Contractor shall implement such changes immediately at no additional cost to the Agency. The Agency may institute further corrective actions, as deemed necessary.
- D. The Contractor shall not damage existing public and private improvements, interrupt existing services and/or facility operations which may cause a wastewater discharge, spill or overflow to the environment. Any utility and/or improvement which is damaged by the Contractor shall immediately be repaired at the expense of the Contractor.
- E. Once the discharge, spill or overflow has been contained and the situation causing the event has been stabilized, the Contractor shall restore the affected areas to original condition.

3.5 FIELD QUALITY CONTROL

- A. Hydrostatic Pressure Test:

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

1. Notify the Engineer 24 hours prior to testing. The test shall be observed by an Agency Representative.
2. Attach bulkheads, isolation valves and pressure gauges to the piping to be tested.
3. Fill the discharge piping with potable water and seal the piping on both ends. The Contractor shall be responsible for securing potable water supply.
4. Test the discharge piping with maximum pressure equal to 2.0 times the maximum operating pressure or 50 psi, whichever is greater for a period of 30 minutes.
5. If no leaks are observed after the test period, the line may be placed in service.

B. Inspection:

1. Operator shall inspect temporary bypass pumping and piping system at a minimum of every hour.
2. Operator shall continuously monitor the flow levels downstream and upstream of the flow diversion to detect any possible failure that may cause a wastewater discharge.
3. Keep written inspection log at each pumping location. Provide weekly copies to the Agency in a manner acceptable to the Agency.

C. Maintenance:

1. The Contractor shall inspect and maintain the bypass system daily, including the backup system.
2. The Contractor shall submit maintenance procedures and frequency to the Agency prior to any flow bypass.
3. The Contractor shall maintain a log of system operation and inspection, maintenance and repair records, and provide copies to the Agency upon request in a manner acceptable to the Agency.

3.6 CLEAN-UP

- A. The bypass pumping system shall be flushed with potable water and drained prior to being dismantled and moved to the next location. Drain residual wastewater from the piping system into the Agency sewer main prior to disassembly, taking care to avoid wastewater spills.
- B. Upon completion of bypass pumping operation, clean disturbed areas, restoring to original condition, including pavement restoration, at least equal to that which existing prior to start of Work.

3.7 SCHEDULING

- A. The bypassing system shall not be shut down between shifts, on holidays or weekends, or during work stoppages.
- B. The bypass system shall have a trained and qualified attendant on site 24 hours per day, 7 days per week to maintain the bypass pumping system from the start of bypass until the bypassing of the specific pipeline is no longer required.

SECTION 02960 – TEMPORARY SEWER BYPASS PUMPING

END OF SECTION

SECTION 03461 – PRECAST CONCRETE MANHOLES

PART 1 GENERAL

1.1 DESCRIPTION

- A. This section describes the requirements for precast concrete manholes, also referred to in the approved plans as flow meter vault, for new manholes to be installed.
- B. The Contractor shall furnish and install all manholes shown on the Plans, complete and in place in accordance with the Contract Documents.
- C. This section does not address rehabilitation of existing sewer manholes. Refer to the Greenbook for manhole rehabilitation requirements.

1.2 REFERENCE STANDARDS

The publications listed below form part of this specification to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said standards unless otherwise called for.

A. Commercial Standards:

ACI 350-20	Code Requirements for Environmental Engineering Concrete Structures & Commentary
ACI 318-14	Building Code Requirements for Structural Concrete
ASTM A48	Gray Iron Castings
ASTM C94	Specification for Ready-Mixed Concrete
ASTM C443	Standard Specification for Joints for Concrete Pipe and Manholes Using Rubber Gaskets
ASTM C478	Precast Reinforced Concrete Manhole Sections
ASTM C579	Standard Test Methods for Compressive Strength of Chemical-Resistant Mortars, Grouts, Monolithic, Surfacing, and Polymer Concretes
ASTM C580	Standard Test Method for Flexural Strength and Modulus of Elasticity of Chemical-Resistant Mortars, Grouts, Monolithic Surfacing, and Polymer Concretes
ASTM C857	Standard Practice for Minimum Structural Design Loading for Underground Utility Structures
ASTM C923	Resilient Connectors between Reinforced Concrete Manhole Structures, Pipes, and Laterals

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ASTM D648	Test Method for Deflection Temperature of Plastics Under Flexural Load in Edgewise Position
ASTM D2584	Test Method for Ignition Loss of Cured Reinforced Resins
SSPWC	Chemical Resistance (Pickle Jar) Test

1.3 RELATED WORK SPECIFIED ELSEWHERE

The Contractor shall refer to the following specification section(s) for additional requirements:

- A. Trenching, Excavation, Backfilling and Compacting: 02223
- B. Cast-In-Place Concrete: 03000

1.4 SUBMITTALS

- A. Submit manufacturer's data and details of following items for approval in accordance with General Provisions.
 - 1. Show dimensions, locations, lifting inserts, reinforcement, and joints
 - 2. Shop drawings of manhole sections, base units and construction details, jointing methods, materials, and dimensions
 - 3. Summary of criteria used in manhole design including, as minimum, material properties, loading criteria, and dimensions assumed. Include certification from manufacturer that concrete manhole design meets or exceeds the load and strength requirements of ASTM C478 and ASTM C857, reinforced in accordance with ACI 318-14 and ACI 350-20. Include current ISO 9001:2018 certification
 - 4. Frames, grates, rings, and covers
 - 5. Materials to be used in fabricating pipe drop connections
 - 6. Materials to be used for pipe connections
 - 7. Materials to be used for stubs and stub plugs, if required
 - 8. Sealants and waterproofing materials
 - 9. Proof of independent Chemical Resistance testing conducted in accordance with the Greenbook
 - 10. Submitted sealed drawings by a California-registered Professional Engineer

1.5 QUALITY ASSURANCE

The City Inspector shall observe preparation of the subgrade and placement of gravel prior to the placement of the manhole base. The Contractor shall install manholes at the

SECTION 03461 – PRECAST CONCRETE MANHOLES

correct elevations and orientations, level the base, ensure water tight joints, and backfill and compact in accordance with the Contract Documents.

1.6 QUALITY CONTROL

- A. Facility Quality Control should adhere to ISO 9001:2018 for manufacturing. All fabricators will be ISO 9001:2018 Certified and provide documentation of current certification. Manufacturing will take place in a facility regularly engaged in precast concrete manufacturing.
- B. Manufacturer shall provide project references for approval by the City Engineer for 10 previous projects where the product has been successfully used and completed in the last 5 years.

1.7 DESIGN CRITERIA

- A. Precast concrete manhole risers, cones, flat lids, grade rings and manhole base sections shall be designed by manufacturer to meet the intent of ASTM C478 with allowable compositional and sizing differences as designed by the precast concrete manufacturer.
- B. AASHTO HS-20 or HL-93 design or as required with loading applied to manhole cover and transition and base slabs.
- C. Precast manholes will be designed based upon live and dead load criteria in ASTM C857 and ACI 318-14.
- D. Unit soil weight of 120 pounds per cubic foot (pcf) located above portions of manhole, including base slab projections.
- E. Assume fully saturated soil conditions.
- F. Dead load of manhole sections fully supported by concrete manhole base.

1.8 DESIGN

Precast concrete manhole risers, cones, flat lids, grade rings and manhole base sections shall be designed to meet loading requirements of ASTM C478, ASTM C857 and ACI 318-14 and ACI 350-20:

- A. Mix design shall consist of ASTM C150, Type V Portland cement, sand, and aggregate. All sand and aggregate shall be inert in an acidic environment.
- B. The wall thickness of precast concrete structures shall not be less than shown on the approved plans.
- C. Each precast concrete manhole component shall be free of all defects, including indentations, cracks, and foreign inclusions that, due to their nature and degree or extent, detrimentally affect the strength and serviceability of the component part. Cosmetic defect shall not be cause for rejection. The nominal internal diameter of manhole components shall not vary more than 2%.

SECTION 03461 – PRECAST CONCRETE MANHOLES

- D. Each manhole shall be marked with the following information: manufacturer's name or trademark, manufacturer's plant location and production date.
- E. Manhole joints shall be assembled with a bell/spigot or shiplap butyl mastic and/or gasketed joint so that on assembly, manhole base, riser and top section make a continuous and uniform manhole. Joint sealing surfaces shall be free of dents, gouges and other surface irregularities that would affect joint integrity.
- F. Minimum clearance between wall penetrations and joints shall be per manufacturer's design.
- G. When flow junctions of different size pipes occur in manholes, set the invert of the smaller main at 3/4 of the depth of the larger main.
- H. Construct invert channels to provide smooth flow transition with minimal disruption of flow at pipe-manhole connections. The invert slope through the manhole shall be uniform and indicated on the Plans. Cast the precast base section monolithically with the lower portion of the shaft. Construct an extended ballast slab to resist buoyancy with Portland cement concrete as approved by the City Engineer.
- I. Provide resilient connectors conforming to requirements of ASTM C923 or other options as available. All connectors are to be water tight. Install approved resilient connectors at each pipe entering and exiting manholes in accordance with manufacturer's instructions and per the approved plans.

PART 2 MATERIALS

2.1 MANHOLES

- A. Provide precast concrete manhole sections, monolithic base sections and related components referencing to ASTM C478.
- B. Provide the base riser section with a monolithic floor, unless shown otherwise.
- C. Provide riser sections joined with bell and spigot or ship-lap design seamed with butyl mastic and/or rubber gaskets (ASTM C990) and wrap the exterior of the joint with a butyl rubber joint wrap so that on assembly, the manhole base, riser and top section comprise a continuous, uniform and leak-free manhole structure.
- D. Construct the precast concrete manhole using concrete riser sections of the diameter indicated on the Plans. Use various lengths of precast concrete risers to provide the correct height with the fewest joints.
- E. Design the wall thickness for the depth, soil, groundwater and live load conditions as approved by the City Engineer.
- F. Provide tops to support AASHTO HS-20 or HL-93 or vehicle loading or loads as required and receiving hatches or cast iron frame covers, as indicated on the Plans.
- G. Manhole sections shall be cast without ladder rungs unless shown differently on the approved plans.

SECTION 03461 – PRECAST CONCRETE MANHOLES

H. Manufacturers, or equal:

1. Oldcastle, (619) 240-8000, www.oldcastleinfrastructure.com
2. Olson Precast Company, (619) 843-3847, olsonprecastcompany.com

2.2 GROUT

Material for grouting and patching will be a high build, 100% solids epoxy mortar for specific use in wastewater applications and approved by the manhole manufacturer. Compressive strength shall not be less than 12,000 psi (ASTM D695) and bond strength not less than 1,500 psi (ASTM C882).

2.3 MANHOLE FRAMES AND COVERS

- A. Manhole frames shall be 36" in diameter with two concentric covers, made of cast-iron in accordance with ASTM A48 Class 30 and the Standard Drawings. Covers shall incorporate a "pick-hole" for lifting purposes.
1. Locking frames and covers may be required in areas located outside the public right of way, in remote areas or when determined by the City Engineer.
- B. Frames and covers shall be designed for HS-20 or HL-93 highway wheel loading.
- C. Covers shall be cast with the words "CITY OF CARLSBAD" and "SEWER". No other lettering will be permitted on the top portion of the cover.
- D. Casting shall be smooth, clean, and free from blisters, blowholes, and shrinkage. Imported covers and frames shall have country of origin marking in compliance with federal regulations.
- E. Covers and frames shall be provided from the same manufacturer to ensure accurate fit.
- F. City shall reject and require removal and replacement of all frames and covers not meeting machining tolerances and do not properly seat.
- G. All castings shall be dipped twice in a preparation of asphalt or coal tar and oil applied at a temperature of not less than 290 degrees F nor more than 310 degrees F and in such a manner as to form a firm and tenacious coating.
- H. Castings Manufacturers, or equal
1. Alhambra Foundry
 2. South Bay Foundry

PART 3 EXECUTION

3.1 GENERAL

SECTION 03461 – PRECAST CONCRETE MANHOLES

- A. Precast concrete sections shall be transported and handled with care in accordance with the manufacturer's written recommendations. Where lifting devices are provided in precast sections, such lifting devices shall be used as intended. Where no lifting devices are provided, the Contractor shall follow the manufacturer's recommendations for lifting procedures to provide proper support during lifting.
- B. Prepare the subgrade to provide firm bearing for the support of the manhole. The manhole base shall be placed on a minimum of 6-inches of 3/4" crushed rock over firm, undisturbed soil. Install filter fabric (wrap all around) with a minimum 12" overlap around crushed rock base per section 02223. The inlets and outlets to the manhole shall be located as indicated on the Plans. Invert elevations of connecting sewers may vary depending upon sizes.
- C. Each manhole section shall be sealed with butyl rubber sealant rope to make a watertight joint, shall be neatly banded on the inside and outside and shall be set plumb. Rubber gaskets and an EPDM or butyl rubber external joint wrap shall be provided at joints. All manholes shall be vacuum tested in accordance with the procedures specified in this specification section.
- D. Grade rings shall be used to bring the top of the manhole frame and cover to the elevation on the Plans but limited to a maximum of 18 inches of grade ring. The precast concrete manhole rings shall be jointed with a minimum thickness of 1/2 inch of approved mortar along with butyl rubber sealant rope. Mortar shall be as approved by the concrete manufacturer.
- E. The finished elevations at which the manhole frames and covers are to be set shall conform to the requirements set forth in the Plans. Where the frame and cover are in existing pavement or in the traveled way of the existing road shoulder, it is to be set flush with the existing surface. When the structure is outside the limits of the traveled shoulder but not in a roadside ditch, set the frame and cover 0.10-foot above the existing ground surface.
- F. Where the manhole cover falls in a roadside ditch or easement right-of-way "offsite", it is to be placed approximately 6-inches above the existing ground surface. Manhole frames shall be set at the required grade and shall be securely attached to the top precast manhole shaft unit with a polyester mortar bed and fillet. After the frames are securely set in place, covers shall be installed and all necessary cleaning and scraping of foreign materials from the frames and covers shall be accomplished to ensure a satisfactory fit.
- G. Selected clean backfill material shall be used around all manholes and compacted by pneumatic tampers unless otherwise approved by the Engineer.
- H. A concrete ring shall be cast around manhole frames to within 3" of finished grade and capped with asphalt concrete, as shown on the Plans. The ring shall be placed after the final grading or paving together with the final cleanup.

3.2 WATER-TIGHTNESS OF MANHOLES

- A. All manholes and appurtenances shall be water tight and free from infiltration. All manhole joints shall use butyl rubber sealant material with rubber gaskets and

SECTION 03461 – PRECAST CONCRETE MANHOLES

exterior joint wrap to provide a water tight seal and shall comply with the vacuum test requirements specified in this Section. Manholes shall be free of any seeping or surface moisture.

3.3 WATERPROOFING

- A. Waterproofing system shall be shop applied to all exterior surfaces of structures and risers per manufacturer recommendation, CoatMasters CM 7007 or approved equal. Minimum dry-film thickness of 25-35 mils in 2 coats. Field apply waterproofing material on joints and damaged surfaces, and install butyl rubber seal and exterior joint wrap on all joints after field waterproofing. Protect waterproofing system from damage during backfilling and compacting.

3.4 VACUUM TESTING OF MANHOLES

- A. All sewer manholes shall be vacuum tested in accordance with the requirements specified herein.
- B. Manholes shall be tested after assembly and prior to mortaring the joints or backfilling.
- C. All lift holes shall be plugged with an approved grout prior to testing. All pipes entering the manhole shall be plugged and bracing installed to prevent the plug from being drawn into the manhole. The test head shall be placed inside the top of the cone section and the seal inflated in accordance with the manufacture's recommendations. A vacuum of 10 inches of mercury shall be drawn. The time shall be measured for the vacuum to drop 9 inches. The manhole shall pass the test if the time taken for the drop is greater than 60 seconds. If the manhole fails the test, make necessary repairs and retest until acceptable results are obtained. The leak(s) shall be located and repaired, according to the type of leak, with material-in-kind.

3.5 MANHOLE ABANDONMENT

Sewer manholes shall have the cover and frame, concrete grade rings and cone section removed. Inlet and outlet piping shall be plugged with concrete and the manhole void filled with sand, and a 6" thick, reinforced concrete slab (No. 4 bars at 8" on-center, each way) shall be cast over the top of the remaining manhole. The Contractor shall backfill the hole to ground surface with compacted, select fill.

END OF SECTION

SECTION 05500 – MISCELLANEOUS METALS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. The Contractor shall provide all labor, materials, equipment and incidentals required to furnish and install all miscellaneous metal fabrications work, including ladders and fall preventions systems and access hatches.

1.02 REFERENCES

- A. Comply with the applicable provisions and recommendations of the following, except as otherwise shown or specified:
1. ASTM A36 – Structural Steel.
 2. ASTM A123 – Zinc (Hot-Galvanized) Coatings on Products Fabricated from Rolled, Pressed, and Forged Steel Shapes, Plates, Bars, and Strip.
 3. ASTM A153 – Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
 4. ASTM A240 – Heat Resisting Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Fusion-welded Unfired Pressure Vessels.
 5. ASTM A320 – Alloy Steel Bolting Material for Low Temperature Service.
 6. ASTM A386 – Zinc Coating (Hot-Dip) on Assembled Steel Products.
 7. ASTM B209 – Aluminum-Alloy Sheet and Plate.
 8. ASTM B211 – Aluminum-Alloy Bars, Rods and Wire.
 9. ASTM B221 – Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes and Tubes.
 10. ANSI A14.3 – Safety Requirements for Fixed Ladders.
 11. AWS D1.1 – Structural Welding Code.
 12. ANSI/ASSP Z359.6 – Specifications and Design Requirements for Active Fall Protection Systems.
 13. AISI Standards for Stainless Steel.
 14. CalOSHA – Subchapter 4. Construction Safety Orders, Article 24. Fall Protection.
 15. CSA Z259.16 – Design of Active Fall-Protection Systems.
 16. National Association of Architectural Metal Manufacturers (NAAMM) – Metal Finishes Manual, AMP 500-06.

1.03 SUBMITTALS

- A. All submittals shall be submitted in accordance with Section 2-5.3 “Submittals” of the General Provisions and the following requirements.
- B. Shop drawings for the fabrication and erection of all assemblies of miscellaneous metal fabrications work. Include plans, elevations, and details of sections and connections. Show anchorage and accessory items. Include setting drawing and templates for location and installation of miscellaneous metal fabrications items and anchorage devices.

SECTION 05500 – MISCELLANEOUS METALS

- C. Copies of manufacturer’s specifications, load tables, dimension diagrams, anchor details, and installation instructions for products to be used in miscellaneous metal fabrications work.
- D. An alloy certification for all stainless steel shall be provided to show alloy conformance. Submit certificates of welding consumables used for shop and field welding.
- E. Submit welding procedure specifications (WPS) and procedure qualification records (PQR) for each welding process and welder qualification records (WQR) for each welder and welding operator. Submit bend and tensile test coupons concurrently with welder qualification and procedure qualification records.

1.04 QUALITY ASSURANCE

- A. Field Measurements: Take field measurements where required prior to preparation of Shop Drawings and fabrication to ensure proper fitting of the work.
- B. Shop Assembly: Preassemble items in the shop to the greatest extent possible to minimize field splicing and assembly of units at the project site. Disassemble units only to the extent necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation.
- C. Welding: All weld procedures and welder qualification shall be available for review at the request of the Agency. All welding shall be inspected by a Contractor-provided inspector qualified in accordance with AWS requirements and approved by the Engineer.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Materials: Unless otherwise specified or indicated on the drawings, structural and miscellaneous metals shall conform with the standards of the American Society for Testing and Materials, including the following:

<u>Item</u>	<u>ASTM Standard No.</u>	<u>Class, Grade Type or Alloy No.</u>
Cast Iron	A48	Class 40B
<u>Steel</u>		
Galvanized sheet iron or steel	A446, A525, A526	Coating G90
Black steel, sheet or strip	A569, A570	
Coil (plate)	A635	
Structural plate, bars, rolled Shapes, and miscellaneous items	A36	
Standard bolts, nuts, and washers	A307	

SECTION 05500 – MISCELLANEOUS METALS

<u>Item</u>	<u>ASTM Standard No.</u>	<u>Class, Grade Type or Alloy No.</u>
High strength bolts, nuts and Hardened flat washers	A325,	
Eyebolts	A489	Type 1
Tubing, cold-formed	A500	
Tubing, hot-formed	A501	
Steel pipe	A53	Grade B
<u>Stainless Steel</u> Plate, sheet and strip		UNS Designation L31653

- B. Stainless steels are designed by type or the Unified Numbering System (UNS). All stainless steel shall be Type 316 L.
- C. Aluminum:
1. Alloy and Temper: Provide alloy and temper as shown or specified, or as otherwise recommended by the aluminum producer or finisher.
 2. Extruded Shapes and Tubes: ASTM B221.
 3. Plate and Sheet: ASTM B209.
 4. Bars, Rods and Wire: ASTM B211.
 5. Finish: Provide Architectural Class I anodized finish AA-M32C22A41 Clear as specified in the NAAMM Manual.
- D. Stainless Steel Fasteners and Fittings: ASTM A320.
- E. Zinc Coated Hardware: ASTM A153.

2.02 ACCESS HATCHES

- A. All hatches shall be fabricated from Aluminum 6061 T6 unless otherwise indicated. All hatch hardware shall be Type 316 stainless steel. Hatches shall be gutter-type, or as shown.
- B. Hatch opening sizes, number and direction of swing of door leaves, and locations, shall be as indicated. Sizes given shall be for the clear opening. Unless indicated otherwise, hinges shall be located on the longer dimension side. Unless indicated otherwise, ladder hatches shall be a minimum of 30 inches wide by 36 inches long, with the ladder centered on the shorter dimension, and the door hinge opposite the ladder.
- C. Door leaves shall be a minimum of ¼ inch checkered pattern plate. Channel frames shall be a minimum of ¼ inch material with an anchor flange around the perimeter. Hatches shall be provided with an automatic hold-open arm with release handle. Hatches shall be designed for easy opening from both inside and outside.

SECTION 05500 – MISCELLANEOUS METALS

- D. Hatches shall be designed to be water-tight and shall be equipped with a joint gutter and moat-type edge drain. The Contractor shall field verify hatch installation conditions via shop drawings.
- E. Hatches shall include a recessed hasp for a padlock that is covered by a hinged lid flush with the surface and shall accommodate an openable lock from the inside
- F. Hatch cover shall be equipped with a hold-open arm with separate grip handle, which automatically locks the cover in the open position. Hatches without separate grip handles shall not be permitted.
- G. Hatches at grade level shall be designed for AASHTO HS-20 loading and be suitable for direct heavy duty traffic.
- H. Installation shall be in accordance with manufacturer's instructions.
- I. Access hatches shall be manufactured by Bilco, type JD-AL H20 (double leaf), or approved equal.

2.03 LADDERS

- A. Access ladders for valve vaults shall be 24" galvanized steel. Ladder shall be Alhambra Foundry Type A-3400, or approved equal. All ladders shall meet all code and OSHA safety requirements.

2.04 FALL PREVENTION SYSTEM FOR VERTICAL LADDERS

- A. Equip ladders with a ladder-centered notched safety climbing tube. Safety rails and associated accessories shall be of the same material as the ladder. All necessary components shall be provided, including 2 safety belts for each fall prevention installation to provide a complete and fully operational fall prevention system. Safety belts shall fit a waist range from 23 inches to 54 inches.
- B. At all locations where fall prevention systems are installed, a safety chain with a snap hook shall be permanently attached to the top of the ladder. The chain shall be long enough to allow a person to connect the belt to the chain while standing on the landing adjacent to the ladder. The chain and snap hook shall have a minimum allowable capability of 500 pounds.
- C. A removable extension kit with storage brackets and box mounted on the handrail or other Agency-directed location shall be provided for each installation.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Set miscellaneous metal fabrications accurately in location, alignment and elevation, plumb, level, true and free of rack, measured from established lines and levels. Brace temporarily or anchor temporarily in formwork where fabrications are to be built into concrete, masonry or similar construction.

SECTION 05500 – MISCELLANEOUS METALS

- B. Anchor securely as shown or as required for the intended use, using concealed anchors wherever possible.
- C. Ladders shall be fitted accurately and field measured where necessary.
- D. Fit exposed connections accurately together to form tight hairline joints. Weld steel connections which are not to be left as exposed joints, but cannot be shop welded because of shipping size limitations. Grind steel joints smooth and touch up with a shop paint coat. Do not weld, cut or abrade the surfaces of exterior units which have been hot-dip galvanized after fabrication, and are intended for bolted or screwed field connections.
- E. Protection of Aluminum from Dissimilar Materials: Using approved washers, strips or sheets of felt, protect all surfaces of aluminum from contact with dissimilar materials such as concrete, masonry, steel, nonferrous metals, etc.
- F. Galvanizing: All structural steel plates, shapes, bars, and fabricated assemblies required to be galvanized shall, after the steel has been thoroughly cleaned of rust and scale, be galvanized in accordance with the requirements of ASTM A123 Class G90. Any galvanized part that becomes warped during the galvanizing operation shall be straightened. Field repairs to galvanizing shall be made using "Galvinox," "Galvo-Weld," or equal.ds
- G. Welding: All welding shall be by the metal-arc method or gas-shielded arc method as described in the American Welding Society's "Welding Handbook" as supplemented by other pertinent standards of the AWS. Qualifications of welders shall be in accordance with the AWS Standards governing same. All sharp corners of material to be painted or coated shall be ground to a minimum of 1/32-inch on the flat. All exposed aluminum welds shall be ground smooth and flush and shall be polished and anodized. Discoloration of exposed aluminum surfaces, whether or not due to welding, shall constitute a basis for rejection of the entire assembly.

END OF SECTION

SECTION 15062 – PIPE SLEEVES AND PENETRATIONS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Materials, installation and testing of wall pipes and sleeves (including wall collars and seepage rings) and penetrations.

1.02 RELATED REQUIREMENTS

- A. CMWD Standard Specification 15000, General Piping System and Appurtenances.
- B. Approved Material List (AML)

1.03 REFERENCES

- A. The publications listed below form part of this specification to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said standards unless otherwise called for.

ASTM A123 – Standard Specification for Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products

ASTM A193 – Specification for Alloy-Steel and Stainless Steel Bolting for High Temperature or High Pressure Service and other Special Purpose Applications

1.04 SUBMITTALS

- A. All submittals shall be submitted in accordance with the requirements of the General Provisions.
- B. Pipe Data:
 - 1. Manufacturer's catalog data and descriptive literature for the following:
 - a. Pipe sleeves
 - b. Modular annular sealing devices

PART 2 - PRODUCTS

2.01 PIPE SLEEVES

- A. In slab and wall construction sleeves 6-inch diameter and smaller shall be Schedule 40 carbon steel pipe. Sleeves 8-inch in diameter and larger shall be ¼-inch carbon steel pipe.
 - 1. The sleeves shall be hot-dip galvanized after fabrication.

SECTION 15062 – PIPE SLEEVES AND PENETRATIONS

2.02 MODULAR ANNULAR SEALING DEVICE

A. Manufacturer:

1. Provide the following mechanical seal system:
 - a. "Link-Seal Modular Seal" assembly as manufactured by PSI/Thunderline/Link-Seal or Approved Equal.
 - b. Other manufacturers listed in the Carlsbad Engineering Standards, Approved Materials List.

B. General:

1. All pipes installed through cast or core drilled penetrations or sleeves shown on the Drawings shall be installed with a modular annular sealing device, unless otherwise noted.
2. Wall openings sizes and types provided by the Contractor shall be selected according to the proposed mechanical seal manufacturer's recommendations.
3. Sufficient quantities of the modular annular sealing device shall be supplied to effectively provide a hydrostatic seal.
4. Each seal shall be conspicuously and permanently identified with the name of the manufacturer and the model number.

C. Design:

1. All mechanical seals shall be modular type consisting of inter-locking synthetic rubber links shaped to continuously fill the annular space between the pipe and the wall opening.
2. The elastomeric element shall be sized and selected per the manufacturer's recommendations and have properties as designated by ASTM.
3. Provide Nitrile elastomer. Provide green coloration throughout elastomer for positive field inspection.
4. Mechanical seal pressure plates shall be molded of glass reinforced nylon.
5. Mechanical seal hardware shall be sized according to the manufacturer's technical data. Provide 316 stainless steel hardware.

PART 3 - EXECUTION

3.01 GENERAL REQUIREMENTS

- A. Where piping passes through the walls of tanks or channels below the water surface or where detailed on the Drawings to have a wall pipe, the wall pipe shall be cast directly into the concrete.
- B. Where piping passes through the walls of tanks or channels above the water surface or through dry walls, a sleeve or block out may be used unless specifically noted otherwise on the Drawings.

SECTION 15062 – PIPE SLEEVES AND PENETRATIONS

3.02 PIPE SLEEVES

A. Positioning and Placement:

1. Sleeves shall be set in forms before concrete is poured.
2. In slab construction the sleeve shall extend ½ inch above floor.
3. Sleeves shall be positioned and held in place with temporary, external supports.
4. Fastening the sleeves to the structural reinforcing or any other intended or incidental contact of the sleeve with the rebar or other embedments shall not be allowed.

B. Coating:

1. All metallic pipes, wall and slab sleeves, and conduits encased in cast-in-place concrete structures shall be coated with an acceptable dielectric coating to prevent pipe contact with the concrete and/or reinforcing steel.
2. The dielectric coating shall be epoxy material conforming to AWWA C210 or AWWA C116. Surface preparation, multi-coat application, and total dry film thickness shall conform to AWWA standard minimums and manufacturer's recommendations, whichever is greater.
3. Embedments shall be inspected prior to concrete placement and any damage to the coating system shall be repaired in accordance with the manufacturer's written recommendations.

3.03 MODULAR ANNULAR SEALING DEVICES

- #### A. Install according to the Manufacturer's written instructions and recommendations.

3.04 HOLES IN STRUCTURAL ELEMENTS

- #### A. No holes for pipe or equipment will be allowed in any structural members (except where noted on the Drawings) without consent of the Agency.

1. Sleeve for holes through new concrete construction shall be placed in forms before pouring of concrete.
2. Should any additional holes be required through structural members, or where notching, boring or cutting of the structure is necessary, the work shall be done as directed by the Agency.
 - a. The Contractor shall, at a time in advance of the work, furnish information and/or drawings pertaining to his requirements for these openings.
 - b. Should the furnishing of this information be neglected, delayed, or incorrect, and additional cutting found to be required, it shall be performed by the Contractor at no additional cost to the Agency.
3. Any piping that has to pierce waterproof construction shall be done with care. The opening made by this piping shall be waterproofed and made watertight in a manner acceptable to the Agency.

END OF SECTION

SECTION 15610 – FLOW METERS

PART 1 – GENERAL

1.1 SECTION INCLUDES

This section includes materials, testing, and installation of flow meters, totalizers, indicators, and transmitters. All flow meters must be suitable for use in sewage systems.

1.2 RELATED WORK SPECIFIED ELSEWHERE

A. Section 16000 – General Electrical Requirements

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

A. Except as otherwise indicated, the current edition of the following standard applies to the Work of this section.

1. ANSI B16.5 Pipe Flanges and Flanged Fittings, Class 150 only

1.4 QUALITY CONTROL

A. Manufacturer shall provide a two-year warranty on defective workmanship or materials.

1.5 CONTRACTOR SUBMITTALS

A. The Contractor shall furnish submittals in accordance with the requirements of the contract documents. The following submittals are required:

1. Submit Shop Drawings, manufacturer's catalog data certificate of warranty, and detailed construction sheets showing all flow meter parts and describing material of construction by material and specification. Submittal shall include meter dimensions and orientation.
2. Submit certified factory test results, installation instructions, and six (6) sets of operation and maintenance manuals.

PART 2 - MATERIALS

2.1 FLOW METERS

A. Manufacturer: The meter shall be Model Proline Promag W 400 as manufactured by Endress+Hauser.

B. Electrodes: Electrodes shall be constructed of stainless steel. Sensor shall be suitable for sewage applications.

SECTION 15610 – FLOW METERS

- C. Sensor Cable: The sensor cable shall be a multi-conductor, abrasive resistant, polyurethane jacketed cable flexible to -40°F. The sensor cable shall be permanently bonded to the sensor. Contractor to coordinate with City staff for remote display installation location.
- D. The transmitter shall be remote mounted. Transmitter Enclosure: NEMA 4X
- E. Flow meter shall be ordered with factor applied IP68 potting compound.
- F. Flow meter shall be installed with grounding rings per manufacturer recommendation. Grounding rings must be provided by flow meter manufacturer.
- G. Pressure/Temperature Limits: -40 to 180°F
- H. The flow meter shall operate at pressures up to 300 psi.
- I. Power Supply: 24V DC
- J. The meter shall have flanged connections conforming to ANSI B16.5, Class 150.

2.2 PAINTING AND COATING

- A. The interior of the flow sensor shall be polyurethane lined.
- B. The exterior of the flow meter shall be coated with factory applied protective coating.

PART 3 – EXECUTION

3.1 INSTALLATION

- A. The flow meter shall be inspected by the Construction Manager prior to installation. If in the opinion of the Construction Manager there is any damage to the flow meter including interior lining, then the flow meter shall be rejected and replaced at no cost to the Owner.
- B. Contractor to confirm required length of signal and power cable prior to ordering flow meter. No field modification of factory cable length is allowed.
- C. Install flow meters in accordance with all manufacturer's instructions.

3.2 TESTING

- A. Flow meter shall be field tested, inspected, and commissioned to its indicated performance requirement in accordance with its manufacturer's specifications and instructions by a manufacturer's representative. Representative shall be qualified by completion and certification from training courses offered by The Instrumentation, Systems, and Automation Society (ISA). Any instrument which fails to meet any Contract requirement, or, in the absence of a Contract

SECTION 15610 – FLOW METERS

requirement, any published manufacturer performance specification for functional and operational parameters, shall be repaired or replaced.

- B. The flow meter shall be loop tested as an integrated system. Operation shall be checked from field instruments to transmitter to receiving components to the vendor panel or the Plant Control System Operator Interface Station. Test signals shall be injected at the process impulse line connection where the measuring technique permits, and otherwise at the most primary signal access point. Contractor to coordinate with City staff for loop testing requirements at time of commissioning.
- C. If the output control or monitoring device fails to indicate properly, corrections to the loop circuitry or device shall be made. The test shall be repeated until devices and instruments operate as required.
- D. Correct loop circuitry and repeat the test until the instruments operate properly.

****END OF SECTION****

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. It is the intent of this section of the Specifications that the Contractor furnishes all labor, supervision, tools, equipment, and materials necessary for erecting complete and ready for continuous use, a tested and working electrical system, substantially as indicated on the Plans and hereinafter specified.
- B. These Specifications are intended to provide a broad outline of the work and equipment required, but are not intended to include all the details of design and construction. The Owner reserves the right to make minor changes to the location of the equipment at no cost change in the contract.
- C. The electrical plans are diagrammatic, approximately to scale. However, they shall not be used for exact locations. The Contractor shall verify all dimensions from the detailed drawings and approved shop drawings and shall coordinate these dimensions with the actual field conditions. Actual distances, locations, and elevations will be governed by field conditions.
- D. Allowance has been made in the design for the number of conduits, cables and conductors that the Owner considers adequate for feeding various drives and equipment. These circuits and diagrams are based on available data pertaining to a particular design of equipment and portray the systems that the Owner has chosen to affect the required operation and level of control. Equipment provided by the Contractor (even though of the make and model specified) may differ in detail, arrangement, connections or form from that shown.
- E. The plans do not, and are not intended to, show all equipment (including but not limited to pull boxes and junction boxes) required nor to indicate all mechanical or structural difficulties that may be encountered that would necessitate routing alteration, offsets, or fittings. Items not specifically mentioned in these Specifications or noted on the Plans or approved shop drawings, but which are obviously necessary to make a complete working installation, shall be deemed to be included herein.
- F. Discrepancies shown on the different Plans, between the Plans and actual field conditions, or between the Plans and Specifications shall be promptly brought to the attention of the Owner for a decision.
- G. All electrical equipment shall be capable of operating successfully at full-rated load, without failure, when the ambient temperature of the air is 40°C except where specified otherwise.
- H. Electrical conductors including cable, bus bars, etc. shall be copper, except where specified otherwise.
- I. Without limiting the generality of other requirements of these Specifications, arrange for the submittal, by the subcontractor, of a digital PDF markup of the complete schematics and wiring diagrams or drawings to include all installed field and panel conduit and piping/tubing runs and routing, tray systems, supports,

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

mounting details, point to point diagrams with a cable, wire, tube and termination numbers. Drawings shall be a record of work as actually constructed and shall be labeled as "Record Drawings."

1.02 SCOPE OF WORK

- A. General: The Contractor shall provide all the materials and equipment, and perform all the work necessary for the complete execution of the electrical work as shown on the electrical plans and as specified, including electrical work indicated on other Plans that is specifically included in the electrical work. The Contractor shall provide all labor and materials not specifically shown on the Plans or specified herein, yet required to ensure proper and complete operation of any system(s) or design intent inherent in the project except as specifically excluded.
- B. In general, the electrical work shall consist of, but not be limited to, the items listed as follows:
 - 1. All conduit, wiring and connections for work specified elsewhere in these Specifications and as shown on the Drawings.
 - 2. Endress and Hauser Proline Program W 400 electromagnetic flow meter, or approved equal
 - 3. Hangers, anchors, sleeves, chases, supports for fixtures, and other electrical materials and equipment in association therewith.
 - 4. Other items and services required to complete the systems.

1.03 CODES AND STANDARDS

- A. All the equipment and materials shall conform to the latest revision of the following standards:
 - 1. State of California Administrative Code, Title 8, Electrical Safety Orders
 - 2. American National Standards Institute (ANSI)
 - 3. Institute of Electrical and Electronic Engineers (IEEE)
 - 4. National Electrical Manufacturers Association (NEMA)
 - 5. Underwriters' Laboratories (UL)
 - 6. Insulated Power Cable Engineers Association (IPCEA)
 - 7. American Society for Testing and Materials (ASTM)
 - 8. National Electrical Code (NEC)
 - 9. California Building Code (CBC)

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

- B. Responsibility for complying with all applicable government regulations shall be as required in the Special Conditions.
- C. All electrical equipment and materials, and the design, construction, and installation thereof, shall comply with all applicable provisions of the Federal Occupational Safety and Health Act (OSHA), state building standards, and applicable local codes and regulations.
- D. Where the Plans or these Specifications call for equipment and workmanship to be of better quality or higher standard than required by the above codes, standards, rules, and regulations, then said Plans and Specifications shall prevail. Nothing on the Plans or in these Specifications shall be construed to permit work in violation of the above codes, standards, rules, and regulations and the Contractor shall be held responsible for any work that is not acceptable.
- E. In case of differences between the building codes, specifications, state law, local ordinances, industry standards, utility company regulations, fire insurance carrier's requirements, and the contract documents, the most stringent shall govern. The Contractor shall promptly notify the Owner in writing of such differences.

1.04 SUBMITTALS

Shop drawings shall be submitted for the following items of major equipment in accordance with the General Conditions and as indicated in Division 16 and 17 sections. Within 35 calendar days after the contractor has received the owner's notice to proceed, submit:

- A. Materials list of items proposed to be provided under this section.
- B. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
- C. Manufacturer's recommended installation procedures which, when approved by the owner will become the basis for accepting or rejecting actual installation procedures used on the work.
- D. The Contractor shall submit a detailed test procedure checklist to verify proper operation of the electrical system in accordance with the General Operations section of these Specifications.

Manual: Upon completion of this portion of the work, and as a condition of its acceptance, deliver to the owner two (2) copies of an operation and maintenance manual. Include within each manual:

- A. Copy of approved record documents for this portion of the work
- B. Copies of all circuit directories
- C. Copies of all warranties and guaranties
- D. Control schematics and written step-by-step description of the control functions.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

1.05 COORDINATION OF WORK AND TRADES

- A. Electrical work shall conform to the construction schedule and progress of other trades. The electrical construction shall be performed in cooperation with all other trades so that a neat and orderly arrangement of the work as a whole shall be obtained.
- B. Before any work is started, the Contractor shall verify with the equipment manufacturers that equipment dimensions and arrangements will allow for equipment installation in the spaces provided for on the Plans for switchboards, panelboards, motor control centers, transformers, and other major items of electrical equipment or apparatus and that the installation indicated will provide for all required ventilation, clearances, access, and work space.
- C. Before installing any equipment, materials, or raceways, the Contractor shall examine the complete set of Plans and Specifications and approved shop drawings and verify all dimensions and space requirements. All equipment utilized as "approved equal" to the specified manufacturers' reference shall be Contractor-coordinated in all aspects for the assurance of proper space, mounting, installation, testing and related operation.

1.06 COORDINATION OF THE ELECTRICAL SYSTEM

- A. The Contractor shall verify all actual equipment and motor full-load and locked rotor current ratings. The necessary minimum equipment, wire, and conduit sizes are shown on the Plans. If the Contractor furnishes equipment of different ratings, the Contractor shall coordinate the actual current rating of equipment furnished with the branch circuit conductor size, the controller size, the motor starter, and the branch circuit over-current protection. The branch circuit conductors shall have a carrying capacity of not less than 125 percent of the actual full-load current rating. The size of the branch circuit conductors shall be such that the voltage drop from the overcurrent protection devices up to the equipment shall not be greater than 2 percent when the equipment is running at full load and rated voltage.
- B. The motor branch circuit overcurrent protection device shall trip open in 30 seconds or less on locked-rotor current of the motor. This device shall also protect the motor branch circuit conductors and the motor control apparatus against overcurrent due to short-circuits or grounds. The motor control circuits shall have overcurrent protection of the type indicated on the plans.

1.07 PERMITS AND INSPECTIONS

- A. The Contractor shall obtain all permits and inspections and he shall pay all fees, therefore, as indicated in the Special Provisions. At the conclusion of the work on the project, the Contractor shall furnish to the Owner, properly executed, all required certificates of final inspection and approval before the work will be accepted as complete. The Owner will inspect the daily construction progress for conformance with the Plans and Specifications.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

1.08 EQUIPMENT, MATERIALS AND WORKMANSHIP

- A. It is the intent of these Specifications and of the Plans to secure high quality in all equipment and materials, and to require first-class workmanship, in order to facilitate trouble-free operation and minimum maintenance of the electrical system.
- B. All equipment and materials shall be new, listed by UL, and bear the UL label, unless exception to this requirement is inherent to an individual item specified herein, or an exception is otherwise granted by the Owner.
- C. Equipment and materials shall be the products of reputable, experienced manufacturers. Similar items in the project shall be the products of the same manufacturer. All equipment and materials shall be of industrial grade and standard of construction, shall be of sturdy design and manufacture, and shall be capable of long, reliable, trouble-free service.
- D. All work, including installation, connection, calibration, testing and adjustment, shall be done by qualified, experienced personnel who are technically skilled in their trades, are thoroughly instructed, and are competently supervised. The resulting complete installation shall reflect professional quality work, employing industrial standards and methods.

1.09 AREA DESIGNATIONS

For purposes of defining electrical enclosure and electrical installation requirements of this project, certain areas have been classified on the Plans and in these Specifications as defined below. Electrical equipment and installations within these areas shall conform to the code requirements for the areas involved.

A. General Purpose Locations

Electrical work installed in areas that are not specifically classified shall be "general purpose." Workmanship, materials, and enclosures in these locations shall comply with the general requirements of this Specification.

For outdoor underground conduit, raceway shall be EPC-40-PVC direct buried or encased in concrete as shown on the drawings. For outdoor exposed conduit shall be GRS. For corrosive locations indoors or outdoors, raceway shall be PVC coated rigid steel conduit. Entrances shall be threaded; fittings shall have gasketed covers located at a low point to drain the fitting or conduit system. Threaded hardware shall be stainless steel. Mounting brackets shall be galvanized after fabrication. Conduit installed for the utility electrical service shall be PVC Schedule 40 encased in concrete per the approved utility service plan. Instruments and control cabinets, panels, meter pedestal, and cover plates located outdoors shall be "weatherproof." Enclosures shall be mounted with a 1/4-inch air space from walls unless otherwise noted on the plans.

1.10 WARRANTY

Provide 1 year warranty on all labor and materials from the date of commissioning.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

1.11 GROUNDING

- A. A grounding system shall be installed in accordance with the National Electrical Code and all state and local codes and regulations. The grounding system shall bond together and effectively ground all exposed non-energized metal surfaces containing energized parts, devices or conductors, all building steel, all metallic electrical raceways and the neutrals of all transformers. An equipment grounding conductor shall be installed in all conduits carrying power to be sized in accordance with NEC Article 250-122.
- B. Ground all equipment, conduit systems, and other apparatus by conduits or conductor to cold water main or to independent grounding electrode, using ground clamps manufactured by Burndy or T&B and approved by the owner.
- C. Make MEG ground tests to measure ground resistance, and provide not more than 5 ohms resistance, adding ground rods as required to achieve that level.
- D. Make ground rods accessible for inspection.
- E. Rod electrodes
Material: Copper-clad steel.
Diameter: 3/4 inch
Length: 10 feet
- F. Grounding well components
Well Pipe: 12 inch NPS by 24-inch long concrete pipe with belled end.
Well Cover: Cast iron with legend "GROUND" embossed on cover.
- G. Corrosion resistant anchors and fasteners shall be used.
- H. Flow meter will require grounding ring installation per manufacturer recommendation.

1.12 WARNING SIGNS

- A. Permanent warning signs shall be mounted at all mechanical equipment that may be started automatically or from remote locations. Signs shall be made in accordance with Porcelain Enamel Institute Specification S-103 and shall be suitable for exterior use. Mounting details shall be in accordance with manufacturer's recommendation. Signs shall be located as approved by the Owner.

1.13 QUALITY ASSURANCE

- A. The plans indicate diagrammatically the desired location and arrangement of outlets, conduit runs, equipment, and other items. Exact locations shall be determined in the field based on the physical size and arrangement of

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

equipment, finished elevations, and obstructions. Locations indicated on the Plans, however, shall be adhered to as closely as possible.

- B. All conduit and equipment shall be installed in such a manner as to avoid all obstructions, preserving headroom, and keeping openings and passageways clear. Luminaires, switches, convenience outlets, and similar items shall be located as indicated on the Plans. Where these Plans do not indicate exact locations, such determined locations shall be approved by the Owner. Where equipment is installed without approval and must be moved, it shall be moved without additional cost.
- C. The installation of all materials and equipment shall be accomplished by workmen skilled in this type of work and installation shall be coordinated in the field with other trades so that interferences are avoided.
- D. The Contractor shall provide adequate means for and shall fully protect all finished parts of the materials and equipment against damage from any cause during the progress of the work and until accepted by the Owner.
- E. All materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint, and all moving parts shall be kept clean and dry.
- F. The Contractor shall replace or have refinished by the manufacturer, all damaged materials or equipment, at no additional expense.
- G. Without additional cost to the owner, provide such other labor and materials as are required to complete the work of this section in accordance with the requirements of governmental agencies having jurisdiction, regardless of whether such materials and associated labor are called for elsewhere in these contract documents.

1.14 TESTING

- A. The Contractor shall perform and record the tests described hereinafter and any other tests that may be required by the Owner or other authorities having jurisdiction. The entire electrical installation shall be tested, adjustments made, and defects corrected as an obligation under the work of this section. The Contractor shall furnish all necessary replacement parts and labor necessary due to damage resulting from damaged equipment or from test and correction of faulty installation.

The following testing, as a minimum, shall be accomplished:

1. Insulation resistance tests
2. Continuity test of all wiring
3. Completely test the grounding system with a low ohm resistance meter under simulated service conditions to assure compliant operation of the wiring and the proper functioning of all equipment.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

4. Test for short circuits in the system
 5. Test for all luminaire connections
 6. Complete operational test on all equipment
 7. Verify field performance and operation of electrical system utilizing the approved testing procedure.
- B. The Contractor shall test all power and control feeder circuits in the presence of the Owner by means of a 1,000-volt megohmmeter to ensure that they are free of open circuits and grounds before energizing.
- C. The Contractor shall perform a functional checkout on control circuits. The checkout shall consist of energizing each control circuit and operating each control, alarm, or malfunction device, and each interlock in turn to verify that the specified action occurs.
- D. After each electrical installation is complete, it shall be tested thoroughly to demonstrate that the entire system is in proper working order and in accordance with the Plans and Specifications. In no case shall the tests be less than those outlined hereinafter.

1.15 CLEANUP

- A. All parts of the electrical materials and equipment shall be left in a clean condition. Exposed parts shall be clean of cement, plaster and other materials, and all oil and grease spots shall be removed with a non-flammable cleaning solvent. Such surfaces shall be carefully wiped and all cracks and corners scraped out.
- B. During the progress of the work, the Contractor shall clean up after his men and shall leave the premises and all portions of the site in which he is working free from debris and surplus materials.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Equipment used for the same purpose shall be of the same make. Wiring devices shall be of approved weatherproof construction or shall be in a weatherproof enclosure.

2.02 RACEWAYS

- A. PVC coated steel conduit and fittings
1. Provide SCH 40 PVC where encased in concrete or masonry or buried. Where conduit is installed in the floor slab, conduit shall emerge above the slab as PVC-coated rigid steel conduit.
- B. All flexible conduits shall be sealtite type or equal.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

- C. Outlets, junction boxes, and switch boxes.
 - 1. Provide standard one-piece units, galvanized or cast metal, of shape and size best suited to that particular location, of sufficient size to contain enclosed wires without crowding. Exact location of electrical components to be determined by District representative during construction. 110V outlets shall be mounted 18" above floor unless otherwise noted. Install weather proof covers on receptacles and switches located in vaults.
- D. Conduit systems shall be provided with an "approved means" to prevent accumulation of condensation and permit drainage of liquids.

2.03 CONDUCTORS

- A. For line voltages, provide 600V insulated copper wire and cable, NEC standard, of types specified below for different applications, with UL label, agencies having jurisdiction.
- B. With conductors, provide insulating bushings or insulating sleeves.
- C. For wire and cable, provide XHHW or THHN/THWN.
 - 1. Identify feeder neutrals with white tape or white paint.
 - 2. Use only copper wires and cables.
- D. Wire and cable designated "Shielded" on the Drawings and required for the instrumentation signal circuits shall be shielded cable. Signal voltage and current will be 24 volts DC and 4-20 milliamperes DC, respectively. The cables shall be 600 volt AC rated, with a laminated aluminum-polyester tape shield and a copper drain wire, with a plastic jacket over all, and shall be UL approved as type TC tray cable, 90°C in dry locations, and 75°C in wet locations. The conductors in the cable shall be stranded and twisted bare copper wires with a minimum of seven strands and insulated with a minimum thickness of 0.020 inch of flame retardant and moisture resistant, high quality, cross-linked, polyethylene insulation. The wires shall be color coded and covered with a minimum of 0.001/0.001 inches of laminated aluminum-polyester tape shield and a #20 AWG tinned and stranded copper drain wire, with a minimum of ten strands. Over the twisted and shielded cable assembly, there shall be a minimum thickness of 0.045-inches of moisture, flame, and sunlight resistant, polyvinyl chloride (PVC) outer jacket.
- E. Instrumentation cable shall be single or multi-conductor shielded pairs as indicated. Conductors shall be No. 18 AWG coated copper.

2.04 FLOW METER

- A. See specification section 15610

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

PART 3 - EXECUTION

3.01 SURFACE CONDITIONS

- A. Examine the areas and conditions under which work of this section will be performed. Correct conditions detrimental to timely and propose completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. Coordination
 - 1. Coordinate as necessary with other trades to assure proper and adequate provision in the work of those trades for interface with the work this section.
 - 2. Coordinate the installation of electrical items with the schedule for work of other trades to prevent unnecessary delays in the total work.
 - 3. Where lighting fixtures and other electrical items are shown in conflict with locations of structural member and mechanical or other equipment, provide required supports and wiring to clear the encroachment.
- B. Branch circuit wiring and arrangement of home runs have been designed. Install the wiring with circuits arranged exactly as shown on the drawings, except as otherwise approved in advance by the owner.
- C. The electrical drawings are diagrammatic but are required to be followed as closely as actual construction and work of other trades will permit. Where deviations are required to conform with actual construction and the work of other trades, make such deviations without additional cost to the owner.

3.03 INSTALLATION - RACEWAY

- A. Raceway routing is shown in approximate locations unless dimensioned. The exact locations shall be determined by the Contractor to suit the structural details. Route raceways to complete wiring system.
- B. Support raceway using coated steel or malleable iron straps, lay-in adjustable hangers, clevis hangers, and split hangers.
- C. Seal joints to prevent entrance of water
- D. Provide ground wire of proper size.
- E. Use nylon fish tape.
- F. Do not support raceway with wire or perforated pipe straps. Remove wire used for temporary supports.
- G. Do not attach raceway to ceiling support wires or other piping systems.
- H. Route exposed raceway parallel and perpendicular to walls.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

- I. Route conduit in and under slab from point-to-point.
- J. Maintain clearance between raceway and piping for maintenance purposes. Conduit shall be kept at least 6 inches from the covering on hot water pipes, 18 inches from the covering on flues and breechings, and 3/4 inch from all water-bearing walls, unless shown otherwise on the Plans. The open ends of all conduits shall be sealed during the construction of the facility. Use approved conduit unions where union joints are necessary. Running threads will not be permitted.
- K. Exposed conduit, stubbing up through floor slab into bottom of exposed panels, cabinets, or equipment, shall be lined up, properly spaced, and shall be straight and plumb. Conduits shall be installed at sufficient depth below slab to eliminate any part of the bend above top of slab.
- L. Cut conduit square using saw or pipe cutter; de-burr cut ends.
- M. Join nonmetallic conduit using cement as recommended by the manufacturer. Wipe nonmetallic conduit dry and clean before joining. Apply full even coat of cement to entire area inserted in fitting. Allow joint to cure for a minimum of 20 minutes.
- N. Install conduit hubs to fasten conduit to sheet metal boxes in damp and wet locations and to cast boxes.
- O. Install no more than equivalent of three 90-degree bends between boxes. Install conduit bodies to make sharp changes in direction, as around beams. Install factory elbows for bends in metal conduit larger than 2-inch size.
- P. Avoid moisture traps; install junction box with drain fitting at low points in conduit system.
- Q. Install suitable pull cord of 200-pound strength in each empty raceway except sleeves and nipples.
- R. All spare conduits shall be stubbed up to a flush coupling and plugged. Conduit shall run continuously between outlets and shall be provided with conduit junction boxes where connections are made, except in special pull boxes where indicated on the Plans.
- S. Flexible steel conduit may be used in runs from adjacent junction boxes to motors, benches, and in certain locations where, for structural or other reasons, it is impractical to use rigid conduit and where specific permission to do so has been granted by the Owner. Flexible conduit shall be used with PVC coated steel conduit fittings and bushings. All exposed conduits and all conduit stub-ups shall be PVC jacketed steel.
- T. Threading shall be done with dies with guide sleeves bored out to allow for increased diameter of conduit. Conduit bends shall be made with next larger size EMT bender or next larger sized shoe bushed for proper fit. Cuts or damaged areas shall be repaired with an approved paste material.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

3.04 UNDERGROUND DUCT INSTALLATION

- A. Underground ducts shall be installed in a concrete encasement as indicated on Plans and elsewhere in these Specifications. Concrete shall be Class C (2000 psi) for service entrance duct bank. Concrete envelope shall be colored with red iron oxide pigment that is integrally mixed with the concrete in the proportion of 2 pounds per sack of cement and 3250 psi per yard of concrete. Pigment shall be commercially pure hydrate oxide, insoluble in water, free from soluble salts and acids, with calcium sulfate less than 10 percent. Pigment shall be dry batched with the aggregate. Reinforcement shall conform to ASTM A 615, Grade 60, and shall be required for arrays of three or more ducts. For other duct bank, concrete shall be Class C (2000 psi). Concrete envelope shall be colored with red iron oxide pigment that is integrally mixed with the concrete in the proportion of 2 pounds per sack of cement and 2000 psi per yard of concrete. Pigment shall be commercially pure hydrate oxide, insoluble in water, free from soluble salts and acids, with calcium sulfate less than 10 percent. Pigment shall be dry batched with the aggregate. Reinforcement shall conform to ASTM A 615, Grade 60, and shall be required for arrays of three or more ducts.
- B. Top of concrete duct banks shall be a minimum of 30 inches below finished grade. Ducts shall be installed on a minimum grade line of 2 inches fall per 100 feet, sloping toward manhole or pull box.
- C. Install duct spacers to provide horizontal and vertical spacing and stress relief for conduits encased in concrete. Duct spacers shall be provided and installed in accordance with the conduit manufacturer's recommendations.
- D. Changes in direction shall be made with long sweeps with minimum radius of 24 times duct diameter.
- E. The installed ducts shall be cleaned by: (1) pulling a flexible mandrel through each duct; or (2) pulling a wire brush and swab through each duct. The mandrel shall be 1/4 inch less in diameter than the duct diameter. Spare ducts shall have a 200-pound strength nylon cord installed with at least 36 inches of slack on each end.

3.05 INSTALLATION OF CONDUCTORS

- A. Route wire and cable to meet project conditions.
- B. Install wire and cable in accordance with NECA "Standard Practice of Good Workmanship in Electrical Construction."
- C. Neatly train and lace wiring inside boxes, equipment, and panelboards.
- D. Identify and color code wire and cable. Identify each power and control conductor with tube type wire markers, indicating the conductor's circuit designation and starting, ending, and splice locations.
- E. Wire in Raceway:
 - 1. Pull conductors into raceway at same time.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

2. Install wire 4 AWG and larger with pulling equipment with tension monitored.
 3. Wire lubricants shall be UL approved.
- F. Cable:
1. Protect exposed cable from damage.
 2. Use suitable cable fittings and connectors.
- G. Wiring Connections:
1. Clean conductor surfaces before installing lugs and connectors.
 2. Make splices, taps, and terminations to carry full ampacity of conductors with no perceptible temperature rise.
 3. All low DC and AC (below 100V) voltages and signals shall be grounded separately from above power grounds. 600 volt conductors, No. 8 AWG and larger, shall be terminated spliced with compression type connectors and insulated with three layers of UL-approved vinyl insulating tape. 600 volt conductors, No. 10 AWG and smaller, shall be spliced with pre-insulated coil spring type connectors. Terminations and splices in all motor connection boxes shall be made with compression type connectors.
 4. Termination splices shall be insulated with varnished cambric tape, overlapped with three (3) layers of a high temperature, UL-approved, tape.
 5. Control conductors shall be spliced with pre-insulation crimp type connectors and terminated with split tongue pre-insulated, crimp type connectors.
- H. Splicing
1. Wires and cables for control and power circuits shall be continuous without splices between terminals, except where otherwise specifically approved by the Engineer. All splices shall be made in an approved manner. Mechanical connectors and terminal devices shall be the soldered-type, or the compression-type that is indented or crimped on to the conductor.
 2. Splices and terminations of instrument cable shall be with pre-insulated crimp type connectors. Shields shall be electrically continuous at spliced joints with two layers of UL-approved electrical insulating tape over splices. Connectors for terminations shall be split tongue or ring type. Shields shall be grounded at the receiving end of cables.
 3. Splices in manholes and underground pull boxes for 600-volt conductors and below shall be waterproofed using encapsulating epoxy resin splice kits.

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

- I. Wire and cable shall be factory color coded by integral pigmentation with a separate color for each phase and neutral. On conductors larger than 8 AWG, color tape or colored plastic bands will be permitted.
- J. 120/240V system shall be color coded and shall have it maintained throughout.
 - 1. Phase A: BLACK
 - 2. Phase B: Red
 - 3. Neutral: White
 - 4. Ground: Green
 - 5. Control Wires: Purple
 - 6. DC Conductors: Blue

3.06 GROUNDING INSTALLATION

- A. Install grounding electrodes and ground loop conductors. Install bare copper conductors, size #2 minimum. Bury conductors at least 24 inches below grade. Coordinate conductor burial depth with depth of ground rod well for connection to ground rods.
- B. Install grounding well pipe with cover next to the meter pedestal. Install the well pipe top flush with finished grade.
- C. Grounding continuity for underground duct banks may be maintained by the installation of a bare copper conductor installed in the concrete envelope. Ground continuity shall be maintained through all manholes and pull boxes. All metal parts in manholes shall be connected to the grounding system.
- D. Install bonding meeting regulatory requirements.
- E. All metallic raceway, non current-carrying parts of the electrical system shall be grounded.
- F. Install separate, green insulated conductor within each feeder and branch circuit raceway. Terminate each end on suitable lug, bus, or bushing.
- G. Locate and install anchors, fasteners, and supports in accordance with NECA "Standard Practice of Good Workmanship in Electrical Construction."
- H. Do not fasten supports to pipes, ducts, mechanical equipment, or conduit.

3.07 TESTING AND INSPECTOR

- A. Provide personnel and equipment, make required tests, and secure required approvals from the owner and governmental agencies having jurisdiction.
- B. Make written notice to the owner adequately in advance of each of the following stages of construction:

SECTION 16000 - GENERAL ELECTRICAL REQUIREMENTS

1. In the underground condition prior to placing concrete floor slab, when all associated electrical work is in place
 2. When all rough-in is complete, but not covered.
 3. At completion of the work of this section.
- C. In the owner's presence:
1. Test all parts of the electrical system and prove that all such items provided under this section function electrically in the required manner.
 2. Immediately submit to the owner a report of maximum and minimum voltages.
 3. Measure voltages between phases and between phase wires and neutrals, and report these voltages to the owner.

3.08 PROJECT COMPLETION

- A. Upon completion of the work of this section, thoroughly clean all exposed portions of the electrical installation, removing all traces of soil, labels, grease, oil and other foreign material, and using only the type cleaner recommended by the manufacturer of the item being cleaned.
- B. Thoroughly indoctrinate the owner's operation and maintenance personnel in the contents of the operations and maintenance manual required to be submitted under these specifications.
- C. On the first day the facility is in operation, for at least eight hours at a time as directed by the owner. Provide a qualified foreman and crew to perform such electrical work as may be required by the owner.

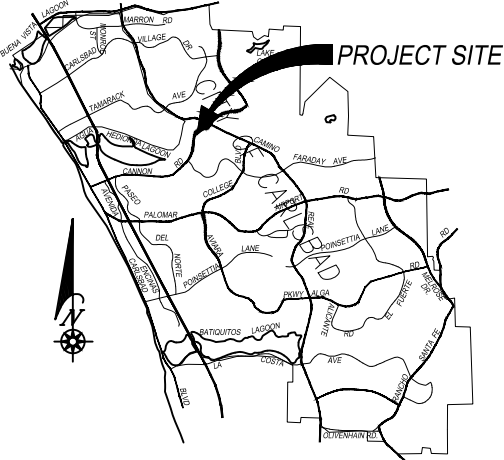
END OF SECTION

CONSTRUCTION PLANS
FOR THE

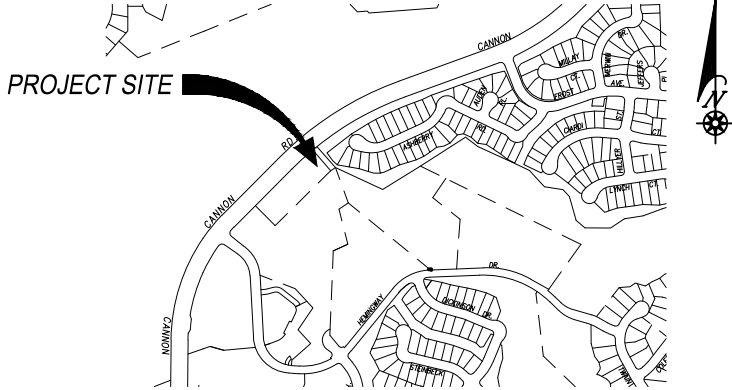
**CANNON LIFT STATION IMPROVEMENTS
CIP 5552**



**CITY OF CARLSBAD, UTILITIES DEPARTMENT
CARLSBAD, CALIFORNIA**



VICINITY MAP
NOT TO SCALE



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

1. TITLE SHEET
2. NOTES, LEGEND AND ABBREVIATIONS AND MISC. DETAILS
3. OVERALL SITE PLAN
4. DEMOLITION AND RESTORATION DETAILS
5. FLOW METER VAULT SITE PLAN AND SECTION VIEWS
6. TEMPORARY SEWER BYPASS PLAN

REFERENCE DRAWINGS

- DWG. NO. 396-2 CANNON ROAD FORCE MAIN AND GRAVITY SEWER
- DWG. NO. 409-8 CANNON ROAD LIFT STATION
- DWG. NO. 333-2GD CANNON ROAD WATER AND RECYCLED WATER TRANSMISSION MAINS PHASE 2 (88-602), AND 8" AND 12" COLLECTOR SEWER PIPELINES (92-406)
- DWG. NO. 333-2GE CANNON ROAD WATER AND RECYCLED WATER TRANSMISSION MAINS PHASE 2 (88-602), AND 8" 12" COLLECTOR SEWER AND 20" INTERCEPTOR SEWER PIPELINES PIPELINES (92-406)

CITY COUNCIL MEMBERS

- KEITH BLACKBURN - MAYOR
- MELANIE BURKHOLDER - DISTRICT 1
- CAROLYN LUNA - DISTRICT 2
- PRIYA BHAT-PATEL - DISTRICT 3
- TERESA ACOSTA - DISTRICT 4

**SCOTT CHADWICK
CITY MANAGER**

**PAZ GOMEZ
DEPUTY CITY MANAGER, PUBLIC WORKS**

**BID SET
AUGUST 2024**



ORIGINAL DRAWING SCALE
0 1/2" 1"

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

RCE _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 1	CITY OF CARLSBAD UTILITIES DEPARTMENT	SHEETS 6
IMPROVEMENT PLAN FOR: TITLE SHEET CANNON LIFT STATION IMPROVEMENTS		
APPROV: <i>David Padilla</i> 8/7/24 ENGINEERING MANAGER RCE 55974 EXP. 12/31/24 DATE		
DWN BY: NI	PROJECT NO. 5552	DRAWING NO. 544-7
CHKD BY: SD		
RVWD BY: DP		

BID SET - NOT FOR CONSTRUCTION

GENERAL NOTES

- THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING IMPROVEMENTS SHOWN ON THIS SET OF PLANS.
- APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OF CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HEREON AS THEY MAY PERTAIN TO THIS PROJECT. THE ENGINEER IN RESPONSIBLE CHARGE SHALL REVISE THESE PLANS WHEN NON-CONFORMANCE IS DISCOVERED.
- NO WORK SHALL BE COMMENCED UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
- NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND TITLE SHEET.
- THE CONTRACTOR SHALL SUBMIT REDLINE DRAWINGS TO REFLECT AS-BUILT CONDITIONS PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
- ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
- WHERE TRENCHES ARE WITHIN CITY EASEMENTS OR RIGHT OF WAY, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO WORKING DAYS OF COMPLETION OF FIELD TESTS. THE WRITTEN FIELD COMPACTION REPORT(S) SHALL BE IMMEDIATELY SUBMITTED TO THE CITY ENGINEERING INSPECTOR UPON COMPLETION OF THE FIELD TESTS.
- THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING SLOPE OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTORS EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
- IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK ZONE DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
- ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY INSPECTOR FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
- IMPORT MATERIAL SHALL BE OBTAINED FROM, AND WASTE MATERIAL SHALL BE DEPOSITED AT, A SITE APPROVED BY THE CITY ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTES OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
- THE EXISTENCE AND LOCATION OF UTILITY STRUCTURES AND FACILITIES SHOWN ON THE CONSTRUCTION PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND ANY OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
- THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF THE CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONSTRUCTION PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
- THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO FULL WORKING DAYS PRIOR TO STARTING CONSTRUCTION NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH A COMPANY REPRESENTATIVE.

UNDERGROUND SERVICE ALERT

- 811, (800)422-4133
 SDG&E (800)411-7343
 AT&T (800)892-0123
 TIME WARNER CABLE (760)438-7741
 COX COMMUNICATIONS (619)262-1122
 CITY OF CARLSBAD(STREETS AND STORM DRAIN) (760)434-2980
 CITY OF CARLSBAD(SEWER, WATER & RECLAIMED WATER) (442)339-2722
- ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF CURBS, CROSS GUTTERS OR SURFACING OF STREETS.
 - WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
 - FIRE HYDRANT MARKERS SHALL BE PLACED IN THE STREET WITHIN THE LIMITS OF WORK OF THIS PLAN PER SDRS DWG M19.
 - ALL SURVEY MONUMENTS AND POINTS THAT ARE DISTURBED BY THIS WORK SHALL BE REESTABLISHED, PERPETUATED, AND DOCUMENTED PER THE PROFESSIONAL LAND SURVEYORS ACT.
 - TWO (2) SETS OF SURVEY (CUT) SHEETS SHALL BE PROVIDED TO THE CITY ENGINEERING INSPECTOR.

SEWER NOTES

- SEWER MAIN AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "CITY OF CARLSBAD ENGINEERING STANDARDS (LATEST EDITION), VOLUME 1- GENERAL DESIGN STANDARDS, CHAPTER 6-DESIGN CRITERIA FOR GRAVITY SEWER LINES AND APPURTENANCES, AND VOLUME 3 - STANDARD DRAWINGS AND NOTES AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION (GREEN BOOK).
- BEFORE CONSTRUCTION BEGINS IN ANY PUBLIC RIGHT OF WAY, A CITY RIGHT OF WAY PERMIT SHALL BE REQUIRED.

SIGNING AND STRIPING NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING ALL SIGNING AND STRIPING.
- SIGNING, STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (FHWA'S MUTCD CURRENT EDITION, AS AMENDED FOR USE IN CALIFORNIA), CALTRANS STANDARD SPECIFICATIONS (JULY 2006 OR LATEST VERSION THEREOF), THESE PLANS AND THE SPECIAL PROVISIONS.
- PRIOR TO FINAL ACCEPTANCE OF STREET IMPROVEMENTS, ALL STREET STRIPING AND MARKINGS WITHIN A 500' PERIMETER OF THE CONSTRUCTION PROJECT WILL BE RESTORED TO A "LIKE NEW" CONDITION, IN A MANNER MEETING THE APPROVAL OF THE CITY INSPECTOR.

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM OF 1983, ZONE 6, IN ACCORDANCE WITH THE IMPROVEMENTS ON CITY OF CARLSBAD DWG. NO. 409-8

BENCHMARK

SAN DIEGO COUNTY BENCHMARK R1800 427+71 EC
 3" BRASS CAP STAMPED 427+21 IN STANDARD WELL MONUMENT ON CENTERLINE OF EL CAMINO REAL EL=51.678' (NGVD29)

GROUNDWATER DEWATERING NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR DESIGN, FURNISHMENT, INSTALLATION, OPERATION AND REMOVAL OF DEWATERING SYSTEM PLAN PER CONTRACT SPECIFICATIONS.

SEWER BYPASS NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR DESIGN, FURNISHMENT, INSTALLATION, AND REMOVAL OF SEWER BYPASSING SYSTEM PER TECHNICAL SPECIFICATION 02960.

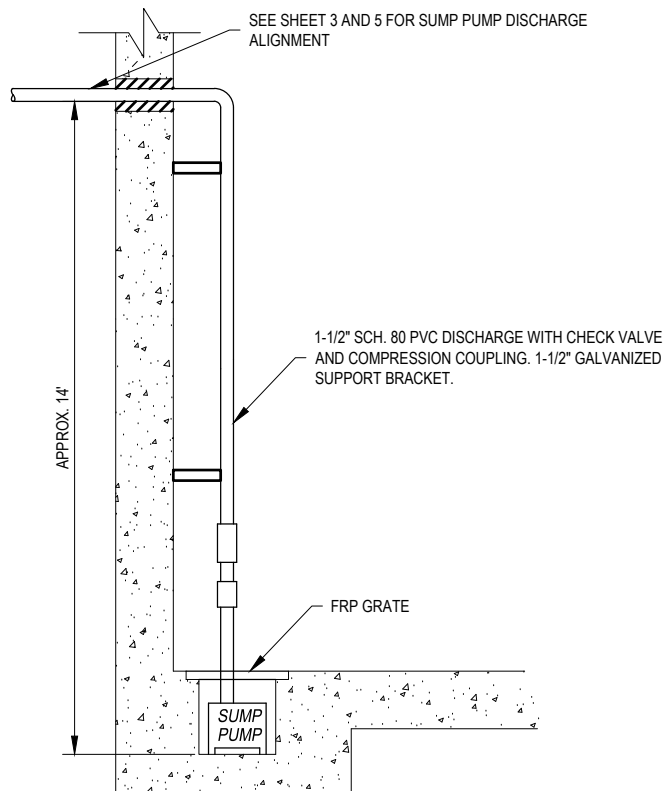
TOTAL DISTURBED AREA = .004 AC
 (THIS AREA INCLUDES BUT IS NOT LIMITED TO OFF-SITE WORK INCLUDING PUBLIC IMPROVEMENTS AND TEMPORARY DISTURBANCE SUCH AS VEHICLE AND EQUIPMENT STAGING AREAS, CONSTRUCTION WORKER FOOT TRAFFIC, SOIL/GRAVEL PILES, UTILITY TRENCHES, BACKFILL CUTS, AND SLOPE KEYWAYS)
 TOTAL REPLACED IMPERVIOUS AREA = .004 AC
 TOTAL PROPOSED IMPERVIOUS AREA = 0.0 AC

ABBREVIATIONS

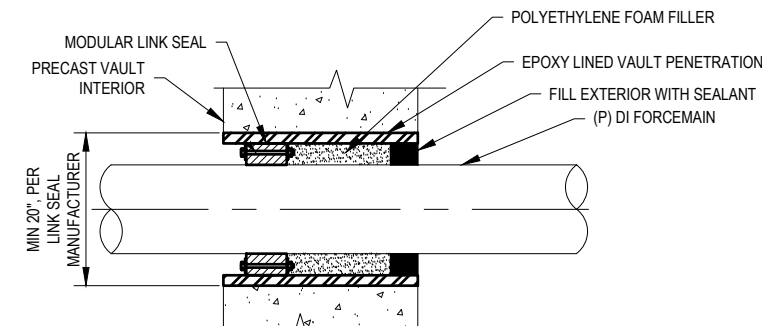
DESCRIPTION	ABBREVIATION
ACRYLONITRILE BUTADIENE STYRENE	ABS
CAST IN PLACE	CIP
CITY OF CARLSBAD STANDARD DRAWING	CSD
DUCTILE IRON	DI
EXISTING	(E)
FUSION BONDED EPOXY	FBE
HIGH DENSITY POLYETHYLENE	HDPE
INSIDE DIAMETER	ID
INVERT ELEVATION	IE
IRON PIPE SIZE	IPS
LINEAL FEET	LF
NOT TO SCALE	N.T.S.
OUTSIDE DIAMETER	OD
PROPOSED	(P)
PROTECT IN PLACE	PIP
PROPERTY LINE	PL
POLYVINYL CHLORIDE	PVC
REMOVE AND REPLACE	RR
RIGHT OF WAY	R/W
SAN DIEGO REGIONAL STANDARD DRAWING	SDRSD
SEWER	S
STORM DRAIN	SD
TOP OF CARRIER PIPE	TOP
TYPICAL	TYP
VTIFIED CLAY PIPE	VCP
WATER SERVICE	W/WTR

LEGEND

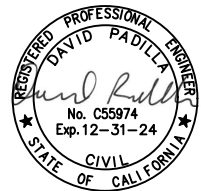
DESCRIPTION	SYMBOL
NEW HDPE SEWER	— S —
EXIST. WATERLINE	— W —
EXIST. SANITARY SEWER	— S —
EXIST. RECLAIMED WATER MAIN	— RCWM —
EXIST. STORM DRAIN	— SD —
EXIST. TELECOMMUNICATIONS	— T —
EXIST. TRAFFIC SIGNAL	— TS —
EXIST. ABANDONED TRAFFIC SIGNAL	— TS (AB) —
EXIST. ELECTRIC	— E —
EXIST. GAS	— G —
EXIST. CABLE	— CATV —
EXIST. FENCELINE	— X — X —
EXIST. WALL	— □ — □ —
EXIST. R/W & PL	— · · · —
PAVEMENT STRIPING	— · · · · —
EXIST. MANHOLE	○
EXIST. WATER SERVICE	— □ —
EXIST. TREE	○
EXIST. HYDRANT	⊕



1 SUMP PUMP DISCHARGE
 STA: N/A SCALE: N.T.S.



2 PROPOSED MANHOLE PENETRATION DETAIL
 STA: N/A SCALE: N/A



ORIGINAL DRAWING SCALE
 0 1/2" 1"

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

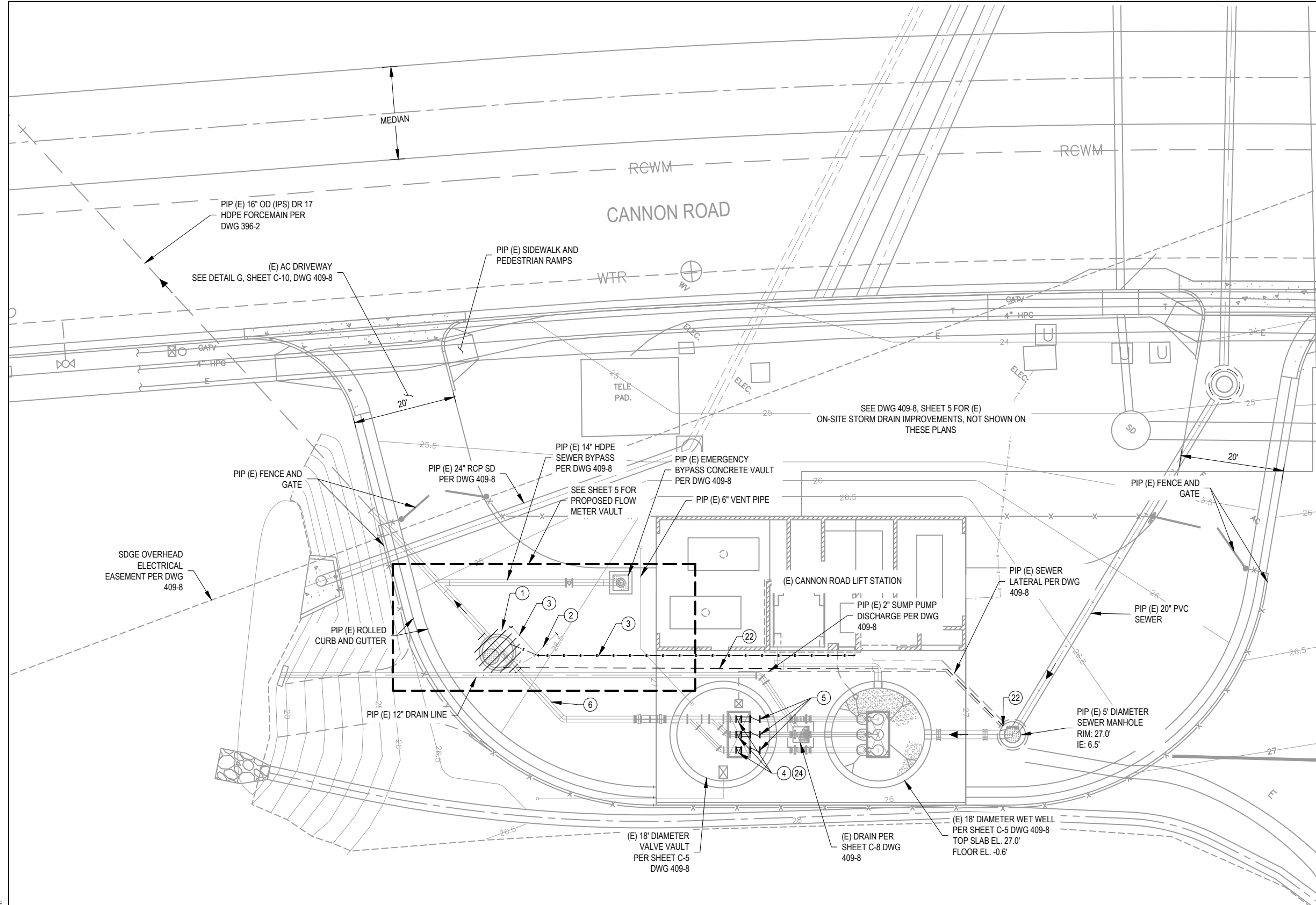
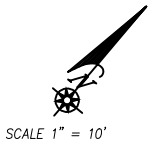
RCE _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 2	CITY OF CARLSBAD UTILITIES DEPARTMENT	SHEETS 6
IMPROVEMENT PLAN FOR: NOTES, LEGEND, ABBREVIATIONS AND MISC. DETAILS CANNON LIFT STATION IMPROVEMENTS		
APPROV <i>David Padilla</i>	8/7/24	DATE
ENGINEERING MANAGER RCE 55974	EXP. 12/31/24	DATE
DWN BY: NI	PROJECT NO. 5552	DRAWING NO. 544-7
CHKD BY: SD		
RVWD BY: DP		

BID SET - NOT FOR CONSTRUCTION



CONSTRUCTION NOTES: (X)

1. DEMO (E) CHEMICAL INJECTION MANHOLE AND REPLACE W/ NEW FLOW METERING VAULT. SEE SHEET 4 FOR MANHOLE DEMOLITION
2. CONTRACTOR TO LOCATE AND PIP (E) 1" CONDUIT 112A PER DWG 409-8. REMOVE CONDUIT FOR (P) FLOW METER SIGNAL CABLE
3. REMOVE (E) 2" CHEMICAL INJECTION FEED PER DWG 409-8 SHEET C-8. REPLACE WITH (P) 2" ELECTRICAL CONDUIT FOR FLOW METER AND SUMP PUMP POWER PER SDGE STANDARD 3370
4. RR (E) 10" PLUG VALVE (TYP OF 3)
5. RR (E) 10" CHECK VALVE W/ VAL-MATIC SURGEBUSTER W/ MECHANICAL DISC INDICATOR AND BACKFLOW ACTUATOR (TYP OF 3)
6. PIP (E) 16" OD (IPS) DR 17 HDPE FORCEMAIN
7. (P) 16" IPS ELECTROFUSION COUPLER. MIN. 230 PSI RATING
8. (P) 14" DIOD DR 13.5 HDPE, FLG ADAPTER X PE
9. (P) 14" ID FULL PORT PLUG VALVE
10. (P) 14" ID ELECTROMAGNETIC FLOW METER, ENDRESS+HAUSER 24 V DC PROLINE PROMAG W 400
11. (P) 14" DISMANTLING JOINT, ROMAC DJ400 OR APPROVED EQUAL
12. (P) 16" IPS X 14" DIOD HDPE REDUCER, MIN DR 17
13. 1.5' X 1.5' X 1.5' SUMP
14. PRECAST STRUCTURAL RISER SECTION (TYP)
15. PRECAST STRUCTURAL MONOLITHIC BASE SECTION
16. GALVANIZED STEEL LADDER W/ LADDER-UP
17. PRECAST HS-20 HEAVY DUTY TRAFFIC RATED FLAT-TOP PER MANHOLE MANUFACTURER
18. 48" X 48" HS-20 HEAVY DUTY TRAFFIC RATED VAULT ACCESS COVER PER SPEC. 05500
19. FRP GRATE
20. HOT DIP GALVANIZED ADJUSTABLE PIPE SUPPORT
21. SUMP PUMP - LITTLE GIANT #506251 OR APPROVED EQUAL
22. 1-1/2" SCH. 80 PVC DISCHARGE (APPROX. 110 LF, MIN 2.5' DEPTH). CONNECT TO EXISTING MANHOLE WITH NEW CORED CONNECTION PER DETAIL 2 SHEET 2. BACKFILL PER CMWD STD. DWG. W-2
23. WATERPROOF EXTERIOR STRUCTURE
24. RR (E) 10" DI SPOOL AND VICTAULIC COUPLING (TYP OF 3)
25. MANHOLE PENETRATION DETAIL, SHEET 2

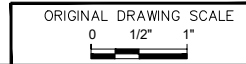
BID SET - NOT FOR CONSTRUCTION

"AS BUILT"

RCE _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

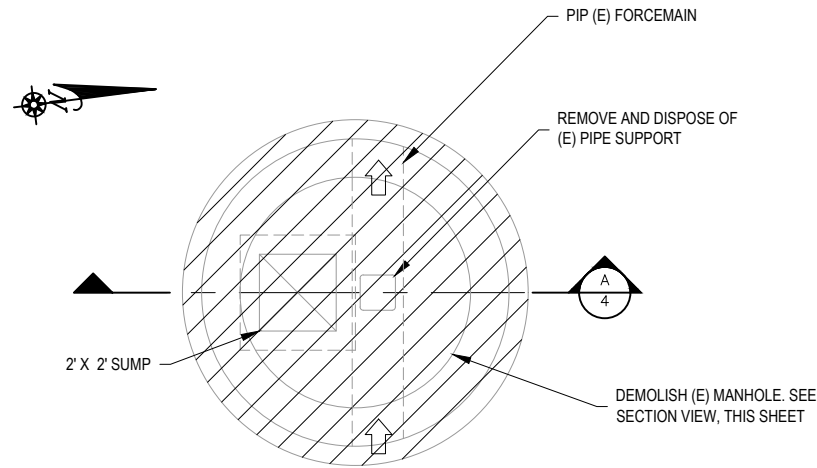


DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

SHEET 3	CITY OF CARLSBAD UTILITIES DEPARTMENT	SHEETS 6
IMPROVEMENT PLAN FOR: OVERALL SITE PLAN CANNON LIFT STATION IMPROVEMENTS		
APPROV <i>David Padilla</i>	8/7/24	DATE
ENGINEERING MANAGER RCE 55974 EXP. 12/31/24		
DWN BY: NI	PROJECT NO. 5552	DRAWING NO. 544-7
CHKD BY: SD		
RWVD BY: DP		

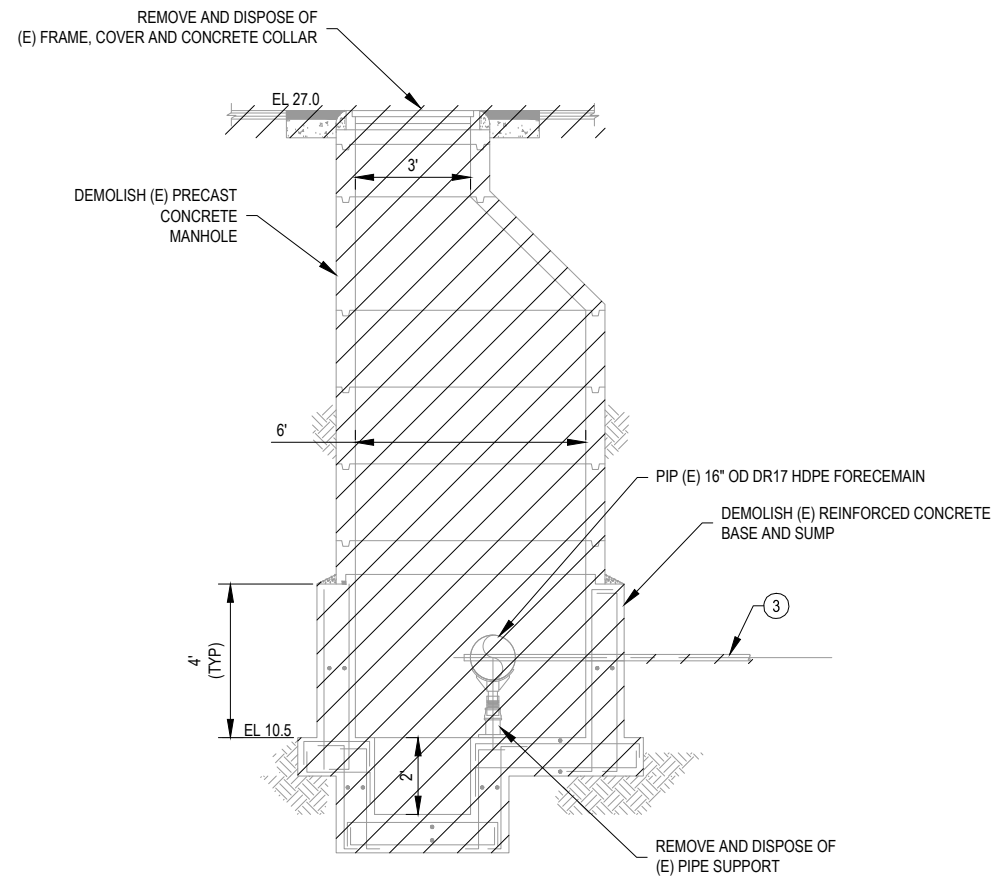
FILE SPEC: O:\Public Works\PW Common\Capital Improvement Program Projects\5552 Cannon Rd LS\Design\CAD\Bid_Set_3.dwg
PLOT DATE: Aug 15, 2024 - 1:25pm

FILE SPEC: C:\Public Works\PW Common\Capital Improvement Program Projects\5552 Cannon Rd LS\Design\CAD\Bid_Set_3.dwg
 PLOT DATE: Aug 07, 2024 - 3:55pm



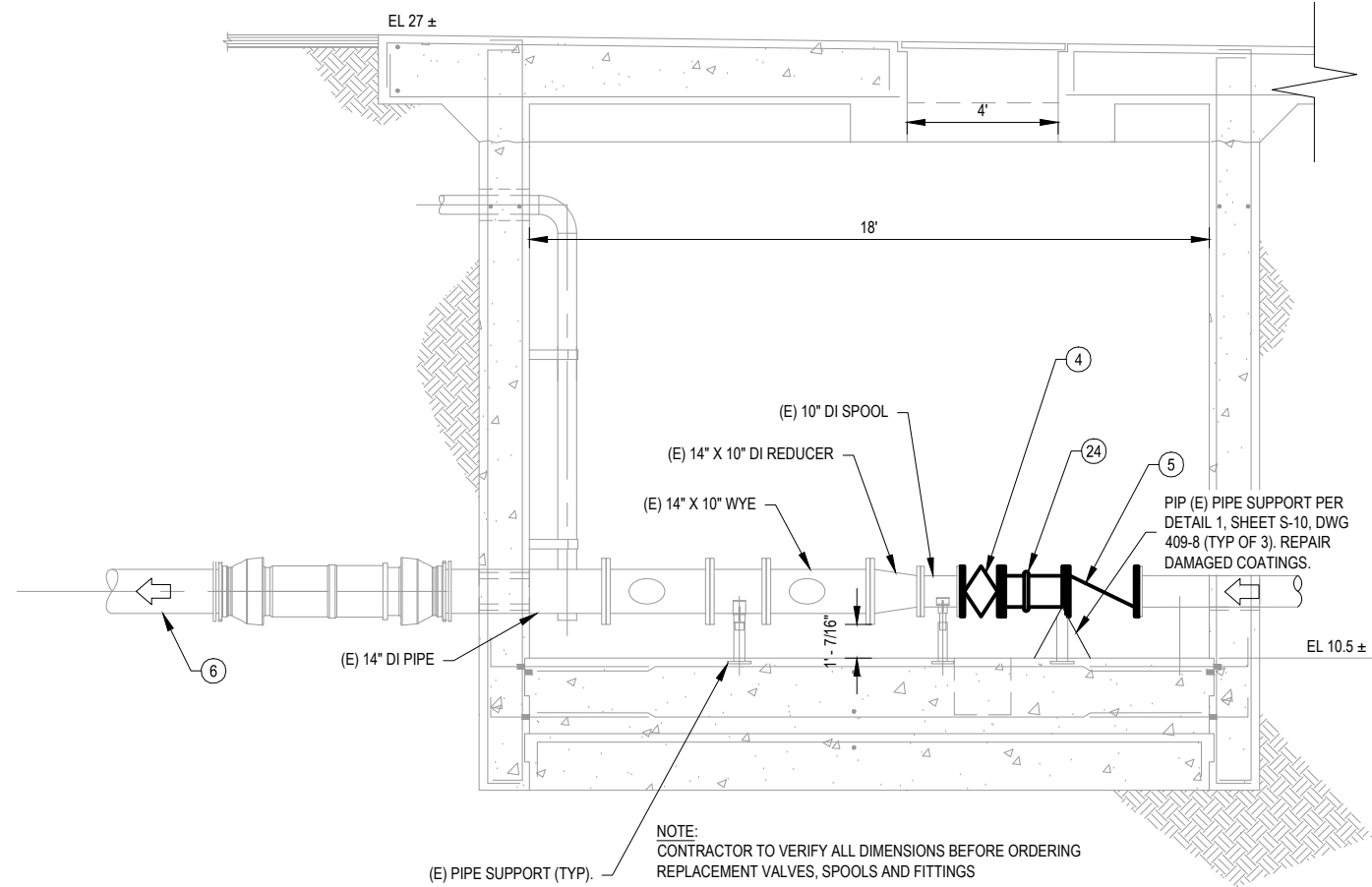
- NOTES:**
- CONTRACTOR TO LOCATE EXISTING ELECTRICAL CONDUITS TO FLOW METER AND PROTECT IN PLACE
 - CONTRACTOR TO REMOVE AND REPLACE EXISTING JUNCTION BOX FOR FLOW METER AND SUMP PUMP POWER (NOT SHOWN)

1 MANHOLE DEMOLITION - PLAN
 STA: SCALE: N.T.S.



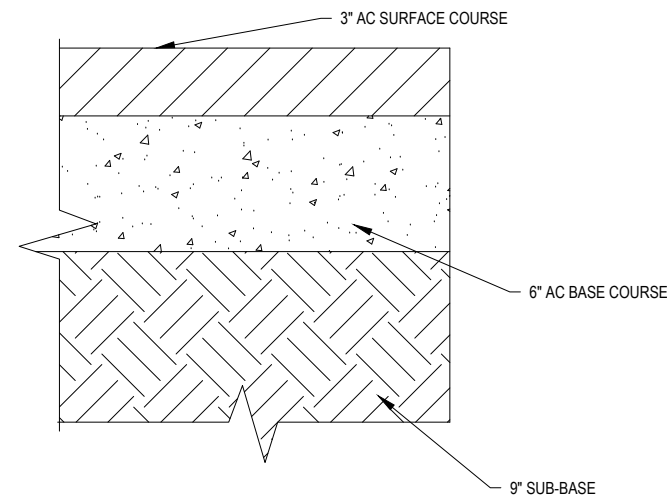
- NOTES:**
- CONTRACTOR TO LOCATE EXISTING ELECTRICAL CONDUITS TO FLOW METER AND PROTECT IN PLACE
 - CONTRACTOR TO REMOVE AND REPLACE EXISTING JUNCTION BOX FOR FLOW METER POWER (NOT SHOWN)

A MANHOLE DEMOLITION - SECTION
 STA: SCALE: N.T.S.



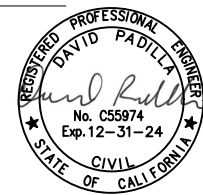
2 EXISTING VALVE VAULT - SECTION
 STA: SCALE: N.T.S.

NOTE: CONTRACTOR TO VERIFY ALL DIMENSIONS BEFORE ORDERING REPLACEMENT VALVES, SPOOLS AND FITTINGS



NOTE: REFER TO CSD GS-28 FOR ASPHALT CONCRETE RESURFACING REQUIREMENTS

3 ACCESS ROAD RESTORATION
 STA: SCALE: N.T.S.



CONSTRUCTION NOTES: (X)

- DEMO (E) CHEMICAL INJECTION MANHOLE AND REPLACE W/ NEW FLOW METERING VAULT. SEE SHEET 4 FOR MANHOLE DEMOLITION
- CONTRACTOR TO LOCATE AND PIP (E) 1" CONDUIT 112A PER DWG 409-8. REUSE CONDUIT FOR (P) FLOW METER SIGNAL CABLE
- REMOVE (E) 2" CHEMICAL INJECTION FEED PER DWG 409-8 SHEET C-8. REPLACE WITH (P) 2" ELECTRICAL CONDUIT FOR FLOW METER AND SUMP PUMP POWER PER SDGE STANDARD 3370
- RR (E) 10" PLUG VALVE (TYP OF 3)
- RR (E) 10" CHECK VALVE W/ VAL-MATIC SURGEBUSTER W/ MECHANICAL DISC INDICATOR AND BACKFLOW ACTUATOR (TYP OF 3)
- PIP (E) 16" OD (IPS) DR 17 HDPE FORCEMAIN
- (P) 16" IPS ELECTROFUSION COUPLER. MIN. 230 PSI RATING
- (P) 14" DIOD DR 13.5 HDPE, FLG ADAPTER X PE
- (P) 14" ID FULL PORT PLUG VALVE
- (P) 14" ID ELECTROMAGNETIC FLOW METER, ENDRESS+HAUSER 24V DC PROLINE PROMAG W 400
- (P) 14" DISMANTLING JOINT, ROMAC DJ400 OR APPROVED EQUAL
- (P) 16" IPS X 14" DIOD HDPE REDUCER, MIN DR 17
- 1.5' X 1.5' X 1.5' SUMP
- PRECAST STRUCTURAL RISER SECTION (TYP)
- PRECAST STRUCTURAL MONOLITHIC BASE SECTION
- GALVANIZED STEEL LADDER W/ LADDER-UP
- PRECAST HS-20 HEAVY DUTY TRAFFIC RATED FLAT-TOP PER

- MANHOLE MANUFACTURER**
- 48" X 48" HS-20 HEAVY DUTY TRAFFIC RATED VAULT ACCESS COVER PER SPEC. 05500
 - FRP GRATE
 - HOT DIP GALVANIZED ADJUSTABLE PIPE SUPPORT
 - SUMP PUMP - LITTLE GIANT #506251 OR APPROVED EQUAL
 - 1-1/2" SCH. 80 PVC DISCHARGE (APPROX. 110 LF, MIN 2.5' DEPTH). CONNECT TO EXISTING MANHOLE WITH NEW CORED CONNECTION PER DETAIL 2 SHEET 2. BACKFILL PER CMWD STD. DWG. W-2.
 - WATERPROOF EXTERIOR STRUCTURE
 - RR (E) 10" DI SPOOL AND VICTAULIC COUPLING (TYP OF 3)
 - MANHOLE PENETRATION DETAIL, SHEET 2

"AS BUILT"

RCE _____ EXP. _____ DATE _____

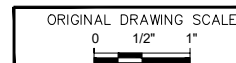
REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 4	CITY OF CARLSBAD UTILITIES DEPARTMENT	SHEETS 6
IMPROVEMENT PLAN FOR DEMOLITION AND RESTORATION DETAILS CANNON LIFT STATION IMPROVEMENTS		
APPROV: <i>David Padilla</i>	8/7/24	DATE
ENGINEERING MANAGER RCE 55974 EXP.12/31/24		DATE
DWN BY: NI	PROJECT NO. 5552	DRAWING NO. 544-7
CHKD BY: SD		
RWD BY: DP		

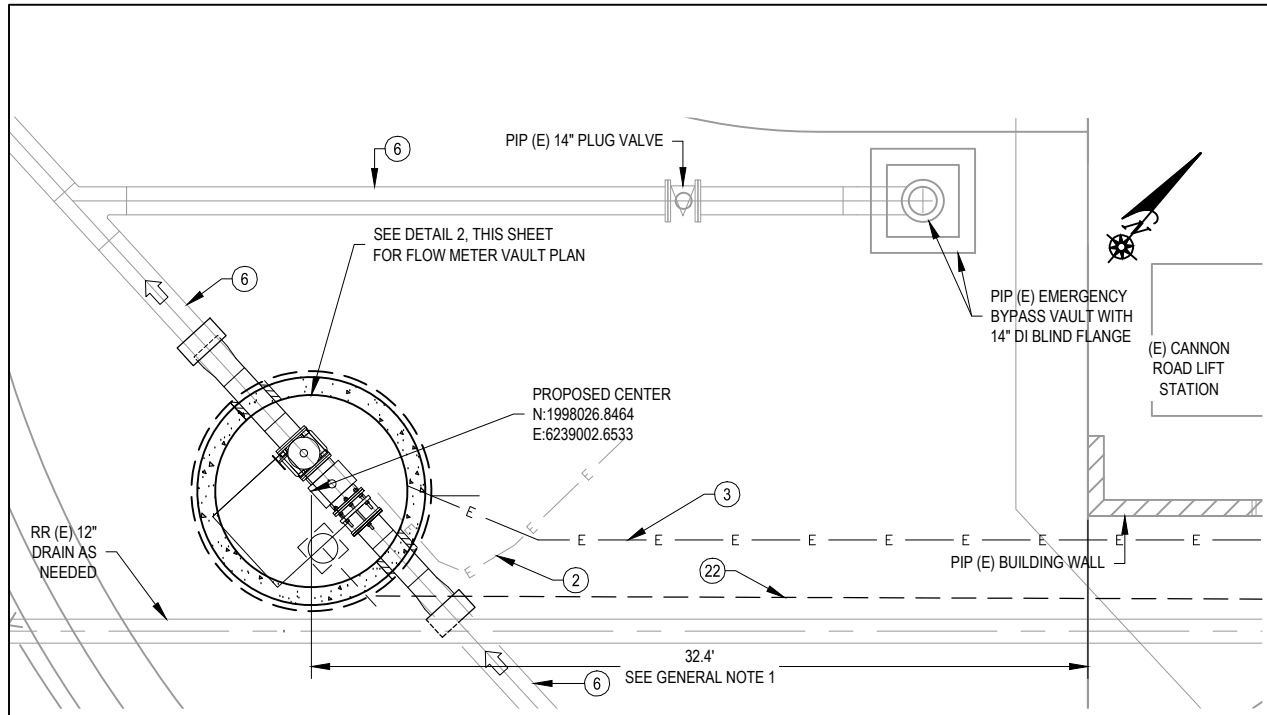
DATE	INITIAL	DATE	INITIAL	DATE	INITIAL

DATE INITIAL REVISION DESCRIPTION

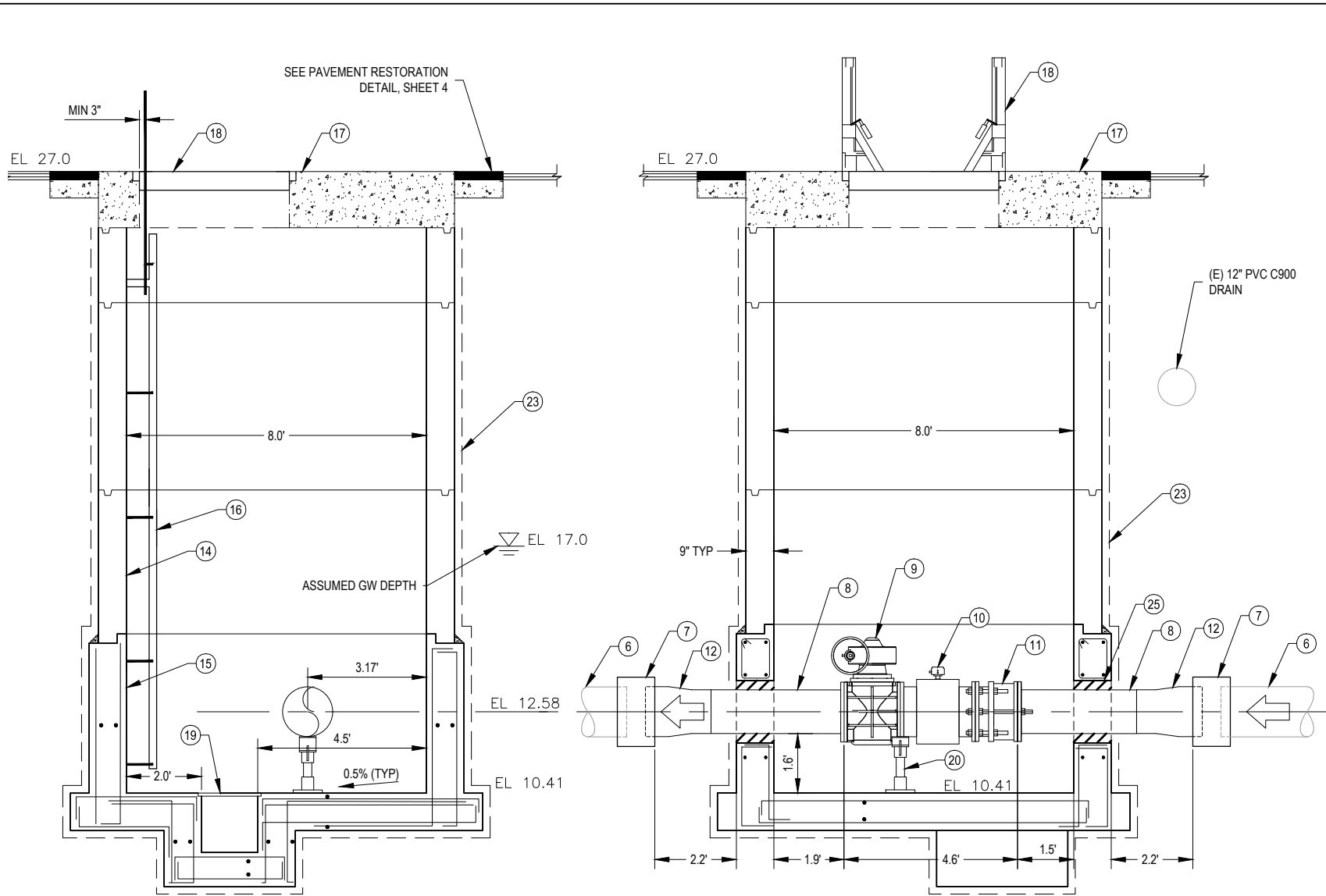


BID SET - NOT FOR CONSTRUCTION

FILE SPEC: O:\Public Works\PW Common\Capital Improvement Program Projects\5552 Cannon Rd LS\Design\CAD\Bid_Set_3.dwg
PLOT DATE: Aug 07, 2024 - 3:55pm



1 PROPOSED FLOW METER VAULT SITE PLAN
STA: N/A SCALE: 1" = 4'



A PROPOSED FLOW METER VAULT SECTION-A
STA: N/A SCALE: 1" = 2'

B PROPOSED FLOW METER VAULT SECTION-B
STA: N/A SCALE: 1" = 2'

- SECTION A AND B NOTES:
- 1. ALL PRECAST STRUCTURAL SECTIONS PER VAULT MANUFACTURER.
 - 2. STRUCTURAL REINFORCEMENT PER PRECAST VAULT MANUFACTURER, PRECAST BASE REINFORCEMENT SHOWN FOR REFERENCE ONLY.
 - 3. WATERPROOFING OF EXTERIOR AND PRECAST JOINTS PER SPECIFICATION 07110
 - 4. CONTRACTOR TO VERIFY ALL EXISTING CHEMICAL INJECTION METERING MANHOLE DIMENSIONS BEFORE ORDERING PROPOSED FLOW METER VAULT
 - 5. SUMP IS OUTSIDE OF SECTION VIEW, SHOWN FOR REFERENCE ONLY
 - 6. VAULT SHALL BE CAST WITH A SLOPE TOWARDS THE SUMP AS SHOWN

A PROPOSED FLOW METER VAULT SECTION-A
STA: N/A SCALE: 1" = 2'

CONSTRUCTION NOTES: (X)

- 1. DEMO (E) CHEMICAL INJECTION MANHOLE AND REPLACE W/ NEW FLOW METERING VAULT. SEE SHEET 4 FOR MANHOLE DEMOLITION
- 2. CONTRACTOR TO LOCATE AND PIP (E) 1" CONDUIT 112A PER DWG 409-8. REUSE CONDUIT FOR (P) FLOW METER SIGNAL CABLE
- 3. REMOVE (E) 2" CHEMICAL INJECTION FEED PER DWG 409-8 SHEET C-8. REPLACE WITH (P) 2" ELECTRICAL CONDUIT FOR FLOW METER AND SUMP PUMP POWER PER SDGE STANDARD 3370
- 4. RR (E) 10" PLUG VALVE (TYP OF 3)
- 5. RR (E) 10" CHECK VALVE W/ VAL-MATIC SURGEBUSTER W/ MECHANICAL DISC INDICATOR AND BACKFLOW ACTUATOR (TYP OF 3)
- 6. PIP (E) 16" OD (IPS) DR 17 HDPE FORCEMAIN
- 7. (P) 16" IPS ELECTROFUSION COUPLER, MIN. 230 PSI RATING
- 8. (P) 14" DIOD DR 13.5 HDPE, FLG ADAPTER X PE
- 9. (P) 14" ID FULL PORT PLUG VALVE
- 10. (P) 14" ID ELECTROMAGNETIC FLOW METER, ENDRESS+HAUSER 24V DC PROLINE PROMAG W 400
- 11. (P) 14" DISMANTLING JOINT, ROMAC DJ400 OR APPROVED EQUAL
- 12. (P) 16" IPS X 14" DIOD HDPE REDUCER, MIN DR 17
- 13. 1.5' X 1.5' X 1.5' SUMP
- 14. PRECAST STRUCTURAL RISER SECTION (TYP)
- 15. PRECAST STRUCTURAL MONOLITHIC BASE SECTION
- 16. GALVANIZED STEEL LADDER W/ LADDER-UP
- 17. PRECAST HS-20 HEAVY DUTY TRAFFIC RATED FLAT-TOP PER MANHOLE MANUFACTURER
- 18. 48" X 48" HS-20 HEAVY DUTY TRAFFIC RATED VAULT ACCESS COVER PER SPEC.
- 19. FRP GRATE
- 20. HOT DIP GALVANIZED ADJUSTABLE PIPE SUPPORT
- 21. SUMP PUMP - LITTLE GIANT #506251 OR APPROVED EQUAL
- 22. 1-1/2" SCH. 80 PVC DISCHARGE (APPROX. 110 LF, MIN 2.5' DEPTH), CONNECT TO EXISTING MANHOLE WITH NEW CORED CONNECTION PER DETAIL 2 SHEET 2. BACKFILL PER CMWD STD. DWG. W-2
- 23. WATERPROOF EXTERIOR STRUCTURE
- 24. RR (E) 10" DI SPOOL AND VICTAULIC COUPLING (TYP OF 3)
- 25. MANHOLE PENETRATION DETAIL, SHEET 2

- GENERAL NOTES
- 1. CONTRACTOR SHALL SET SURVEY REFERENCE POINTS TO EXISTING CENTER OF MANHOLE AND PIPE CENTERLINE PRIOR TO DEMOLITION. FIELD VERIFY ELEVATIONS AND DIMENSIONS OF ALL EXISTING IMPROVEMENTS TO BE JOINED OR MATCHED BY NEW WORK
 - 2. RESTORE EXISTING PAVEMENT IN ALL EXCAVATION AREAS OR WHERE DAMAGED BY CONSTRUCTION PER STANDARD DRAWINGS GS-25 AND DETAIL 3, SHEET 4.

2 PROPOSED FLOW METER VAULT PLAN
STA: N/A SCALE: 1" = 2'



ORIGINAL DRAWING SCALE
0 1/2" 1"

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

"AS BUILT"

RCE _____ EXP. _____ DATE _____

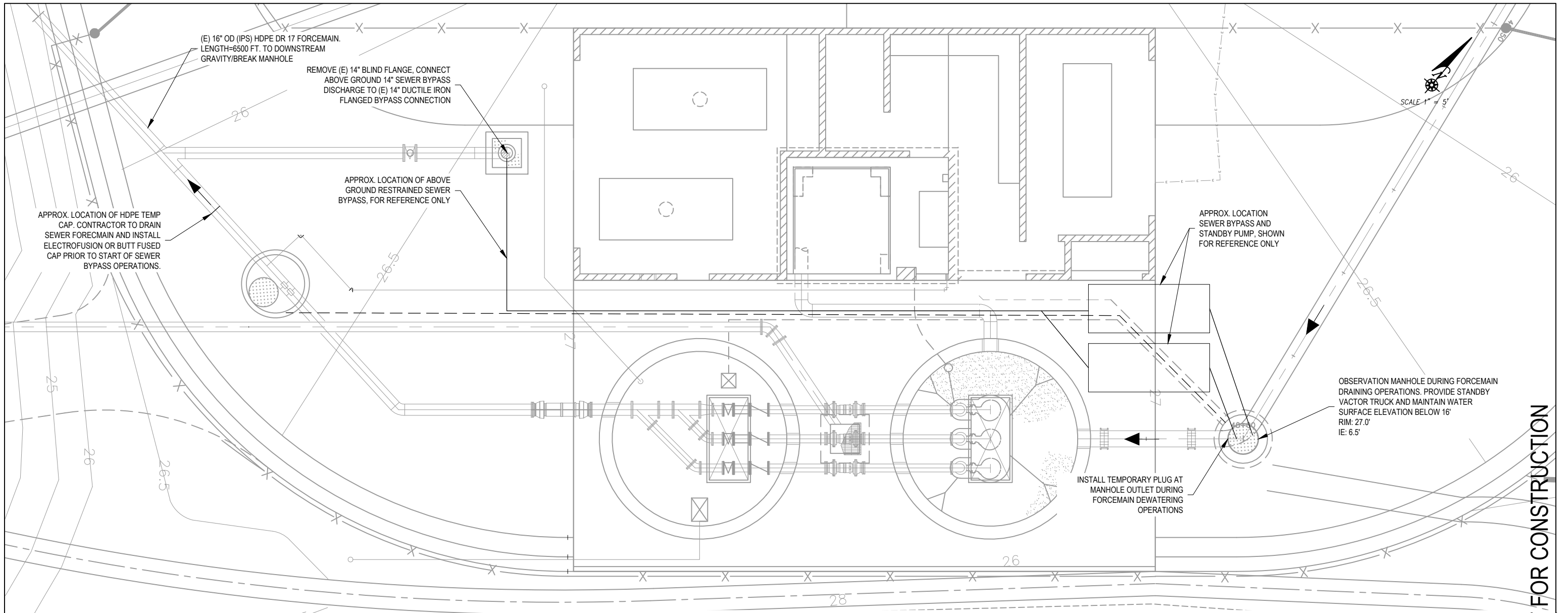
REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 5	CITY OF CARLSBAD UTILITIES DEPARTMENT	SHEETS 6
IMPROVEMENT PLAN FOR FLOW METER VAULT SITE PLAN AND SECTION VIEWS CANNON LIFT STATION IMPROVEMENTS		
APPROV <i>David Padilla</i>	8/7/24	DATE
ENGINEERING MANAGER RCE 55974 EXP.12/31/24	DATE	
DWN BY: NI	PROJECT NO. 5552	DRAWING NO. 544-7
CHKD BY: SD		
RWVD BY: DP		

BID SET - NOT FOR CONSTRUCTION

FILE SPEC: O:\Public Works\PW Common\Capital Improvement Program Projects\5552 Cannon Rd LS\Design\CAD\Bid_Set_3.dwg
 PLOT DATE: Aug 08, 2024 - 2:39pm

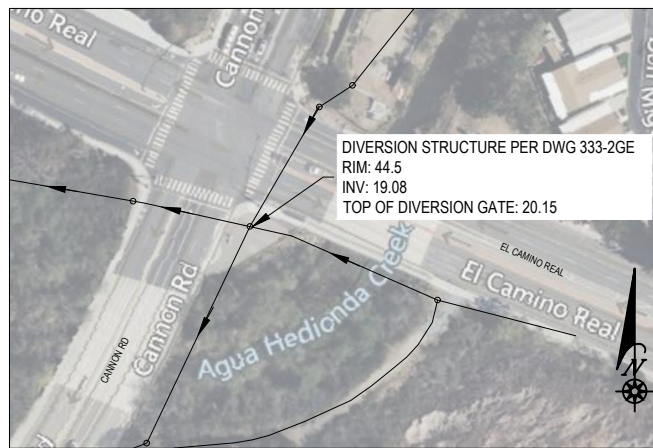


SCALE 1" = 5'

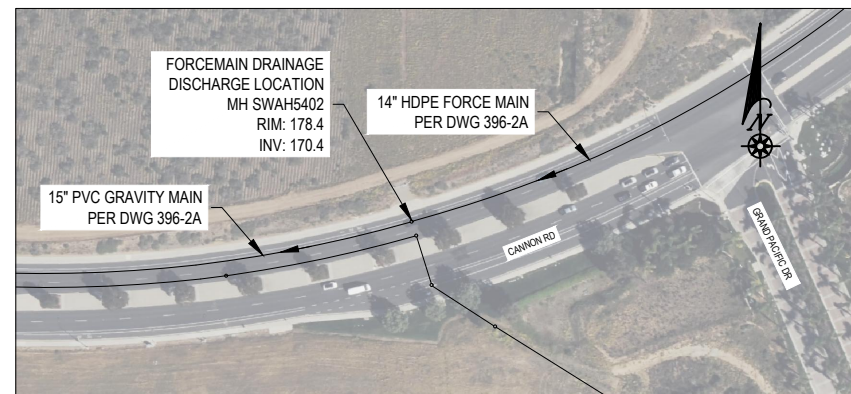
BID SET - NOT FOR CONSTRUCTION

SEWER BYPASS NOTES:

- REFER TO SPECIFICATION 02960 - TEMPORARY SEWER BYPASS PUMPING. BYPASS SYSTEM SHALL BE DESIGNED FOR PEAK WET WEATHER FLOW = 2440 GPM.
- CONTRACTOR RESPONSIBLE FOR ALL SEWER FORCEMAIN DEWATERING OPERATIONS PRIOR TO INSTALLATION, TEMP. CAP, AND THE FLOW METER VAULT INSTALLATION TIE-IN PER SHEET 5
- APPROXIMATE VOLUME OF SEWER FORCEMAIN DEWATERING = 51,000 GAL. CONTRACTOR TO INTERCEPT AND COLLECT ALL FORCEMAIN DEWATERING DISCHARGE AND DELIVER TO MANHOLE SWAH5402 PER DETAIL 2, THIS SHEET. MAXIMUM DISCHARGE RATE = 1000 GPM
- ESTIMATED PEAK DRY WEATHER FLOW INFLUENT TO STATION = 1000 GPM
- ESTIMATED AVERAGE DRY WEATHER FLOW INFLUENT TO STATION BETWEEN 12 A.M. AND 6 A.M = 400 GPM
- ESTIMATED STORAGE IN EXISTING GRAVITY MAIN/MANHOLES TRIBUTARY TO LIFT STATION: 40,000 GAL, INCLUDING EXISTING FLOW
- CONTRACTOR TO COORDINATE WITH CITY OF CARLSBAD UTILITIES DEPARTMENT DURING SHUTDOWN OF LIFT STATION AND INSTALLATION AND STARTUP OF SEWER BYPASS
- SEWER FORCEMAIN DEWATERING OPERATIONS MUST OCCUR AT NIGHT BETWEEN THE HOURS OF 12 A.M. AND 6 A.M. ONLY.
- CONTRACTOR TO REMOVE DIVERSION GATE FROM DIVERSION STRUCTURE IN DETAIL 1, THIS SHEET PRIOR TO FORCEMAIN DRAINAGE OPERATIONS AND REPLACE AFTER COMPLETION



1 EXISTING SEWER DIVERSION GATE LOCATION
 STA: N/A SCALE: 1" = 100'



2 FORCEMAIN DRAINAGE DISCHARGE LOCATION
 STA: N/A SCALE: 1" = 100'



ORIGINAL DRAWING SCALE
 0 1/2" 1"

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL
ENGINEER OF WORK			OTHER APPROVAL	CITY APPROVAL		

"AS BUILT"

RCE _____ EXP. _____ DATE _____

REVIEWED BY: _____

INSPECTOR _____ DATE _____

SHEET 6 CITY OF CARLSBAD UTILITIES DEPARTMENT SHEETS 6

IMPROVEMENT PLAN FOR
TEMPORARY SEWER BYPASS PLAN
 CANNON LIFT STATION IMPROVEMENTS

APPROV *David Padilla* 8/7/24
 ENGINEERING MANAGER RCE 55974 EXP. 12/31/24 DATE

DWN BY: NI PROJECT NO. 5552 DRAWING NO. 544-7
 CHKD BY: SD
 RVWD BY: DP