

CITY OF FOLSOM
ENVIRONMENTAL & WATER RESOURCES DEPT.
50 NATOMA STREET
FOLSOM, CALIFORNIA 95630

VOLUME 1:
PROJECT MANUAL
FOR
ASHLAND WATER REHABILITATION
PROJECT NO. 2



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

NON-MANDATORY PRE-BID CONFERENCE
WEDNESDAY, MAY 18 2022 AT 10 A.M.

FOR PRE-BID INFORMATION CONTACT
KELSIE GUGINO
KGUGINO@FOLSOM.CA.US

BIDS TO BE RECEIVED BEFORE
10:00 A.M., FRIDAY JUNE 10, 2022
OFFICE OF CITY CLERK
50 NATOMA STREET, FOLSOM CA 95630

Set _____

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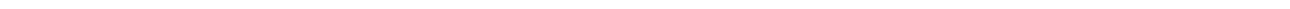


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NOTICE TO CONTRACTORS

Sealed Proposals will be received by the Office of the City Clerk for the City of Folsom at 50 Natoma Street, Folsom, CA 95630 up to the hour of **10:00 A.M. on Friday, June 10, 2022**. Bid opening will take place at **10:05 A.M. on Friday, June 10, 2022**, or as soon thereafter as business allows, at Folsom City Hall in the Council Chambers for construction of:

ASHLAND WATER REHABILITATION PROJECT NO. 2

In accordance with the Contract Documents issued by the City of Folsom, bids must be submitted on printed forms supplied by the Environmental & Water Resources Department, enclosed in an envelope marked:

SEALED PROPOSALS FOR: ASHLAND WATER REHABILITATION PROJECT NO. 2

Copies of the Sealed Proposal forms and accompanying documents (specifications and reduced size drawings) will be available starting **Monday, May 9, 2022 at 10:00 A.M.** at **www.CIPList.com**. Each Bidder must be added to the plan holder's list for the Project, receive addenda, and be eligible to bid the Project.

The project is generally described as water distribution system repairs, rehabilitation, replacement, and new infrastructure to improve City of Folsom water system deficiencies. An existing water transmission line shall be converted to a water distribution main along Baldwin Dam Road and the existing water mains decommissioned. A decommissioned booster station will be demolished.

Contractor's License Requirement: Class A-General Engineering Contractor.

A **non-mandatory** Pre-Bid Conference will be held at Folsom City Hall, 50 Natoma Street, in the Large Public Works Conference Room, 1st Floor on **Wednesday, May 18, 2022 at 10:00 A.M.** Requests for technical information or clarification shall be directed to the City's representative, Kelsie Gugino, City of Folsom, kgugino@folsom.ca.us on or before **Friday, May 27, 2022 at 4:00 P.M.**

City affirmatively identifies this project as a "public work" as that term is defined by Labor Code Section 1720, and the project is, therefore, subject to prevailing wages under Labor Code Section 1771.

Contractor and its subcontractors shall fully comply with all the provisions of the California Labor Code governing the performance of public works contracts including, but not limited to, payment of prevailing wages, limitations on time worked, compliance with apprentice requirements, maintenance of payroll records, posting of wages at the job site and prohibitions against discrimination. The prevailing rates so determined are on file with the City Clerk and they are available for public inspection. They may also be obtained on the internet at <http://www.dir.ca.gov/OPRL/dprevwagedetermination.htm>. Those prevailing wage rates hereby

are incorporated in this Contract and made a part hereof. (See General Provisions, Article 6, Section 6.01)

Pursuant to California Public Contracts Code, any contract awarded pursuant to this invitation for bid shall obtain a provision permitting the substitution of securities for any moneys withheld to ensure performance under the contract. The terms of such provisions shall be according to the requirements of the Public Contracts Code Section 22300.

Each bid must be accompanied by security consisting only of cash, California Bank Cashier's Check, Certified Check, California Bank Money Order, or bid bond made payable to the "City of Folsom" in the sum of ten percent (10%) of the sum of the proposal.

The City is not responsible for misdelivered Proposals, and the Proposer is strictly liable for ensuring the proposals' delivery and receipt by the City. Any Proposal which does not actually arrive in the City Clerk's Office by the due date and time will be rejected as non-responsive.

The Contract will be awarded to the lowest responsive responsible bidder. This process is conducted by City in a "blind selection" format, i.e., without knowledge of the identity of any of the bidders before ranking of all bidders from lowest to highest has been determined. All awards will be made in City's best interest.

The right to reject any and all bids or waive any informality in any bid received is reserved by the City Council.

Engineer's Estimated Construction Cost - \$1,380,000

Marcus Yasutake
Environmental & Water Resources Dept. Director

CITY OF FOLSOM
SEALED PROPOSAL

(MUST BE SIGNED BY BIDDER)

Sealed Proposals will be received not later than **10:00 A.M. on Friday June 10, 2022** at the Office of City Clerk, 50 Natoma Street, Folsom, California and opened at **10:05 A.M.**, or as soon thereafter as business allows at Folsom City Hall in the Council Chambers, 50 Natoma Street, Folsom, California.

TO THE HONORABLE CITY COUNCIL:

The undersigned hereby proposes and agrees to furnish any and all required labor, material, transportation, and services for

ASHLAND WATER REHABILITATION PROJECT NO. 2

in the City of Folsom, County of Sacramento, California.

The work is to be done in strict conformity with the Contract Documents, at the following Lump Sum and/or Unit Prices:

ITEM NO.	ITEM	EST. QTY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	LS		
2	Construction Procedure, Sequence of Operations, ACP Handling Plan and Special Constraint Plans	1	LS		
3	Permits	1	LS		
4	Traffic Control Plan and Operations	1	LS		
5	Stormwater Pollution Prevention Plan & Best Management Practices	1	LS		
6	Sheeting, Shoring and Bracing	1	LS		
7	Utility Locating	1	LS		
8	Rock Excavation Allowance	1	LS	\$10,000	\$10,000
9	Decommissioning of Existing Water Mains	1	LS		
10	Tree Protection	1	LS		
11	Ashland Pump Station Site Demolition, Grading, Excavation and Hauling	1	LS		
12	Water Service (1-inch) – Level 1	1	LS		
13	Water Service (1-inch) – Level 2	1	LS		
14	Water Service (1-inch) – Level 3	1	LS		

15	Water Service (1-inch) – Level 4	1	LS		
16	Water Service (1-inch) – Level 5	1	LS		
17	Water Service (1-inch) – Level 6	1	LS		
18	Water Main Tie-in at Baldwin Lake Circle	1	LS		
19	Water Main Tie-in at Southcreek Circle North	1	LS		
20	Water Main Tie-in at Southcreek Circle South	1	LS		
21	Water Main Tie-in at Mosswood Circle North	1	LS		
22	Water Main Tie-in at Mosswood Circle South	1	LS		
23	Water Main Tie-in at 7635 Baldwin Dam Road	1	LS		
24	Water Main Tie-in at 7497 Baldwin Dam Road	1	LS		
25	Water Main Tie-in at Valley Pines Drive	1	LS		
26	Water Main Tie-in at Adjacent Pump Station	1	LS		
27	Hydrant Water Service 6-inch	4	EA		
28	6-inch hydrant	4	EA		
29	Remove and Replace Concrete Driveway at 7405 Baldwin Dam Road	320	SF		
30	Service Extention to Existing Meter at 7405 Baldwin Dam Road	1	LS		
31	Grind and Re-pave at Digger Pine Lane	550	SF		
32	Asphalt Concrete Pavement	250	Ton		
33	Type II Slurry Seal	10,600	SY		
34	Pavement Thermoplastic Striping and Marking	1	LS		

Total Project Bid, Item Nos. 1 through 34, shall be (spell out)

_____ Dollars.

If awarded the contract, the undersigned shall execute said Contract and furnish the necessary bonds within **ten (10) calendar days** after the Notice of Award of said Contract and begin work within **ten (10) calendar days** from and after receipt of written Notice to Proceed from City to Contractor.

In determining the amount bid by each bidder, the City of Folsom (City) shall disregard mathematical errors in addition, subtraction, multiplication, and division that appear obvious on the face of the Proposal. When such a mathematical error appears on the Proposal, the City shall have the right to correct such error and to compute the total amount bid by said bidder on the basis of the corrected figure or figures.

When an item price is required to be set forth in the Proposal, and the total for the item set forth separately does not agree with a figure which is derived by multiplying the item price times the Engineer's estimate of the quantity of work to be performed for said item, the item price shall prevail over the sum set forth as the total for the item unless, in the sole discretion of the City, such a procedure would be inconsistent with the policy of the bidding procedure. The total paid for each such item of work shall be based upon the item price and not the total price. Should the Proposal contain only a total price for the item and the item price is omitted, the City shall determine the item price by dividing the total price for the item by Engineer's estimate of the estimated quantities of work to be performed as items of work.

If the Proposal contains neither the item price nor the total price for the item, then it shall be deemed incomplete and the Proposal shall be disregarded.

It is understood that this bid is based upon completion of the work to within a period of **200 calendar days** commencing on the day the Notice to Proceed is issued.

The amount of the liquidated damages to be paid by the Contractor for failure to complete the entire work by the Completion Date (as extended, if applicable) will be **\$1,500 for each calendar day**, continuing to the time at which the work is completed. Such amount is the actual cash value agreed upon as the loss to the City resulting from Contractor's default.

The undersigned represents and warrants that the undersigned has examined the location of the proposed work and is familiar with the local conditions at the place where the work is to be done, and the undersigned has reviewed and understands the plans, specifications and other contract documents, and the undersigned is satisfied with all conditions for the performance of the work.

The undersigned has checked carefully all of the above figures and understands that the City of Folsom will not be responsible for any errors or omissions on the part of the undersigned in making up this bid.

The contractor shall initial below that he has received the appropriate addenda and has incorporated the addenda into his bid.

<u>Addenda</u>	<u>Received and Acknowledged</u>
No. 1	_____
No. 2	_____
No. 3	_____

BID DEPOSIT ENCLOSED IN THE FOLLOWING FORM:

\$ _____ not less than ten percent (10%) of amount bid.

☐ CERTIFIED CHECK

- ☐ MONEY ORDER
- ☐ CASHIER'S CHECK
- ☐ BID BOND

BIDDER'S CHECKLIST
 (ENSURE ALL OF THE FOLLOWING ARE INCLUDED WITH THIS SEALED PROPOSAL):

- ☐ **CHECK HERE TO ACKNOWLEDGE CHANGES TO GENERAL PROVISIONS (SEE SPECIAL PROVISIONS SP-43)** I hereby acknowledge receipt of the changes to the standard specifications of the City of Folsom. I further acknowledge that these changes replace and supersede any and all affected sections and conflicting language within the revision of the standard specifications that is current as of the date of this request for proposal.
- ☐ CERTIFICATE OF AUTHORIZATION
- ☐ SUB-BIDDER FORM
- ☐ NONCOLLUSION AFADAVIT
- ☐ BIDDER'S BOND
- ☐ WORKER'S COMPENSATION INSURANCE CERTIFICATION
- ☐ RESOLUTION OF DISPUTES REGARDING THE BIDDING PROCESS

CONTRACTOR

By: _____
Signature

Address: _____

Telephone No.: _____

Email Address: _____

Contractor's License: _____

Dept. of Ind. Relations Reg. No.: _____

Department of Industrial Relations Registration Number: _____

License Required: **Class A – General Engineering Contractor**

Valid Contractor's License No. _____ is held by the bidder.

The Expiration date is _____.

Representations contained within this bid are made under penalty of perjury.

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CERTIFICATE OF AUTHORIZATION

(If Bidder is a Corporation or a Limited Liability Corporation)

STATE OF CALIFORNIA

COUNTY OF _____

I HEREBY CERTIFY that at a meeting of the Board of Directors of the _____, a corporation existing under the laws of the State of California, held on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____,
as _____ President of the Corporation, be and is hereby
authorized to execute the Bid dated _____, 20____, to the City of
Folsom and this Corporation and that his/her execution thereof, attested by the
Secretary of the Corporation, and with the Corporate seal fixed, shall be the
official act and deed of this Corporation.”

I further Certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Corporation this _____ day of _____, 20____.

Secretary

Corporate Officer

Corporate Address

(seal)

CERTIFICATE OF AUTHORIZATION

(If Bidder is a Partnership)

STATE OF CALIFORNIA

COUNTY OF _____

I HEREBY CERTIFY that at a meeting of the Partners of the _____, a partnership existing under the laws of the State of California, held on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____,
as _____ of the Partnership, be and is hereby authorized
to execute the Bid dated _____, 20____, to the City of Folsom and
this Partnership and that his/her execution thereof, attested by the
_____ shall be the official act and deed of this
Partnership.”

I further Certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____ day of
_____, 20____.

Managing Partner

Partnership Address

CERTIFICATE OF AUTHORIZATION

(If Bidder is a Joint Venture)

STATE OF CALIFORNIA

COUNTY OF _____

I HEREBY CERTIFY that at a meeting of the Principals of the _____, a joint venture existing under the laws of the State of California, held on _____, 20____, the following resolution was duly passed and adopted:

“RESOLVED, that _____,
as _____ of the Joint Venture, be and is hereby
authorized to execute the Bid dated _____, 20____, to the City of
Folsom and this Joint Venture and that his/her execution thereof, attested by the
_____ shall be the official act and deed of this Joint
Venture.”

I further Certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Joint Venture this _____ day of _____, 20____.

Managing Principal

(seal)

Joint Venture Address

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SUB-BIDDER FORM

As of March 1, 2015 Contractors (and sub-contractors) wishing to bid on public works contracts shall be registered with the State Division of Industrial Relations and certified to bid on Public Works contracts.

Please register at:

<https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm>

In accordance with Section 4104 of the Public Contract Code of the State of California, as amended, the following information is required for each subcontractor who will perform work amounting to more than one half of one percent (0.05%) of the Total Cost Base Bid. In addition, this form will be used to determine if the bidder is responsive to Section 2.08 of the General Provisions.

Name of Sub-Bidder	Street Address of Shop, Mill, or Office (Shall be completed within 2 working days of bid opening by apparent low bidder)	License Type and Number	Dept. of Ind. Relations Reg. No.	Portion of Work to be Done by Specification Section	Percentage of Total Work

NONCOLLUSION AFFIDAVIT

To be Executed by Bidder and Submitted with Bid

STATE OF CALIFORNIA

COUNTY OF _____

_____, being first duly shown, deposes and says that he or she is _____ of _____, the party making the forgoing Bid that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or sham; that the Bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham Bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the Bid are true; and further, that the Bidder has not, directly or indirectly, submitted his or her Bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham Bid.

Signed: _____

Title: _____

Subscribed and sworn to before me this

_____ day of _____, 20 _____

(seal)

Notary Public

CALIFORNIA CODE SECTIONS

Public Contracts Code §7103.5. Unfair business practices claim; assignment by contractor to awarding body

(a) As used in this section:

(1) “Public works contract” means a contract awarded through competitive bids by the state or any of its political subdivisions or public agencies, on whose behalf the Attorney General may bring an action pursuant to subdivision (c) of Section 16750 of the Business and Professions Code, for the erection, construction, alteration, repair, or improvement of any structure, building, road, or other improvement of any kind.

(2) “Awarding body” means the state or the subdivision or agency awarding a public works contract.

(b) In entering into a public works contract or 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.

(c) Subdivision (b) shall be included in full in the specifications for the public works contract or in the general provisions incorporated therein and shall be included in full in the public works contract or in the general provisions incorporated therein.

Added Stats 1978 Ch 414 § 1.

Government Code §4552. Assignment by bidder to purchasing body of rights under federal law arising from purchases pursuant to bid

In submitting a bid to a public purchasing body, the bidder offers and agrees that if the bid is accepted, it will assign to the purchasing 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, materials, or services by the bidder for sale to the purchasing body pursuant to the bid, Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.

The preceding provisions of this section shall be included in full in any specifications for the public purchase and shall be included in full in the bid agreement or general provisions incorporated into the bid agreement.

Added Stats 1978 Ch 414 § 1.

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BIDDER'S BOND

SF-4

**City of Folsom
Department of Public Works**

We,

_____ as principal, and

_____ as Surety are bound unto the City of Folsom, Department of Public Works, hereafter referred to as "Obligee", in the penal sum of ten percent (10%) of the total amount of the bid of the Principal submitted to the Obligee for the work described below, for the payment of which sum we bind ourselves jointly and severally,

THE CONDITION OF THIS OBLIGATION IS SUCH, THAT:

WHEREAS, the Principal is submitting a bid to the obligee, for _____
(Copy here the exact description of work, including location, as it appears on the proposal)

_____ for which; bids are to be opened at Folsom, CA on _____
(Insert date of bid opening)

NOW, THEREFORE, if the Principal is awarded the contract and within the time and manner required under the specification, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in accordance with the bid, and files two bonds with the Obligee, one to guarantee faithful performance of the contract and the other to guarantee payment for labor and materials as provided by law, then this obligation shall be null and void; otherwise, it shall remain in full force.

In the event suit is brought upon this bond by the Obligee and judgment is recovered, the Surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

Dated: _____, 20____

BY: _____

Principal

Surety

Address

Telephone

Attorney-in-Fact

NOTICE: SIGNATURE(S) ON BEHALF OF "SUBDIVIDER" MUST BE NOTARIZED

Certificate of Acknowledgement pursuant to Civil Code, Section 1189, must be attached.

WORKMEN'S COMPENSATION INSURANCE CERTIFICATION
SF-7

TO THE CITY OF FOLSOM:

The undersigned does hereby certify that he is aware of the provisions of Section 3700 et seq. of the Labor Code which require every employer to be insured against liability for workmen's compensation claims or to undertake self-insurance in accordance with the provisions of said Code, and that he will comply with such provisions before commencing the performance of work on this contract.

Bidder

By _____

Title _____

Address _____

Date _____

PLEASE READ CAREFULLY BEFORE SIGNING

To be signed by authorized corporate officer or partner or individual submitting the bid. If bidder is: (example)

1. An individual using a firm name, sign: "John Doe, an individual doing business as Blank Company."
 2. An individual doing business under his own name, sign: your name only.
 3. A co-partnership, sign: "John Doe, and Richard Doe, co-partners doing business as Blank Company, by, John Doe, Co-Partner."
 4. A corporation, sign: "Blank Company, by John Doe, Secretary." (or other title)
-

RESOLUTION OF DISPUTES REGARDING THE BIDDING PROCESS

The lack of a prompt procedure to resolve disputes regarding the bidding process would impair the City's ability to carry out its purpose of constructing this project in a timely manner. Therefore, to the maximum extent authorized by law and notwithstanding any other procedures specified in documents referenced herein, all disputes and/or protests regarding the bidding process shall be subject to the following procedure. In submitting a bid to the City for this project, the bidder agrees to comply with and to be bound by this procedure.

1. Within five days after the opening of bids, bidder shall provide a written notice to the City of any and all mistakes regarding the bid for which a bidder requests relief. The City shall not consider any requests for relief due to mistake if notice is not received within the specified time period.
2. All bidders shall be provided with notice of the date and time of the City Council meeting at which the award of the contract for this project shall be considered. All bidders will be provided with an opportunity to bring to the City Council's attention disputes and/or protests regarding the bidding process. No bidder may bring any action or proceeding challenging the bidding process unless the alleged grounds for the dispute and/or protest are presented to the City Council before or during the meeting referenced above, and before action by the City Council on award of the contract.
3. Any bidder complying with the above procedure may bring an action within sixty (60) days from the action of the City Council, in accordance with Section 860 of the California Code of Civil Procedure, to determine the validity of the City Council's action on the award of the contract. The City shall be a defendant and shall be served with the summons and complaint in the action in the manner provided by law for the service of a summons in a civil action. In any such action the summons shall be in the form prescribed in Section 861.1 of the California Code of Civil Procedure except that in addition to being directed to "all persons interested in the matter of [specifying the matter]," it shall also be directed to the City. If the bidder bringing such action fails to complete the publication and such other notice as may be prescribed by the court in accordance with Section 861 of the California Code of Civil Procedure and to file proof thereof in the action within 60 days from the filing of his complaint, the action shall be dismissed on the motion of the City unless good cause for such failure is shown by the bidder.

Contractor

Date

Signature

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THE FOLLOWING FORMS TO BE FILLED OUT AND SIGNED

ONLY

IF AWARDED CONTRACT



CONSTRUCTION AGREEMENT

THIS AGREEMENT, dated for identification as of _____, 20____, is between the **CITY OF FOLSOM**, a municipal corporation, (hereinafter called "City"), and _____, (hereinafter called "Contractor").

The parties hereto mutually agree to the terms and condition set forth herein.

1. CONTRACT DOCUMENTS

- A. The Contract Documents referred to herein are incorporated herein by reference as if set forth in full in this Agreement. Work called for in any one Contract Document and not mentioned in another is to be performed and executed as if mentioned in all Contract Documents.
- B. The Contract Documents shall include the Notice to Contractors, the completed Proposal Form submitted by Contractor, this Agreement, the Bid Bond, the Performance Bond, the Payment Bond, the Standard Construction Specifications, the General Provisions, the Special Provisions, Exhibits, the Contract Drawings and Plans, the Technical Specifications, any project-specific specifications or documents, all duly issued Addenda, Interpretations, Field Instructions, Written Directives, Supplemental Drawings, the Contractor's Guarantee and Bond, the Contract Schedule, Storm Water Pollution Prevention Plan (whether prepared by the City or the Contractor) and any and all supplemental agreements amending or extending the Work contemplated and which may be required to complete the Work in an acceptable manner. Supplemental agreements are written agreements covering alterations, amendments or extensions to the Contract Documents and include Change Orders.
- C. The Standard Specifications shall mean and refer to the current Standard Construction Specifications of the City of Folsom, which are incorporated herein by this reference as if set forth herein.

2. AGREEMENT CONTROLS

In the event of a conflict between the terms and conditions as set forth in this Agreement and the terms and conditions set forth in other Contract Documents, the terms and conditions set forth in this Agreement shall prevail. Unless otherwise specifically provided herein, all works and phrases defined in the Standard Specifications shall have the same meaning and intent in this Agreement.

3. SCOPE OF CONTRACT

Contractor agrees to furnish all tools, equipment, apparatus, facilities, labor and material and transportation necessary to perform and complete in a good and workman like manner to the satisfaction of City, all the work called for, and in the manner designated in, and in strict conformity with the Project entitled:

4. CONTRACT AMOUNT AND PAYMENTS

City agrees to pay and Contractor agrees to accept, in full payment for the above work, **DOLLARS (\$)** as the stipulated sum price which Contractor bid in his Proposal Form.

5. PROGRESS AND FINAL PAYMENTS

Progress and final payments shall be in accordance with the Standard Specifications.

6. RETENTION OF SUMS CHARGED AGAINST CONTRACTOR

When, under the provisions of this Contract, City is authorized to charge any sum of money against Contractor, City may deduct and retain the amount of such charge from the amount of the next succeeding progress estimate, or from any other moneys due or that may become due to the Contractor from City. If, on completion or termination of the Contract, sums due contractor are insufficient to pay City's charges against him, City shall have the right to recover the balance from Contractor or his sureties.

7. TIME OF COMPLETION

- A. The entire work shall be brought to completion in the manner and within the time period provided for in the Contract Documents, commencing on the date of issuance of the Notice to Proceed.
- B. Failure to complete the entire work by the completion date and in the manner provided for by the Contract Documents shall subject Contractor to liquidated damages as hereinafter provided in this Agreement. Time is of the essence in these Contract Documents.

8. INSURANCE

Contractor shall maintain in full force and effect at all times during the term of the Agreement, at its sole expense, policies of insurance in accordance with the Contract Documents, including, but not limited to, Exhibit A, attached hereto and incorporated herein by reference.

9. NO WAIVER OF REMEDIES

- A. Neither the inspection by City or its agents, nor any order or certificate for the payment of money, nor any payment for, nor acceptance of the whole or any part of the work by City, nor any extensions of time, nor any position taken by City or its agents shall operate as a waiver of any provision of this Agreement or of any power herein reserved to City or any right to damages herein provided, nor shall any waiver of any breach of the Agreement be held to be a waiver of any other or subsequent breach.
- B. All remedies provided in this Agreement shall be taken and construed as cumulative; that is, in addition to each and every other remedy herein provided, and City shall have any and all equitable and legal remedies which it would in any case have.

10. DETERMINATION OF DAMAGES

- A. The actual fact of the occurrences of damages and the actual amount of the damages which City would suffer if the work were not completed within the specified times set forth are dependent upon many circumstances and conditions and, it is impracticable and extremely difficult to fix the actual damages. Damages which City would suffer in the event of delay include loss of the use of the project, and, in addition, expenses of prolonged employment of an architectural and engineering staff; costs of administration, inspection, and supervision; and the loss suffered by the public within the City of Folsom by reasons of the delay in the completion of the project to serve the public at the earliest possible time.

- B. Accordingly, the parties hereto agree, and by execution of this Agreement, Contractor acknowledges that he understands, has ascertained and agrees, that the amounts set forth herein as liquidated damages shall be presumed to be that amount of damages sustained by the failure of Contractor to complete the entire work within the times specified.

11. LIQUIDATED DAMAGES

- A. The amount of the liquidated damages to be paid by Contractor to City for failure to complete the entire work in the specified number of Working or Calendar Days (as extended, if applicable) will be (\$) for each **Calendar Day**, continuing to the time at which the work is completed.
- B. Such amount is the actual cash value agreed upon as the loss to City resulting from Contractor's delay.

12. TERMINATION AFTER ALLOTTED WORKING OR CALENDAR DAYS

- A. In addition to any rights it may have, City may terminate this Contract at any time after the allotted number of Working or Calendar Days as adjusted by any extensions of time for excusable delays that may have been granted.
- B. Upon such termination, Contractor shall not be entitled to receive any compensation for services rendered by him before or after such termination, and he shall be liable to City for liquidated damages for all periods of time beyond such termination date until the work is completed.

13. CONTRACTOR BANKRUPT

- A. If Contractor should commence any proceeding under the Bankruptcy Act, or if contractor be adjudged a bankrupt, or if Contractor should make any assignment for the benefit of creditors, or if a receiver should be appointed on account of Contractor's insolvency, then the City Council may, without prejudice to any other right or remedy, terminate the Contract and complete the work by giving notice to Contractor and his surety according to the provisions of Article 5 of the General Provisions.
- B. City shall have the right to complete, or cause completion of the work, all as specified in the General Provisions of the Standard Specifications.

14. PERFORMANCE AND PAYMENT BONDS

- A. The Contractor shall, before beginning said work, file two bonds with the City, each made payable to the City. These bonds shall be issued by a Surety Company authorized to do business in the State of California, and shall be maintained during the entire life of the Contract at the expense of the Contractor.
 - 1. One bond shall be in the amount of one hundred percent (100%) of the Contract and shall guarantee the Faithful Performance of the Contract.
 - 2. The second bond shall be the Payment Bond required by Part 4, Title 15, Chapter 7, Division Three of the Civil Code of the State of California and shall be in the amount of one hundred percent (100%) of the Contract.
- B. Any alteration or alterations made in any provision of this Contract shall not operate to release any surety from liability on any bond required hereunder and the consent to make such alterations is hereby given, and any surety on said bonds hereby waives the provisions of Section 2819 of the Civil Code.
- C. Bonds shall only be accepted from an "*Admitted surety insurer*," which means an insurer to which the Insurance Commissioner has issued a certificate of authority to transact surety insurance in this state. **Contractor must submit** the original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws or other instrument entitling or authorizing

the person who executed the bond to do so.

D. All bonds submitted shall include the following:

1. Full name and address of the Contractor Surety, and the City;
2. Contract Date;
3. Exact Contract Sum;
4. Project Name and Address;
5. Signature of the Contractor
6. Corporate Seal, if applicable;
7. Signature of Authorized Surety Representative;
8. Notarization of the Contractor and Surety;
9. Power of Attorney; and
10. Local contact for surety, with name, phone number, and address to which legal notices may be sent

15. SUBSTITUTION OF SECURITIES OF MONEY WITHHELD

- A. At any time prior to final payment, Contractor may request substitution of securities for any money withheld by the City to ensure performance of the Contract.
- B. At the expense of the Contractor, securities equivalent to the money withheld may be deposited with the City or with an approved financial institution as escrow agent according to a separate Security Agreement.
- C. Securities eligible for substitution shall include those listed in Section 16430 of the Government Code or bank or savings and loan certificates of deposit. A fee set by the City Council shall be charged for such substitution.

16. LABOR CODE AND PUBLIC CONTRACT CODE COMPLIANCE

- A. City affirmatively identifies this project as a "public work" as that term is defined by Labor Code section 1720, and the project is, therefore, subject to prevailing wages under Labor Code section 1771.
- B. Contractor and its subcontractors shall fully comply with all the provision of the California Labor Code governing the performance of public works contracts including, but not limited to, payment of prevailing wages, limitations on time worked, compliance with apprentice requirements, maintenance of payroll records, posting of wages at job site and prohibitions against discrimination.
- C. Notice: This project may be subject to the skilled and trained workforce requirement under Public Contract Code section 2600. A "skilled and trained workforce" is defined by Public Contract Code section 2601(d).

17. UNFAIR COMPETITION

The following provision is included in this agreement pursuant to California Public Contract Code §7103.5.

"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 assigning 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."

18. GENERAL LIABILITY OF CONTRACTOR

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, light, heat, utilities, transportation and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents and any applicable code or statute, whether or not specifically described herein, as long as same is reasonably inferable therefrom as being necessary to produce the intended results, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work. The mention of any specific duty or liability of Contractor and, any reference to any specific duty or liability shall be construed to be for the purpose of explanation.

19. AUTHORITY OF THE CITY

- A. The City will decide all questions regarding the quality and acceptability of materials furnished, work performed, and rate of progress of the Work. The City will decide all questions regarding the interpretation and fulfillment of the Contract on the part of the Contractor, and all questions as to the rights of different prime contractors involved with the Work. The City will determine the amount and quality of the Work performed and materials furnished for which payment is to be made under the Contract.
- B. The City will administer its authority through a duly designated representative identified at the pre-construction conference. The Contractor and the City's designated representative (the Owner's Representative) shall make good faith attempts to resolve disputes that arise during the performance of the Work.
- C. Any order given by the City not otherwise required by the Contract to be in writing shall be given or confirmed by the City in writing at the Contractor's request. Such request shall state the specific subject of the decision, order, instruction, or notice and, if it has been given orally, its date, time, place, author and recipient.
- D. Any plan or method suggested to the Contractor by the City, the Architect or Consulting Engineer, or the Owner's Representative, but not specified or required in writing, if adopted or followed in whole or in part by the Contractor, shall be used at the risk and responsibility of the Contractor. The City assumes no responsibility.

20. RESPONSIBILITY OF THE CONTRACTOR

- A. The Work shall be under the Contractor's responsible care and charge until completion and final acceptance, and the Contractor shall bear the entire risk of injury, loss, or damage to any part by any cause. The Contractor shall rebuild, repair, restore, and make good all injuries, losses or damage to any portion of the Work or the materials occasioned by any cause, and shall bear the entire expense.
- B. The mention herein of any specific duty or responsibility imposed upon the Contractor shall not be construed as a limitation or restriction of any other responsibility or duty imposed upon the Contractor by the Contract, said reference being made herein merely for the purpose of explaining the specific duty or responsibility.
- C. The Contractor shall do all of the work and furnish all labor, materials, tools, equipment, and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the Work herein required, including any change order work or disputed work directed by the City in conformity with the true meaning and intent of the Contract Documents,

within the time specified.

21. CORRECTION OF WORK

- A. The Contractor shall promptly correct all work rejected by the Owner's Representative, Project Inspector or the Architect or Consulting Engineer as defective or as failing to conform to the Contract Documents, whether observed before or after final completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work including compensation for the Architect's, Consulting Engineer's Project Inspector's and the Owner's Representative's additional services.
- B. If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within three (3) days after receipt of written notice from the City to commence and continue correction of the default or neglect with diligence and promptness, the City may, without prejudice to any other remedy it may have, correct the deficiencies and may further elect to complete that portion of the Work through such means as the City may select, including the use of a new contractor. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting the deficiencies, and any other appropriate costs, including compensation for the Architect's or Consulting Engineer's, the Project Inspector's and the Owner's Representative's additional services made necessary by the default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover that amount, the Contractor shall pay the difference to the City.
- C. If within two (2) years after the Date of Completion and acceptance of the Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct any or all such work, together with any other work which may be displaced in so doing, without expense to the City, promptly after receipt of a written notice from the City unless the City has previously given the Contractor a written acceptance of such condition. The City shall issue a correction notice promptly after discovering the condition. The Contractor shall notify the City upon completion of repairs. This obligation shall survive termination of the Contract with respect to work in place prior to termination.
- D. The Contractor shall bear the cost of making good work destroyed or damaged by such correction or removal.
- E. Nothing contained in this Section shall be construed to establish a period of limitation with respect to any other obligations which the Contractor might have under the Contract Documents or by operation of law. The establishment of the time period of two (2) years after the Date of Completion, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which an action may be commenced to establish the Contractor's liability with respect to its obligations other than specifically to correct the work

22. GUARANTEE REQUIRED

- A. In addition to any guarantees required elsewhere by the Contract Documents, the Contractor shall guarantee the Work for a minimum of two (2) years from and after the recordation of the Notice of Completion and completion of all contract obligations by the Contractor, including formal acceptance of the entire Project by the City. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 3086. The

Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, change orders, construction change directives and punch lists, and the City's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. Such guarantee shall be made on the form provided by the City.

- B. The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.
- C. Such guarantee is in addition to, and not in lieu of, the City's rights to enforce this Contract in all respects.

23. NO CHANGES WITHOUT CONSENT

- A. No extra work shall be performed, and no change shall be made, except pursuant to a written Change Order or Proposed Change Order signed by the City, or by CCD signed by either the City or the Owner's Representative, stating that the extra work or change is authorized, and no claim for any addition to the Contract Sum or Contract Time shall be valid unless so authorized; provided, however, that nothing in this Article shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the Owner's Representative, furnish an itemized breakdown of the quantities and prices used in computing the value of any change requested by the Contractor, or that may have been ordered by the City.
- B. Change Orders shall specify the cost adjustments associated therewith, and in no case shall the City pay or become liable to pay any sums different than those specified or those established under Sections 9.04 and 9.05.
- C. Substitutions are considered change orders.

24. CHANGE ORDERS

- A. Subject to legal requirements relating to competitive bidding, the City may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the Contract Documents. Changes may be made pursuant to a written Change Order signed by the City, which shall state the agreement of the City, the Contractor, and the Architect or Consulting Engineer upon all of the following:
 - 1. The scope of the change in the Work
 - 2. The amount of the adjustment in the Contract Sum, if any; and
 - 3. The extent of the adjustment in the Contract Time, if any.
- B. All adjustments to the Contract Sum or the Contract Time must be approved by the City.
- C. Signature by the Contractor on the Change Order constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Change Order as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

25. CONSTRUCTION CHANGE DIRECTIVE/CCD

Changes also may be made pursuant to a CCD, which shall direct a change in the Work and state a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A CCD shall be used in the absence of total agreement on the terms of a Change Order, or when time does not permit processing of a Change Order prior to implementation of the change. CCD's shall be approved by the City and the Architect or Consulting Engineer, but need not be signed by the Contractor. Upon receipt of a CCD, the Contractor shall promptly proceed with the change in the work involved. It is the intent of the City that all CCD's will be converted into a

Change Order. When a CCD is used because time does not permit processing of a Change Order prior to implementation of the change, signature by the Contractor on the CCD constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the CCD as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

26. EXTENSIONS OF TIME; UNAVOIDABLE DELAYS

- A. The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the City, upon a finding of good cause for such extension.
- B. As used herein, the following terms shall have the following meanings:
 - 1. "Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the Owner's Representative and Project Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section, but shall not entitle the Contractor to any adjustment of the Contract Sum.
 - 2. "Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the City and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section and/or an adjustment of the Contract Sum. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.
 - 3. "Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.
- C. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:
 - 1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 9 and shall be based only on the non-concurrent portion of any Compensable Delay.
 - 2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is

non-compensable.

- D. Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.
- E. Float or slack time is the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of activities on the Contract Schedule. No time extensions or delay costs will be allowed for delays caused by the City on paths of activities containing float, providing such delay does not exceed the float time per the latest updated version of the approved Contract Schedule.
- F. Whenever the Contractor foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the Owner's Representative in writing of the delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together with a detailed schedule analysis showing the effect of the delay on the critical path of the Contract Schedule and a quantification of the length of the requested extension of time. Failure of the Contractor to submit such a notice within seven (7) Calendar Days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any request for extension, and no extension shall be granted as a consequence of such delay.
- G. The City shall have no obligation to consider any time extension request unless the Contractor has complied with the requirements of the Contract Documents, including, without limitation, giving the required seven (7) days' notice and submitting the detailed supporting schedule analysis. The City shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the City to grant time extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in accordance with the Contract Schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by the City.
- H. Upon receipt of a request for extension, the Owner's Representative shall conduct an investigation of the facts asserted by the Contractor to constitute good cause for an extension. The Owner's Representative shall report the results of this investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) Calendar Days of receipt of the request and shall indicate whether it will recommend for or against the extension. Upon receiving the Owner's Representative's recommendation, the Contractor may either concur in the recommendation, or reject the recommendation and proceed with a notice of potential claim and claim as provided for in Article 9.

27. DISCRETIONARY TIME EXTENSIONS FOR BEST INTEREST OF THE CITY

- A. The City reserves the right to extend the time for completion of the Work if the City determines that such extension is in the best interest of the City. In the event that a discretionary extension is granted at the request of the Contractor, the City shall have the right to charge to the Contractor all or any part, as the City may deem proper, of the actual cost of construction management, engineering, inspection, supervision, incidental and other overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from the final payment for the Work.
- B. In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely with the City and is not legally compelled for any cause, the Contractor shall be entitled to a contract change pursuant to Article 9 adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of the delay, upon its written application therefor, accompanied with such verification of costs as the Owner's Representative requires. The decision of the City on any discretionary time extension and the costs thereof shall be final

and binding.

28. TERMINATION FOR CONVENIENCE

- A. The City may at any time and for any reason, terminate, in whole or in part, Contractor's Work at the City's convenience. Termination shall be by written notice to Contractor. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue Contractor's work and the placing of orders for materials, facilities and supplies in connection therewith, and shall, if requested, make every reasonable effort to procure cancellation of all existing orders or contracts upon terms satisfactory to the City, or at the option of the City, the City shall have the right to assume those obligations directly, including all benefits to be derived therefrom. Contractor hereby assigns to the City all of its interest in said orders and/or contracts, and the assignment of said orders and/or contracts shall be effective upon notice of acceptance by the City in writing, and only as to those orders and/or contracts which the City designates in writing. Following receipt of notice of termination, Contractor shall thereafter do only such work as may be necessary to preserve and protect portions of its work already in progress and to protect materials and equipment on or in transit to the Project.
- B. Upon such termination, Contractor shall be entitled to payment only as follows: (1) Contractor's direct, actual cost of the Work allocable to the portion of the Work completed in conformity with the Contract, but in no event to exceed the amount of the Contract Sum allocable to the portion of the Work completed in conformity with the Contract; plus (2) previously unpaid costs of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work, but in no event to exceed the portion of the Contract Sum allocable to said items; plus (3) an allowance of ten percent (10%) of the foregoing costs for Contractor's overhead and profit; plus (4) any proven losses with respect to materials and equipment directly resulting from the termination; plus (5) reasonable demobilization costs. The costs referred to in this Section shall be calculated and documented as required for a Change Order under Article 9 of these General Provisions, except that markup shall be only as allowed by this Section. There shall be deducted from such sums the amount of any payments made to Contractor prior to the date of the termination of this Contract. Contractor shall not be entitled to any claim or claim of lien against the City for any additional compensation or damages in the event of such termination and payment beyond that provided for in this Section.
- C. In connection with any termination for convenience, Contractor shall allow the City and any of its authorized representatives to inspect, audit, or reproduce any records to the extent necessary for the City to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon 48-hours' written notice from the City. The City may inspect and copy, from time to time and at reasonable times and places, any and all information, materials and data of every kind and character (hard copy, as well as computer readable data if it exists), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of the City have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), backcharge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends, and any other documents customarily maintained by contractors performing work on public works projects or that the City otherwise deems necessary to substantiate charges related to a Termination.
- D. If this Contract is terminated for default under Section 5.25, and if it is later determined that the

default was wrongful, such default termination automatically shall be converted to and treated as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any claim for any other amounts or damages, including any claim for consequential damages or lost profits.

29. TERMINATION FOR CAUSE

- A. The City may terminate the Contract, pursuant to the provisions of this Article, for the following causes:
1. The Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has been appointed on account of the insolvency of the Contractor.
 2. The Contractor or any of Subcontractors violate any of the provisions of the Contract Documents or fail to perform the work within the time specified in the current Contract Schedule.
 3. The Contractor or any of its Subcontractors should fail to make prompt payment to Subcontractors or material suppliers for material or for labor as required by statute.
 4. The Contractor or Subcontractor persistently disregards laws, ordinances, or the instructions of the Owner's Representative, Architect, Consulting Engineer or the City.
 5. The Contractor fails to abide by a Stop Work Notice or fails to correct rejected work or materials as required.
 6. The Contractor fails to provide and keep in full force and effect all required insurance, or fails to cause all Subcontractors to so comply.
 7. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials.
 8. The Contractor commits any substantial violation of the terms and conditions of the Contract Documents which the City, in its sole discretion, finds to be a material breach of the Contract.
- B. The City The City may, without prejudice to any other right or remedy, give written notice to the Contractor and its surety or sureties of its intention to terminate the Contract.
- C. Unless within seven (7) Calendar Days of the delivery of such notice, the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof, which arrangements are set forth in a written agreement signed by the Contractor and the City, the Contractor's right to complete the Work shall cease and terminate.
- D. In the event of any such termination, the City shall immediately give written notice thereof to the surety and to the Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the City is forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and its sureties shall be liable to the City for any excess costs, including management, supervision, and design support, occasioned thereby. In such event, the City may, without liability, take possession of and utilize in completing the Work, the Contractor's materials whether stored at the Site or elsewhere, that are necessary for completion. Contractor hereby assigns to the City all of its interest in orders and/or contracts existing at the time of termination. The assignment of said orders and/or contracts shall be effective upon notice of acceptance by the City in writing, and only as to those orders and/or contracts which the City designates in writing. Whenever the Contractor's right to proceed is terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished.

30. TERMINATION AFTER CONTRACT TIME

- A. In addition to any rights it may have, the City may terminate this Contract at any time after the Contract Time, as adjusted by any extensions of time that the City may have granted.
- B. Upon such termination, in addition to the Contractor's obligations under Section 5.29 and the other provisions of the Contract Documents, the Contractor shall not be entitled to receive any compensation for services rendered before or after such termination until the Work is completed, and the Contractor shall be liable to the City for liquidated damages for all periods of time from such termination date until the Date of Completion, as well as for all losses incurred by the City in completing the Work.

31. INDEMNIFICATION

- A. The Contractor shall defend, indemnify and save harmless the City, the Owner's Representative, the Architect, the Consulting Engineer and any of their respective officers, officials, agents, and employees from any and all claims, demands, damages, costs, expenses, attorney's fees, or liability arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract, including but not limited to, inverse condemnation, equitable relief, or any acts or omissions, any wrongful act, or any negligent act or omission to act, whether active or passive, on the part of the Contractor or any of its agents, employees, independent contractors, Subcontractors or suppliers; provided, further, without limiting the foregoing, that the indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or omissions to act, committed jointly or concurrently by the Contractor, the Contractor's agents, employees, independent contractors, Subcontractors or suppliers, and the City, its agents, employees, or independent contractors.
- B. The indemnity obligation expressly extends to and includes, but is not limited to, any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.
- C. The indemnity obligation expressly extends to and includes, but is not limited to, any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or independent contractors, Subcontractors or suppliers of any provisions of federal, state or local law, including applicable administrative regulations.
- D. The indemnity obligation also expressly extends to and includes, but is not limited to, any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the Work, whether such persons are on or about the Site by right or not, whenever the Work is alleged to have been or may have been a contributing cause in any degree whatsoever.
- E. Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to indemnify the City in contravention of Section 2782 of the Civil Code for the sole negligence or willful misconduct of the City or its agents, employees or independent contractors.
- F. In claims against any person or entity herein indemnified that are made by an employee of the Contractor or an employee of any of the Contractor's agents, independent contractors, Subcontractors or suppliers, a person indirectly employed by the Contractor or by any of the Contractor's agents, independent contractors, Subcontractors or suppliers, or anyone for whose acts the Contractor or any of the Contractor's agents, independent contractors, Subcontractors or suppliers may be liable, the indemnification obligation herein shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or the Contractor's agents, independent contractors, Subcontractors or suppliers.

under workers' compensation acts, disability acts, or other employee benefit acts.

- G. The indemnification obligations herein shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.
- H. The indemnities set forth herein shall not be limited by the insurance requirements set forth in the Contract Documents.
- I. The indemnification requirements herein set forth shall extend to claims occurring after this Contract is terminated as well as while it is in force.

32. ASSIGNMENT

Neither this Agreement nor any rights herein of Contractor shall be assigned without the written consent of City first obtained.

33. AMENDMENTS

Any modification or amendment of any provision of this agreement shall be in writing and must be executed by both parties hereto.

34. INCIDENTAL BENEFICIARIES

It is expressly understood and agreed that the enforcement of these terms and conditions shall be reserved to City and Contractor. Nothing contained in the Agreement shall give or allow any claim or right of action whatsoever by any third person. It is the express intent of the City and Contractor that any such person or entity, other than City and Contractor, receiving services or benefits under this Agreement shall be deemed an incidental beneficiary.

35. MISCELLANEOUS PROVISIONS

- A. **Attorneys' Fees:** In the event an action or proceeding is instituted by either party for the breach or enforcement of any provision of this Agreement, the prevailing party shall be entitled to reasonable attorneys' fees according to law.
- B. This Agreement shall be deemed to be made in, and the rights and liabilities of the parties, and the interpretation and construction of the Agreement governed by and construed in accordance with the laws of the State of California. Any legal action arising out of this Agreement shall be filed in and adjudicated by a state court in the County of Sacramento, State of California.
- C. **Enforceability:** If any term or provision of this Agreement is found to be void, voidable, invalid or unenforceable by a court of competent jurisdiction under the laws of the State of California, any and all of the remaining terms and provisions of this Agreement shall remain binding.
- D. **Time:** All times stated herein or in any other contract documents are of the essence.
- E. **Binding:** This Agreement shall bind and inure to the heirs, devisees, assignees and successors in interest of Contractor and to the successors in interest of City in the same manner as if such parties had been expressly named herein.
- F. **Survivorship:** Any responsibility of Contractor for warranties, insurance, indemnity, record keeping or compliance with laws with respect to this Agreement shall not be invalidated due to the expiration, termination or cancellation of this Agreement.
- G. **Waiver:** In the event that either City or Contractor shall at any time or times waive any breach of this Agreement by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Agreement, whether of the same or any other covenant, condition or obligation. Waiver shall not be deemed effective until and unless signed by the waiving party.

36. ENTIRE AGREEMENT

This instrument and any attachments hereto constitute the entire Agreement between the City and Contractor concerning the subject matter hereof and supersedes any and all prior oral and written communications between the parties regarding the subject matter hereof.

37. AUTHORITY TO EXECUTE

The person or persons executing this Agreement on behalf of the parties hereto warrants and represents that he/she/they has/have the authority to execute this Agreement on behalf of their entity and has/have the authority to bind their party to the performance of its obligations hereunder.

38. COUNTERPARTS

This agreement may be executed in one or more counterparts, each of which shall be deemed an original, and will become effective and binding upon the parties at such time as all of the signatories hereto have signed a counterpart of this Agreement. All counterparts so executed shall constitute one Agreement binding on all of the parties hereto, notwithstanding that all of the parties are not signatory to the same counterpart.

SIGNATURE PAGE IMMEDIATELY FOLLOWS

IN WITNESS WHEREOF, the parties hereto have signed the Agreement on the date set forth opposite their names.

CONTRACTOR: *(Must be signed by two officers of the corporation in compliance with Corporations Code section 313.)*

_____	_____
Date	Tax I.D. Number
_____	_____
Signature	Signature
_____	_____
Print Name	Print Name
_____	_____
Title	Title

CITY OF FOLSOM, A Municipal Corporation:

_____	_____
Date	Elaine Andersen, City Manager
ATTEST:	FUNDING AVAILABLE:
_____	_____
Christa Freemantle, City Clerk	Stacey Tamagni, Finance Director
_____	_____
ORIGINAL APPROVED AS TO CONTENT:	ORIGINAL APPROVED AS TO FORM:
_____	_____
, Director	Steven Wang, City Attorney
_____	_____
Date	Date

NOTICE: SIGNATURE(S) ON BEHALF OF CONSULTANT MUST BE NOTARIZED.

A certificate of acknowledgment in accordance with the provisions of California Civil Code section 1189 must be attached for each person executing this agreement on behalf of contractor. This section provides, at part (b): "Any certificate of acknowledgment taken in another place shall be sufficient in this state if it is taken in accordance with the laws of the place where the acknowledgment is made."

EXHIBIT A

INSURANCE

NOTE: The word "Contractor" in this Exhibit refers to either "Contractor" or "Contractor" as the term is used in the Agreement/Contract to which this Exhibit is attached.

A. During the term of this Agreement, Contractor shall maintain in full force and effect at all times during the term of the contract, at its sole cost and expense, policies of insurance as set forth herein:

1. General Liability:

- a. General liability insurance including, but not limited to, protection for claims of bodily injury and property damage liability, personal and advertising injury liability and product and completed operations liability.
- b. Coverage shall be at least as broad as Insurance Services Office Commercial General Liability coverage form CG 0001 (occurrence).
- c. Claims-made coverage is not acceptable.
- d. The limits of liability shall not be less than:

Each occurrence:	One Million Dollars (\$1,000,000)
Products & Completed Operations:	One Million Dollars (\$1,000,000)
Personal & Advertising Injury:	One Million Dollars (\$1,000,000)
- e. If a general aggregate limit of liability is used, the minimum general aggregate shall be twice the 'each occurrence' limit or the policy shall contain an endorsement stating that the general aggregate limit shall apply separately to the project that is the subject of the contract.
- f. If a products and completed operations aggregate limit of liability is used, the minimum products and completed operation aggregate shall be twice the 'each occurrence' limit or the policy shall contain an endorsement stating that the products and completed operations aggregate limit shall apply separately to the project which is the subject of the contract.
- g. If the Contractor maintains higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained by the Contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

2. Automobile Liability:

- a. Automobile liability insurance providing protection against claims of bodily injury and property damage arising out of ownership, operation, maintenance, or use of owned, hired, and non-owned automobiles.
- b. Coverage shall be at least as broad as Insurance Services Office Automobile Liability coverage form CA 0001, symbol 1 (any auto).
- c. The limits of liability per accident shall not be less than:

Combined Single Limit	One Million Dollars (\$1,000,000)
-----------------------	-----------------------------------

- d. If Automobile Liability coverage, as required above, is provided by the Commercial General Liability form, the General Liability policy shall include an endorsement providing automobile liability as required above.
3. Workers' Compensation
 - a. Workers' Compensation Insurance, with coverage as required by the State of California (unless the Contractor is a qualified self-insurer with the State of California), and Employer's Liability coverage.
 - b. Employer's Liability Coverage with a limit not less than \$1,000,000 per accident for bodily injury and disease.
 - c. Contractor shall sign and file with the City department responsible for this Agreement/Contract the Worker's Compensation Certificate contained in the Project Manual.
4. Insurance Required in the Supplementary Conditions

Contractor shall be required to comply with all conditions as stipulated in the Standard Construction Specifications, any supplementary conditions and any special provisions as applicable.
5. Professional Liability Insurance

If required errors and omissions, malpractice or professional liability insurance with coverage of not less than \$1,000,000 per claim.
6. Other Insurance Provisions
 - a. The Contractor's General Liability and Automobile Liability policies shall contain, or be endorsed to contain, the following provisions:
 - i. The City, its officials, employees, agents and volunteers shall be covered and specifically named as additional insureds on a separate endorsement as respects liability arising out of activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied, or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor in a form acceptable to the City Attorney.
 - ii. The Endorsement requirement may be satisfied with express provisions in the insurance policy(ies) which identifies any person or entity required to be included as an insured under the policy. A copy of the declarations page identifying the policy number, and pertinent provisions in the policy providing additional insured coverage shall be provided to the City.
 - iii. The policy shall contain no special limitations on the scope of coverage afforded to the City, its officials, employees, agents or volunteers.
 - b. For any claims related to the project, the Contractor's General Liability and Automobile insurance coverage shall be primary insurance in their coverage of the City and its officers, officials, employees, agents, or volunteers, and any insurance or self-insurance maintained by the City, its officers, officials, employees, agents or volunteers shall be excess of the Contractor's insurance and shall not contribute with it.
 - c. Any failure to comply with reporting or other provisions of the policies on the part of the Contractor, including breaches of warranties, shall not affect coverage provided to the City, its officers, officials, employees, agents or volunteers.
 - d. The Contractor's Workers Compensation and Employer's Liability policies shall contain an endorsement that waives any rights of subrogation against the City, its

officers, officials, employees, agents, and volunteers.

- e. Each insurance policy shall state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits, non-renewed, or materially changed except after 30 days prior written notice by certified mail has been given to the City. Ten days prior written notice by certified mail shall be given to the City in the event of cancellation due to nonpayment of premium.

7. Acceptability of Insurers

Insurance is to be placed with insurers with a **Bests' rating of no less than A:VII.**

- 8. The Contractor shall furnish the City with Certificates of Insurance and endorsements or insurance binders, signed by a person authorized by the insurer to bind coverage on its behalf, evidencing the coverage required by this section, the Standard Specifications, Special Provisions and/or any Supplementary Conditions. **The Contractor shall furnish complete, certified copies of all required insurance policies, including original endorsements specifically required hereunder if requested.**
- 9. The Contractor shall report, by telephone to the Project Manager within 24 hours, and also report in writing to the City within 48 hours, after Contractor or any Subcontractors or agents have knowledge of, any accident or occurrence involving death of or serious injury to any person or persons, or damage in excess of Ten Thousand Dollars (\$10,000) to property of the City or others, arising out of any work done by or on behalf of the Contractor as part of the contract.
- 10. Such report shall contain:
 - a. the date and time of the occurrence,
 - b. the names and addresses of all persons involved, and
 - c. a description of the accident or occurrence and the nature and extent of the injury or damage.
- 11. The City, at its discretion, may increase the amounts and types of insurance coverage required hereunder at any time during the term of the contract by giving 30 days written notice.
- 12. If the Contractor fails to procure or maintain insurance as required by this section, the Standard Specifications, and any Supplementary Conditions, or fails to furnish the City with proof of such insurance, the City, at its discretion, may procure any or all such insurance. Premiums for such insurance procured by the City shall be deducted and retained from any sums due the Contractor under the contract.
- 13. Failure of the City to obtain such insurance shall in no way relieve the Contractor from any of its responsibilities under the contract.
- 14. The making of progress payments to the Contractor shall not be construed as relieving the Contractor or its Subcontractors of responsibility for loss or direct physical loss, damage, or destruction occurring prior to final acceptance by the City.
- 15. The failure of the City to enforce in a timely manner any of the provisions of this section shall not act as a waiver to enforcement of any of these provisions at any time during the term of the contract.
- 16. In the event Contractor carries Excess Liability Coverage, the Excess Liability Coverage shall apply to any and all claims related to the project on a primary and non-contributory basis, and the City's insurance or self-insurance coverage shall be excess to the Contractor's Excess Liability Coverage.

PERFORMANCE BOND

BOND NO.:_____

PREMIUM:_____

City of Folsom

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the CITY OF FOLSOM (hereinafter referred to as "CITY") has awarded to _____, hereinafter designated as the "Principal" a contract for **Ashland Water Rehabilitation Project No. 2** (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as "Contract Documents"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required by said Contract Documents to perform the terms thereof and to furnish a bond for the faithful performance of said Contract Documents.

NOW, THEREFORE, we, the undersigned Principal and

_____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the CITY in the sum of _____ DOLLARS, (\$_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that, if said Principal, his or its 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 Documents and any alteration thereof made as therein provided, on its part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their intent and meaning; and shall faithfully fulfill all obligations including the two-year guarantee of all materials and workmanship; and shall indemnify and save harmless the CITY, its officers and agents, as stipulated in said Contract Documents, then this obligation shall become null and void; otherwise it shall be and 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 attorneys' fees, incurred by CITY in enforcing such obligation.

The obligations of Surety hereunder shall continue so long as any obligation of Principal remains. Nothing herein shall limit the CITY's rights or Principal's or Surety's obligations under

the Contract, law or equity, including, but not limited to, California Code of Civil Procedure section 337.15.

Whenever Principal shall be, and is declared by the CITY to be, in default under the Contract Documents, the Surety shall remedy the default pursuant to the Contract Documents, or shall promptly, at the CITY's option:

(1) Take over and complete the Project in accordance with all terms and conditions in the Contract Documents; or

(2) Obtain a bid or bids for completing the Project in accordance with all terms and conditions in the Contract Documents and upon determination by Surety of the lowest responsive and responsible bidder, arrange for a Contract between such bidder, the Surety and the CITY, and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Principal by the CITY under the Contract and any modification thereto, less any amount previously paid by the CITY to Principal and any other set offs pursuant to the Contract Documents.

(3) Permit the CITY to complete the Project in any manner consistent with California law and make available as work progresses sufficient funds to pay the cost of completion of the Project, less the balance of the contract price, including other costs and damages for which Surety may be liable. The term "balance of the contract price" as used in this paragraph shall mean the total amount payable to Principal by the CITY under the Contract and any modification thereto, less any amount previously paid by the CITY to Principal and any other set offs pursuant to the Contract Documents.

Surety expressly agrees that the CITY may reject any design-builder, contractor or subcontractor which may be proposed by Surety in fulfillment of its obligations in the event of default by Principal. Surety shall not utilize Principal in completing the Project nor shall Surety accept a bid from Principal for completion of the Project if the CITY, when declaring Principal in default, notifies Surety of the CITY's objection to Principal's further participation in the completion of the Project.

Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project to be performed there under shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract Documents or to the Project.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____, then names and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

Principal:_____

By:_____

Performance Bond

APPROVED AS TO FORM

Surety: _____

Address: _____

City Attorney

Telephone: _____

Attorney in Fact: _____

(Attach Attorney-In-Fact Certificate, Corporate Seal and Surety Seal. This bond must be accompanied by a current Power of Attorney Appointing the Attorney-in-Fact)

NOTICE:

A CERTIFICATE OF ACKNOWLEDGMENT IN ACCORDANCE WITH THE PROVISIONS OF CIVIL CODE SECTION 1189 MUST BE ATTACHED FOR EACH PERSON EXECUTING THIS AGREEMENT ON BEHALF OF PRINCIPAL AND SURETY.

PAYMENT BOND

BOND NO.: _____

PREMIUM: _____

City of Folsom

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, the CITY OF FOLSOM (hereinafter referred to as "CITY") has awarded to _____, (hereinafter designated as "Principal") an agreement for **Ashland Water Rehabilitation Project No. 2** (hereinafter referred to as the "Project").

WHEREAS, the work to be performed by Principal is more particularly set forth in the Contract Documents for the Project dated _____, (hereinafter referred to as the "Contract"), the terms and conditions of which are expressly incorporated herein by reference; and

WHEREAS, said Principal is required to furnish a bond in connection with said Contract providing that if Principal or any of its subcontractors shall fail to pay for any materials, provisions, or other supplies, or terms used in, upon, for or about the performance of the Work contracted to be done, or for any work or labor done thereon of any kind the Surety on this bond will pay the same together with a reasonable attorney's fee in case suit is brought on the bond.

NOW, THEREFORE, we, the undersigned Principal and

_____ as Surety, a corporation organized and duly authorized to transact business under the laws of the State of California, are held and firmly bound unto the CITY in the sum of _____ DOLLARS, (\$_____), said sum being not less than one hundred percent (100%) of the total amount of the Contract, for which amount well and truly to be made, we bind ourselves, our heirs, executors and administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if the Principal, his or its subcontractors, heirs, executors, administrators, successors, or assigns, shall fail to pay for any materials, provisions, or other supplies or machinery used in, upon, for or about the performance of the Work contracted to be done, or for work or labor thereon of any kind, or fail to pay any of the persons named in California Civil Code Section 9100, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by any such claimant, or for any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of Principal and his subcontractors pursuant to Section 13020 of the Unemployment Insurance Code with respect to such work and labor, and all other applicable laws of the State of California and rules and regulations of its agencies, then said Surety will pay the same in or to an amount not exceeding the sum specified herein. In case legal action is required to enforce the provisions of this bond, the prevailing party shall be entitled to recover reasonable attorneys' fees in addition to court costs, necessary disbursements and other consequential damages. In addition to the provisions hereinabove, it is agreed that this bond will inure to the benefit of any and all persons, companies and corporations

entitled to make claims under Section 9100 of the California Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

The said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or additions to the terms of the said Contract or to the work to be performed thereunder or the specification accompanying the same shall in any way affect its obligations on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____, then names and corporate seals of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to the authority of its governing body.

Principal: _____

By: _____

Surety: _____

APPROVED AS TO FORM

Address: _____

City Attorney

Telephone: _____

Attorney in Fact: _____

(Attach Attorney-In-Fact Certificate, Corporate Seal and Surety Seal. This bond must be accompanied by a current Power of Attorney Appointing the Attorney-in-Fact)

NOTICE:

A CERTIFICATE OF ACKNOWLEDGMENT IN ACCORDANCE WITH THE PROVISIONS OF CIVIL CODE SECTION 1189 MUST BE ATTACHED FOR EACH PERSON EXECUTING THIS AGREEMENT ON BEHALF OF PRINCIPAL AND SURETY.

GUARANTEE FORM

_____ {Contractor's Name} hereby unconditionally guarantees that the Work performed for the **Ashland Water Rehabilitation Project II**, has been done in accordance with the requirements of the Contract therefore and further guarantees the Work of the Contract to be and remain free of defects in workmanship and materials for a period of two (2) years from and after the recordation of the Notice of Completion of the Project and completion of all Contract obligations by the Contractor, including formal acceptance of the entire Project by the City of Folsom, unless a longer guarantee period is called for by the Contract Documents, in which case the terms of the longer guarantee shall govern. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 3086. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, change orders, construction change directives and punch lists, and the City of Folsom's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. The Contractor hereby agrees to repair or replace any and all Work, together with any adjacent Work which may have been damaged or displaced in so doing, that may prove to be not in accordance with the requirements of the Contract or that may be defective in its workmanship or materials within the guarantee period specified, without any expense whatsoever to the City of Folsom, ordinary wear and tear and unusual abuse and neglect only excepted. The Contractor has provided contract bonds, which will remain in full force and effect during the guarantee period.

The Contractor further agrees that within ten (10) calendar days after being notified in writing by the City of Folsom of any Work not in accordance with the requirements of the contract or any defects in the Work, it will commence and prosecute with due diligence all Work necessary to fulfill the terms of this guarantee, and to complete the Work within a period of time stipulated in writing. In the event it fails to so comply, Contractor does hereby authorize the City of Folsom to proceed to have such Work done at the Contractor's expense and it will pay the cost thereof upon demand. The City of Folsom shall be entitled to all costs, including reasonable attorneys' fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Notwithstanding the foregoing paragraph, in the event of an emergency constituting an immediate hazard to the health or safety of the employees of the City of Folsom, or its property or licensees, the City of Folsom may undertake at the Contractor's expense without prior notice, all Work necessary to correct such hazardous condition when it was caused by the Work of the Contractor not being in accordance with the requirements of

this contract, or being defective, and to charge the same to the Contractor as specified in the preceding paragraph.

The guarantee set forth herein is not intended by the parties, nor shall it be construed, as in any way limiting or reducing the City of Folsom's rights to enforce all terms of the Contract referenced hereinabove or the time for enforcement thereof. This guarantee is provided in addition to, and not in lieu of, the City of Folsom's rights on such contract.

CONTRACTOR'S SIGNATURE

PRINT NAME

Escrow No.

**ESCROW AGREEMENT FOR DEPOSIT OF
SECURITIES IN LIEU OF CASH RETENTION
ON PUBLIC WORKS PROJECT
SF-6**

THIS AGREEMENT, made this _____ day of _____, 20__, by and between the _____, a political subdivision of the State of California (hereinafter referred to as Owner), _____ (hereinafter referred to as Contractor), and _____, a state or federally chartered bank (hereinafter referred to as Escrow Agent).

WHEREAS, California Public Contract Code, Section 22300 provides that a Contractor on a Public Works contract may deposit with an escrow agent securities having a value equivalent to or greater than the amount to be held by the public agency owner for retention payments, and, under appropriate circumstances, receive the withheld retention payments;

NOW, THEREFORE, in consideration of the mutual promises herein contained, the parties hereto agree as follows:

1. Owner has let to Contractor Contract No. _____, for the construction of _____, said construction contract being dated _____. That said construction contract provides that the Owner shall retain from each progress payment a specified portion of the progress payment until the lapse of a specified period of time following acceptance by the Owner of the completed construction project. That said construction contract further provides that the Contractor may substitute a deposit of securities in lieu of the Owner withholding such monies from the total amount of the performance by the Contractor provided such deposit of securities complies with the terms of the Construction contract and law. That said construction contract and law alternately provides that the owner may make payment of retentions earned directly to the escrow agent after Contractor request.

2. Contractor may deposit with Escrow Agent securities eligible for investment under California Public Contract Code, Section 22300 as security in lieu of any monies withheld by the Owner to ensure performance under the aforesaid construction contract. Alternately, the owner may make payment of retentions earned directly to the Escrow Agent after contractor request. Such direct payment of retentions earned shall hereinafter be included in the term "securities".

3. Escrow Agent shall, upon deposit by the Contractor of eligible securities, determine the value of the securities so deposited and certify in the form attached as Exhibit "A" to the Department of Public Works, City of Folsom, 50 Natoma Street, Folsom, California 95630 that eligible securities have been deposited with the Escrow Agent by the Contractor on account for release of retention by the City of monies withheld to ensure performance of the aforesaid construction contract. Such certification shall state minimum value of the securities. The securities shall not be released by the Escrow Agent until the City Public Works Director (hereinafter referred to as Engineer) has instructed the Escrow Agent in writing that the said securities may be released to the Contractor. The form of such instruction in writing is annexed hereto as Exhibit "B".

4. Escrow Agent shall hold the aforesaid securities until such time Escrow Agent is instructed in writing by the Owner's Engineer that Escrow Agent may release the securities to the Contractor. In the event the Owner's Engineer submits a written demand and certification, in the form attached hereto as Exhibit "C", stating that the Contractor has failed to perform all or part of the construction agreement after notice and demanding the payment of a specified amount of cash to be delivered by the Escrow Agent to the Owner, the Escrow Agent shall, seven (7) days following receipt of such demand and certification, cause sufficient of the securities deposited by Contractor to be sold and shall immediately deliver to the Owner's Engineer the amount of cash specified in the said demand and certification. No proof or documents, other than the demand and certification, shall be required of the Engineer by the Escrow Agent in order to accomplish the sale and delivery as specified herein. Any excess cash or securities remaining after satisfaction of the Engineer's demand shall be retained by the Escrow Agent until further instructed by the Engineer.

5. Upon receipt by Owner of an appropriate certification as set forth in Paragraph 3 above, Owner shall release to Contractor all monies withheld by Owner to ensure performance of the aforesaid construction contract, but only to the extent that such monies have been earned by the Contractor and do not exceed the value of the securities deposited as set forth in the certification. Further, Owner shall not release to the Contractor any monies required to be withheld pursuant to a valid stop notice filed by any person so authorized and with respect to the said construction contract. Owner shall be the sole judge of the validity of all such stop notices and shall retain one hundred percent (125%) of the amount claimed in the stop notice. At such time as in the opinion of the Owner's Engineer, the Contractor has failed to perform all or part of the construction agreement, the Engineer may give 10 days' written notice to the Contractor to adequately commence or complete such performance, or the Engineer shall make demand upon the Escrow Agent for sale of securities deposited by the Contractor and for the delivery of cash proceeds to the Engineer. Upon failure of the Contractor to adequately commence or complete performance within the time specified by the Engineer, the Engineer may submit to the Escrow Agent a written demand and certification in the form attached hereto as Exhibit "C", specifying the amount to be paid to the Owner, and the Escrow Agent shall comply with the terms thereof. The Owner's Engineer shall be the sole judge of the failure of performance by the Contractor, the adequacy of commencement or completion of performance by the Contractor and the value of the failure of performance by the Contractor.

6. This escrow agreement is a third party beneficiary contract to the extent that it provides security to the Owner. The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon. The Owner shall have the right to have any such securities sold by the Escrow Agent and the cash value thereof delivered to the Owner as set forth above. In the event the sale of the securities does not realize sufficient cash to pay to the Owner the amount demanded by the Engineer, Contractor shall be obligated to immediately pay to the Owner any deficiency, and the Owner shall be further entitled to withhold any such deficiency from any payments then due from the Owner to the Contractor or to become due.

7. Contractor shall pay all fees and costs required to establish and maintain the escrow and to carry out the terms of this agreement.

8. Both the Contractor and the Escrow Agent shall indemnify and hold harmless the Owner from any loss suffered by the Owner as a result of any act or omission of Escrow Agent or Contractor or any of their officers, employees, or agents. Further, the Contractor shall indemnify and hold harmless the Owner from any loss suffered by the Owner resulting from the acts or omissions of the Escrow Agent or any of its officers, employees, or agents. Further, the Contractor shall indemnify and hold harmless the Escrow Agent from any loss The Escrow Agent may suffer as a result of the acts or omissions of the Contractor or any of its officers, employees, or agents.

IN WITNESS WHEREOF, the parties hereto have executed this agreement the day and year first above stated.

a political subdivision of the State of California

By _____
OWNER

CONTRACTOR

ESCROW AGENT

Name of Bank _____

Address _____

NOTICE: SIGNATURE(S) ON BEHALF OF "SUBDIVIDER" MUST BE NOTARIZED

Certificate of Acknowledgement pursuant to Civil Code, Section 1189, must be attached.

"EXHIBIT A"
SF-6

To: Department of Public Works
City of Folsom
50 Natoma Street
Folsom, CA 95630

Escrow #

Re: CERTIFICATION OF DEPOSIT OF SECURITIES

_____, as Escrow Agent in that certain Escrow Agreement for Deposit of Securities in Lieu of Cash Retention on Public Works Project between the City of Folsom (referred to as City), _____ (referred to as Contractor and _____, a state or federally chartered bank (referred to as Escrow Agent), dated _____, hereby certifies to the City of Folsom that the said Escrow Agent has received from the specified Contractor, securities eligible for investment of not less than \$_____. The said Escrow Agent agrees to hold said securities in accordance with the term of the aforesaid escrow agreement, and shall not release the said securities to the said Contractor until such time as the said Escrow Agent has received notification from the City Public Works Director that the construction contract has been accepted the Escrow Agent further certifies that written demand by the City Public Works Director the Escrow Agent shall cause sufficient securities to be sold from those so deposited by the said Contractor and shall pay to the City the amount specified in the demand, provided such demand does not exceed the amount specified as the minimum value of the securities herein.

Dated: _____ at _____, California.

_____,
a state or federally chartered bank

By _____
Escrow Agent

Name of Bank _____

Address _____

EXHIBIT B
SF-6

Escrow # _____

To: Escrow Agent

Re: AUTHORIZATION TO RELEASE SECURITIES DEPOSITED BY CONTRACTOR

You, as Escrow Agent in that certain Escrow Agreement for Deposit of Securities in Lieu of Cash Retention on Public Works project between the _____, a political subdivision of the State of California (referred to as Owner), _____, (referred to as Owner), and _____, a state or federally chartered bank (referred to as Escrow Agent), dated _____ are hereby authorized to release to the aforesaid Contractor all securities deposited with you with respect to the aforesaid escrow agreement, except that you shall be required to retain as security and pursuant to the terms of the said escrow agreement securities having a value of not less than \$_____, until such time as you may be further notified by the Owner's Engineer as to further release or as to sale.

Dated: _____

_____,
a political subdivision of the State of California

By _____
Engineer

OWNER

EXHIBIT C
SF-6

Escrow # _____

NOTIFICATION OF FAILURE OF PERFORMANCE
DEMAND FOR SALE OF SECURITIES AND
DEMAND FOR PAYMENT

You, as Escrow Agent in that certain Escrow Agreement for Deposit of Securities in Lieu of Cash Retention on Public Works Project between the _____, a political subdivision of the State of California (referred to as Owner), _____ (referred to as Contractor) and _____, a state or federally chartered bank (referred to as Escrow Agent), dated _____, are hereby notified that the said Contractor has failed to perform all or part of that certain construction contract described in the said escrow agreement after having been given written notice of lack of performance. You are hereby directed to cause to be sold securities deposited by the said Contractor with you and in accordance with the escrow agreement, said securities having a minimum value of \$_____, and to deliver forthwith to the Owner's Engineer the sum of \$_____. Any remaining securities deposited pursuant to the terms of the said escrow agreement shall be retained by you pursuant to further written notice by the City of Folsom Public Works Director.

Dated: _____

_____,
a political subdivision of the State of California

By _____
Engineer

OWNER

**PROPRIETARY INFORMATION AGREEMENT
BETWEEN
THE CITY OF FOLSOM
AND**

**(Contractor)
SF-10**

The City of Folsom (hereinafter referred to as City) wishes to receive from _____ (hereinafter referred to [Contractor] as Contractor) certain technical information claimed by the Contractor to be proprietary and hereinafter referred to as "Proprietary Data". Submittal of Proprietary Data by Contractor to City is required by the construction contract for testing, operating, and maintaining equipment, equipment assemblies and systems constructed under the contract. Contractor and City agree for a period of ____ years as follows:

1. The proprietary data is submitted to the City based on the understanding that the City would not disclose the same to others outside the City, nor reproduce the contents of said proprietary data or provide copies thereof to others outside the City without authorization from Contractor. Contractor claims proprietary rights in the contents of the proprietary data as a basis for preventing disclosure of the contents thereof to others. Contractor understands that the City has reservations as to the propriety of excluding the proprietary data from disclosure under the California Public Records Act (Government Code, Section 6250, et seq.).

2. The City may make such disclosure or reproduction of the proprietary data as is reasonably necessary or convenient to operate and maintain the subject equipment and to otherwise fully enjoy the use and benefit of the subject equipment.

3. Except as provided in paragraph 2, above, if any person makes a proper request to review or be provided with copies of the proprietary data or any part thereof, immediately upon notification thereof, Contractor agrees to defend the City and its officers, agents, and employees against any action resulting from denial of such request. If Contractor fails to promptly provide such defense, the City, its officers, agents, and employees shall be free to grant such requests.

4. Contractor shall indemnify and hold harmless the City, its officers, agents, and employees from any and all claims, costs, liabilities or damages, including attorney's fees and court costs resulting from the performance of this agreement.

EXECUTED on this ____ day of _____, 20____,

CITY OF FOLSOM _____ (Contractor) _____

By _____ By _____

Title _____ Title _____

GENERAL PROVISIONS

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PREFACE

The General Provisions and all portions of the Standard Construction Specifications, Standard Forms Specifications and Standard Drawings which place any duty or responsibility upon personnel or agencies of the City of Folsom or other public entities are intended for use in those contracts entered into by public entities and administered by the City of Folsom. Any use of these General Provisions and the Standard Construction Specifications, Standard Forms Specifications, and Standard Drawings by any other person, persons, or entity shall not create or imply the assumption of any liability or responsibility by the City of Folsom or any public entity authorized to use these specifications.

Unless otherwise excluded, the Standard Construction Specifications, Section 1 through Section 12, shall apply to all materials and construction methods for all construction work both under the direct inspection of the City of Folsom for contracts awarded by public entities and administered and inspected by the City of Folsom, and for those contracts under indirect inspection awarded by other parties for future dedication or incorporation into the public entities' facilities, and for construction of private improvements within public rights of way or easements.

In addition to public contracts, the Standard Construction Specifications of this document will also apply to private development both for publicly owned and privately owned facilities.

GENERAL PROVISIONS



ARTICLE 1. TERMS AND DEFINITIONS

Section 1.01. Whenever the following terms, titles, abbreviations or phrases are used in these Specifications, or in any document or instrument wherein these Specifications govern, the intent and meaning thereof shall be as defined in this Article.

Section 1.02. Abbreviations.

AAN	American Association of Nurserymen
AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
APA	American Plywood Association
ASA	American Standards Association
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWG	American Wire Gage
AWS	American Welding Society
AWWA	American Water Works Association
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CL	Centerline
CSI	Construction Specifications Institute
CY	Cubic Yards
DI	Drop Inlet
EA	Each
EP	Edge of Pavement
FS	Federal Specifications
In	Invert
ISA	Instrument Society of America
LB	Pound
LF	Linear Feet
LS	Lump Sum
NBFU	National Board of Fire Underwriters
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NSF	National Sanitation Foundation
OSHA	Occupational Safety and Health Act
PCC	Portland Cement Concrete
SD	Storm Drain
SF	Square Foot/Feet
SS	Sanitary Sewer
STA	Station
Title 8	Title 8 (Construction Safety Orders) of the California Code of Regulations
Title 19	(Public Safety) of the California Code of Regulations
Title 24	Title 24 (Building Standards) of the California Code of Regulations
TOC	Top of Curb
Typ.	Typical
UL	Underwriters' Laboratories, Inc.

UBC	Uniform Building Code (latest edition)
USBR	United States Bureau of Reclamation
UMC	Uniform Mechanical Code (latest edition)
UPC	Uniform Plumbing Code (latest edition)
WCLA	West Coast Lumbermen's Association
WIC	Woodwork Institute of California

All references to the specifications, standards or other publications of any of the above are understood to refer to the current issue as revised or amended at the date of receipt of bids.

Section 1.03. Addendum/Addenda.

"Addendum" or "Addenda" are written documents furnished by the City before award of the Contract, interpreting or modifying Plans and Specifications or answering questions of intended bidders, and shall be incorporated in and are a part of the Contract Documents.

Section 1.04. Allowance.

"Allowance" shall mean an amount of money set aside under the Contract for a special purpose identified in the Contract Documents.

Section 1.05. Architect and/or Consulting Engineer.

The "Architect" or "Consulting Engineer" is a person or persons, firm, partnership, joint venture corporation, or combination thereof or authorized representative thereof, employed by the City or acting in the capacity of consultant to the City. The Architect or Consulting Engineer is designated by the City as the City's agent to perform all functions delegated to the Architect or Consulting Engineer by the Contract Documents. The Architect or Consulting Engineer shall issue directions to the Contractor only through the City. When the Contract Documents require that approval be obtained from the Architect or Consulting Engineer, such approval shall be requested from and be given by the City.

Section 1.06. As Shown Etc.

Where "as shown", "as latest indicated", "as detailed", or words of similar import are used, the reference is to the Contract Drawings unless specifically stated otherwise. Where "as directed", "as permitted", "approved", or words of similar import are used, they shall mean the direction, permission, or approval of the City.

Section 1.07. Bid.

When submitted on the prescribed bid form, properly executed and bonded, at the designated time and location, the "Bid" constitutes the offer of the Bidder to complete the Work for the price stated on the bid form.

Section 1.08. Bidder.

"Bidder" shall mean any person or persons, firm, partnership, joint venture, corporation, or combination thereof, submitting a Bid for the Work, acting directly or through a duly authorized representative.

Section 1.09. Calendar Day.

"Calendar Day" shall mean every day shown on the calendar. When the Contract Time is stated in Calendar Days, every day will be charged toward the Contract Time, and every reference to Working Days in these Specifications shall be deemed to mean Calendar Days.

Section 1.10. Change Order.

"Change Order" shall mean a written order to the Contractor, issued after execution of the Contract, signed by the City and the Contractor, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time.

Section 1.11. City.

"City" shall mean the municipal corporation known as the City of Folsom. The City is sometimes designated "Owner" in the Contract Documents.

Section 1.12. City Council.

"City Council" shall mean the City Council of the City of Folsom.

Section 1.13. Closeout Documents.

"Closeout Documents" are the documents that are required to meet the requirements of final completion.

Section 1.14. Construction Change Directive (CCD).

"Construction Change Directive", or "CCD", shall mean a written order to the Contractor, issued after execution of the Contract, signed by the City or the Owner's Representative directing a change in the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both, and which shall be used in the absence of total agreement with the Contractor on the terms of a Change Order or when time does not permit processing of a Change Order prior to implementation of the change.

Section 1.15. Contract Documents.

The "Contract Documents" shall include the Notice to Contractors, the Proposal Form, the Agreement for Construction, the Bid Bond, the Performance Bond, the Payment Bond, these Standard Construction Specifications, the Special Provisions, Exhibits, the Contract Drawings and Plans, the Technical Specifications, any project-specific specifications or documents, all duly issued Addenda, Interpretations, Field Instructions, Written Directives, Supplemental Drawings, the Contractor's Guarantee and Bond, the Contract Schedule, Storm Water Pollution Prevention Plan (whether prepared by the City or the Contractor) and any and all supplemental agreements amending or extending the Work contemplated and which may be required to complete the Work in an acceptable manner. Supplemental agreements are written agreements covering alterations, amendments or extensions to the Contract Documents and include Change Orders

Section 1.16. Contract Drawings or Plans.

The "Contract Drawings" (sometimes referred to as "Drawings" or "Plans") are the Project Plans, Standard Drawings, drawings, profiles, typical cross sections, general cross sections, Working Drawings and supplemental drawings, plates or reproductions thereof, approved by the City, which show the locations, character, dimensions and details of the Work to be performed. Once approved, all such drawings are incorporated into and become a part of the Contract Documents whether or not reproduced in the Special Provisions.

In the above definition, the following terms are defined as follows:

A. Standard Drawings: The Standard Drawings of the City of Folsom.

B. Project Plans: The project plans and specific details and dimensions peculiar to the Work and as supplemented by the Standard Drawings insofar as the same may

apply.

Section 1.17. Contract Schedule.

The “Contract Schedule” is the schedule produced by the Contractor in response to the requirements of the Contract Documents.

Section 1.18. Contract Sum.

“Contract Sum” is the total amount payable by the City to the Contractor for the performance of the Work under the Contract Documents. The Contract Sum is the amount stated in the Agreement for Construction, including authorized adjustments thereto.

Section 1.19. Contract Time.

“Contract Time” shall mean the period specified for completion of the Work, as set forth in the Agreement for Construction and adjusted by any Change Order issued pursuant to the Contract Documents. The Contract Time may be a single allotment of time, a group of times specific to portions of the Work, or a combination of the two.

Section 1.20. Contractor.

“The Contractor” shall mean the person or persons, firm, partnership, joint venture, corporation, or combination thereof, who (that) has (have) entered into the Agreement for Construction of the Work with the City or its (their) legal representatives, or successors, assigns, executors, or heirs. The Contractor is required by law to be licensed and will perform work or render services as a prime contractor in or about the construction of the Work.

Section 1.21. Date of Commencement

“Date of Commencement” is the date established in the Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the executed Agreement for Construction or such other date as may be established therein.

Section 1.22. Date of Completion.

The “Date of Completion” for the purpose of determining when the Work is complete is the date certified by the Owner’s Representative when construction of the Work is 100% complete, including completion and acceptance of all punch list corrections. See Article 7, Section 7.30 and Article 8, Section 8.11 for the meaning of “completion” for the purpose of determining acceptance of the Work and when final payment is due.

Section 1.23. Director.

The “Director” is the person appointed by the City Manager for the City of Folsom for the department through which the Project will be procured.

Section 1.24. Engineer.

The “Engineer” is the Director of Public Works/City Engineer of the City of Folsom, acting personally or through agents or assistants duly authorized to manage the Project by the overseeing Department Director.

Section 1.25. Equal (as in “or equal”).

“Equal” shall mean a system, process, product or material which is similar in all respects to that shown or specified but produced by a manufacturer not listed in the specification. See also: Substitution.

Section 1.26. Estimated Quantities.

"Estimated Quantities" shall mean a list of items of work and the estimated quantities associated with the Work. The Estimated Quantities may provide the basis for the Bid

Section 1.27. Field Instructions/Written Directives.

"Field Instructions/Written Directives" are Supplemental Drawings or instructions which may be issued as necessary from time to time to make clear or define in greater detail the intent of the Contract Drawings and Specifications. There may be a change in Contract Sum or Contract Time involved with the work shown in the Field Instruction/Written Directive.

Section 1.28. First Line Supervision.

"First Line Supervision" shall mean a working foreman or lead craft worker other than the project superintendent.

Section 1.29. Inspector.

The "Inspector" is the person or persons authorized to act as agent(s) for the City in the inspection of the Work.

Section 1.30. Interpretations.

"Interpretations" are all clarifications, additional instructions, and explanations issued by the Architect or Consulting Engineer after award of the Contract.

Section 1.31. Materials.

"Materials" is a generic term which shall include all materials, articles, supplies, and equipment delivered to the project for incorporation in the Work. "Materials" includes everything incorporated into the Work except labor, unless otherwise noted. "Equipment" shall mean all pre-manufactured or partially preassembled products or components, assembled or partially assembled before delivery to the Site.

Section 1.32. Notice to Contractors.

"Notice to Contractors" is the written notice whereby interested parties are informed of the date, location, and time of the Bid opening of a proposed City Project and the terms and conditions of submitting Bids to perform the Work.

Section 1.33. Notice to Proceed.

"Notice to Proceed" is the notice given to the Contractor following execution of the Agreement for Construction and receipt of all required preconstruction submittals as itemized in the Contract Documents. The Notice to Proceed establishes the start of the Work and authorizes the Contractor to begin construction.

Section 1.34. Owner's Representative.

"Owner's Representative" shall mean the City's designated agent engaged to perform all functions delegated to the Owner's Representative by the Contract Documents. The Owner's Representative may or may not be a construction manager. The Owner's Representative will be the Contractor's primary contact during construction of the Project.

Section 1.35. Plans.

See "Contract Drawings".

Section 1.36. Product Data.

"Product Data" shall mean illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

Section 1.37. Project

"Project" shall mean the complete work of improvement referenced in the Contract Documents.

Section 1.38. Proposal.

"Proposal" shall mean "Bid".

Section 1.39. Proposed Change Order (PCO).

A "Proposed Change Order/Work Order" or "PCO" is the name given to a document issued by the Contractor proposing a change to the Work and stating a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A PCO shall be used by the Contractor to respond to a Request for Proposal. A PCO is not effective to authorize the proposed change to the Work, to the Contract Sum or to the Contract Time unless it is accepted in writing by the City.

Section 1.40. Record Documents.

"Record Documents" (sometimes referred to as as-builts) are the drawings and specifications prepared by the Contractor that document changes to, additions to, or deductions from the Plans and Specifications, and which represent the Work as constructed.

Section 1.41. Reference to Codes.

Unless otherwise noted, all references to statutes are to the laws of the State of California and/or of the United States as codified in the various specified codes.

Section 1.42. Request for Information.

"Request for Information", or "RFI" is the name given to a document issued by the Contractor seeking clarification and/or additional information regarding an aspect of the Work. The response to the RFI does not constitute authorization or direction to proceed with any changed or additional work. Changed or additional work must be separately authorized by the City.

Section 1.43. Request for Proposal (RFP).

A "Request for Proposal", or "RFP" is the name given to a document issued by the Owner's Representative requesting pricing information and/or an adjustment in Contract Time for a described scope of work. An RFP is not a Change Order, a CCD or a direction to proceed with the scope of work described in the RFP. The Contractor's response to the RFP shall be in the form of a Proposed Change Order.

Section 1.44. Samples.

"Samples" shall mean physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Section 1.45. Schedule of Values.

The "Schedule of Values" is a statement furnished by the Contractor to the City reflecting the portions of the Contract Sum allotted for the various parts of the Work for each work activity

contained on the Contract Schedule. Unless otherwise indicated in the Specifications, the total of the Schedule of Values shall equal the full cost of the Work, including all labor, material, equipment, overhead, and profit. For lump sum contracts, the Schedule of Values is the basis for reviewing the Contractor's application for progress payments.

Section 1.46. Shop Drawings.

"Shop Drawings" shall mean drawings, diagrams, schedules and other data specifically prepared by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

Section 1.47. Site.

"Site" is the area within which the Project is to be constructed.

Section 1.48. Special Provisions.

The "Special Provisions" are specific clauses setting forth conditions or requirements peculiar to the Work and supplementary to these Standard Construction Specifications.

Section 1.49. Standard Construction Specifications.

The "Standard Construction Specifications" include the directions, provisions, and requirements contained herein. When the term "Standard Specifications", "Specifications", or "these Specifications" is used, it means the provisions as set forth herein, together with any amendments or revisions that may be set forth in the Special Provisions. The Standard Specifications are comprised of "General Provisions" and "Standard Technical Provisions".

Section 1.50. Standard Drawings.

The "Standard Drawings" are the Standard Drawings of the City, which are incorporated into the Standard Construction Specifications, and made a part of the Plans by reference to one or more specific Standard Drawings.

Section 1.51. State.

"State" shall mean the State of California.

Section 1.52. State Specifications.

"State Specifications" shall mean the version of the Standard Specifications of the State of California, Department of Transportation, in effect at the time of Notice to Contractors.

Section 1.53. State Plans.

"State Plans" shall mean the version of the Standard Plans of the State of California, Department of Transportation, in effect at the time of Notice to Contractors.

Section 1.54. Subcontractor.

"Subcontractor" shall mean each person or firm who is required by law to be and who is licensed to and will perform work, labor, or render services to the Contractor in or about the construction of the Work, or who, under subcontract to the Contractor, fabricates and installs a portion of the Work. Subcontractor includes a properly licensed party under contract and responsible to a Subcontractor of the Contractor.

"Subcontractor" shall include all persons or firms within the authority of the Subletting and Subcontracting Fair Practices Act, Chapter 2 of Division 5, Title I of the Public Contract Code, commencing with section 4100.

Section 1.55. Submittal.

"Submittal" shall mean all product data, shop drawings, manufacturers' instructions, samples, Equals, substitution requests and all other submissions that the Contractor is required to provide to the City and/or the Architect or Consulting Engineer.

Section 1.56. Substitution.

"Substitution" shall mean a system, process, product or material similar in form or function and equal in quality and performance to that shown or specified, but differing in some essential element, e.g., chemical composition, mechanism of action, surface finish, dimensions, durability, electrical or mechanical or plumbing requirements. See also: Equal.

Section 1.57. Supplemental Drawing.

"Supplemental Drawings" define the Plans or Specifications in greater detail by providing additional information that may have not been specifically or clearly shown or called out on the Plans or in the Specifications.

Section 1.58. Work.

The "Work" shall mean all actions which the Contractor is contractually required to do as specified, indicated, shown, contemplated, or implied in the Contract to construct the Work, including all alterations, amendments, or extensions made by Contract Change Order or other written orders or directives of the City. Unless specified otherwise in the Contract, the Work includes furnishing all materials, supplies, equipment, tools, labor, transportation, supervision, and all incidentals necessary to complete the Work. The Work generally is described in the Notice to Bidders and the Special Provisions.

Section 1.59. Working Day.

"Working Day" means any day except: (a) Saturdays, Sundays, and City holidays; (b) days in which the Contractor is specifically required by the Special Provisions or by law to suspend construction operations; or (c) days on which the Contractor is prevented from proceeding with the current controlling operation or operations of the Work for at least five (5) hours per day due to inclement weather, or conditions resulting immediately therefrom.

Section 1.60. Working Drawing.

"Working Drawings" detail a particular item of work and the manner in which it is to be accomplished or performed. Working Drawings are prepared by the Contractor as a submittal or a portion of a submittal and may be specifically requested by the City or required in the Contract or a Written Directive.

ARTICLE 2. BID REQUIREMENTS AND CONDITIONS

Section 2.01. Bid Form.

The City will furnish to each prospective Bidder a bid form which, when properly completed and executed, must be submitted as the Bidder's Bid for the Work. All Bids must be submitted on the City-furnished bid form to be valid and accepted. Bids that are not submitted on the City-furnished bid form will be rejected. The completed bid form shall be in English and legible, and shall be properly signed in longhand; by the Bidder, if an individual, by a member of a partnership, by an officer of a corporation authorized to sign contracts on behalf of the corporation, or by an agent of the Bidder. If submitted by a corporation, the Bid shall show the name of the state under the laws of which the corporation is chartered or organized.

All spaces provided on the bid form shall be filled in. If any space provided is not utilized by the Bidder, that space shall be filled in with the notation "NA" (Not Applicable).

The bid form shall be filled in by typewriter or manually printed in ink.

Bidders shall not make unsolicited notations or statements on the bid form. Alteration of the bid form is not permitted and will result in the Bid being considered non-responsive. All changes to and erasures or crossing out of the Bidder's entries shall be initialed by the signer of the bid form.

The Bid shall be made on the bid form in clearly legible figures as follows:

A. Unit Price Bid.

Where the bid for an item of work is to be submitted on a unit price basis, the Bidder shall bid a unit price as total compensation for completion of one unit of the work described under that item. This price shall be multiplied by the Estimated Quantity included in the bid form to derive a total bid price for that item. In the case of a discrepancy between the total bid price for an item of work and the unit price for that item of work, the unit price will control. The total amount bid for a unit price contract shall be entered on the space provided on the bid form as a grand total of all individual items. In the case of a discrepancy between the total amount bid for the contract and the actual sum of the bid price for all of the individual items of work, the actual sum will control. The Estimated Quantities included on the bid form are approximate and are only included in the bid form as a basis for comparison of Bids. The City does not, expressly or by implication, represent or agree that the actual amount of work will equal the approximate Estimated Quantities. Payment will be made for the actual quantity of Work performed in accordance with the Contract, at the unit price stated in the bid form. The City reserves the right to increase or decrease the amount of any class or portion of the Work, or to omit portions of the Work, as may be deemed necessary or advisable in the sole discretion of the City. For compensation for alterations in quantities of work, including deviations greater than twenty-five percent (25%), see Section 9.04B, "Pricing of Changes – Unit Prices", of these General Provisions.

B. Lump Sum Bid.

Where the bid for an item of work is to be submitted on a "Lump Sum" or "Job" basis, a single lump-sum price shall be submitted in the appropriate place on the bid form. Items bid on a lump-sum basis shall result in a complete structure, operating plant, or system, in satisfactory working condition with respect to the functional purposes of the installation, as described in the Contract, and no extra compensation will be paid for

anything omitted but fairly implied.

C. Allowances.

Where specific allowance items have been entered on the bid form by the City, the total amount entered on the bid form shall be included in the Total Bid Price. However, the total amount to be paid for the Work included in the Allowance shall be the amount of the Allowance actually utilized in the course of completing the Work.

D. Alternates.

Alternate bids are sums which may be added to or deleted from the base bid amount for the performance of alternate work, as delineated in the Notice to Contractors. All requested Alternates shall be bid, or the Bid shall be considered incomplete.

See also Article 3, Section 3.01 regarding resolution of discrepancies in amount of bid items.

Section 2.02. Preparation and Submission of Bids.

By submission of a Bid, the Bidder acknowledges acceptance of the nature and location of the Work, the general and local conditions, conditions of the Site, the character, quality and scope of work to be performed, the availability of labor, electric power, water, the kind of surface and subsurface materials on the site, the materials and equipment to be furnished, and all requirements of the Contract or other matters which may affect the Work or the cost. Any failure of a Bidder to become acquainted with all of the available information concerning conditions will not relieve the Bidder from the responsibility for observing and considering those conditions that a contractor would have observed and considered during a site visit, estimating properly the difficulties or cost of the Work, or proceeding to perform the Work without additional cost to the City. Further, on the basis of the above information and any further examinations, investigations and studies that the Bidder has made in connection with the Work, the Bidder represents and agrees, by submission of a Bid, that the Plans, Specifications and reports are adequate to the best of the Bidder's knowledge and that the Work can be performed in strict accordance with the terms of the Contract Documents.

The Bidder declares by the submission of a Bid that the Bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the Bid is genuine and not collusive or a sham; that the Bidder has not directly or indirectly induced or solicited any other Bidder to put in a false or sham Bid, and has not directly or indirectly colluded or agreed with any Bidder or anyone else to put in a sham Bid or to refrain from bidding; that the Bidder has not directly or indirectly sought by agreement, communication, or conference with anyone to fix the Bid price or the Bid price of any other Bidder, or to fix any overhead, profit, or cost element of such Bid price or that of any other Bidder, or to secure any advantage against the City, anyone interested in the Bid as principal, or those named within the Bid; that all statements contained in the Bid are true; that the Bidder has not directly or indirectly submitted a Bid price or any breakdown thereof or the contents thereof, or divulged information or data relative thereto, to any other person, partnership, corporation or association, except to person or persons as have a direct financial interest in the Bidder's general business.

Bid prices shall include everything necessary for the completion of the Work and fulfillment of the Contract, including but not limited to furnishing all materials, equipment, tools, excavation sheeting, bracing and supports, plant, labor and services, except as may be provided otherwise in the Contract. Bid prices shall include all Federal, State, and local taxes, and all other fees and costs not expressly paid for by the City as stated in the Special Provisions.

The Bid shall be submitted in a sealed envelope as directed in the Notice to Contractors. The Bidder shall plainly mark the exterior of the envelope in which the Bid is submitted to indicate that it contains a Bid for the project for which the Bid is submitted, and the date of the Bid opening therefor. Bids submitted in envelopes that are not properly marked will be rejected.

Bidders shall bear full responsibility for delivering Bids to the location for receipt of Bids by the time and date designated for receipt of Bids. No telephones, fax machines or copy machines will be provided by the City.

Section 2.03. Examination of Plans, Specifications and Site of Work.

The Bidder shall examine carefully the site of the proposed Work and the Plans, Specifications and Bid Documents, and shall be satisfied as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered. The submission of a Bid shall be conclusive evidence that the Bidder is satisfied through the Bidder's own investigation as to the conditions to be encountered; the character, quality, quantity and scope of work to be performed; and the materials and equipment to be furnished. If material discrepancies or apparent material errors are found in the Plans and Specifications prior to the date of bid opening, an Addendum may be issued (see Section 2-9, "Addenda", in this Section of these Specifications). Otherwise, in figuring the Work, Bidders shall consider that any discrepancies or conflict between Plans and Specifications will be governed by Article 4, "Scope and Intent of Contract Documents".

Section 2.04. Subsurface Conditions.

Where investigations of subsurface conditions have been made by the City with respect to subsurface conditions, utilities, foundation, or other structural designs, and that information is shown in the Plans, it represents only a statement by the City as to the character of materials which have actually been encountered by the City's investigation. This information is only included for the convenience of Bidders.

Investigations of subsurface conditions are made for the purpose of design only. The City assumes no responsibility with respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary investigations or of the interpretation thereof. There is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the Work, or any part of it, or that unanticipated conditions may not occur. When a log of test borings is included in the Plans, it is expressly understood and agreed that said log of test borings does not constitute a part of the Contract. The log of test borings represents only an opinion of the City as to the character of the materials to be encountered, and is included in the Plans only for the convenience of the Bidders. Making information available to Bidders is not to be construed in any way as a waiver of the provisions of the first paragraph of this Section, and Bidders must satisfy themselves through their own investigations as to conditions to be encountered.

Section 2.05. Contractors/Subcontractors Required to be Licensed.

The Bidder shall be licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code to do the type of work contemplated in the project, and shall be skilled and regularly engaged in the general class or type of work called for under the contract. The specific type of license required will be indicated in the Notice to Contractors. Unless specified otherwise in the Special Provisions, the Bidder shall indicate the license number and class in the space provided for that purpose on the bid form.

All Subcontractors engaged to perform portions of the Work shall be licensed under the provisions of Chapter 9, Division 3, of the Business and Professions Code to do the type of work for which they are subcontracted, and shall be skilled and regularly engaged in the general class or type of work called for under their subcontracts.

Attention is also directed to the provisions of Public Contract Code section 20103.5, which addresses Contractor licensing requirements. The City may not award the Contract if it cannot be verified that the low Bidder is an appropriately licensed Contractor at the time of Contract award.

Section 2.06. Contractors/Subcontractors DIR Registration Requirement

Contractors and subcontractors on all public works projects are required to register with the Department of Industrial Relations (DIR) in accordance with Section 1725.5 of the Labor Code. Beginning March 1, 2015, only bids from contractors and subcontractors that are listed on the DIR website as registered will be accepted. All contracts awarded on or after April 1, 2015 are required to use only registered contractors and subcontractors. The DIR will keep an up to date listing of registered contractors at:

<https://efiling.dir.ca.gov/PWCR/Search.action>

Inadvertent listing of an unregistered subcontractor will not necessarily invalidate a bid. Unregistered contractors or subcontractors may be replaced with registered ones. A contract with an unregistered contractor or subcontractor is subject to cancellation, but is not void as to past work. Contractors and subcontractors must register and pay the applicable fee; this may be done online at the DIR website:

<https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRRegistrationForm>

Section 2.07. Competency of Bidders.

It is the intention of the City to award a Contract only to a Bidder who furnishes satisfactory evidence that the Bidder has the requisite experience and ability, and has sufficient capital, facilities, and plant to enable the Contractor to prosecute the Work successfully and promptly, and to complete the Work within the time stated in the Contract. If required by the Special Provisions, a statement of experience and business standing, together with that of particular Subcontractors that were designated in the Bid, shall be submitted on a City-provided form by the three (3) apparent low Bidders within seven (7) Calendar Days after the opening of Bids. Bidders in contention for contract awards may be asked to attend a post-bid interview. To determine the experience of a Bidder, the City will consider any relevant evidence that the Bidder, and/or its personnel, has satisfactorily performed on other contracts of similar nature and magnitude or difficulty.

Section 2.08. Joint Venture Bids.

If two or more prospective Bidders desire to bid jointly as a joint venture on a single project, the joint venture Bid must be accompanied by a notarized copy of a valid license issued to the joint venture by the Contractor's State License Board. If a copy of the joint venture license is not filed with the Bid, the Bid will be rejected.

Section 2.09. Subcontractors.

In accordance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code, section 4100 et seq. (the "Act"), each Bidder shall list in the bid form:

- A. The name and the location of the place of business of each Subcontractor whom the Bidder proposes to perform work or labor or render service to the prime Contractor in or about the construction of the Work, or a Subcontractor licensed by the State of California who, under subcontract to the prime Contractor, is proposed by the Bidder to specially fabricate and install a portion of the Work according to detailed drawings contained in the Contract, in an amount in excess of one-half of one percent (0.5%) of the total bid, including additive Alternates, if any, or, in the case of a Bid for the construction of streets or highways, including bridges, in excess of one-half of one percent (0.5%) of the Bidder's total bid, including additive Alternates, or ten thousand dollars (\$10,000), whichever is greater.
- B. The portion of the Work that will be done by each Subcontractor. The Bidder shall list only one Subcontractor for each portion as is defined by the Bidder in the Bid. If a Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Contract (or specifies more than one Subcontractor for the same work) as required in Section 2.08(A) above, the Bidder agrees that the Bidder is fully qualified to perform that portion itself and that the Bidder shall perform that portion of the Work.

If after the award of the Contract, the Contractor subcontracts any portion of the Work, except as provided in Section 4107 or 4109 of the Act, the Contractor shall be subject to the penalties specified in Section 4111 of the Act.

The apparent low Bidder shall submit the license numbers of all Subcontractors to the City within ten (10) Calendar Days, not counting Saturdays, Sundays, and holidays, of Bid opening. If the low Bidder is not the apparent low Bidder, the low Bidder shall submit the license numbers of all Subcontractors to the City within ten (10) Calendar Days, not counting Saturdays, Sundays, and holidays, of the date notified.

Section 2.10. Addenda.

The correction of any material discrepancies in, or material additions to/omissions from, the Plans, Specifications, or other Contract, or any interpretation thereof, during the bidding period will be made only by an Addendum issued by the City. A copy of each Addendum issued by the City will be mailed or delivered to each planholder listed on the City planholder list and is a part of the Contract. Any interpretation or explanation not included in the Addenda will not be considered binding. Bids must include acknowledgment of all Addenda issued prior to the bid date.

Section 2.11. Assignment of Antitrust Actions.

The Bidder is required to comply with Public Contract Code section 7103.5(b), which addresses assignment of antitrust actions.

Section 2.12. Bid Guarantee.

The Bid shall be accompanied by a bid guarantee in the form of a bidder's bond, cash, a certified check or a cashier's check in an amount not less than ten percent (10%) of the bid amount, including additive Alternates, if any. A bid bond shall be executed in favor of the City by a surety company authorized to do business in California, and the attorney-in-fact who executes the bond on behalf of the surety shall attach to the bond a certified, current copy of its Power of Attorney. A certified or cashier's check must be made payable to the City. The bid

guarantee shall pledge that the Bidder will enter into a contract with the City in accordance with the terms stated in the bid form and Agreement for Construction and will furnish required performance and payment bonds and insurance certificates. The City is authorized to forfeit the bid guarantee as necessary to reimburse the City for costs incurred for failure of the successful Bidder to enter into the contract and/or furnish the required performance and/or payment bond and/or insurance certificates. The amount of the bid guarantee shall not be deemed to constitute a penalty or liquidated damages. The City is not precluded by a bid guarantee from recovering from the defaulting Bidder damages in excess of the amount of said bid guarantee incurred as a result of the failure of the successful Bidder to enter into the contract with the City for the Work or the failure of the successful Bidder to provide the required bonds and/or insurance certificates. Bid guarantees for the unsuccessful bidders will be released upon contract execution by the bidder awarded the contract or 60 days after the bid opening, whichever is earlier.

Section 2.13. Modification or Withdrawal of Bid.

A Bid may be modified or withdrawn at any time prior to the hour fixed in the Notice to Contractors for the submission of Bids by a written request of the Bidder filed with the City at the location where the Bid was submitted. Modifications and/or withdrawals shall be in writing. Telephone or fax modifications will not be accepted. The withdrawal of a Bid will not prejudice the right of a Bidder to file a new Bid within the time prescribed.

Section 2.14. Public Opening of Bids.

Bids will be opened and read publicly at the time and place indicated in the Notice to Contractors or in a subsequent Addendum. Bidders or their authorized representatives and other interested parties are invited to be present.

Section 2.15. Rejection of Bids.

The City reserves the right to reject any and all Bids. The City reserves the right to waive irregularities in a Bid and to make an award in the best interest of the City. Bids containing omissions, erasures, alterations, conditions, or additions not called for may be rejected.

Section 2.16. Disqualification of Bidders.

More than one Bid from any individual, firm, partnership, corporation or association, under the same or different names, will not be considered. Reasonable ground for believing that any Bidder is interested in more than one Bid for the Work will cause rejection of all Bids in which such Bidder is interested. If there is reason to believe that collusion exists among Bidders, none of the participants of such collusion will be considered.

Any Bid in which the prices obviously are unbalanced may be rejected.

Section 2.17. Relief of Bidders.

Attention is directed to Public Contract Code sections 5100 through 5107, concerning relief of Bidders and in particular to the requirement therein that if the Bidder claims a material mistake was made in its Bid, the Bidder shall give the City written notice within five (5) days after the opening of the Bids (excluding Saturdays, Sundays, or City holidays) of the alleged mistake, explaining in the notice in detail how the mistake occurred.

Section 2.18. Bid Protests

As set forth in the Resolution of Disputes Regarding the Bidding Process form to be included with the bids, any Bidder may file a protest against the award of the Contract to any other

Bidder. All Bidders shall be provided with notice of the date and time of the City Council meeting at which the award of the Contract for the Project shall be considered. All Bidders will be provided with an opportunity to bring to the City Council's attention disputes and/or protests regarding the bidding process. No Bidder may bring any action or proceeding challenging the bidding process unless the alleged grounds for the dispute and/or protest are presented in a timely manner and consistent with this section. Any Bidder complying with these procedures may bring an action within sixty (60) Calendar Days from the action of the City Council, in accordance with Section 860 et seq. of the California Code of Civil Procedure, to determine the validity of the City Council's action on the award of the Contract. See form for Resolution of Disputes Regarding the Bidding Process governing the procedures for disputes and/or protests regarding the bidding process.

- A. Any bid protest must be in writing and received by the City Clerk at 50 Natoma Street, Folsom, CA 95630 before 5:00 p.m. no later than five (5) working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements; however, if the date set for the City Council bid award is less than five (5) working days from the bid opening, the bid protest must be submitted to the City Clerk at least 24 hours prior to the time set for the City Council meeting:
- B. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
- C. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.
- D. A copy of the protest and all supporting documents must also be transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- E. The protested bidder may submit a written response to the protest, provided the response is received by Owner before 5:00p.m., within two (2) working days after the Bid Protest Deadline or after receipt of the bid protest, whichever is sooner (the "Response Deadline"). If there are less than two working days remaining prior to the City Council meeting to award the bid, the response must be submitted to the City Clerk prior to the start of the City Council meeting. The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- F. A copy of the response and all supporting documents must also be transmitted by fax or by e-mail, by or before the Bid Protest Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.

- G. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- H. Owner reserves the right to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a notice to proceed with the work notwithstanding any pending or continuing challenge to its determination.

ARTICLE 3. AWARD AND EXECUTION OF CONTRACT; BONDS AND INSURANCE

Section 3.01. Consideration of Bids.

After the Bids have been opened and read, they will be checked for accuracy and compliance with the Notice to Contractors, these General Provisions and the Special Provisions.

In the event that the product of a unit price and an Estimated Quantity does not equal the extended amount quoted, the unit price shall govern, and the correct product of the unit price and the Estimated Quantity shall be deemed to be the amount bid. If the sum of two or more items in a bidding schedule, or the sum of two or more bidding schedules does not equal the total amounts quoted, the individual items or schedule amounts shall govern, and the correct total shall be deemed to be the amount bid. If the Bid is missing the unit price, then it may be deemed included and the Bid may be rejected. When a price is quoted in both words and figures, the words shall prevail in case of a discrepancy.

The City reserves the right to reject any and all proposals and to waive any irregularity in a Bid.

Section 3.02. Award of the Contract.

Award of the Contract will be to the lowest, responsive, responsible Bidder whose Bid complies with the specified requirements. The award, if made, will be made within 45 days after the opening of Bids, unless otherwise specified. If the lowest responsive, responsible Bidder refuses or fails to execute the Contract or to provide required bonds and/or insurance certificates, the City may award the Contract to the second lowest responsive, responsible Bidder. The specified period of time within which the award may be made may be subject to extension for further periods as agreed upon in writing by the City and the Bidder.

The City reserves the right to award the Contract based on any combination of base bid and Alternates as determined by the City. This process is conducted by the City in a "blind selection" format, i.e., without knowledge of the identity of any of the Bidders before ranking of all Bidders from lowest to highest has been determined. All awards will be made in the City's best interest.

The City will comply with state law requirements for submission of a PWC-100 form (contract award notice) to DIR for all public works projects.

Section 3.03. Performance and Payment Bonds.

The format of the Performance Bond and Payment Bond forms shall be those contained in these Specifications. As part of the execution of the Contract, the successful Bidder shall furnish the following corporate surety bonds to the benefit of the City. Bonds shall be executed by a surety company authorized to do business in the State of California. When the amount to be paid to the Contractor is based upon units of work to be performed or items to be provided, the term Contract Sum as used below for the purpose of posting Performance and Payment Bonds shall be computed on the basis of the unit price bid multiplied by the Estimated Quantities of work to be performed.

A. Performance Bond.

The Performance Bond, to guarantee the performance of all covenants and stipulations of the Contract, shall be on the form provided by the City and shall be in a sum not less than one hundred percent (100%) of the original Contract Sum as set forth in the Contract. The bond shall contain a provision that the surety thereon waives the

provisions of California Civil Code sections 2819 and 2845.

B. Payment Bond.

The Payment Bond, to guarantee the payment of wages and of bills contracted for materials, supplies, or equipment used in the performance of the Contract, shall be on the form provided by the City and shall be in a sum not less than one hundred percent (100%) of the original Contract Sum as set forth in the Contract. The bond shall be in accordance with the provisions of California Civil Code section 8152, 8154, 9550, 9552, 9554, 9558, 9560, and 9564, and any acts mandatory thereof, and shall, by its terms, inure to the benefit of all persons, companies, or corporations entitled to file claims under California Civil Code section 9100 and California Unemployment Insurance Code section 13020. Said bond shall also contain a provision that the surety waives the provisions of California Code of Civil Procedure section 2819 and 2845.

Section 3.04. Additional Bonding Requirements.

All bonds submitted shall include the following:

- A. Full name and address of the Contractor, Surety, and the City;
- B. Contract Date;
- C. Exact Contract Sum;
- D. Project name and address;
- E. Signature of the Contractor;
- F. Corporate seal if applicable;
- G. Signature of authorized Surety representative;
- H. Notarization of the Contractor and Surety;
- I. Power of Attorney; and
- J. Local contact for surety, with name, phone number, and address to which legal notices may be sent.

Section 3.05. Bond Costs in Bids.

All costs for applicable Bid Bonds, Performance Bonds, Payment Bonds, and any other bonds specially required by the Contract shall be included in the Bid.

Section 3.06. Notification of Surety Companies.

The surety companies shall be familiar with all the provisions and conditions of the Contract. It is understood and agreed that the surety companies waive notice of change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder or to the specifications accompanying the same, or any other act or acts by the City or the City's authorized agents under the terms of the Contract; and failure to so notify the surety companies of changes shall in no way relieve the surety or sureties of their obligations under the Contract.

Section 3.07. Return of Bid Guarantees.

After Bids have been received and reviewed by the City, bid guarantees will be returned to the respective Bidders except those submitted by the three lowest responsive, responsible Bidders.

Bid guarantees for Bids not to be further considered in executing the Contract will be returned within ten (10) days after the award of the Contract. The Bid Guarantees of the three lowest responsive, responsible Bidders will be returned within ten (10) Calendar Days after the successful Bidder has filed satisfactory bonds and proof of insurance as specified and the Bidder and the City have executed the Contract.

If all Bids are rejected and no award is made, all bid guarantees will be returned within ten (10) days of the decision of the City not to award the Contract.

Section 3.08. Execution of the Contract.

The Contract shall be executed by the successful Bidder in triplicate. All three copies of the Contract, together with the Performance Bond, Payment Bond, certificates of insurance and insurance endorsements shall be returned to the City within ten (10) Calendar Days of the Bidder's receipt of the documents. When required by the Special Provisions, Affirmative Action Certifications will also be provided. Insurance certificates shall be signed by a person authorized by the insurer to bind coverage on its behalf and shall be accompanied by copies of all endorsements required by these Specifications. When requested by the City, the successful bidder shall furnish complete, certified copies of all required insurance policies, including endorsements specifically required by these Specifications. After execution by the City, a full set of documents will be returned to the Contractor.

Section 3.09. Failure to Execute Contract.

If the Bidder to whom the Contract is awarded fails to execute the Contract and file acceptable bonds, insurance certificates and insurance endorsements as provided herein within ten (10) Calendar Days from the time the Contract forms are received by the Bidder, the award may be annulled and the Bidder's Bid Guarantee forfeited to the City. At the City's discretion, the Contract may then be awarded to the next lowest responsive, responsible Bidder.

If the City awards the Contract to the second lowest responsive, responsible Bidder, the amount of the lowest responsive, responsible Bidder's bid guarantee shall be applied by the City to the difference between the lowest Bid and the Bid of the second lowest responsive, responsible Bidder, and the surplus, if any, will be returned to the lowest responsive, responsible Bidder if a check or cash is used, or credited to the surety on the Bidder's Bond if a bond is used.

On refusal or failure of the second lowest responsive, responsible Bidder to execute the Contract, the City in its discretion may award it to the third lowest responsive, responsible Bidder. If the City awards the Contract to the third lowest responsive, responsible Bidder, in addition to application of the lowest Bidder's bid guarantee as aforesaid, the amount of the second lowest responsive, responsible Bidder's bid guarantee shall be applied by the City to the difference between the Bid of the second lowest responsive, responsible Bidder and the Bid of the third lowest responsive, responsible Bidder, and the surplus, if any, shall be returned to the second lowest responsive, responsible Bidder if a check or cash is used, or credited to the surety on the second lowest Bidder's Bid Bond if a bond is used.

Section 3.10. Insurance

The Contractor shall procure, maintain and keep in force at all times during the term of the Contract, at its sole cost and expense, the following insurance. Failure by the Contractor to maintain all required insurance during the entire Contract Time shall constitute a default entitling the City to all rights and remedies that exist in the Contract Documents and/or by law.

A. General Liability.

General Liability insurance including, but not limited to, protection for claims of bodily injury and property damage liability; personal and advertising injury liability; products and completed operations liability; premises, operations and mobile equipment liability; and explosion, collapse and underground property damages. Coverage shall be at least as

broad as "Insurance Services Office Commercial General Liability Coverage Form CG 0001" (occurrence"). Claims made coverage is not acceptable. The limits of liability shall be not less than:

Each Occurrence One Million Dollars (\$1,000,000)
Personal & Advertising Injury One Million Dollars (\$1,000,000)
Products and Completed Two Million Dollars (\$2,000,000)
Operations Aggregate
General Aggregate Two Million Dollars (\$2,000,000)
Fire Damage One Hundred Thousand Dollars (\$100,000)

The insurance shall cover all operations of the Contractor and its Subcontractors, including, but not limited to, contractual liability insuring the obligations assumed by the Contractor and its Subcontractors under the Contract Documents, independent contractor's contingent coverage, broad form property damage liability endorsement, and personal injury liability endorsement.

The insurance shall provide coverage for claims arising out of subsidence.

The Products and Completed Operations coverage shall be maintained for at least two years after completion of the Contract.

B. Automobile Liability.

Automobile Liability insurance providing protection against claims of bodily injury and property damage arising out of ownership, operation, maintenance, or use of owned, hired and non-owned automobiles. Coverage shall be at least as broad as "Insurance Services Office Business Auto Coverage Form CA 0001" symbol 1 (any auto). The limits of liability per accident shall be not less than:

Bodily Injury and Property One Million Dollars (\$1,000,000)
Damage, Combined Single Limit

If General Liability coverage, as required above, is provided by the Commercial General Liability form, the Automobile Liability policy shall include an endorsement providing automobile contractual liability.

C. Workers' Compensation.

In accordance with the provisions of Section 3700 of the Labor Code, the Contractor, and each Subcontractor, shall secure the payment of compensation to its employees. The Contractor and each Subcontractor shall provide workers' compensation insurance and occupational disease insurance as required by the State of California (unless the Contractor is a qualified self-insurer with the State of California), and Employer's Liability coverage. The limits of Employers' Liability coverage shall be not less than:

Each Accident One Million Dollars (\$1,000,000)
Disease Each Employee One Million Dollars (\$1,000,000)
Disease Each Policy Limit One Million Dollars (\$1,000,000)

The Contractor shall sign and file with the City's Director of Finance the following certification prior to commencing performance of the work of the Contract:

"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 require each Subcontractor to file such statement prior to allowing that Subcontractor to commence work.

The Contractor shall furnish a certificate of insurance or a certificate of permission to self-insure under the Workers' Compensation and Employers' Liability Insurance statutes of the State of California. The certificate shall provide that at least thirty (30) days' prior written notice shall be served on City prior to the cancellation or change of such insurance or self-insurance. Said certificate shall also provide that the insurer shall waive all rights of subrogation against the City, its officers, officials, employees, agents or volunteers.

D. Insurance Required in the Special Provisions.

1. Excess or Umbrella Liability. If the Special Provisions require limits of general liability insurance of more than one million dollars (\$1,000,000) per occurrence, the Contractor shall carry excess or umbrella liability insurance providing excess coverage at least as broad as the underlying coverage for general, automobile and employer's liability with a limit equal to the amount stated in the Special Provisions per occurrence and aggregate.
2. Railroad Protective Liability. When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force during the term of the Contract, at the Contractor's sole expense, Railroad Protective Liability insurance with limits of liability as set forth in the Special Provisions.
3. Builder's Risk. When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract and until the date of transfer of the insurable interest to and acceptance by the City, at the Contractor's sole expense, Builder's Risk insurance with limits of liability equal to one hundred percent (100%) of the replacement cost of the Work.
 - a. Coverage shall be written on a completed value, non-reporting form, on a replacement cost basis, and shall cover the property against all risks of physical loss or damage including:
 - i. land movement and flood
 - ii. loss that ensues from design error, defective materials, or faulty workmanship
 - iii. mechanical breakdown or electrical damage including testing, magnetic disturbance and changes in temperature or humidity.

The property covered shall include the Work, including any materials, equipment, or other items to be incorporated therein while the same are located at the construction site, stored offsite, while in transit or at the place of manufacture. The policy shall contain a provision that both the interests of the City and the Contractor are covered and that any loss shall be payable to

the City and the Contractor as their interests may appear.

When stated as a requirement in the Special Provisions, Builders Risk insurance shall include Delay in Opening coverage with limits of liability, and for the period of time, as set forth in the Special Provisions. Coverage shall include interest and/or principal payments that become due and payable by the City upon completion of construction or other date as set forth in the Special Provisions, debt service, expense, loss of earnings or rental income or other loss incurred by the City, without deduction, due to the failure of the project being completed on schedule.

- b. The maximum deductible for land movement and flood allowable under this policy shall be five percent (5%) of replacement value per unit, including foundations, at the time loss or five hundred thousand dollars (\$500,000), whichever is less, per occurrence and in the aggregate. Unit shall be defined in the policy as (1) each separate building or structure; (2) contents of each separate building or structure; or (3) property in each separate yard. The maximum deductible for all other perils allowable under this policy shall be one hundred thousand dollars (\$100,000). All deductibles shall be borne solely by the Contractor, and the City shall not be responsible to pay any deductible, in whole or in part.
 - c. The Contractor waives all rights against the City and the City's officers, officials, employees and agents for loss or damage to the extent reimbursed by Builders' Risk insurance or any other property or equipment insurance applicable to the Work, except such rights as it may have to the proceeds of such insurance. If the policies of insurance referred to in this section require an endorsement or consent of the insurance company to provide for continued coverage where there is a waiver of subrogation, the owners of such policies will cause them to be so endorsed to obtain such consent.
 - d. If not covered by Builders' Risk insurance or any other property or equipment insurance required by this Contract, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, property insurance for portions of the Contractor's work and/or equipment to be incorporated therein stored offsite or in transit.
4. Environmental Liability Insurance. When stated as a requirement in the Special Provisions, the Contractor shall procure, maintain, and keep in force at all times during the term of the Contract, at the Contractor's sole expense, Environmental Liability insurance which includes coverage for sudden and accidental pollution arising out of the handling of hazardous materials or hazardous wastes, and coverage for liability arising out of the handling of asbestos. Coverage for asbestos shall contain a provision limiting coverage to a specific length of time (i.e., "sunset clause"). If coverage for Environmental Liability insurance is written on a claims-made form, the following provisions apply:

- a. The "Retro Date" must be shown, and must be on or before the date of the Contract or the beginning of the Work.
- b. Insurance must be maintained and evidence of insurance must be provided for at least two (2) years after completion of the Contract.
- c. If coverage is cancelled or non-renewed, and not replaced with another claims-made policy form with a "Retro Date" prior to the Contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of two (2) years after completion of the Contract.

E. Subcontractor's Insurance.

The Contractor shall not allow any Subcontractor to commence work on its subcontract until the Subcontractor has provided the insurance specified above. The Contractor shall require each of its Subcontractors to procure and to maintain, during the life of the subcontract, bodily and personal injury liability and property damage insurance, and workers' compensation insurance, of the type and in the same amount as specified herein.

It shall be the responsibility of the Contractor to ensure that all Subcontractors comply with this provision, and to verify their compliance when requested by the City.

If requested by the City, the Contractor shall deliver certificates of insurance or copies of the insurance policies and endorsements of all Subcontractors; provided, however, that this authority shall not relieve the Contractor of its obligation to ascertain the existence of such insurance.

F. Effective Date of Policies.

The insurance required by these General Provisions and by the Special Provisions shall be maintained by the Contractor in full force and effect at all times during prosecution of the Work and until two (2) years after the final completion and acceptance thereof by City.

G. Other Provisions

1. The Contractor's General Liability, Automobile Liability, and any Excess or Umbrella Liability, shall contain the following provisions:
 - a. The City, its officers, officials, employees and agents shall be covered as additional insureds as respects liability arising out of the activities performed by or on behalf of the Contractor, products and completed operations of the Contractor, premises owned, occupied, or used by the Contractor, or automobiles owned, leased, hired, or borrowed by the Contractor. The policy shall contain no special limitations on the scope of coverage afforded to the City, its officers, officials, employees and agents.
 - b. For any claims related to this Contract, the Contractor's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees or agents. Any insurance or self-insurance maintained by the City, its officers, officials, employees or agents shall be excess of the Contractor's insurance and shall not contribute with it.
 - c. Any failure to comply with reporting or other provisions of the policies on the

part of the Contractor, including breaches of warranties, shall not affect coverage provided to the City, its officers, officials, employees, and/or agents.

2. The Contractor's General Liability and any Excess or Umbrella Liability Insurance policies shall contain an endorsement stating that any aggregate limits shall apply separately to the Work.
3. 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.
4. Each insurance policy shall state by separate endorsement that the insurer agrees to waive all rights of subrogation against the City, its officers, officials, employees or agents.
5. Each insurance policy shall state that coverage shall not be suspended, voided, cancelled by the Contractor or the City, reduced in scope of coverage or in limits, non-renewed, or materially changed unless the insurer(s) provide thirty (30) days written notice by certified mail to the City prior to such change. Ten (10) days prior written notice by certified mail shall be given to the City in the event of cancellation due to nonpayment of premium.
6. All of the Contractor's insurance coverage, except as noted below, shall be placed with insurance companies with a current A.M. Best rating of at least A-:VII.

Exceptions:

- a. Underwriters at Lloyd's of London, which are not rated by A.M. Best.
 - b. Workers' Compensation that is provided through a State Compensation Insurance Fund or a qualified self-insurer for Workers' Compensation under California law.
 - c. Environmental Liability insurance shall be placed with insurance companies with a current A.M. Best rating of at least B+:VII.
7. Any Contractor that self-insures its general and/or automobile liability losses must have a minimum net worth of at least ten million dollars (\$10,000,000).
 8. The City, at its discretion, may require new types of insurance coverage or increase the limits of insurance coverage required hereunder at any time during the term of the Contract by giving thirty (30) days written notice to the Contractor. Contractor shall immediately procure such insurance or increase the limits of coverage and provide certificates of insurance, including copies of all required endorsements, to the City within thirty (30) days of receipt of the City's request.
 9. The required insurance coverage shall be subject to the approval of the City, but any acceptance of insurance certificates by the City shall in no way limit or relieve the Contractor of its duties and responsibilities in this Contract.

10. If the Contractor fails to procure or maintain insurance as required by this Section and any Special Provisions, or fails to furnish the City with proof of such insurance, the City, at its discretion and in addition to its other remedies under the Contract and at law for the Contractor's default, may procure any or all such insurance. Premiums for such insurance procured by the City shall be deducted and retained from any sums due the Contractor under the Contract.

Failure of the City to obtain such insurance shall in no way relieve the Contractor from any of the Contractor's responsibilities under the Contract. Any failure of the Contractor to maintain any item of the required insurance is sufficient cause for termination of the Contract.

11. The making of progress payments to the Contractor shall not be construed as relieving the Contractor of responsibility for loss or damage, or destruction occurring prior to final acceptance by the City.
12. The City is authorized to execute amendments and waivers, with or without conditions, to the insurance requirements of the Contract. The City will provide such amendments or waivers in writing to the Contractor.
13. The failure of the City to enforce in a timely manner any of the provisions of this Section 3.10 shall not act as a waiver to enforcement of any of these provisions at any time during the term of the Contract.

H. Notification of Accident or Occurrence.

The Contractor shall report by telephone to the City within twenty-four (24) hours and also report in writing to the City within fifteen (15) Calendar Days after the Contractor or any Subcontractors or agents have knowledge of any accident or occurrence involving death of or injury to any person or persons, or damage in excess of ten thousand dollars (\$10,000) to the Work, property of the City or others, arising out of any work done by or on behalf of the Contractor as part of the Contract. Such report shall contain:

1. the date and time of the occurrence;
2. the names and addresses of all persons involved; and
3. a description of the accident or occurrence and the nature and extent of injury or damage.

ARTICLE 4. SCOPE OF WORK AND INTENT OF CONTRACT DOCUMENTS

Section 4.01. The Contract.

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the City and the Contractor and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Change Order. Nothing contained in the Contract Documents shall create any contractual relationship between the City or any of its officers, officials, employees or agents and any Subcontractor or sub-subcontractor, or between the Owner's Representative or the Architect or Consulting Engineer and the Contractor.

Section 4.02. Intent of Contract Documents.

The Work shall be performed and completed according to the Contract Documents. It is the overriding intent of the Contract Documents that the work performed shall result in a complete and operable system in satisfactory working condition with respect to the functional purposes of the installation, and which complies in all respects with the Contract Documents. No extra compensation will be allowed for anything omitted but fairly implied to be included in the Contract Documents. The prices paid for the various items in the Bid shall include full compensation, including all markups and profit, for furnishing all labor, materials, tools, equipment and incidentals, and doing all items necessary to complete the Work in a good and workmanlike manner as provided by the Contract Documents.

If the Contract does not specifically allow the Contractor a choice of quality or cost of items to be furnished, but could be interpreted to permit such a choice, the Contractor shall furnish the highest quality under current industry standards, regardless of the cost of the item.

When portions of the Work are described in general terms, but not in complete detail, it is understood that the Contractor will employ only the best general practice and incorporate only the best quality materials and workmanship in the Work.

Section 4.03. General Liability of Contractor.

Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, light, heat, utilities, transportation and other facilities and services necessary for the execution and completion of the Work in accordance with the Contract Documents and any applicable code or statute, whether or not specifically described herein, as long as same is reasonably inferable therefrom as being necessary to produce the intended results, whether temporary or permanent, and whether or not incorporated or to be incorporated in the Work. The mention of any specific duty or liability of Contractor and, any reference to any specific duty or liability shall be construed to be for the purpose of explanation.

Section 4.04. Complementary Feature of Various Parts of Contract Documents.

The Contract Documents, including the Specifications and Drawings, are complementary and explanatory of each other, and what is called for by any one shall be as binding as if called for by all. In case of conflict, large scale (detail) drawings shall govern over small-scale drawings, the Specifications shall govern over the Contract Drawings except as noted below, special provisions shall govern over both the Contract Drawings and the Standard Specifications, and subsequent addenda, interpretations, or approved change orders shall govern over the original documents, unless a different order of precedence is noted elsewhere in conjunction with a specific portion of the documents.

In case of conflict between the Drawings and Specifications, the Drawings shall govern in matters of quantity and size, the Specifications in matters of quality. In case of conflict within the Drawings involving quantities or within the Specifications involving quality, the greater quantity and the higher quality shall be provided.

Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply to all other like portions of the Work. Where ornament or other detail is indicated as starting, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to other similar parts in the Work, unless otherwise indicated.

Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standards, shall comply with the requirements in the latest approved revision thereof and any amendments or supplements thereto in effect on the date of Notice to Bidders, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in these Specifications.

Any work for which there are no provisions in these Specifications, the Special or Technical Provisions, or on the Contract Drawings, shall be performed in accordance with the provisions of the State Specifications

Section 4.05. Diagrammatic Drawings.

Drawings showing the locations of equipment, wiring, piping, etc., unless dimensioned, are diagrammatic, and conditions will not always permit their installation in the exact location shown. In such event, the Contractor shall submit an RFI and obtain a response before proceeding with the work in question. Unless there is a material increase in the Contractor's scope of work, installation as specified in the response to the RFI shall be without any additional compensation to the Contractor and without any increase in the Contract Time. Any work done after discovery of the issue, until authorization to proceed based on the response to the RFI, will be done at the Contractor's risk.

Section 4.06. Conformance with Codes and Standards.

The Works shall be in full compliance with the latest adopted editions of the following applicable standards and regulations:

- the State Fire Marshal
- the UBC
- Title 8
- Title 24
- the NEC
- the UPC
- the Clean Water Act
- Storm Water Pollution Prevention Plan and standards
- all other codes, laws or regulations applicable to the Work or the Contract.

Nothing in the Contract is to be construed to permit work not conforming to these requirements. When the work detailed in the Plans and Specifications differs from governing codes, the

Contractor shall complete the Work in accordance with the higher standard. If the higher standard so required is more expensive than the work detailed in the plans and specifications, the Contractor will be compensated for its additional costs by change order as provided in these General Provisions.

Section 4.07. Interpretation and Additional Instructions.

Should the Contractor discover any conflicts, omissions, or errors in the Contract Documents, or have any question concerning interpretation or clarification of the Contract Documents, or if it appears that the Work to be done or any matters relative thereto are not sufficiently detailed or explained in the Contract Documents, then before proceeding with the work affected, the Contractor shall within 48 hours notify the Owner's Representative in writing by submitting an RFI requesting interpretation, clarification, or additional detailed instructions and/or drawings concerning the work. All such questions shall be resolved and instructions to the Contractor issued by the Architect or Consulting Engineer.

The City, through the Architect or Consulting Engineer, will normally respond to the RFI within fifteen (15) Working Days. The response will be in writing, and that response shall control. The Contractor shall indicate a priority for responses to RFI's if more than five (5) RFI's are pending at the same time.

Should the Contractor proceed with the work affected before receipt of instructions from the Architect or Consulting Engineer, and, in the case of a change to the Work, before receipt of authorization to proceed, the Contractor shall remove and replace or adjust any work which is not in accordance therewith, and the Contractor shall be responsible for any resultant damage, defect, or added cost without an extension of the Contract Time.

Section 4.08. Plans and Specifications Furnished.

The City will provide, at no cost to the Contractor, five (5) copies of the Contract Drawings and Specifications (except City Standard Construction Specifications, State Specifications and State Plans). The Contractor may purchase additional copies of the Contract Drawings and Specifications, as well as the City Standard Construction Specifications, at cost.

The Contractor shall retain an approved set of Contract Documents on the job at all times during the progress of the Work. This set shall be used by the Contractor as the Record Documents as described in Section 4.15 of these General Provisions.

Section 4.09. Field Instructions/Written Directives and Drawings/Supplemental Drawings.

In addition to the Drawings incorporated in the Contract Documents, the City may issue Field Instructions, Written Directives, Supplemental Drawings or instructions from time to time as may be necessary to make clear or to define in greater detail the intent of the Contract Drawings and Specifications. In furnishing Field Instructions, Written Directives, additional drawings or instructions, the City shall have the authority to make minor changes in the Work, not involving any extra cost, and not inconsistent with the overall design of the Project. If extra cost is known to be involved, these instructions will be accompanied by an RFP. These supplemental Field Instructions, Written Directives and/or Supplemental Drawings or instructions shall become a part of the Contract Documents, and the Contractor shall make its work conform to them forthwith or within such time as may be specified therein.

Section 4.10. Notification of Disagreement Regarding Scope of Work.

If agreement cannot be reached as to cost, and the Contractor does not agree that work due to an interpretation or supplemental drawing or instruction is within the scope of the Contract Documents, the Contractor shall, within seven (7) Calendar Days after receipt of the interpretation or instruction, submit a proposed change order to the Owner's Representative specifying in detail in what particulars the contract requirements were exceeded and the change in cost resulting there from. The Owner's Representative shall then determine whether a Change Order shall be issued in accordance with these General Provisions. If a CCD is issued, the Contractor shall perform the work without delay.

Section 4.11. Deleted Items.

The City may delete from the Work any items of work. The Contractor will be paid for all work done toward the completion of the item prior to such omission, as provided in Article 9, "Changes and Claims", of these General Provisions, but in no event will the amount paid exceed the Bid or Schedule of Values amount less the value of the deleted work.

The Contractor shall make no claim, nor receive any compensation for profits, for loss of profits, for damages, or for any extra payment whatsoever because of any deleted items of work.

Section 4.12. Extra Work.

Work not covered by the Contract but necessary for the proper completion of the Project will be classed as extra work and shall be performed by the Contractor when directed in writing by the City. Extra work shall be performed in accordance with the Contract and as directed by the City. Extra work must be authorized in writing by the City before the work is started. Payment for extra work will not be made unless such prior written authorization is obtained.

In the event of an emergency or other situation that endangers the Work or endangers public safety, the City will direct the Contractor to perform such extra work as is necessary to protect the Work or the public.

Section 4.13. Ownership and Use of Documents.

All original Drawings and Specifications prepared by or on behalf of the City, including, without limitation, by the Architect or Consulting Engineer, are and shall remain the property of the City.

Section 4.14. Lands and Rights-of-Way.

The City shall provide the lands, rights-of-way and easements upon which the Work is to be done and such other lands as may be designated in the Plans for the use of the Contractor. The Contractor shall confine its operations to within these limits.

The Contractor shall provide at the Contractor's own expense any additional land and access that is required for temporary construction facilities or storage of materials. The Contractor shall obtain all required permissions for use of private property prior to taking possession or use. The permission shall be obtained in writing and a copy forwarded to the City prior to the Contractor taking possession of said property.

Section 4.15. Record/As-Built Documents and Specifications.

The Contractor shall keep and maintain on the Site, one record set of the Drawings and Specifications, which shall be updated weekly to reflect current as-built conditions of the Work as the Work progresses and document changes to the Work shown on the Project Plans and Specifications, including buried or concealed construction and utility features that are revealed during the course of construction. Special attention shall be given to recording of all buried

utilities that differ from locations indicated in the Contract Documents.

Record Documents shall be produced by marking a full size copy of the Project Plans and Specifications as follows:

Red – Additions including notes and dimensions.

Green – Deletions (by hash marks or appropriate lines through the deletion).

Graphite (gray) – General comments and notes used by the Contractor or the City and not required on the as-built.

Yellow – Work completed as shown and used by the City in field review of the as-built during the submittal phase.

Blue – City verification and notes required to be added by the City in review of the as-built, during submittal phase.

The Contractor's as-built information shall be clear and legible, and at a minimum, the following information shall be inserted and dimensioned on those drawings and specifications: the exact horizontal and vertical location of all installations in their finished condition, including all underground work, including all sprinkler system piping and components; all electrical, plumbing and mechanical installations; all changes in construction, materials and installed equipment; posting of all issued addenda to the bid documents; adequate dimensional data, both horizontal and vertical, to allow location of covered installations; the identification of changes authorized by Change Order, CCD, Field Instruction, Written Directive, Supplemental Drawing or other written instruction and the number of that Change Order, CCD, Field Instruction, Written Directive, Supplemental Drawing or other written instruction. The updated drawings and specifications shall be available for review by the City, Owner's Representative and/or the Inspector.

Written confirmation from the Owner's Representative that the as-builts have been properly updated weekly shall be submitted with each pay application request, and the existence of such properly updated as-builts shall be a condition precedent to payment. Failure to comply with the preparation and submission of as-builts may result in the City withholding the current progress payment.

As a condition to certification of final completion, the Contractor shall provide the original Record Documents, together with a certification by the Contractor that the Record Documents are a true representation of the Work as actually constructed. Timely submission of complete Record Documents shall be a condition precedent to certification of final completion and to final payment. Delays in the submission of complete Record Documents may subject the Contractor to liquidated damages.

ARTICLE 5. CONTROL OF WORK AND MATERIALS

Section 5.01. Authority of the City.

The City will decide all questions regarding the quality and acceptability of materials furnished, work performed, and rate of progress of the Work. The City will decide all questions regarding the interpretation and fulfillment of the Contract on the party of the Contractor, and all questions as to the rights of different prime contractors involved with the Work. The City will determine the amount and quality of the Work performed and materials furnished for which payment is to be made under the Contract.

The City will administer its authority through a duly designated representative identified at the pre-construction conference. The Contractor and the City's designated representative (the Owner's Representative) shall make good faith attempts to resolve disputes that arise during the performance of the Work.

Any order given by the City not otherwise required by the Contract to be in writing shall be given or confirmed by the City in writing at the Contractor's request. Such request shall state the specific subject of the decision, order, instruction, or notice and, if it has been given orally, its date, time, place, author and recipient.

Any plan or method suggested to the Contractor by the City, the Architect or Consulting Engineer, or the Owner's Representative, but not specified or required in writing, if adopted or followed in whole or in part by the Contractor, shall be used at the risk and responsibility of the Contractor. The City assumes no responsibility.

Section 5.02. Supervision Procedures.

The Contractor shall supervise and direct the Work using its best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, and procedures and for coordinating all portions of the Work under the Contract.

The Contractor shall be responsible to the City for the acts and omissions of its employees, Subcontractors and their agents and employees and other persons performing any of the Work.

The Contractor shall not be relieved from its obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Architect, Consulting Engineer or the Owner's Representative in their administration of the Contract or by inspections, tests or approvals (or the lack thereof) required or performed under the Contract Documents by persons other than the Contractor.

Section 5.03. Personal Attention and Superintendence; Contractor's Agent.

The Contractor shall supervise the work to the end that it shall be faithfully prosecuted. The Contractor shall employ a competent superintendent who is fully empowered to act as agent for the Contractor on the Site. The Contractor shall advise the City in writing of its agent prior to the start of any work. The Contractor shall provide résumés for all of the Contractor's supervisory employees to be assigned to the Project for City review, and the City may reject any supervisory employees not deemed to be qualified at the sole discretion of the City. The Contractor shall be responsible for the faithful observation of all instructions delivered to its authorized agent(s). No additional compensation will be paid by the City for any work performed by the superintendent.

Section 5.04. Skilled Labor.

All non-apprentice labor shall have the skills of a journeyman in the applicable trade. All workmanship shall be of the highest quality and finish in all respects.

Section 5.05. Dismissal of Unsatisfactory Employees.

All employees engaged in the Work will be considered employees of the Contractor.

The Contractor shall at all times enforce strict discipline and good order among all employees and shall not employ on the Work any unfit person or anyone not skilled in the assigned task. The Contractor shall remove, or cause a Subcontractor to remove from the Project, any incompetent employee, or any employee not skilled for the type of work required. If any person employed by the Contractor or any Subcontractor shall fail or refuse to carry out the directions of the City or the provisions of the Contract Documents, or is, in the opinion of the City, incompetent, unfaithful, intemperate, or disorderly, or is acting or working in a manner that compromises the safety of the Work or persons or property involved with the Work, or is otherwise unsatisfactory, the Contractor shall, when requested by the City, remove the worker from the Work immediately, and shall not again employ the removed worker on the Work except with the written consent of the City.

Section 5.06. No Tenancy.

All workers, contractors, or contractors' representatives are admitted to the Site only for the proper execution of the Work, and have no tenancy.

Section 5.07. Separate Contracts.

The City reserves the right to do other work in connection with the Project by separate contract or otherwise. The Contractor shall at all times conduct its work so as to impose no hardship on the City or others engaged in the Work. The Contractor shall afford other contractors reasonable opportunity for the delivery and storage of materials and the execution of their work. The Contractor shall adjust, correct and coordinate its work with the work of others so that no delays or discrepancies shall result in the whole Project.

It shall be the duty of the Contractor and its Subcontractors, before beginning any work, to examine all construction and work of other contractors and/or Subcontractors that may affect their work, and to satisfy themselves that everything is in proper condition to receive such work. The Contractor shall notify the Owner's Representative in writing prior to starting work of any discrepancies or conditions which deviate from the Contract Documents or are otherwise unsuitable for proper execution and results. Failure on the part of the Contractor to so inspect and promptly notify the Owner's Representative shall constitute an acceptance by the Contractor and all Subcontractors of all construction in place as being suitable in all respects to receive further work by the Contractor or Subcontractors, unless defects develop in the other contractor's work after the execution of the Contractor's Work.

Section 5.08. Cooperation with Other Contractors.

The City or adjacent property owners may perform work adjacent to or within the Work areas concurrent with the Contractor's operations. The Contractor shall conduct operations to minimize interference with the work of other forces or contractors. Any disputes or conflicts between the Contractor and other forces or contractors retained by the City which create delays or hindrance to each other shall be referred to the City for resolution.

Section 5.09. Contractor's Equipment.

The Contractor shall provide adequate and suitable equipment, labor and means of construction to meet all the requirements of the Work, including completion with the Contract Time. Only equipment suitable to produce the quality of work required will be permitted to operate on the Project. Specific types of equipment may be requested by the City on component parts of the Work.

The City may, at the City's option, permit the use of new or improved equipment. If such permission is granted, it is understood that it is granted for the purpose of testing the quality and continuous attainment of work produced by the equipment, and the City shall have the right to withdraw such permission at any time that the City determines that the alternative equipment is not producing work that is equal in all respects to that specified in the Contract.

In any case where the use of a particular type or piece of equipment has been banned, or in cases where the City has condemned for use on the Work any piece or pieces of equipment, the Contractor shall promptly remove such equipment from the site of the Work. Failure to do so within a reasonable time may be considered a breach of contract.

Section 5.10. Submittals.

The Contractor, at its sole cost and expense, shall furnish to the Owner's Representative all Submittals and other descriptive material as are required by the specifications or requested by the Architect or Consulting Engineer to demonstrate fully that the materials and equipment to be furnished and the methods of work comply with the provisions and intent of the Plans and Specifications. Submittals shall include, but not be limited to, all mechanical and electrical equipment and systems, reinforcing steel, fabricated items and piping details.

Shop Drawings shall be done with sufficient detail to adequately describe items proposed to be furnished or methods of installation to enable the City and Architect or Consulting Engineer to determine compliance with the Specifications and with the design and arrangement shown on the Working Drawings.

Electrical, instrumentation, control and communication system drawings shall include elementary and loop diagram drawings, functional single line system layout drawings, connection drawings, interconnection drawings, panel/cabinet fabrication drawings, and detailed circuit board and component drawings. Detailed circuit schematics and circuit board layout drawings shall be provided which clearly show, locate and identify all components and wiring. Each circuit board component shall be identified by the component's original manufacturer name and part number. Industry standard part numbers shall be used. Component values, voltage/current levels, setpoint, and timing values shall be defined.

Complete annotated software/firmware source code listings and program documentation shall be provided for all electronic/electrical systems, subsystems, assemblies, parts, components and equipment which incorporate programmable devices. All instructions and hardware necessary to load, store, modify and activate software/firmware source codes and programs shall be provided. The Contractor shall check and coordinate all Submittals with the work of all trades involved before they are submitted. The Contractor shall review each submittal for conformance with the requirements of the Contract Documents.

Unless otherwise provided in the Contract Documents, all Submittals for the Project shall be made within thirty-five (35) Calendar Days of the Notice to Proceed; however, the Contractor

shall have the additional responsibility to coordinate the schedule of its Submittals with the requirements of the Contract Schedule so as not to delay the Project. No delay claims related to Submittals will be entertained on the Project for any Submittal originally received after the 35 day submittal period. The City shall not accept limitations in materials, colors, quality, or any other aspect of products or materials due to the Contractor's failure to provide Submittals as required. At the City's discretion, the Contractor may be directed to furnish and install temporary materials until the City selected material is available.

Contractor shall submit a schedule of Submittals organized by specification section required for the Project. It shall delineate whether product data, installation instructions, shop drawings, samples, extra stock or mock-ups are required. This schedule of Submittals shall be submitted prior to the issuance of the Notice to Proceed. Any omissions or inaccuracies shall not relieve the Contractor of the obligation for conforming to the requirements in the Contract Documents. The Contractor's submittal schedule shall provide sufficient time for delivering the Submittal to the Architect or Consulting Engineer, the Architect's or Consulting Engineer's review of each Submittal, delivering the Submittal to the Contractor and re-submittal as necessary. In no case shall the Contractor allow fewer than twenty-one (21) Calendar Days, exclusive of delivery time, for the Owner's Representative and the Architect or Consulting Engineer to review each Submittal. In certain cases, the Contract Documents also may require City review of Submittals. In those cases, in addition to the time allowed for review by the Owner's Representative and the Architect or Consulting Engineer, the Contractor shall allow no fewer than fourteen (14) additional Calendar Days for that City review.

A. Submission of Submittals.

The Contractor shall submit no less than one reproducible and six (6) copies of all Submittals, two (2) of which shall be returned after review. The Submittals shall be accompanied by a letter of transmittal, to the Owner's Representative, listing the identifying number of the Submittals submitted and cross-referencing them to the page or sheet in the Specifications and/or Working Drawings to which they are related.

Where any items of the Works is required to be installed in accordance with the manufacturer's installations recommendations, the Contractor shall furnish six (6) complete sets of the manufacturer's installation recommendations to the Owner's Representative prior to starting the installation. These submittals will be retained by the City.

All Submittals must be marked with the name of the Project and the name of the Contractor and shall be numbered consecutively and complete in every respect.

By approving and submitting Submittals, the Contractor represents that it has determined and verified all materials, field measurements and field construction criteria related thereto and that it has checked and coordinated the information contained within those Submittals with the requirements of the Work and to the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to Submittals as may be issued by the Owner's Representative.

The Owner's Representative will not accept Submittals which are not sufficiently dimensioned and detailed to demonstrate compliance with the Contract Documents.

B. Submittals Containing Proprietary Information.

All required information shall be provided even though some or all of such information may be considered proprietary. If any of the information required herein is considered proprietary, the City's standard proprietary agreement shall be executed between the City and the Contractor, stipulating that all such information will be supplied by the Contractor and kept confidential by the City. All proprietary data shall be identified as part of the Contractor's bid and the City's standard proprietary agreement shall be executed before award of the Contract. Proprietary information is defined as any information or data describing or defining a product, process or system which (1) was developed at the expense of the Contractor, a subcontractor or supplier; (2) is not generally available in the industry; and (3) is kept secret by its owner for purposes of preventing its use by others. Application software and all other documentation, or any other product, prepared by the Contractor, Subcontractor or supplier at the expense of the City for specific use on the facility being construction under the Contract Documents shall not be considered proprietary.

Not more than seventy percent (70%) of all electronic/electrical work shall be paid for until all proprietary information has been submitted and approved.

All submitted proprietary information shall describe the final record Work. No part of the Work covered by the proprietary agreement shall be modified after proprietary submittal acceptance until updated proprietary information has been submitted by the Contractor and accepted by the City. Updated proprietary information shall fully document all modifications to be implemented. All proprietary data shall be marked "PROPRIETARY" by the Contractor.

C. Review of Submittals.

Following submission, the Submittals will be returned with one or more of five possible responses by the Owner's Representative, Architect or Consulting Engineer. These possible responses are as follows:

1. Unreviewed: If the Submittal is not required, or if it is not complete, or if it does not meet the form, format, and number requirements specified, it may be returned unreviewed. If the Submittal is not required, work may commence; if the Submittal was returned due to form requirements, it shall be resubmitted and approval obtained prior to commencement of the work.
2. Approved, Reviewed, or No exceptions taken: In the event the Submittal is acceptable as submitted, it will be returned with this status. Work may proceed upon receipt of approved Submittal.
3. Make Corrections Noted: If the Submittal is acceptable except for certain items which have been noted by the Architect or Consulting Engineer, it will be so designated. Work may proceed with the corrections made, and no resubmittal is necessary.
4. Revise and Resubmit: This status indicates that revisions are noted on the Submittal, and an additional Submittal is required to reflect those revisions and/or additional information. Work may not commence until the resubmittal is approved.
5. Rejected: A Submittal may be rejected if it is not in compliance with the Contract

Documents, or if it proposes an “or equal” or substitution which is not acceptable to the Architect or Consulting Engineer. A superseding Submittal shall be submitted and approved prior to commencement of the work.

Should the Contractor proceed with the work shown on a Submittal before approval is received, it shall remove and replace or adjust any work which is not in accordance with the Submittal as ultimately approved, and it shall be responsible for any resultant damage, defect, or added cost. The City shall be under no obligation to pay for work installed prior to approval of Submittals, until the Submittals are approved and the work in place is found to be in compliance with the Contract Documents.

The Contractor shall resubmit Submittals in categories 4 and 5 above after making any changes required so that Submittals will comply with the Contract Documents. When resubmitting, the Contractor shall direct specific attention to deficient areas. Resubmittals shall be made in the same number of copies as the original Submittal. Resubmittals shall be made within ten (10) Calendar Days of return of the previous Submittal, and in any event in sufficient time so as to avoid delay to the Work. No delay claims related to resubmittals will be entertained on the Project for any resubmittal originally received after the 10 days.

The Architect or Consulting Engineer shall determine the adequacy and completeness of all Submittals. Where the Architect or Consulting Engineer deems a Submittal to be inadequate, incomplete, or otherwise unsuitable for proper review, the Contractor shall submit all additional information requested by the Architect or Consulting Engineer. There shall be no change to the Contract Time or the Contract Sum when such additional information is required.

D. Submittals Showing Variation from Contract.

It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the Submittals submitted and the Contract Documents. The Contractor shall make specific mention of all variations, along with an explanation of why they are requested, in its letter of transmittal. Failure by the Contractor to identify in its letter of transmittal any variation, discrepancy, or conflict with the Contract Documents shall render the approval null and void, and the Contractor shall bear all risk of loss and reconstruction costs or delays.

If any modifications to the Work are required as a result of the approval of Submittals which deviate from or do not comply with the Contract Documents, those modifications shall be made without extra cost to the City, and without extension of the Contract Time. Any other resultant costs, including but not limited to design fees, construction management fees, costs incurred by other contractors, or inspection fees, shall be at the expense of the Contractor.

E. Effect of Approval of Submittals.

The approval of Submittals shall not relieve the Contractor of the obligation for accuracy of dimensions and details; for conforming the work to the requirements of the Contract Documents; or from responsibility to fulfill the Contract at no extra cost to the City, within the Contract Time.

The Contractor shall make no changes to any Submittal after it has been approved, and the equipment or materials shall not deviate in any way except with the written approval of the City.

F. Operations and Maintenance (O&M) Submittals.

For use in subsequent maintenance and operations the Contractor shall furnish, unless otherwise provided for in the Special Provisions, operation and maintenance ("O&M") information in accordance with Article 18 of these General Provisions. The City may withhold retention until O&M submittals have been submitted and approved.

Section 5.11. Equal Materials.

Unless otherwise provided in the technical specifications, whenever in the Contract Documents any systems, processes, products, or materials are indicated or specified by the name brand of the manufacturer, or by patent or proprietary names, those specifications shall be deemed to be a measure of quality and utility or a standard, and shall be deemed to be followed by the words, "or equal." It is the intent of this Article to comply with Public Contract Code Section 3400.

If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified, it shall make application to the Owner's Representative in writing, within ten (10) business days after Notice to Proceed, and shall submit samples and all other information necessary to substantiate its claim of "or equal". Such application constitutes a certification that the Contractor:

- A. Has investigated the proposed Equal and determined that it meets or exceeds, in all respects, the specified system, process, product, or material.
- B. Will provide the same warranty for the proposed Equal as for the specified system, process, product or material.
- C. Will coordinate installation and make other changes which may be required for work to be complete in all respects and at no additional cost to the City.
- D. Waives claims for additional costs and/or Contract Time which may subsequently become apparent.

The Architect or Consulting Engineer then will determine whether or not the proposed system, process, product or material is equal in quality and utility to that specified, and its decision shall be final. The Architect or Consulting Engineer will render its decision within fourteen (14) business days after submission of all required information for the application. If the request is not accepted, the Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum and/or Contract Time.

Neither the submission of a request for an Equal, nor the Architect's or Consulting Engineer's review of the application, will extend the time for submission of any required Submittals. Requests for Equal systems, process, products or materials will be considered only when offered by the Contractor as required by this Article.

Section 5.12. Substitutions.

Unless otherwise provided in the technical specifications, the Contractor may make proposals for Substitutions to systems, process, products or materials shown or specified only under one or more of the following conditions:

- A. Unavailability: If the specified system, process, product, or material, or an Equal, is no longer available in the marketplace.
- B. Delay: If obtaining the specified system, product, process or material, or an Equal, will delay completion of the Work through no fault of the Contractor.
- C. Better system, process, product or material: If a better system, product, process or material is available at no additional cost.
- D. Savings: If a system, process, product or material which meets all of the performance requirements of that specified is available at a savings to the City.

A proposal for Substitution shall include all information required by the Architect or Consulting Engineer to evaluate the substitute system, process, product or material. Such proposal constitutes a certification that the Contractor:

- A. Has investigated the proposed Substitution and determined that it meets or exceeds the performance requirements of the specified system, process product or material.
- B. Will provide the same or better warranty for the proposed Substitution as for specified system, process, product or material.
- C. Will coordinate installation and make other changes which may be required for the work to be complete in all respects at no additional cost to the City.
- D. Waives claims for additional costs and/or Contract Time, which may subsequently become apparent.

The Owner's Representative and the Architect or Consulting Engineer shall evaluate a timely Substitution request, and shall approve, deny, approve with conditions, or initiate the procedure for a change order in response to the Contractor's request. This decision shall be final. This decision will be rendered within fourteen (14) business days after submission of all required information for the proposal. If the request is not accepted, the Contractor shall provide the specified system, process, product or material without an increase in the Contract Sum and/or Contract Time.

Failure by the Contractor to identify all deviations from the Contract Documents in its request for substitution shall render any City action taken thereon null and void. The Contractor shall bear all costs resulting from any error in the request for Substitution. Only one request for Substitution will be considered for each product.

Substitution proposals will not be considered prior to bidding. All requests for Substitutions shall be made within the same time requirement for initial Submittals. Failure to timely submit a Substitution request shall constitute a waiver by the Contractor and an acceptance of the specified systems, processes, products and materials. Late substitution requests may be considered only when the City consents in writing, and the City's best interests so require.

Neither the submission of a request for substituted systems, processes, products or materials, nor the Owner's Representative's and/or Architect's or Consulting Engineer's review of the application, will extend the time for submission of any required Submittals.

Section 5.13. Samples and Testing of Proposed Substitutions: Costs of Adapting to Work.

When the Owner's Representative or Architect or Consulting Engineer determines that samples and testing are required to evaluate a request for a Substitution, the Owner's Representative shall so advise the Contractor, and specify the systems, processes, products, materials or work to be sampled. The Contractor shall, at no cost to the City, provide samples as required by these General Conditions dealing with samples and testing, or the Technical Specifications.

The Contractor shall bear all costs of sampling and testing required to decide a request for Substitution, and if a Substitution is accepted, the Contractor shall bear all costs associated therewith, including the cost of the Owner's Representative's, Architect's and/or Consulting Engineer's services required to adapt the Substitution to the design to the complete satisfaction of the City, and all costs of mechanical, electrical, structural, or other changes needed to adapt the Substitution to the Work.

Section 5.14. Effect of Approval of Equal Materials or Substitution Request.

If an application for an Equal or Substitution request is approved, the Contractor shall be solely and directly responsible for setting approved Equal or Substitution systems, processes, products, materials and/or equipment into the available space, and for the proper operation of the Equal or Substitution systems, process, products, materials and/or equipment with all other systems, processes, products, materials and/or equipment with which it may be associated, all in a manner acceptable to the City.

No time extensions nor any increases in the Contract Sum shall be granted on account of an Equal or Substitution. In the event of a savings, the Contract Sum shall be adjusted by the price difference between the approved Equal or Substitution and the originally specified item.

Section 5.15. Surveys.

A. Contractor Surveys.

Except as set forth in the Special Provisions, the Contractor is responsible to do all necessary surveys to layout and control the Work to the locations, elevations, lines and dimensions shown or specified in the Contract Documents. Any deviations must receive prior approval of the City. All surveys affecting the line or elevation of underground drainage, sewers, or utilities, and all other work within public rights-of-way or easements shall be performed by or under the direction and supervision of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying.

The Contractor shall be responsible for protecting and perpetuating survey monuments affected by construction activities in accordance with Business and Professions Code section 8771. The Contractor shall be responsible for referring, resetting, and filing of corner records for all survey monuments disturbed or destroyed by construction activities in accordance with Business and Professions Code section 8771.

The Contractor shall be responsible for the accuracy of the Contractor's own layout work, and shall be liable for the preservation of all established lines and grades. Stakes

damaged or destroyed by the operations of the Contractor shall be replaced at the Contractor's expense.

B. City-Furnished Surveys.

If the Special Provisions provide that surveys will be furnished by the City, the Contractor shall notify the City at least two (2) Working Days in advance of the time and places the Contractor will need lines, elevations, and reference points. Unless authorized by the City, any work done without line and grade will be done at the Contractor's risk.

Unless otherwise set forth in the Special Provisions, the City will furnish the following surveys:

1. For Streets and Highways:

Slope Stakes – One (1) line of slope stakes at fifty-foot (50') intervals for the construction of each pavement edge. The Contractor shall set back and reference the stakes.

Subgrade – One (1) line of blue tops at centerline or at a location directed by the City, for each of two (2) lanes of roadway at fifty-foot (50') intervals, and three (3) lines on super-elevated sections for each two (2) lanes. The Contractor shall reference subgrade stakes for the subbase and base layers.

Finish Base – One (1) line of blue tops at centerline or at a location directed by the City for each two (2) lanes of roadway at fifty-foot (50') intervals, and three (3) lines for each two (2) lanes on super-elevated and widened sections.

All necessary line, location and elevation stakes for curb and gutter, inlets, pipes, drainage structures, signals, box culverts and other miscellaneous facilities.

C. Survey Monuments.

On the Plans, the City shall show, to the best of its knowledge, the location and character of survey monuments located within the construction area. It is the Contractor's responsibility to arrange and pay for a diligent and thorough search for survey monuments. This work shall be performed by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying, prior to the beginning of construction or maintenance work that could disturb or destroy a survey monument. Any monuments found shall be referenced and reset by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying in accordance with Business and Professions Code section 8771. On thin surface treatments, such as chip seals, the monuments can be covered in advance of the maintenance treatment with a suitable material and then removed to expose the monument. When survey monuments not shown on the Plans are discovered, the Contractor shall bring them to the attention of the City prior to damaging them. Any damaged or destroyed City survey monuments shall be reset by the City at the Contractor's expense. Any other damaged or destroyed survey monuments shall be reset by the Contractor in accordance with the Land Surveyors Act, Business and

Professions Code section 8700 et seq.

All survey monuments and references shall be set or reset by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying.

Section 5.16. Responsibility for Accuracy.

The Contractor shall obtain all necessary measurements for and from the Work, and shall check dimensions, elevations and grades for all layout and construction work and shall supervise such work, the accuracy for all of which the Contractor shall be responsible. The Contractor is responsible for adjusting, correcting and coordinating the work of all Subcontractors so that no discrepancies result.

Section 5.17. Quality of Materials and Products.

Unless otherwise allowed or required by the Special Provisions, all materials shall be new and of a quality at least equal to that specified. When the Contractor is required to furnish materials or manufactured articles for which no detailed specifications are set forth, the materials or manufactured articles shall be of the best grade in quality and workmanship obtainable in the market. If not ordinarily carried in stock, the articles shall conform to the usual standards for first-class materials or articles of the kind required. The work performed shall secure the best standard of construction and equipment of the work as a whole or in part. The Contractor shall, if required by the Architect, Consulting Engineer, Project Inspector, or Owner's Representative, furnish satisfactory evidence as to the kind and quality of materials provided.

The Owner's Representative may require, and the Contractor shall submit if required, a list designating the source of supply of each item of materials incorporated into the Work, and in such event, those materials or products shall not be delivered to the Work nor installed therein until after the Owner's Representative has approved the list.

Contractor shall certify that the materials and equipment installed comply with the Contract Documents.

In the event that the Contractor furnishes a material, product, process, or article better than that specified in the Contract Documents, the difference in cost of that material, product, process, or article shall be borne by the Contractor.

All materials shall remain in their original packages or containers until ready for use. The labels of all packages or containers shall remain affixed, and kept legible. No product shall be stored in any container, the label of which does not accurately describe the contents of the container.

All materials furnished shall comply with industry standards as follows:

- A. Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a Trade Association Standard, or other similar standard, shall comply with the requirements in the latest revision thereof, including any amendments or supplements thereto, in effect on the date of the Bid, except as limited to type, class, or grade, or modified in that reference.

- B. The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in these specifications. These standards are not furnished to the bidder for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements.
1. Where Federal Specifications are referred to as a measure of quality and standard, they refer to Federal Specifications established by the Procurement Division of the United States Government and are available from the Superintendent of Documents, U.S. Government Printing Office.
 2. Where Federal Specification numbers are used, they refer to the latest edition including amendments thereto.
 3. Where Commercial Standards (CS) or Product Standards (PS) are referred to as a measure of quality, standard, and method of fabrication, they refer to Commercial Standards and Product Standards issued by the U.S. Department of Commerce.
 4. Where ASTM serial numbers are used, they refer to the latest tentative specifications, standard specifications, standard method or standard methods of testing, issued by the American Society for Testing Materials, unless specifically noted.

The Contractor shall protect the work, materials, and equipment from damage due to the action of the elements, trespassers, or other causes. The Contractor shall properly store materials and equipment and, when necessary, erect temporary structures to protect them from damage. The Contractor shall replace any items damaged as a result of improper protection at no expense to the City.

Section 5.18. Property Rights in Materials.

Nothing in the Contract Documents shall be construed as vesting in the Contractor any right of property in the materials used, after they have been installed, attached or affixed to the work, but all such materials shall be the property of the Contractor and the City jointly as their interest may appear and cannot be removed from the work without the consent of the City.

Section 5.19. Inspection.

All work done and all materials and equipment furnished shall be subject to the inspection and approval of the City. Neither the final inspection and payment, nor any interim inspection or progress payment shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents. Any work, materials or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefor may have been made.

The Project Inspector shall be considered to be a representative of the City and shall be designated at the pre-construction conference. It is the Project Inspector's duty to inspect the Work.

Where the Contract Documents, instructions by the Project Inspector, Owner's Representative or the Architect or Consulting Engineer, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested or approved before the Work proceeds, such work shall not proceed, nor shall it be covered up without inspection. If any part of the Work is covered prior to inspection, the City may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Project Inspector at least twenty-four (24) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Project Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of safe access (e.g. ladders) for the Project Inspector to perform his/her duties. The Contractor shall furnish the Project Inspector with any information necessary to fully inform him/her of conditions.

The Project Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the City, its representatives, or the Architect or Consulting Engineer. The failure of the Project Inspector to order the work stopped does not excuse the Contractor from complying with the Contract Documents for that work. Upon issuing a stop work notice, the Project Inspector shall notify the Architect or Consulting Engineer, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Architect or Consulting Engineer shall be final. The Contractor shall thereafter comply with the instructions of the Architect or Consulting Engineer regarding corrections needed to cure the defect. The suspended work shall be resumed only when the instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work.

Should the Owner's Representative or the Architect or Consulting Engineer determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the Owner's Representative, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any Subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor and a change order shall be issued for such cost and any time extension justified by delays to the critical path.

Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 8-hour work day or 40-hour week, or to vary the period during which work is carried on each day, it shall give the Owner's Representative and the Project Inspector a minimum of 48-hours notice so that inspection may be provided. Additional inspection costs incurred because of overtime or shift work that are incurred at the request of the City shall be paid by the City. All other additional inspection costs shall be borne by the contractor unless otherwise agreed to by the parties. If this overtime work is necessitated by the Contractor's error or failure to perform, the cost of inspection will be borne by the Contractor.

Section 5.20. Plant Inspection.

The City may inspect the production of materials or manufacture of products at the source of supply. Plant inspection, however, will not be undertaken until the City is assured of the cooperation and assistance of both the Contractor and the material producer. The City or the Contractor's authorized representative shall have free entry at all time to such parts of the plant as concerns the manufacture or production of the materials. Adequate facilities shall be furnished free of charge to make the necessary inspection and tests.

The City assumes no obligation to inspect materials at the source of supply. The responsibility of incorporating satisfactory materials in the Work rests entirely with the Contractor, notwithstanding any prior inspections or tests.

Section 5.21. Samples and Testing.

The City reserves the right to require the Contractor to provide samples, and to perform tests on any materials, articles, equipment, installations, or construction performed by the Contractor in addition to those specified in the Contract Documents. The City shall assume the cost of sampling and testing materials only when the Contract Documents do not require the Contractor to do so.

All tests shall be performed under the supervision of the testing laboratory or consultant employed by the City and at such times as are convenient to the City. The Contractor shall provide written notice to the Owner's Representative at least 24 hours prior to the need for off-site tests or inspections, and the Owner's Representative will arrange such tests or inspections. The Contractor shall bear all expenses of tests performed where the Contractor failed to provide this minimum notice.

The Contractor shall, at its sole cost and expense, repair all damage resulting from testing specified in the Contract Documents. The City shall issue a Change Order for repair of damage due to sampling or testing other than specified in the Contract Documents.

The Contractor shall not make any tests upon portions of the Project already completed, except with the prior written consent and under the direction and supervision of the Owner's Representative.

If as a result of any test, whether originally specified or not, any material or work is found to be unacceptable, it shall be rejected, and all further sampling and testing required by the City or the Owner's Representative shall be at the Contractor's expense.

All samples and specimens for testing shall be selected by the Project Inspector or by the testing laboratory, but not by the Contractor.

The Contractor shall, at the Contractor's sole cost and expense, furnish, package, mark, and deliver all samples to be tested at locations other than the Site. Samples shall be delivered either to the Project Inspector or to the testing laboratory or such other address specified in the Contract Documents.

Delivery of all samples to the testing laboratory shall be made in ample time to allow the test to

be made without delaying construction. No extra time will be allowed for the completion of the Work by reason of delay in testing samples required by the Contract Documents or due to the Contractor's request for substitution.

The Contractor shall allow free access at all times to the representatives of the testing laboratory to the Work, and shall point out the sources from which samples are taken. All test reports shall be sent to all parties specified in the Contract Documents.

No materials or work of which samples and/or tests are required shall be used or covered until the Owner's Representative or the Project Inspector informs the Contractor that such samples and/or tests have been approved. If the Contractor installs, uses, or covers any such material, article, or work prior to testing and approval, such shall be at the Contractor's sole risk and expense, and it shall bear all costs of uncovering, repair, and replacement thereof.

The approval of any samples shall be for the characteristics thereof, or for the uses named in such approval, and no other. No approval of any samples shall be deemed a change or modification in any requirement of the Contract Documents. Upon testing of any sample of material or work, no additional sample shall be considered. All material or work installed after the sampling and testing is performed and approved shall be equal to or better than the approved sample in all respects and shall be accompanied by documentary proof that the material and work sampled is actually representative of that installed.

The City assumes no obligation, and the Contractor shall not be relieved of any obligation undertaken pursuant to the Contract Documents by virtue of sampling and testing specified in this Article.

The responsibility for incorporating satisfactory materials and workmanship which meet the Contract Documents in the work rest entirely with the Contractor, notwithstanding any prior samples or tests.

Section 5.22. Rejection of Materials and Workmanship.

The City shall have the right to reject materials and workmanship which are determined by the Owner's Representative, the Architect, Consulting Engineer, or the Project Inspector to be defective or fail to comply with the Contract Documents. Rejected workmanship shall be promptly corrected to the satisfaction of the City and/or Architect or Consulting Engineer, and rejected materials shall be removed from the premises and replaced, all without added cost to the Owner and/or an increase in the Contract Time.

If the Contractor does not correct such rejected work and/or materials within a reasonable time, fixed by the Owner's Representative or the Architect or Consulting Engineer in a written notice to the Contractor, the City may correct the same and charge the expense to the Contractor, and deduct such expense from the next progress payment otherwise payable to the Contractor.

If the City determines that it is in its best interest not to correct defective workmanship and/or materials, or work not done in accordance with the Contract Documents, the Contractor agrees that an equitable deduction from the Contract Sum shall be made therefor, and deducted from the next progress payment.

Section 5.23. Correction of Work

The Contractor shall promptly correct all work rejected by the Owner's Representative, Project Inspector or the Architect or Consulting Engineer as defective or as failing to conform to the Contract Documents, whether observed before or after final completion and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected work including compensation for the Architect's, Consulting Engineer's Project Inspector's and the Owner's Representative's additional services.

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within three (3) days after receipt of written notice from the City to commence and continue correction of the default or neglect with diligence and promptness, the City may, without prejudice to any other remedy it may have, correct the deficiencies and may further elect to complete that portion of the Work through such means as the City may select, including the use of a new contractor. In such case, an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting the deficiencies, and any other appropriate costs, including compensation for the Architect's or Consulting Engineer's, the Project Inspector's and the Owner's Representative's additional services made necessary by the default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover that amount, the Contractor shall pay the difference to the City.

If within two (2) years after the Date of Completion and acceptance of the Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct any or all such work, together with any other work which may be displaced in so doing, without expense to the City, promptly after receipt of a written notice from the City unless the City has previously given the Contractor a written acceptance of such condition. The City shall issue a correction notice promptly after discovering the condition. The Contractor shall notify the City upon completion of repairs. This obligation shall survive termination of the Contract with respect to work in place prior to termination.

The Contractor shall bear the cost of making good work destroyed or damaged by such correction or removal.

Nothing contained in this Section shall be construed to establish a period of limitation with respect to any other obligations which the Contractor might have under the Contract Documents or by operation of law. The establishment of the time period of two (2) years after the Date of Completion, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the Work and has no relationship to the time within which an action may be Commenced to establish the Contractor's liability with respect to its obligations other than specifically to correct the work.

Section 5.24. Termination for Convenience.

The City may at any time and for any reason, terminate, in whole or in part, Contractor's Work at the City's convenience. Termination shall be by written notice to Contractor. Upon receipt of such notice, Contractor shall, unless the notice directs otherwise, immediately discontinue

Contractor's work and the placing of orders for materials, facilities and supplies in connection therewith, and shall, if requested, make every reasonable effort to procure cancellation of all existing orders or contracts upon terms satisfactory to the City, or at the option of the City, the City shall have the right to assume those obligations directly, including all benefits to be derived therefrom. Contractor hereby assigns to the City all of its interest in said orders and/or contracts, and the assignment of said orders and/or contracts shall be effective upon notice of acceptance by the City in writing, and only as to those orders and/or contracts which the City designates in writing. Following receipt of notice of termination, Contractor shall thereafter do only such work as may be necessary to preserve and protect portions of its work already in progress and to protect materials and equipment on or in transit to the Project.

Upon such termination, Contractor shall be entitled to payment only as follows: (1) Contractor's direct, actual cost of the Work allocable to the portion of the Work completed in conformity with the Contract, but in no event to exceed the amount of the Contract Sum allocable to the portion of the Work completed in conformity with the Contract; plus (2) previously unpaid costs of any items delivered to the Project Site which were fabricated for subsequent incorporation in the Work, but in no event to exceed the portion of the Contract Sum allocable to said items; plus (3) an allowance of ten percent (10%) of the foregoing costs for Contractor's overhead and profit; plus (4) any proven losses with respect to materials and equipment directly resulting from the termination; plus (5) reasonable demobilization costs. The costs referred to in this Section shall be calculated and documented as required for a Change Order under Article 9 of these General Provisions, except that markup shall be only as allowed by this Section. There shall be deducted from such sums the amount of any payments made to Contractor prior to the date of the termination of this Contract. Contractor shall not be entitled to any claim or claim of lien against the City for any additional compensation or damages in the event of such termination and payment beyond that provided for in this Section.

In connection with any termination for convenience, Contractor shall allow the City and any of its authorized representatives to inspect, audit, or reproduce any records to the extent necessary for the City to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon 48-hours' written notice from the City. The City may inspect and copy, from time to time and at reasonable times and places, any and all information, materials and data of every kind and character (hard copy, as well as computer readable data if it exists), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of the City have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), backcharge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends, and any other documents customarily maintained by contractors performing work on public works projects or that the City otherwise deems necessary to substantiate charges related to a Termination.

If this Contract is terminated for default under Section 5.25, and if it is later determined that the default was wrongful, such default termination automatically shall be converted to and treated

as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any claim for any other amounts or damages, including any claim for consequential damages or lost profits.

Section 5.25. Termination for Cause.

The City may terminate the Contract, pursuant to the provisions of this Article, for the following causes:

- A. The Contractor is insolvent or has made a general assignment for the benefit of creditors, or a receiver has been appointed on account of the insolvency of the Contractor.
- B. The Contractor or any of its Subcontractors violate any of the provisions of the Contract Documents or fail to perform the work within the time specified in the current Contract Schedule.
- C. The Contractor or any of its Subcontractors should fail to make prompt payment to Subcontractors or material suppliers for material or for labor as required by statute.
- D. The Contractor or a Subcontractor persistently disregards laws, ordinances, or the instructions of the Owner's Representative, Architect, Consulting Engineer or the City.
- E. The Contractor fails to abide by a Stop Work Notice or fails to correct rejected work or materials as required.
- F. The Contractor fails to provide and keep in full force and effect all required insurance, or fails to cause all Subcontractors to so comply.
- G. The Contractor fails to supply a sufficient number of properly skilled workers or proper materials.
- H. The Contractor commits any substantial violation of the terms and conditions of the Contract Documents which the City, in its sole discretion, finds to be a material breach of the Contract.

The City may, without prejudice to any other right or remedy, give written notice to the Contractor and its surety or sureties of its intention to terminate the Contract.

Unless within seven (7) Calendar Days of the delivery of such notice, the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof, which arrangements are set forth in a written agreement signed by the Contractor and the City, the Contractor's right to complete the Work shall cease and terminate.

In the event of any such termination, the City shall immediately give written notice thereof to the surety and to the Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the City is forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and its sureties shall be liable to the City for

any excess costs, including management, supervision, and design support, occasioned thereby. In such event, the City may, without liability, take possession of and utilize in completing the Work, the Contractor's materials whether stored at the Site or elsewhere, that are necessary for completion. Contractor hereby assigns to the City all of its interest in orders and/or contracts existing at the time of termination. The assignment of said orders and/or contracts shall be effective upon notice of acceptance by the City in writing, and only as to those orders and/or contracts which the City designates in writing. Whenever the Contractor's right to proceed is terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished.

Section 5.26. Option in Event of a Loss.

In the event that any destruction or loss should exceed twenty percent (20%) of the value of the construction completed to date, as determined at the end of the preceding month, or is due to an "Act of God," the City shall have the option, at its sole discretion, to terminate this Contract.

Section 5.27. Provisions for Termination of Contract.

This Contract is subject to termination as provided by Sections 4410 and 4411 of the Government Code, being portions of the Emergency Termination of Public Contracts Act of 1949.

Section 5.28. Termination After Contract Time.

In addition to any rights it may have, the City may terminate this Contract at any time after the Contract Time, as adjusted by any extensions of time that the City may have granted.

Upon such termination, in addition to the Contractor's obligations under Section 5.29 and the other provisions of the Contract Documents, the Contractor shall not be entitled to receive any compensation for services rendered before or after such termination until the Work is completed, and the Contractor shall be liable to the City for liquidated damages for all periods of time from such termination date until the Date of Completion, as well as for all losses incurred by the City in completing the Work.

Section 5.29. Survival of Obligations.

No termination of this Contract or of Contractor's Work shall excuse or otherwise relieve the Contractor of its responsibilities under the Contract Documents with respect to any Work performed prior to the date of termination, including, without limitation, its obligation to perform the Work in a good and workmanlike manner, free of defects, and in accordance with the Contract Documents, its warranty obligations with respect to the Work, and its obligation to make all payments due. All of Contractor's responsibilities under the Contract Documents with respect to the Work performed prior to the date of termination shall survive any termination.

Section 5.30. Termination of Unsatisfactory Subcontractors.

When any portion of the Work that has been subcontracted by the Contractor is not being prosecuted in a satisfactory manner, or when materials supplied do not conform to the Contract Documents, the City may direct the Contractor to discharge the Subcontractor or supplier. Any Subcontractor or supplier which is discharged shall not again be employed on this Project.

Any termination of a Subcontractor pursuant to this Section shall be in strict conformity with the requirements of the Subletting and Subcontracting Fair Practices Act, Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100.

ARTICLE 6. LEGAL RELATIONS AND RESPONSIBILITIES

Section 6.01. Compliance with Laws and Regulations.

The Contractor shall keep itself fully informed of and shall observe and comply with, and shall cause any and all persons, firms, or corporations employed by it or under it to observe and comply with all federal and state laws, and county or municipal ordinances, regulations, orders, and decrees which in any manner affect those engaged or employed on the Work, or the materials used in the Work, or in any way affect the conduct of the Work. No pleas of misunderstanding of such laws, ordinances, codes, regulations, orders or decrees or ignorance of the same on the part of the Contractor shall modify the provisions of the Contract Documents. The Contractor and the Contractor's surety shall indemnify and save harmless the City and the City's officers, officials, agents, employees, volunteers, members, affiliates and their duly authorized representatives against any claim for liability arising from, or based upon the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor, the Contractor's employees, or any Subcontractor or supplier.

Attention is directed to certain laws that affect the Contract. The listing of these laws in this Section is not to be construed as a listing of all applicable laws. The Contractor is solely responsible for familiarity and compliance with all applicable laws.

A. Prevailing Wage Rate.

The Contractor shall pay, and shall cause all Subcontractors under it to pay, not less than the specified prevailing wage rates, including, but not limited to, overtime, Saturday, Sunday and holiday work, travel and subsistence, to all workers employed in the execution of this Contract. Pursuant to Chapter 1 of Part 7, Division 2 of the Labor Code, commencing with Section 1770, the Director of the California Department of Industrial Relations (DIR) of the State of California has determined the prevailing rate of wages in the locality in which the work on the project is to be performed for each craft, classification, or type of worker needed to execute this Contract. The prevailing rates so determined are on file with the City Clerk and they are available for public inspection. They may also be obtained on the internet at:

<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>

Those prevailing wage rates hereby are incorporated in this Contract and made a part hereof.

The Contractor should contact the DIR as indicated in the prevailing wage determinations to obtain predetermined wage changes.

The responsibility to check prevailing wage rates is the Contractor's. In the event this Contract calls for work requiring any craft, classification, or type of worker for which the DIR has not specified a prevailing wage rate, the Contractor shall contact the Owner's Representative within ten days following the first advertisement to request a determination. After consultation with the DIR, the City will issue a determination of the prevailing wage for the specified work, and the Contractor and all Subcontractors shall pay each worker engaged in the specified work not less than those rates. Pending such determination, the wages may be assumed to be those in the applicable collective bargaining agreement, but no adjustment in the Contract Sum shall be made if such assumption is incorrect.

The Contractor shall obtain and post copies of all applicable prevailing wage rates in a prominent place at the job site, in accordance with the regulations of the Department of Industrial Relations.

B. Hours of Work; Approval of Schedules.

Eight (8) hours of labor constitutes a legal day's work, and forty (40) hours constitutes a legal work week. No worker employed at any time by the Contractor, or by any Subcontractor upon the Project, shall be required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one week, except as provided in Labor Code Sections 1810 through 1815.

Overtime shall be paid at the rate of not less than one and one-half (1-1/2) times the basic rate of pay, or at such higher rate as may be required by the DIR, applicable statutes or collective bargaining agreements.

The City reserves the right to approve or disapprove the days scheduled for work, and the hours during which work is in progress. Overtime and shift work may be established by the Contractor with reasonable notice and the written permission of the City. No work other than overtime and shift work shall be done between the hours of 6:00 p.m. and 7:00 a.m., except such work as is necessary for the proper care and protection of the work already performed or except in case of an emergency. Failure of the Contractor to perform the work in accordance with this policy shall be deemed to be a failure on the Contractor's part to comply with the Contract and is cause for termination.

C. Records of Hours Worked and Wages.

All public works projects are subject to compliance monitoring and enforcement by the Department of Industrial Relations in accordance with Section 1771.4 of the Labor Code. The Contractor and all Subcontractors shall furnish the records specified in Section 1776 directly to the Labor Commissioner in accordance with Section 1771.4. The Contractor shall maintain, and shall cause all its Subcontractors to maintain, records of the hours and wages of all employees employed on the Project, and those records shall be open at all times for inspection by the City and/or the Division of Labor Standards Enforcement of the Department of Industrial Relations, in accordance with Sections 1776 and 1812 of the Labor Code.

The Contractor shall not carry on its payrolls any person not actually employed by the Contractor, nor shall it carry on its payrolls employees of a Subcontractor. The Contractor shall show on its payrolls all persons actually employed by the Contractor on the Project, in any capacity. The Contractor shall supervise all Subcontractors to ensure that all Subcontractors comply with this Section.

The Contractor shall provide, and shall require all Subcontractors to provide, on a monthly basis, included with the progress payment request and the final payment request, verification of the actual wages paid to any or all employees on the Project, including but not limited to copies of timecards, payroll checks and stubs, job cost detail ledger for labor, evidence of payment of benefit contributions, and any other records necessary to establish compliance. The Contractor shall submit the monthly certified payrolls for all workers employed at the Site directly to the Owner's Representative with the monthly progress payment request. Failure to submit timely, complete certified

payrolls or the other documents described in this section shall entitle the City to withhold payment from the Contractor. Additionally, in the event of noncompliance with this section, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply. In the event of continued noncompliance, the penalties specified in subdivision (h) of the Labor Code section 1776 may be deducted from progress payments to the Contractor.

In accordance with Government Code Section 8546.7, or any amendments thereto, all books, records, and files of the Contractor, or any Subcontractor connected with the performance of this Contract, shall be subject to examination and audit by the Auditor General for a period of three (3) years after final payment. Contractor shall preserve and cause to be preserved such books, records and files for the audit period.

D. Underpayment of Wages; Penalties.

The Contractor agrees that in the event of underpayment of wages to any employee on the Project, whether by the Contractor or any Subcontractor, the City may retain from payments due to the Contractor, an amount sufficient to pay such worker the difference between the wages required to be paid by the DIR, and the wages actually paid such worker for the total number of hours worked. The City may disburse such retention to such employees.

In accordance with Articles 2 and 3, Chapter 1, Part 7, Division 2 of the Labor Code, particularly Sections 1775 and 1813, the Contractor shall forfeit to City as a penalty the sum specified below, over and above any retention or withholds otherwise authorized by the agreement, as follows:

1. Fifty dollars (\$50) for each calendar day, or portion thereof, for each worker paid less than the applicable prevailing wages for any work done under this Contract by him/her or any Subcontractor above him/her; and/or
2. Twenty-five dollars (\$25) for each worker employed in the execution of this agreement by the Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week and to whom applicable overtime rates have not been paid.

E. Apprentices.

Attention is directed to the provisions of Sections 1777.5, 1777.6 and 1777.7 of the Labor Code concerning the employment of apprentices by the Contractor or any Subcontractor under it.

The Contractor and all Subcontractors under it shall comply with the requirements of Section 1777.5 and Section 1777.6 in the employment of apprentices. Violation of these requirements shall subject the Contractor and/or Subcontractor to the penalties set forth in Section 1777.7 of the Labor Code and/or otherwise provided by law or Contract.

Information relative to apprentice standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex-officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices. Adequate supervision of all apprentices shall be

maintained at all times by the Contractor and any Subcontractor employing the apprentice.

F. Workers' Compensation.

Pursuant to Labor Code section 1860, in accordance with the provisions of Section 3700 of the Labor Code, the Contractor is required to secure the payment of workers' compensation to its employees. See also Article 3 of these General Provisions.

G. Compliance with State Anti-Discrimination Laws.

The Contractor shall comply with Section 1735 of the Labor Code, which provides as follows:

"No discrimination shall be made in the employment of persons upon public works because of the race, religious creed, color, national origin, ancestry, physical disability, mental disability, handicap, medical condition, marital status, or sex of such persons, except as provided in Section 12940 of the Government Code, and every contractor for public works violating this Section is subject to all the penalties imposed for a violation of [Chapter 1 of Part 7, Division 2 of the Labor Code]."

H. Fair Labor Standards.

The Contractor shall comply with the Fair Labor Standards Act of 1938 as amended (29 U.S.C. § 3201 et seq.) as applicable.

I. Contractors License.

The Contract shall comply, and cause its Subcontractors to comply, with the requirements of the California State Licensing Board and to have a valid contractor's license which is to be active as to the date of the receipt of bids and maintained in "Good Standing" from the receipt of bids throughout the Project.

J. Use of Pesticides.

The Contractor shall comply with all rules and regulations that govern the use of pesticides required in the performance of the Work, including any certifications that may be required for purchase, use, storage or application.

Pesticides include, but are not limited to, herbicides, insecticides, fungicides, rodenticides, germicides, nematocides, bactericides, inhibitors, fumigants, defoliants, desiccants, soil sterilants and repellants.

Any substance or mixture of substances intended for preventing, repelling, mitigating, or destroying weeds, insects, diseases, rodents or nematodes and any substance or mixture of substances intended for use as a plant regulator, defoliant or desiccant shall be considered a pesticide.

K. Reporting Requirements and Sanctions.

Failure to provide specific information, records, reports, certifications, or any other documents required for compliance with the Contract Documents will be considered noncompliance. The minimum documents required include the following:

1. List of Subcontractors: Required from the Contractor and each Subcontractor with a lower tier subcontractor; due within ten (10) Calendar Days after the

date of the pre-construction conference or within ten (10) Calendar Days after the date of award of the subcontract, whichever date is later.

2. **Certified Payroll Reports:** Required from the Contractor and each Subcontractor, regardless of the subcontract amount or the type of procurement, for every payroll period in which work is performed; due with each progress payment application and the final payment application.
3. **Fringe Benefit Statement:** Required from the Contractor and each Subcontractor if fringe benefits are paid to an approved plan, fund or program; due with first certified payroll report and any time the fringe benefit amounts change; not required if the fringe benefits are paid in cash to the employees.
4. **Other Documentation:** When required by the Special Provisions, other reporting documentation may be required depending on the funding for the project.

If the Contractor fails to comply with the reporting requirements of the Contract Documents, the Contractor will be advised of the specific deficiencies and requested to make immediate correction. The Contractor will be advised that payments will be withheld for failure to make corrections or cure delinquencies.

Section 6.02. Responsibility of the Contractor.

The Work shall be under the Contractor's responsible care and charge until completion and final acceptance, and the Contractor shall bear the entire risk of injury, loss, or damage to any part by any cause. The Contractor shall rebuild, repair, restore, and make good all injuries, losses or damage to any portion of the Work or the materials occasioned by any cause, and shall bear the entire expense.

The mention herein of any specific duty or responsibility imposed upon the Contractor shall not be construed as a limitation or restriction of any other responsibility or duty imposed upon the Contractor by the Contract, said reference being made herein merely for the purpose of explaining the specific duty or responsibility.

The Contractor shall do all of the work and furnish all labor, materials, tools, equipment, and appliances, except as otherwise herein expressly stipulated, necessary or proper for performing and completing the Work herein required, including any change order work or disputed work directed by the City in conformity with the true meaning and intent of the Contract Documents, within the time specified.

Section 6.03. Subcontracting.

If the Contractor subcontracts any work to be performed or materials to be supplied pursuant to this agreement, the Contractor shall be as fully responsible to the City for the acts and/or omissions of such Subcontractor or supplier and of the persons either directly or indirectly employed or engaged as Subcontractors by such Subcontractor or supplier as it is for its own acts and omissions.

The City and its representatives will deal only with the Contractor, and the Contractor shall be

responsible for the proper execution of the Work. Any and all discussions between any Subcontractor or supplier and the City or any of its representatives shall be initiated through the Contractor or its representative.

The Contractor shall bind every Subcontractor or supplier, and every subcontractor of a Subcontractor, by the terms of the Contract Documents. The Contractor shall include provisions in every Subcontract that the Contract between the Contractor and the City is part of the Subcontract, and that all terms and provisions of the Contract are incorporated in the Subcontract. Copies of all Subcontracts shall be available to the City upon written request.

Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor or supplier and the City or any of its representatives, nor shall this Contract be construed to be for the benefit of any Subcontractor or supplier.

The Contractor shall not perform work on the Project with a Subcontractor who is ineligible to perform work on public works project pursuant to Labor Code sections 1777.1 or 1777.7.

If, through acts or neglect on the part of the Contractor, including failure to supervise and control its Subcontractors or suppliers, any other contractor, Subcontractor or supplier, or worker suffers loss or damage, the Contractor agrees to settle with such other contractor, Subcontractor, supplier, or worker by agreement or arbitration, if such other contractor, Subcontractor, or worker shall assert any claim against the City or any of its officers, agents, or employees, on account of any damage alleged to have been so sustained.

In the event of the receipt of any such claim, the City shall notify the Contractor, who shall defend, indemnify, and save harmless the City and all of its officers, agents, and employees against any such claim.

Section 6.04. Listing of Subcontractors.

The Contractor shall comply with the requirements in the Instructions to Bidders regarding the listing of Subcontractors and shall comply with the requirements of the Subletting and Subcontracting Fair Practices Act, Chapter 4 of Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100, forbidding bid shopping and bid peddling, requiring accurate listing of all Subcontractors, and requiring Subcontractors to be licensed.

Should the Contractor violate any of the provisions of this Section, the violation shall be deemed a breach of this contract and the City shall have all remedies provided by California law, including but not limited to those provided in Public Contract Code Section 4110, allowing termination of the Contract or a penalty assessment of ten percent (10%) of the subcontract amount.

Section 6.05. General Safety and Protection Requirements.

The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work, for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. Also, in no case shall the City, the Owner's Representative, the Architect or Consulting Engineer, the Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for the means, methods, techniques, sequences or procedures utilized by the Contractor, or for safety precautions and programs in connection with the Work, or for maintaining any safety or health conditions on the Site, or for ensuring against or correcting any

hazardous conditions on the Site.

The Contractor shall comply with all Occupational Safety laws, rules and regulations applicable to the work.

A. Protection of Persons and Property.

The Contractor shall at all times, until final acceptance and payment hereunder, maintain adequate protection against injury to persons, including employees, or damage to property, on or near the Project, or adjacent to the Site. The Contractor shall be responsible for maintaining all safety and health conditions on the Site and for ensuring against and/or correcting any hazardous conditions on the Site. In no case shall the City, the City's Representative, the Architect, Consulting Engineer, Project Inspector or their agents, employees or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions, on or near the Site, or adjacent to the Site.

The Contractor shall provide a safe environment for all functions to be performed by the Owner's Representative, Architect, Consulting Engineer and Project Inspector, and a safe place for all employees to work.

The use of alcohol or drugs will not be permitted on City property.

B. Protection and Repair of Work.

The Contractor shall protect the City's structures, facilities, equipment, tools, materials, and any other property on or adjacent to the Site against damage, loss, or theft by providing adequate security measures for its work. The Contractor shall, until final payment hereunder, maintain protection of all of its work and work performed by others under this Contract from damage, loss, defacement, or vandalism. The Contractor shall provide protection of completed work which may be subject to damage as a result of the Contractor's failure to perform as scheduled.

The Contractor shall repair or replace any damage and remove any damaged or defaced material and/or equipment from the Site at no cost to the City.

C. Protection of Workers.

The Contractor shall take every precaution for the safety of all employees and others on the Work, and to comply with all applicable provisions of federal, state and local 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 the public, and shall post danger signs warning against hazards created by construction including, but not limited to, protruding nails or reinforcing steel, hod hoists, elevator hatchways, scaffolding, window openings, stairways, and falling materials.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that may exist.

The responsibility for maintaining a safe working site shall be the Contractor's, and the City, Owner's Representative, Architect, Consulting Engineer and Project Inspector undertake no obligation to suspend the work or notify the Contractor of any hazardous conditions or noncompliance with safety laws. In no case shall the City, the Owner's Representative, the Architect, Consulting Engineer, Project Inspector, or their agents, employees or representatives, have either direct or indirect responsibility for maintaining any safety or health conditions, or for ensuring against or correcting any hazardous conditions on the Site.

D. Working Limits and Regulations.

The Contractor shall confine its apparatus, storage and materials, and construction operations within the limits established by the Owner's Representative, and shall not unreasonably encumber the Site or adjacent areas with its materials and/or equipment.

The Contractor shall enforce any instructions from the City or the Owner's Representative regarding fires, placement of signs, danger signals, barricades, radios, noise and smoking.

E. Overloading.

The Contractor shall determine safe loading capacities and shall not overload any structure beyond its safe capacity during construction. In addition to assuming full responsibility for bodily injury and/or property damage resulting from any such overloading, the Contractor shall repair to the City's satisfaction or reimburse the City for the costs of repairing any damage resulting therefrom.

F. Protection of Existing Improvements.

The Contractor shall clean the portions of existing improvements and facilities which are used by, traversed or dirtied by the workers on the Work, normal maintenance due to use by City employees or the public excepted.

All existing improvements and facilities shall be protected from any damage resulting from the operations, equipment or workers of the Contractor during the course of the construction.

The Contractor shall take all necessary precautions to protect existing facilities against the effects of the elements and Contractor shall be strictly liable for failure to adequately protect any facility.

All damaged improvements and facilities shall be replaced, repaired, and restored to their original condition without additional cost to the City and without an extension of the Contract Time.

G. Security of the Site.

The Contractor is responsible for the security of the Site.

H. Removal of Barricades.

Upon completion of the work, the Contractor shall remove from the Site all materials used for barricades, temporary scaffolding, or any other temporary uses.

I. Protection of Adjacent Property: Notices.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary all foundations and other parts of all existing structures on the Site or adjacent to the Site which are in any way affected by the excavations or other operations connected with the completion of the Work.

Prior to excavation, the Contractor shall contact USA Underground Service Alert and shall obtain from them the location of underground utilities.

Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the Owner's Representative, who will send the City and occupants thereof a notice, which specifies the type of work to be done, the schedule of the work, the impacts expected from the work and the protective measures being taken by the Contractor. The notice shall also specify that any person receiving notice who has questions regarding it may contact the Owner's Representative.

Whenever any notice is required to be given to any adjoining or adjacent landowner, utility, governmental agency or other party before commencement of any work, the notice shall be given by the Contractor at least seven (7) days in advance of the work, or longer if required by law or regulation, with a copy delivered to the Owner's Representative.

The Contractor shall, at the written instruction of the Owner's Representative, meet with any recipient of such notice to explain and discuss the proposed work.

J. Fire Protection.

The Contractor shall take all steps necessary to protect all structures from fires and sparks originating from the Work, shall comply with all laws and regulations regarding fire protection, and shall comply with all instructions of the fire department with jurisdiction.

The Contractor shall notify the Owner's Representative and the fire department in writing at least seventy-two (72) hours prior to disconnection of either water or electrical service to the Site, and shall comply with the fire department's instructions regarding fire safety.

The Contractor must keep fire detection systems operational throughout the duration and scope of its work.

K. Repairs or Replacement.

Any damage to existing conditions, or to any other improvement or property above or below the surface of the ground, whether private or public, arising from performance of this Contract shall be repaired within forty-eight (48) hours by the Contractor without expense to the City, unless disruption of City operations or creation of a safety hazard has occurred, in which case damage will be corrected immediately.

If, in the opinion of the Architect or Consulting Engineer, the best interest of the City requires that repairs be made prior to the execution of any further work, the Owner's Representative will so notify the Contractor who shall delay or discontinue that part of

the Work until the necessary repair has been made. Such delay shall be considered non-compensable, and no extension of the Contract Time will be granted therefor.

Upon the failure of the Contractor to comply with any such order, or upon the Contractor's failure to make immediate emergency repairs which are necessary to protect the Work, the City shall do that work itself as is necessary to protect life and property, in its sole discretion, and deduct the total cost of such work from the next progress payment. No prior notice to the Contractor shall be necessary for the City to take this action.

L. Emergency Safety Actions.

In an emergency affecting the safety of life or property, including adjoining property, the Contractor, without previous instructions or authorizations from the City, is authorized and shall act at its discretion and risk to prevent such threatened loss or injury, and the Contractor shall bear all costs of that action. The Contractor shall immediately notify the Owner's Representative of such actions, and thereafter shall comply with any instructions issued by the Owner's Representative.

Section 6.06. Asbestos Related Work.

All work involving asbestos containing material must be performed in accordance with California Labor Code, sections 6501.5 through 6510, inclusive, and California Administrative Code, Title 8, Section 5208 and all other pertinent laws, rules, regulations, codes, ordinances, decrees and orders.

Section 6.07. Air Pollution Control.

The Contractor shall comply with all air pollution control laws, statutes, rules, regulations and ordinances, including, without limitation, all County of Sacramento and City of Folsom air pollution control rules, regulations, and ordinances, which apply to any work performed pursuant to the Contract Documents.

Section 6.08. Water Pollution

The Contractor shall comply with all City of Folsom rules, regulations, ordinances and statutes which apply to water pollution, including Section 7-1.01G of the State Specifications and the City's NPDES permit requirements.

Unless provided by the City as part of the Contract Documents, within ten (10) Calendar Days of the Notice to Proceed, the Contractor shall prepare and submit to the City for approval a Storm Water Pollution Prevention Plan (SWPPP). The Contractor shall conduct all of its operations, and shall cause its Subcontractors and suppliers to conduct their operations, related to the Project so as to comply with the approved SWPPP. Failure to comply with the approved SWPPP shall subject the Contractor to a withholding of ten percent (10%) of each progress payment until the Contractor, Subcontractor or supplier is in compliance, in addition to any actual damages suffered by the City as a result of the noncompliance.

Section 6.09. Sound Control Requirements.

The Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the Contract Documents.

Each internal combustion engine, used for any purpose on the Project or related to the Project, shall be equipped with a muffler of a type recommended by the manufacturer. No internal

combustion engine shall be operated on the Project without said muffler.

Section 6.10. Indemnification.

The Contractor shall defend, indemnify and save harmless the City, the Owner's Representative, the Architect, the Consulting Engineer and any of their respective officers, officials, agents, and employees from any and all claims, demands, damages, costs, expenses, attorney's fees, or liability arising out of or in any way connected with the performance or attempted performance of the provisions hereof, or in any way arising out of or connected with this Contract, including but not limited to, inverse condemnation, equitable relief, or any acts or omissions, any wrongful act, or any negligent act or omission to act, whether active or passive, on the part of the Contractor or any of its agents, employees, independent contractors, Subcontractors or suppliers; provided, further, without limiting the foregoing, that the indemnity is intended to apply to any wrongful acts, or any actively or passively negligent acts or omissions to act, committed jointly or concurrently by the Contractor, the Contractor's agents, employees, independent contractors, Subcontractors or suppliers, and the City, its agents, employees, or independent contractors.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or independent contractors, Subcontractors or suppliers of any provisions of federal, state or local law, including applicable administrative regulations.

The indemnity obligation also expressly extends to and includes any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the Work, whether such persons are on or about the Site by right or not, whenever the Work is alleged to have been a contributing cause in any degree whatsoever.

Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to indemnify the City in contravention of Section 2782 of the Civil Code for the sole negligence or willful misconduct of the City or its agents, employees or independent contractors.

In claims against any person or entity herein indemnified that are made by an employee of the Contractor or an employee of any of the Contractor's agents, independent contractors, Subcontractors or suppliers, a person indirectly employed by the Contractor or by any of the Contractor's agents, independent contractors, Subcontractors or suppliers, or anyone for whose acts the Contractor or any of the Contractor's agents, independent contractors, Subcontractors or suppliers may be liable, the indemnification obligation herein shall not be limited by any limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or the Contractor's agents, independent contractors, Subcontractors or suppliers under workers' compensation acts, disability acts, or other employee benefit acts.

The indemnification obligations herein shall not be limited by any assertion or finding that the person or entity indemnified is liable by reason of a non-delegable duty.

The indemnities set forth herein shall not be limited by the insurance requirements set forth in

the Contract Documents.

The indemnification requirements herein set forth shall extend to claims occurring after this Contract is terminated as well as while it is in force.

Section 6.11. Indemnification of Adjacent Property Owners.

In the event the Contractor enters into any agreement with the owners of any adjacent property to enter upon or adjacent to such property for the purpose of performing this Contract, the Contractor shall fully indemnify, defend and save harmless such person, firm, or corporation, state or other governmental agency which owns or has any interest in the adjacent property. The form and content of the indemnification agreement shall be approved by the City prior to commencement of any work on or about such property. These provisions shall be in addition to any other requirements of the owners of adjacent property.

Section 6.12. Contractor's Legal Address; Written Notice.

Both the address given in the Bid and the Contractor's office in the vicinity of the Work are designated as places that samples, notices, letters or other articles or communications to the Contractor may be mailed or delivered. The delivery to either of these places shall be deemed sufficient service to the Contractor and the date of such service shall be the date of delivery. Written notice may be accomplished by personal delivery, United States mail, telegram, facsimile or any other form of commercially accepted communication. The written notice shall become effective upon delivery. Delivery is complete when the notice is hand-delivered to the Contractor's address given in the Bid or its job-site office; or when the facsimile transmission is complete; or two days after mailing by U.S. mail; or upon actual delivery as evidenced by a delivery receipt.

The address named in the Bid may be changed at any time by written notice from the Contractor to the City.

Nothing herein shall be deemed to preclude or render inoperative the service of any drawing, sample, notice, letter or other article or communication to the Contractor.

Section 6.13. Contractor Not Agent, Nor Employee.

Neither the Contractor nor any Subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an agent, employee or other representative of the City for any purpose whatsoever.

No person employed by the Contractor, or by any Subcontractors, are, nor shall they be construed to be in any manner or for any purpose whatsoever, agents, employees or representatives of the City.

Nothing in the Contract Documents shall be construed to create any relationship of joint venture, partnership or other association of any nature whatsoever between the City and the Contractor other than that of owner and independent contractor. The City shall have the right to direct the Contractor as provided in the Contract Documents. The aforementioned right of supervision shall not reduce or abrogate the Contractor's liability for all damage or injury to persons, public property or private property that may arise directly or indirectly from the Contractor's execution of the Work.

Section 6.14. Conflict of Interest.

No official of the City who is authorized on behalf of the City to negotiate, make, accept, or approve, any architectural, engineering, inspection, construction, or materials supply contract, or any subcontract in connection with the construction of the Project, or any land acquisition in connection with the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof.

No officer, employee, architect, attorney, engineer, or inspector of or for the City who is authorized on behalf of the City to exercise any executive, supervisory, or other similar function in connection with the construction of the Project shall become directly or indirectly interested personally in this contract or any part thereof.

Section 6.15. Third Party Claims.

The Contractor shall be responsible for all third party claims and costs or injuries incurred by a third party which result from the operations of the Contractor.

Section 6.16. Assignment of Contract.

The Contract or the performance of the Contract may be assigned by the Contractor, but only upon written consent of the City, which consent the City has the sole discretion to refuse for any reason whatsoever, and the consent of the Contractor's surety, unless the surety has waived its right of notice of assignment. No such assignment or subcontracting shall be permitted that would relieve the Contractor or the Contractor's surety of their responsibilities under the Contract Documents

Section 6.17. Assignment of Monies.

The Contractor may assign monies due the Contractor under the Contract, and such assignment will be recognized by the City, if given proper notice, to the extent permitted by law. Any assignment of monies shall be subject to all deductions provided for in the Contract Documents. Any money withheld may be used by the City for the completion of the Work if the Contractor defaults.

Section 6.18. Permits and Licenses.

The Contractor shall, at the Contractor's sole expense, obtain all necessary permits and licenses for the construction of the Work, give all necessary notices and pay all fees required by law relating to the Work. The Contractor shall also procure all permits and licenses necessary for the normal conduct of the Contractor's business and construction operations.

Unless otherwise noted in the Special Provisions, building, plumbing, heating, electrical and similar permits which the Contractor is required to obtain from the City Building Inspection Divisions for City owner projects are fee exempt and will be obtained by the City.

The California Environmental Quality Act of 1970 (CEQA) may be applicable to permits, licenses, and other authorizations that the Contractor shall obtain from local agencies in connection with performing the Work. The Contractor shall comply with the provisions of CEQA in obtaining such permits, licenses, and other authorizations, which will be obtained in time to prevent delays to the Work.

The Contractor shall comply with permits, licenses, or other authorizations applicable to the Work obtained by the City in conformance with the requirements in CEQA.

Section 6.19. Patents and Royalties.

All fees, claims, or royalties for any patented or copyrighted invention, article, arrangement, or plan that may be used upon or in any manner connected with the doing of the work or any part thereof shall be included in the price bid for doing the work. The Contractor and its sureties shall protect and hold harmless the City, Owner's Representative, Architect, Consulting Engineer and their consultants, Project Inspector, and each of their respective officers, agents, and employees against any and all demands made for such fees or claims and against any and all suits, demands, claims or causes of action brought or made by the holder of any invention, patent, copyright, or trademark, or arising from any alleged infringement of any invention, patent, copyright, or trademark.

Before final payment is made on account of this Contract, the Contractor shall furnish acceptable proof to the City of proper release from all such fees or claims.

Section 6.20. Approval of Contractor's Plans No Release from Liability.

The review or approval by the City of any working drawing or any method of work proposed by the Contractor shall not relieve the Contractor of any of the Contractor's responsibility for any errors and shall not be regarded as any assumption of risk or liability by the City or any officer, official, agent, employee, or representative of the City. The Contractor shall have no claim under the Contract because of the failure or partial failure or inefficiency of any reviewed or approved plan or method. City review or approval means that the City has no objection to the Contractor using the proposed plan or method at the Contractor's responsibility and risk.

Section 6.21. Providing and Paying for Materials.

Except as otherwise specifically stated in the Contract Documents, the Contractor shall provide and pay for all materials, products, articles, processes, labor, tools, equipment, and installation, and all associated superintendence of every nature whatsoever necessary to execute and complete the Work within the Contract Time.

Section 6.22. Warranty of Title.

No material, article, product, supplies, or equipment for the Work shall be subject to any chattel mortgage, or a conditional sale or other agreement by which an interest therein or in any part thereof is retained by the seller or supplier.

The Contractor warrants good and sufficient title to all material, supplies, and equipment installed or incorporated in the Work, and agrees upon completion of the Work to deliver the premises, together with all improvements and appurtenances, constructed or placed thereon by the Contractor, to City, free from any claims, liens, or charges.

The Contractor agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon; provided, however, that nothing contained in this Section shall defeat or impair the rights of persons furnishing materials or labor under the payment bond given by the Contractor, nor any rights under any law permitting such persons to look to funds due to the Contractor but retained by the City.

The Contractor shall cause the provisions of this Section to be inserted in all subcontracts and material contracts executed by the Contractor and notice of this provision shall be given to all persons furnishing materials for the Work.

This Section shall not disallow the Contractor's installing any devices or equipment of utility companies or of governmental agencies, the title to which is commonly retained by the utility company or the agency.

Section 6.23. Rights and Remedies.

The duties and obligations of the Contractor imposed by the Contract Documents and the rights and remedies of the City available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

The failure of the City or its officials, officers, employees, agents, or of the Owner's Representative, the Project Inspector, Architect or Consulting Engineer to insist in any one or more instances upon the strict performance of any one or more of the provisions of this Contract or to exercise any right herein contained or provided by law, shall not be construed as a waiver or relinquishment of the performance of such provision or right(s) or of the right to subsequently demand such strict performance or exercise such right(s) and the rights shall continue unchanged and remain in full force and effect.

The Contractor agrees that it can be adequately compensated by money damages for any breach of this Contract which may be committed by the City or its officials, officers, employees, agents, or by the Owner's Representative, the Project Inspector, Architect or Consulting Engineer, and hereby agrees that no default, act or omission of the City or its officials, officers, employees, agents, or of the Owner's Representative, the Project Inspector, Architect or Consulting Engineer shall constitute a material breach of the Contract entitling the Contractor to cancel or rescind the provisions of the Contract or to suspend or abandon performance of all or any part of the Work. The Contractor hereby waives any and all rights and remedies to which it might otherwise be or become entitled, saving only its right to money damages.

Section 6.24. Guarantee Required.

In addition to any guarantees required elsewhere by the Contract Documents, the Contractor shall guarantee the Work for a minimum of two (2) years from and after the recordation of the Notice of Completion and completion of all contract obligations by the Contractor, including formal acceptance of the entire Project by the City. The Contractor specifically waives any right to claim or rely on the statutory definition of completion set forth in Civil Code section 3086. The Contractor specifically acknowledges and agrees that completion shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, change orders, construction change directives and punch lists, and the City's formal acceptance of the entire Project, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy, or otherwise. Such guarantee shall be made on the form provided by the City.

The guarantee period for corrected defective work shall continue for a duration equivalent to the original guarantee period.

Such guarantee is in addition to, and not in lieu of, the City's rights to enforce this Contract in all respects.

Section 6.25. Anti-Trust Assignment.

By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any Subcontractor offers and agrees to assign and hereby does assign to the City all rights, title, and interest in and to all causes of action the Contractor or Subcontractor may

have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be made and shall become effective at the time the City tenders final payment to the Contractor, without further acknowledgment by the parties.

Section 6.26. Access to Records.

The City or the City's authorized representative shall have access, upon reasonable notice, during normal business hours, to any books, documents, accounting records, papers, project correspondence, project files, scheduling information and other relevant records of the Contractor and all Subcontractors directly or indirectly pertinent to the Work, original as well as change and claimed extra work, to verify and evaluate the accuracy of cost and pricing data submitted with any change order prospective or executed, or any claim for which additional compensation has been requested.

Such books, documents and other records mentioned above shall include, but are not limited to all those reasonably necessary in the opinion of the City to determine the accurate amount of direct and indirect costs, job site, area and home office overhead, delay and impact costs, however characterized, and shall include the original bid and all documents related to the bid and its preparation, as well as the as-planned Contract Schedule and all related documents.

Such access shall include the right to examine and audit such records, and make excerpts, transcriptions and photocopies at the City's cost.

Section 6.27. Liability of City.

Neither the City, nor any of its officers, agents, employees or representatives shall be responsible for any liability arising under this Contract, except such obligations as are specifically set forth herein.

Section 6.28. No Verbal Agreements.

No verbal agreement or conversation with any officer, agent, or employee of the City, either before, during, or after the execution of the Contract Documents shall affect or modify any term or condition contained in the Contract Documents, nor shall such verbal agreement or conversation entitle the Contractor to any additional payment or time to perform whatsoever under the terms of this agreement.

Section 6.29. Unenforceability of any Clause.

If any clause or provision of the Contract Documents is held to be unenforceable or invalid, then that provision of the Contract shall be stricken and the remaining portion shall remain in full force and effect.

ARTICLE 7. PROSECUTION OF THE WORK

Section 7.01. Beginning Work

The return of the executed contract, together with the prescribed bonds and certification of insurance, and when required, advance on incidental expenses and acquisitions, shall constitute authority for the Contractor to enter upon the Project Site and to begin operations. Should the Contractor start work in advance of receiving notice that the Contract has been executed by the City, any work performed by the Contractor shall be at the Contractor's own risk.

The pre-construction conference must be conducted before any work shall commence.

Should the Contractor desire to begin work prior to the execution of the Contract, the Contractor shall furnish to the City insurance certificates covering said operations in the type and amount set forth in the Contract Documents.

The Contractor shall give the City at least five (5) Working Days' notice of its intention to start work, specifying the time, date and location at which the Contractor intends to begin.

The counting of Working or Calendar Days shall begin ten (10) Calendar Days from the date the Contractor receives the Notice to Proceed. The Notice to Proceed will be sent by certified mail or hand delivered to the Contractor. In no event shall there be a period of time greater than thirty (30) Calendar Days from the time the Contract forms are first received by the Contractor and the commencement of the Contract Time, regardless of the receipt or lack thereof of signed documents or completion or lack thereof of provisions regarding required bonds and certificates.

When the Contractor has started work on the Project, the Contractor shall diligently prosecute the work to completion within the time limit provided in the Contract Documents.

Section 7.02. Pre-Construction Conference and Progress Meetings.

Prior to beginning work a pre-construction conference shall be held for the purpose of reviewing the Work. The Contractor must attend this pre-construction conference, and shall invite Subcontractors and others necessary to ensure all topics are adequately covered. Topics discussed include, but are not limited to, mobilization, access, temporary facilities, utilities, Subcontractors, schedules, procedures, correspondence, progress payments, payroll records, storm water pollution prevention plans (SWPPP), coordination, safety, after-hour contacts for Contractor and City personnel, quality control/quality assurance, personnel assignments, and other topics as appropriate.

Progress meetings, as stipulated in the Special Provisions or as required by the City, will be conducted throughout the duration of the Contract. The purpose of these meetings is to inform, discuss, and resolve issues related to the Work; the Contractor or the Contractor's agent shall attend. Topics discussed include, but are not limited to, progress, schedules, safety, SWPPP, Requests for Information, Change Orders, Field Instructions, field coordination, Submittals, quality control/quality assurance, testing, startup, safety, and other topics related to the Work.

Section 7.03. Initial Contract Schedule.

No later than seven (7) Calendar Days after receiving Notice to Proceed, the Contractor shall furnish to the Owner's Representative one hard copy and one copy in electronic format (CD or 3-1/2" Windows-format floppy disk) of an Initial Contract Schedule.

The Initial Contract Schedule shall be based on and incorporate the Contract Milestone and Completion Dates specified in the Contract Documents.

The Initial Contract Schedule shall indicate the detailed plan for the work to be completed in the first ninety (90) days of the Contract; details of planned mobilization of plant and equipment; sequence of early operations; and procurement of materials and equipment. Work beyond ninety (90) days shall be shown in summary form.

A. The Initial Contract Schedule shall be a time-scaled Critical Path Method (CPM) type schedule, prepared in Microsoft Project or Primavera software, or equal software subject to City acceptance.

B. Overall time of completion and time of completion for each milestone shown on the Initial Contract Schedule shall adhere to the times in the Special Provisions, unless an earlier (advanced) initial time of completion is requested by Contractor and agreed to by the Owner's Representative. Any such agreement shall be formalized by a Change Order.

The Owner's Representative will review the Initial Contract Schedule for conformance with the requirements of the Contract and will return the Initial Contract Schedule with comments within seven (7) Calendar Days after receiving it from Contractor.

Section 7.04. Contract Schedule Development.

Within 21 Calendar Days after receiving the Notice to Proceed, the Contractor shall submit a detailed Proposed Contract Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with the requirements of this specification. The Proposed Contract Schedule shall be in hard copy and electronic format (CD or 3-1/2" Windows-format floppy disk).

The Contract Schedule shall furnish or comply with the following requirements:

A. A time scaled CPM type schedule, prepared in Microsoft Project or Primavera software, or equal software subject to City acceptance.

B. No activity on the schedule shall have a duration longer than fourteen (14) Working Days, with the exception of fabrication and procurement activities, unless otherwise approved by the City. Activity durations shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity.

C. Procurement of major equipment, through receipt and inspection at the job site, identified as a separate activity.

D. Owner furnished materials and equipment if any, identified as separate activities.

E. Dependencies (or relationships) between activities.

F. Processing/approval of submittals and shop drawings for major equipment. Activities that are dependent on submittal acceptance and/or material delivery shall not be scheduled to start earlier than the expected acceptance or delivery dates.

G. Separate buildings and other independent project elements shall be individually

identified in the network.

H. Fourteen (14) Working Days for developing punch list(s), completion of punch list items, and final clean up for the work or any designated portion thereof. No other activities shall be scheduled during this period.

I. Interface with the work of other Contractors (or entities).

Each activity shown on the Contract Schedule shall have the following minimum information:

- Unique number(s) for each activity
- Activity description
- Activity relationships and dependencies (logic)
- Activity duration in Working Days
- Early start, early finish, late start, late finish dates (calendar date, i.e., day, month, year)
- Total float, free float
- For completed activities: actual start dates, actual finish dates, duration, and logic
- Interim milestone dates and completion dates
- Detailed list of work contained within each activity
- Manpower loading for each item of work for unit price contracts
- Cost loading for each item of work for lump sum contracts

The Owner's Representative will review the Proposed Contract Schedule for conformance with the requirements of the Contract and, within seven (7) Calendar Days after receipt, will approve the Contract Schedule or will return it with comments. If the Proposed Contract Schedule is not approved, the Contractor shall revise the schedule to incorporate comments and resubmit the schedule for approval within seven (7) Calendar Days after receiving it. The approved schedule shall become the Contract Schedule.

The Contract Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. The responsibility for developing the Contract Schedule and monitoring actual progress as compared to the schedule rests with the Contractor.

Failure of the Contract Schedule to include any element of the work or any inaccuracy in the Contract Schedule will not relieve Contractor from responsibility for accomplishing all the Work in accordance with the Contract.

Approval of the Contract Schedule will not relieve the Contractor of the responsibility for accomplishing the Work in accordance with the Contract and the Contract Time.

Failure to obtain the approved Contract Schedule within forty (40) Calendar Days of the Notice to Proceed may result in the City withholding each progress payment until an approved Contract Schedule is obtained.

Section 7.05. Monthly Updates.

Contractor shall submit to the Owner's Representative each month with its payment application an electronic and hard copy up-to-date status report of the Work. The status report shall include:

A. Contractor's estimated percentage complete and remaining duration for each activity

not yet complete.

B. Actual start/finish dates for activities as appropriate.

C. Identification of processing errors, if any on the previous update reports.

D. Revisions, if any, to the assumed activity durations including revisions for weather impact for any activities due to the effect of the previous update on the schedule.

E. Identification of activities that are affected by requested or proposed changes to the Work.

F. Resolution of conflict between actual work progress and schedule logic. When out of sequence activities develop in the Contract Schedule because of actual construction progress, the Contractor shall submit revisions to schedule logic to conform to current status and direction.

The Owner's Representative will review the updated information and meet with Contractor each month at the Site to determine the status of the Work. If agreement cannot be reached on any issue, the Contractor will use the Owner's Representative's determination in the processing of the update.

Progress payments pursuant to the Contract will be based on the update of the Contract Schedule. No progress payments will be made without the required monthly update of the Contract Schedule.

Section 7.06. Schedule Revisions.

If the sequence of construction differs significantly, as determined by the Owner's Representative, from the Contract Schedule, Contractor shall submit within fifteen (15) Calendar Days a revised schedule to the Owner's Representative for approval.

When a requested or proposed change to the Work will have an impact on the critical path, the Contractor shall submit a schedule fragnet showing this impact. If the requested or proposed change is accepted by the City, the schedule fragnet shall be incorporated into the Contract Schedule. Time extensions will be considered only to the extent there is insufficient remaining float to accommodate these changes, and pursuant to this Article 7 of these General Conditions. No additional cost beyond that provided in Article 9 will be allowed for the incorporation of approved changes into the Contract Schedule. Should the Contractor, after approval of the Contract Schedule, intend to change its plan of construction, it shall submit its requested revisions to the Owner's Representative, along with a written statement of the revision, including a description of the logic for rescheduling the work, methods of maintaining adherence to Intermediate milestones and other specific dates and the reasons for the revisions. If the requested changes are acceptable to the Owner's Representative, they will be incorporated into the Contract Schedule in the next reporting period.

Schedule revisions shall be submitted at least seven (7) Calendar Days prior to the date of submission of update information. The City will have seven (7) Calendar Days to review the revisions.

Section 7.07. Short Interval Schedules.

Contractor shall prepare a Short Interval Schedule (SIS) to be used throughout the duration of Work. The SIS shall include all current activities and projected activities for the succeeding two (2) weeks. The SIS shall include actual start/finish dates for the preceding one (1) week. The SIS shall be submitted to the Owner's Representative prior to the weekly construction meeting. The Contractor shall participate in short interval scheduling coordination during the weekly construction meetings.

Section 7.08. Owner's Right to Revise Schedule.

In the event of a delay affecting the occupancy date of the Project and not the fault of the Contractor, the Owner's Representative may elect to resequence work or otherwise modify the schedule in an attempt to maintain the Date of Completion. It shall be the responsibility of the Contractor to cooperate in this effort. It is not the City's responsibility to ensure the Contractor the ability to use "optimal" crew size throughout the Project and no adjustment of the Contract Sum will be made for minor variations in crew size or claimed loss of efficiency or disruption that result from schedule adjustments. However, overtime work or weekend work required by the Owner's Representative to meet schedule objectives other than those of the individual contractor will be reimbursed per the provisions of Article 9, provided that Contractor has not contributed to the delay which the Owner's Representative is seeking to overcome. If the Contractor contends that a schedule adjustment will cause a significant disruption of its work sequence or ability to perform work efficiently, it shall notify the Owner's Representative within forty-eight (48) hours of receipt of the adjustment. Failure to provide timely notice constitutes a waiver by Contractor of any claim for compensation arising out of the schedule adjustment.

Section 7.09. Time of Essence.

Time is of the essence of this agreement. The Contractor shall, to the fullest extent possible, carry on the various classes or parts of the Work concurrently, and shall not defer construction of any portion of the Work in favor of any other portion of the Work, without the express approval of the Owner's Representative.

Section 7.10. Date of Completion.

The Contractor shall fully and satisfactorily complete the Work within the Contract Time. The Date of Completion is defined in Article I.

Section 7.11. No Right to Early Completion.

Any intent or plan on the part of the Contractor to complete the Work earlier than the Contract Time shall be at the Contractor's sole risk. Absent a Change Order signed by the City, the Contractor shall not be entitled to any additional compensation of any kind, including, without limitation, extended overhead, based on a claim that it intended to complete the Work earlier than the Contract Time but that it was unable to so complete early, regardless of the cause of the Contractor's failure to complete the Work earlier than the Contract Time.

Section 7.12. Responsibility for Completion.

The Contractor shall furnish sufficient manpower, materials, facilities and equipment and shall work sufficient hours, including night shifts, overtime operations, Sundays and holidays as may be necessary to insure the prosecution and completion of the Work in accordance with the Contract Time. If work on the critical path is seven (7) days or more behind the currently updated Contract Schedule and it becomes apparent that the Work will not be completed within the Contract Time, the Contractor will implement whatever steps it deems necessary to make up all lost time at no additional cost to the City. If the Contractor's solution is not successful, it will

make further attempts using the following sequence of events:

A. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.

B. If the above cannot be achieved then;

1. The Contractor shall increase manpower in such quantities and crafts as will substantially eliminate, in the judgment of the City, the backlog of work; or increase the number of working hours, shifts per working day, working days per week or the amount of equipment or any combination of the foregoing sufficiently to substantially eliminate in the judgment of the City the backlog of work.
2. In addition, the City may require the Contractor to submit a recovery schedule demonstrating its program and proposed plan to make up a lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the City finds the proposed recovery schedule unacceptable, it may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are unsatisfactory, the City may require the Contractor to take any of the actions set forth in the previous paragraph without additional cost to the City to make up the lag in scheduled progress.

Failure of the Contractor to comply with the requirements of this Section shall be considered grounds for a determination by the City, pursuant to Article 5, Section 5.25, that the Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified.

Section 7.13. Daily Reports.

The Contractor shall submit a Daily Activity Report to the Owner's Representative for each workday including weekends and holidays, when worked. The Daily Activity Report shall indicate, at a minimum, the Subcontractors on Site, the number of people on site for each trade, the weather conditions, the number of hours worked, the activities performed, any problems encountered, and any other information relevant to the work performed on each day.

Section 7.14. Payments Withheld.

Progress Payments may be withheld in whole or in part should the Contractor fail to comply with the requirements of this Article.

Section 7.15. Extensions of Time; Unavoidable Delays.

The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the City, upon a finding of good cause for such extension.

A. As used herein, the following terms shall have the following meanings:

1. "Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the Owner's Representative and Project Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any

Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section, but shall not entitle the Contractor to any adjustment of the Contract Sum.

2. "Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the City and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section and/or an adjustment of the Contract Sum. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.
3. "Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

B. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:

1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 9 and shall be based only on the non-concurrent portion of any Compensable Delay.
2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is non-compensable.

Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.

Float or slack time is the amount of time between the earliest start date and the latest start date or between the earliest finish date and the latest finish date of activities on the Contract Schedule. No time extensions or delay costs will be allowed for delays caused by the City on paths of activities containing float, providing such delay does not exceed the float time per the latest updated version of the approved Contract Schedule.

Whenever the Contractor foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the Owner's Representative in writing of the delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together with a detailed schedule analysis showing the effect of the delay on the critical path of the Contract Schedule and a quantification of the length of the requested

extension of time. Failure of the Contractor to submit such a notice within seven (7) Calendar Days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any request for extension, and no extension shall be granted as a consequence of such delay.

The City shall have no obligation to consider any time extension request unless the Contractor has complied with the requirements of the Contract Documents, including, without limitation, giving the required seven (7) days' notice and submitting the detailed supporting schedule analysis. The City shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the City to grant time extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in accordance with the Contract Schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by the City.

Upon receipt of a request for extension, the Owner's Representative shall conduct an investigation of the facts asserted by the Contractor to constitute good cause for an extension. The Owner's Representative shall report the results of this investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) Calendar Days of receipt of the request and shall indicate whether it will recommend for or against the extension. Upon receiving the Owner's Representative's recommendation, the Contractor may either concur in the recommendation, or reject the recommendation and proceed with a notice of potential claim and claim as provided for in Article 9.

Section 7.16. Discretionary Time Extensions for Best Interest of the City.

The City reserves the right to extend the time for completion of the Work if the City determines that such extension is in the best interest of the City. In the event that a discretionary extension is granted at the request of the Contractor, the City shall have the right to charge to the Contractor all or any part, as the City may deem proper, of the actual cost of construction management, engineering, inspection, supervision, incidental and other overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from the final payment for the Work.

In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely with the City and is not legally compelled for any cause, the Contractor shall be entitled to a contract change pursuant to Article 9 adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of the delay, upon its written application therefor, accompanied with such verification of costs as the Owner's Representative requires. The decision of the City on any discretionary time extension and the costs thereof shall be final and binding.

Section 7.17. Temporary Suspension or Delay of Work.

The City has the authority to suspend or delay the Work, wholly or in part, for any period the City deems necessary. The Contractor shall immediately comply with the City's written order to suspend or delay the Work. The suspended or delayed work shall be resumed only when conditions are favorable or methods are corrected, as ordered or approved in writing by the City. Public safety and convenience must be maintained throughout the suspension or delay in accordance with the Contract Documents.

Delays due to suspension of work shall be classified as Excusable or Inexcusable Delays. Such suspension shall not relieve the Contractor of the Contractor's responsibilities as described in

the Contract Documents.

Section 7.18. Suspensions Exceeding One Year.

Should the Work be suspended for a period exceeding one calendar year due to war conditions, labor conditions, legal actions, or for other conditions constituting the legal defense of impossibility of performance, the Contractor and City agree to enter into an agreement terminating the agreement upon the following terms and conditions.

The City shall be responsible only to pay the Contractor the actual value of the work performed from the Date of Commencement or from the date of the last progress payment, whichever is later, plus the ten percent (10%) retention from prior progress payments, less any deductions authorized by the Contract Documents.

As between the Contractor and the City, it shall be conclusively presumed that the actual value for the Contractor's work to the date of the last progress payment is no more than the actual amount of prior progress payment plus the ten percent (10%) retention from those progress payments; provided, however, that this Section shall not preclude the City from deducting charges for work or materials which do not meet the requirements of the Contract Documents.

Section 7.19. Liquidated Damages.

If the Work is not completed by the Contractor in the time specified in the Contract Documents, or within any period of extension authorized pursuant to this Article, the Contractor acknowledges and admits that the City will suffer damage, and that it is impracticable and infeasible to fix the amount of actual damages. Therefore, it is agreed by and between the Contractor and the City that the Contractor shall pay to the City as fixed and liquidated damages, and not as a penalty, the sum specified in the Contract Documents for each Calendar Day of delay until the Date of Completion, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and that the City may deduct Liquidated Damages from any monies due or that may become due to the Contractor. If it appears during the course of construction that the Contractor is behind schedule and the imposition of liquidated damages is likely, or if liquidated damages begin to accrue prior to the time for final payment, the amount accrued shall be withheld from any progress payment that would otherwise be due. This right to withhold funds is intended to complement the City's other rights under the Contract Documents.

This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only delays found to be excusable or compensable pursuant to this Article, or time extensions granted by the City.

Pursuant to Government Code Section 4215, the Contractor shall not pay fixed and liquidated damages for delay in completing the project caused by the failure of the City or the owner of utility facilities located on the Project Site to provide for removal or relocation of such facilities.

Payment by the City of any progress payments after expiration of the Contract Time shall not constitute a waiver by the City of its right to claim liquidated damages in accordance with this Section.

If the Contract is terminated after the Contract Time, as adjusted by any extensions of time that the City may have granted, the Contractor shall remain liable to the City for liquidated damages for all periods of time from such termination date until the Date of Completion.

Section 7.20. Extension of Time Not a Waiver.

Any extension of time granted the Contractor pursuant to this Article shall not constitute a waiver by the City of, nor a release of the Contractor from the Contractor's obligation to perform this Contract in the Contract Time, as modified by the particular extension in question.

The City's decision to grant a time extension due to one circumstance set forth in one request, shall not be construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other time, and shall not be viewed by the Contractor as a precedent for any other request for extension.

Section 7.21. Pursuance of Work During Inclement Weather.

During inclement or unsuitable weather or other unfavorable conditions, the Contractor shall pursue only such portions of the Work that will not be damaged by the weather or unfavorable conditions. When the weather or unfavorable conditions create hazardous travel or working conditions, as determined by the City, the Contractor may be directed to stop that portion of the Work, in accordance with Section 7.17 until the weather clears or the conditions are no longer unfavorable.

The Contractor must keep roads safe and inspect and maintain storm water pollution prevention and erosion control devices during inclement weather or unfavorable conditions. Lane and road closures may not be allowed if the City determines that the traffic controls will create unnecessary risk to the traveling public, the Contractor, and/or City employees.

Section 7.22. Effect of Stop Work Notice.

If the City orders a suspension of the Work pursuant to Article 5, Section 5.19, the days on which the suspension is in effect shall be included in determining the required completion date, and shall not otherwise modify or extend the time within which the Contractor is to perform. In such event, the Contractor shall not be entitled to any damages or compensation on account of such suspension or delay, unless the Contractor can establish that stop work notice was not warranted.

Section 7.23. Weekend, Holiday and Night Work.

No work shall be done between the hours of 6:00 p.m. and 7:00 a.m., or on Sundays or legal holidays except with written permission of the City. Request to work between 6:00 p.m. and 7:00 a.m. or on Sundays or legal holidays must be submitted in writing to the Owner's Representative at least two (2) Working Days in advance of the intended work. In case of an emergency the Contractor will be allowed to work at night or on Sundays or legal holidays, but must notify the Owner's Representative immediately. An emergency shall be considered an unforeseen event that poses a danger to the public or to the uncompleted work.

It is understood that two (2) or three (3) shift operations may be established as a regular procedure by the Contractor upon written permission from the City. Such permission may be revoked if the Contractor fails to maintain adequate force and equipment for reasonable prosecution and inspection of the Work, or fails to provide sufficient artificial light to permit the Work to be carried out safely and appropriately and to permit inspection.

The Contractor shall give the Owner's Representative one (1) Working Day prior written notice of any work to be done on a Saturday, with the location and type of work to be done specified. Any work done without such notice and without the supervision of an inspector may be ordered

removed and replaced at the Contractor's expense.

Section 7.24. Use of Completed Portions.

The City has the right during the progress of the Work to take over and place in service any completed or partially completed portion of the Work. Taking possession shall not be deemed acceptance of any other portions of the Work, nor of any work on those portions not completed in accordance with the Contract.

Prior to the Date of Completion, the Contractor shall make all repairs or renewals in the portion of the Work occupied by the City made necessary due to defective material or workmanship, or the operations of the Contractor, ordinary wear and tear excepted.

Section 7.25. Coordination with Other Activities.

The Contractor shall conduct its operations so as not to interfere unreasonably with the City's use of the occupied portions of the Site. The Contractor shall submit periodic schedules to the Owner's Representative proposing the times, areas, and types of work to be done within such areas.

If the Work produces conditions rendering the occupied portions of building, the Site, or other areas uninhabitable, either because of noise, dust, vibration, smoke, fumes, or for any other cause whatsoever, the Owner's Representative may suspend the Work or direct the Contractor to modify the Contract Schedule, and the Contractor shall comply.

Except as provided by Change Order, the Contractor shall not be entitled to a time extension or increase in the Contract Sum by virtue of conflicts between the Contractor's work and the City's occupancy.

Section 7.26. Periodic Cleaning of Project.

The Contractor shall properly clean its work and the Site, and maintain its work area in an orderly manner. The Contractor shall remove all dirt, debris, waste, rubbish, and implements of service from the Project, the adjacent sidewalks and streets, and the working area daily or as directed by the Owner's Representative. Debris, waste, or unused construction materials shall not be left under, in, or about the Project, nor allowed to accumulate on the Site or in the working area.

The Contractor, at its sole cost, shall contract with a disposal company to remove all rubbish, and shall have the refuse containers emptied at frequent enough intervals so that waste does not overflow the containers.

If the Contractor fails to clean up during progress or upon completion of the Work, the City may do so at the Contractor's expense.

Section 7.27. Final Cleaning of Project.

At completion of the Work and prior to final acceptance/inspection and occupancy by the City, the Contractor shall thoroughly clean the interior and exterior of the buildings, and the Site and adjacent areas, of all material related to its performance of the Work. In the event the Contractor fails to do so, the City may cause this work to be done at the Contractor's expense.

Prior to final completion or City occupancy, the Contractor shall conduct an inspection of sight-exposed surfaces, and all work areas, to verify that the entire work is clean. In the event the Contractor fails to do so, the City may cause this work to be done at the Contractor's expense.

Section 7.28. Notice of Punch List Inspection.

When the Contractor believes that a phase of its Work is complete, it shall request in writing a punch list inspection. Within five (5) Working Days of the receipt of such request, the Owner's Representative, the Project Inspector and the Architect or Consulting Engineer shall make a punch list inspection or inform the Contractor that the work is not ready for punch list inspection; upon completion of the deficient work, the Contractor shall again request a punch list inspection. The Contractor or its representatives shall be present at the punch list inspection. The purpose of the punch list inspection is to determine whether the Work has been completed in accordance with the Contract Documents, including all Change Orders, all interpretations and instructions previously issued.

If the Contractor requests a punch list inspection when the Work is not ready for the inspection, the Contractor shall pay all costs associated with the inspection.

If Contractor fails to attend any punch list inspection, the Contractor shall be charged for the cost of the Owner's Representative, the Project Inspector, Architect or Consulting Engineer, and other design professionals who attended the punch list inspection.

Completion of any phase of the Work does not result in final completion, or in any way alter the payment provisions after final completion.

Section 7.29. Punch List.

The Owner's Representative, the Project Inspector and the Architect or Consulting Engineer shall notify the Contractor in writing of any deficiencies to be remedied prior to final acceptance, by preparing a written list, known in the industry as a punch list. The Contractor shall remedy all items shown on the punch list prior to final acceptance by the City.

No one is authorized to amend the Contract Documents by use of the punch list; it is provided solely for the benefit of the Contractor to enable it to determine what items must be corrected before final acceptance will be recommended by the Owner's Representative, the Project Inspector and the Architect or Consulting Engineer. The City reserves the right to require compliance with the Contract Documents, notwithstanding the issuance of a punch list or the completion by the Contractor of all items on the punch list.

In the event that the Work still does not comply with the Contract Documents, the City reserves the right to issue such further punch lists as may be required, or to deduct from the final payment the cost of correcting any work not completed in accordance with the Contract Documents, but accepted by the City, without the issuance of further punch lists.

If punch list work needs to be performed after the City has taken occupancy of any portion of the Work, the work shall be conducted at the direction of the Owner's Representative.

Section 7.30. Completion; Acceptance of Contract; Notice of Completion.

The Contractor acknowledges and agrees that completion for purpose of final payment shall mean the Contractor's complete performance of all Work required by the Contract Documents, amendments, Change Orders, Construction Change Directives and punch lists, and the City's formal acceptance of the Work, without regard to prior occupancy, substantial completion doctrine, beneficial occupancy or otherwise.

Acceptance of the Work shall be made only by formal written acceptance by the City. Recordation of a Notice of Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.

ARTICLE 8. MEASUREMENT AND PAYMENT

Section 8.01. Schedule of Values.

Within ten (10) days after Notice to Proceed, the Contractor shall submit to the City a schedule of values broken down by phase in sufficient detail to evaluate progress at any point in the Work. In no event shall an individual line item on a schedule of values exceed five percent of the Contract Sum unless so approved in advance by the Owner's Representative. Labor, material, and subcontract costs shall be shown separately. Cost of contract closeout shall be shown as an individual line item.

The schedule of values, when approved, shall be used as a basis for the Contractor's applications for payment.

Section 8.02. Basis and Measurement of Payment Quantities.

It is the Contractor's responsibility to measure and/or compute the quantities of work completed, subject to verification by the City, under the terms of the Contract Documents. In computing quantities, the length, area, solid contents, number, weight, or time as specified in the Contract Documents or the Schedule of Values shall be used.

A. Unit Price Contracts.

Payment for all work bid at a price per unit of measurement will be based upon the actual quantities of work as measured upon completion. The Estimated Quantities provided in the Bid Documents are for comparative bidding only. The City does not expressly or by implication agree that the actual amount of work or materials will correspond to the Estimated Quantities. The Contractor shall make no claim nor receive any compensation for anticipated profits, loss of profit, damages or any extra payment due to any difference between the amount of work actually done or materials furnished and the Estimated Quantities.

B. Lump Sum Contracts.

Items bid on a "Lump Sum" or "Job" basis shall result in a complete structure, operating plant or system in satisfactory working condition in respect to the functional purposes of the installation, and no extra compensation will be allowed for anything omitted but fairly implied. Progress payments will be based on the approved schedule of values.

C. Mobilization

Mobilization shall consist of preparatory work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies, and incidentals to the Site; for the establishment of all offices, buildings, and other facilities necessary for the Work; and for all other work and operations which must be performed, or costs incurred, prior to beginning the Work.

Payment for mobilization will be as follows:

1. When the Contract does not include a separate pay item for mobilization, full compensation for mobilization will be included in the Contract lump sum price or in the prices paid for the various items of work in a unit price contract, and no additional compensation will be paid.

2. When the Contract or proposed Schedule of Values includes a separate item for mobilization, payment for mobilization will include full compensation for the furnishing of all labor, materials, tools, equipment, administrative costs, and incidentals for mobilization. The City will pay no greater than five percent (5%) of the total Contract Sum as a separate pay item for mobilization. In the event the Contractor submits a mobilization pay item greater than five percent (5%) of the total Contract Sum, the City will pay any excess mobilization amount with the final Progress Payment.

Payment for mobilization will be prorated as follows:

- a. When the Progress Payment request is five percent (5%) or more of the original total Contract Sum (excluding mobilization), fifty percent (50%) of the contract item price for mobilization or two and one-half percent (2.5%) of the total Contract Sum, whichever is less, will be paid for mobilization.
 - b. When the Progress Payment request is ten percent (10%) or more of the original total Contract Sum (excluding mobilization), seventy percent (70%) of the contract item price for mobilization or three and one-half percent (3.5%) of the total Contract Sum, whichever is less, will be paid for mobilization.
 - c. When the Progress Payment request is twenty percent (20%) or more of the original total Contract Sum (excluding mobilization), ninety percent (90%) of the contract item price for mobilization or four and one-half percent (4.5%) of the total Contract Sum, whichever is less, will be paid for mobilization.
 - d. When the Progress Payment request is fifty percent (50%) or more of the original total Contract Sum (excluding mobilization), one hundred percent (100%) of the contract item price for mobilization or five percent (5%) of the total Contract Sum, whichever is less, will be paid for mobilization.
 - e. After final acceptance of the Contract, the amount, if any, of the Contract item price for mobilization in excess of five percent (5%) of the original total Contract Sum will be included for payment in the final estimate.
3. The City will not pay additional mobilization compensation for work under a Contract Change Order. Payment for mobilization shall be subject to retention.

Section 8.03. Application for Payment.

- A. On the 25th of each month, the Contractor shall submit to the Owner's Representative its progress payment application, with an estimate of the total amount and value of work done, including that done under approved Change Orders or signed written directives, and the acceptable materials furnished and incorporated in the work through the 25 day of the month. The Bid Form or schedule of values shall be used to prepare the progress payment application. The Owner's Representative, Architect or Consulting Engineer and Project Inspector will review the Contractor's proposed percentages of completion and agree on a final percentage to be paid for that month. After deducting all previous payments, retention and other withholdings as specified or allowed in the Contract Documents from the estimated total value, the City will pay the

Contractor the balance.

No progress payment will be made unless all general conditions items demonstrate satisfactory progress.

B. Release of Liens: For each monthly application for payment, following agreement, the Contractor shall submit a conditional lien release warranting that title to all work, labor, materials and equipment covered by the application is free and clear of all liens, claims, security interests or encumbrances. Additionally, the Contractor shall submit unconditional lien releases for all work through the prior progress payment. For final payment, the Contractor and all of its Subcontractors and material suppliers shall submit final conditional and final unconditional lien releases.

C. No progress payment will be released until the Owner's Representative has received all of the following items in acceptable form: as-built updates, schedule updates, certified payroll and other required pay records, and lien releases.

D. Neither the payment, the withholding, nor the retention of all or any portion of any progress payment claimed to be due and owing to the Contractor shall operate in any way to relieve the Contractor from its obligations under this agreement; shall not constitute acceptance of the Work or any portion thereof; and shall in no way reduce the liability of the Contractor to replace unsatisfactory work or material, though the unsatisfactory character of such work or material may not have been apparent or detected at the time such payment was made. The Contractor shall continue diligently to prosecute the Work without reference to the payment, withhold, or retention of any progress payment. The payment, withhold, or retention of any progress payment shall not be grounds for an extension of the Contract Time.

Section 8.04. Work Done Without Direct Payment.

Compensation for any portion of the Work not specifically identified in the Bid Form or schedule of values is understood to be included in the price for other items, unless specified in the Special Provisions as extra work. No additional compensation is allowed for additional shifts or premium pay necessary to ensure that the Work is complied within the time limits specified in the Contract Documents.

Section 8.05. Payment for Stored Materials.

Payments may be made by the City, at its discretion, on account of materials or equipment not incorporated in the Work but delivered to the Site and suitably stored by the Contractor. Payments for materials or equipment stored shall only be considered upon submission by the Contractor of satisfactory evidence demonstrating that it has acquired title to such material, that the material will be used in the Work, that it is satisfactorily stored, protected and insured, and that the Contractor has undertaken such other procedures satisfactory to the Owner's Representative, Project Inspector, and Architect or Consulting Engineer, to protect the City's interests. Materials stored off-site, to be considered for payment, shall, in addition to the above requirements, be stored in a bonded warehouse, fully insured, and available to the Architect or Consulting Engineer and Owner's Representative for inspection. The Owner's Representative shall have complete discretion as to the amount of material and equipment that may be stored on the Site at any given time.

Section 8.06. Payment; Retention.

There shall be reserved from the monies earned by the Contractor on estimates a sum equal to ten percent of such estimates.

Section 8.07. Posting Securities in Lieu of Withholds.

Pursuant to Public Contract Code Section 22300, at the request and expense of the Contractor, securities equivalent to the amount withheld pursuant to Section 12.04 shall be deposited with the City, State Treasurer or with a state or federally chartered bank in California as the escrow agent, who shall then pay the retainage to the Contractor. Upon satisfactory completion of the Contract, the securities shall be returned to the Contractor.

Alternatively the Contractor may request, pursuant to Public Contract Code Section 22300, and the City shall make payment of retentions under Section 12.04 directly to the escrow agent. The Contractor shall receive the interest earned on the investments upon the same terms provided for in Section 22300 for securities deposited by the Contractor. Upon satisfactory completion of the Contract, the Contractor shall receive from the escrow agent all securities, interest and payments received by the escrow agent from the City.

Either alternative under this Section may be exercised only if requested in writing by the Contractor within five (5) Calendar Days after its execution of the Contract. The Contractor shall notify its Subcontractors in writing within fifteen (15) Calendar Days of exercising this option.

Securities eligible for investment under this Section shall include those listed in Government Code Section 16430 or bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, stand-by letters of credit, or any other security mutually agreed to by the Contractor and the City.

The Contractor shall be the beneficial owner of any securities substituted for monies withheld and shall receive any interest thereon.

Section 8.08. Withholding Additional Amounts; Grounds.

In addition to the retention amounts to be withheld, the City may withhold a sufficient amount from any payment or payments otherwise due to the Contractor as in the City's sole discretion may be necessary to protect the City in the event of the following:

- A. Third party claims filed or reasonable evidence indicating probable filing of such claims;
- B. Defective work not remedied;
- C. Failure of the Contractor to make proper payments to any of its Subcontractors or for labor, materials or equipment;
- D. The occurrence of reasonable doubt that the Contract can be completed for the balance of payments then unpaid to the Contractor, or in the time remaining until expiration of the Contract Time;
- E. Failure of the Contractor to comply with any lawful or proper direction concerning the Work given by any City representative authorized to have given such instruction;

F. Claims and/or penalties which state law assesses against the Contractor for violation of such law;

G. Any claim or penalty asserted against the City by virtue of the Contractor's failure to comply with the provisions of all governing laws, ordinances, regulations, rules, and orders;

H. Any reason specified elsewhere in the Contract Documents as grounds for a retention or withholding, or that would legally entitle the City to a set-off.

In order to adequately protect the City, the Contractor agrees that the basic standard to determine the amount to be withheld pursuant to this Section shall be one hundred fifty percent (150%) of the amounts claimed or the value of the work not done or defectively done; provided, however, that City reserves the authority to retain greater sums should such sums be necessary in the City's discretion to adequately protect it.

Section 8.09. Disbursement of Withheld Amounts.

The City, in its sole discretion, may apply any withheld amount or amounts to the payment of any claim resulting in a withhold. The Contractor agrees and hereby designates the City as its agent for such purposes, and any payment so made by the City shall be considered as a payment made under this Contract by the City to the Contractor. The City shall not be liable to the Contractor for any payments made in good faith. Such payments may be made without a prior judicial determination of the claim or claims. The City shall render to the Contractor a proper accounting of any funds disbursed on behalf of the Contractor.

Prior to disbursing any amounts, the City shall afford the Contractor an opportunity to present good cause, if it has any, why the claim or claims in issue are not valid or just claims against the Contractor. The City reserves the right then to take such further steps as are appropriate, in its sole discretion, including, but not limited to, seeking a judicial resolution of the controversy.

Section 8.10. Correction of Statement and Withholding of Payment.

No inaccuracy or error in any statement provided by the Contractor shall operate to release the Contractor or any surety from the error, or from damages arising from such work, or from any obligation imposed by the Contract Documents. The City shall retain the right subsequently to correct any error made in any previously issued claim for the progress payment, or progress payment issued, by adjustments to subsequent payments.

Section 8.11. Final Payment.

When the Contractor determines that all of the Work on the Project is complete and all items on the punch list have been satisfied, or contends that such items are not required by the Contract Documents, the Contractor shall submit an application for final payment. Simultaneously with the Contractor's request for final payment, the Contractor shall submit the following items to the Owner's Representative:

A. Record Documents.

B. All O&M submittals not previously submitted and approved

C. Hazardous material documentation if required.

D. Other items as required in the Special Provisions.

No payment will be processed unless accompanied by the listed documents in acceptable form.

A. Final Payment Process.

Upon receipt of the submittals required by this Article and the Contractor's final payment application, and upon verification that all of the Work is complete, including all punch list items, the Owner's Representative shall either (1) recommend to the City that the payment application be accepted, which recommendation shall be made within five (5) business days of receipt of the Contractor's final payment application, or (2) send a notice to the Contractor rejecting the payment application, stating the basis therefor, and submitting a written estimate of the sum due to the Contractor, which written estimate shall be provided to the Contractor within twenty (20) Calendar Days of the Owner's Representative's receipt of the Contractor's final payment application. The Owner's Representative's estimate shall take into account the Contract Sum, as adjusted by any Change Orders; amounts already paid; and sums to be retained for incomplete work, liquidated damages, and for any other cause under the Contract Documents. Any protest by the Contractor of the Owner's Representative's estimate shall be as set forth below.

The Architect or Consulting Engineer shall prepare a statement of final inspection, stating that the Work has been given a final inspection, that the Contractor has submitted the required documents, setting forth with detail any deviations in the Work as completed from the Contract Documents, and estimating the cost of correction of such deviations.

The Architect's or Consulting Engineer's statement shall be transmitted to the City, along with the Contractor's application for final payment approved by the Owner's Representative, Architect or Consulting Engineer and Project Inspector. The Owner's Representative shall provide a copy of the Architect's or Consulting Engineer's statement of final inspection to the Contractor.

B. Protest of the Owner's Representative's Estimate.

If the Contractor contests the estimate of sums due prepared by the Owner's Representative, the Contractor may file a claim in writing with the Owner's Representative in accordance with Article 9 and setting forth in detail all grounds alleged by the Contractor to justify an adjustment to the Owner's Representative's estimate. The Contractor's claim shall be certified under penalty of perjury and in compliance with the California False Claims Act. Failure to include these required certifications will constitute grounds for immediate rejection of the claim. Failure to file a timely claim shall constitute a waiver and acceptance by the Contractor of the Owner's Representative's estimate, which shall then become final and be forwarded to the City for approval of payment.

C. Approval of Final Payment.

Following acceptance of the Work, the City shall authorize final payment to the Contractor of the undisputed sums found due, subject to retentions for stop notices. This final payment shall be made within sixty (60) Calendar Days after completion, as defined in Section 7.30 above, and recordation of the Notice of Completion.

Section 8.12. Withholding for Stop Notices.

The City may, in its sole discretion, and at any time, withhold from the Contractor any unpaid claims alleged in Stop Notices filed pursuant to Civil Code Section 3179 et seq. The City reserves all remedies it may have in the event of a stop notice dispute. The basic standard to determine a sufficient withholding in the event of a Stop Notice shall be one hundred fifty percent (150%) of the total of all stop notices filed; provided, however, the City reserves the right to withhold different or greater sums in its discretion.

Section 8.13. Non-Waiver.

Neither acceptance of, nor payment for, the Work or any part thereof, nor any extension of time, nor any possession taken by City shall operate as a waiver of any of the provisions of this Contract, nor shall a waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. In addition, recordation of a Notice of Completion shall not be deemed an acceptance of latent defects, nor shall it constitute a waiver of any of the provisions of this agreement.

ARTICLE 9. CHANGES AND CLAIMS

Section 9.01. No Changes Without Consent.

No extra work shall be performed, and no change shall be made, except pursuant to a written Change Order or Proposed Change Order signed by the City, or by CCD signed by either the City or the Owner's Representative, stating that the extra work or change is authorized, and no claim for any addition to the Contract Sum or Contract Time shall be valid unless so authorized; provided, however, that nothing in this Article shall excuse the Contractor from proceeding with the prosecution of the work so changed. The Contractor shall, when required by the Owner's Representative, furnish an itemized breakdown of the quantities and prices used in computing the value of any change requested by the Contractor, or that may have been ordered by the City.

Change Orders shall specify the cost adjustments associated therewith, and in no case shall the City pay or become liable to pay any sums different than those specified or those established under Sections 9.04 and 9.05.

Substitutions are considered change orders.

Section 9.02. Change Orders.

Subject to legal requirements relating to competitive bidding, the City may require changes in, additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the Contract Documents. Changes may be made pursuant to a written Change Order signed by the City, which shall state the agreement of the City, the Contractor, and the Architect or Consulting Engineer upon all of the following:

- A. The scope of the change in the Work;
- B. The amount of the adjustment in the Contract Sum, if any; and
- C. The extent of the adjustment in the Contract Time, if any.

All adjustments to the Contract Sum or the Contract Time must be approved by the City.

Signature by the Contractor on the Change Order constitutes its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the Change Order as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

Section 9.03. Construction Change Directive/CCD.

Changes also may be made pursuant to a CCD, which shall direct a change in the Work and state a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A CCD shall be used in the absence of total agreement on the terms of a Change Order, or when time does not permit processing of a Change Order prior to implementation of the change. CCD's shall be approved by the City and the Architect or Consulting Engineer, but need not be signed by the Contractor. Upon receipt of a CCD, the Contractor shall promptly proceed with the change in the work involved. It is the intent of the City that all CCD's will be converted into a Change Order. When a CCD is used because time does not permit processing of a Change Order prior to implementation of the change, signature by the Contractor on the CCD constitutes

its agreement with and acceptance of the adjustments in the Contract Sum and Contract Time, if any, set forth in the CCD as full and complete satisfaction of any direct or indirect additional cost and/or time incurred by the Contractor in connection with performance of the change work.

Section 9.04. Pricing of Changes.

If a Change Order or CCD provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

A. Lump Sum Price.

The Contractor shall submit a lump sum price proposal with a detailed cost breakdown on all labor and materials proposed to be provided by the Contractor's forces or the forces of Subcontractors or material suppliers. The proposal shall include labor surcharges of twenty-six percent (26%), sales tax and markups as specified in Section 9.05 of these General Provisions.

B. Unit Prices.

If payment for Contract work is based on unit prices, payment for changed work will be made based on actual quantities of work done at the unit prices contained in the Contract or unit prices otherwise agreed upon by the City and Contractor if none are contained in the Contract. Payment will be for actual quantities furnished, as described above. Payment for changed work based on Contract or agreed upon unit prices includes the full cost of the item of work, including profit and overhead, and no additional payment or adjustment will be allowed. If the final quantity of any item of work required under the Contract varies from the Estimated Quantity by twenty-five percent (25%) or more, compensation will be adjusted in accordance with State Specification section 4-1.03B, "Increased or Decreased Quantities."

C. Force Account.

In the absence of either an agreed lump sum price or unit prices for the change, the City may direct the Contractor to proceed with the changed work on a force account basis. The Contractor shall be paid for labor, materials and equipment actually used during the performance of the changed work as set forth below, plus the markups specified in Section 9.05 of these General Provisions.

The Contractor shall keep and present daily, in such form as the Owner's Representative may prescribe, an itemized accounting together with appropriate invoices and other supporting data of the labor, materials, and equipment used during that day. All labor shall be recorded on separate time sheets clearly identified with the CCD number and scope of extra work involved. These time sheets shall be signed daily by the Project Inspector or the Owner's Representative. No costs will be allowed for time not recorded and signed the same day the work takes place. The Contractor and the Owner's Representative shall discuss and attempt to resolve any disputes concerning the Contractor's daily records at the time the report is submitted.

The Contractor shall on a monthly basis accompanying the progress payment request submit a reconciliation for all work performed on a force account basis during the period of the progress payment. A final reconciliation shall be submitted within 30 days after the force account work is completed. The reconciliation shall recap all costs and appropriate markups for the period. No costs will be allowed for work not included in a reconciliation within the time periods specified.

To facilitate agreement on direct craft labor hours, construction equipment hours, and material quantities, the Contractor shall notify the Owner's Representative not less than four (4) hours prior to starting force account work.

Allowable costs for force account work are as follows:

1. Labor.

The Contract will be paid the cost of direct labor (foreperson and below) used in the actual and direct performance of the changed work, including working foreman when authorized by the City. Except as otherwise provided, the Contractor will receive no additional compensation for overtime work without prior written authorization of the City. The cost of the labor will be the sum of the following:

- a. Actual Wages: Charges for labor will be the Contractor's actual payroll costs for labor of any classification, including employer payments to or on behalf of the workers for health and welfare, pension, vacation and similar purposes.
- b. Labor Surcharge: A twenty-six percent (26%) surcharge for taxes, insurance, and all other payments made to or on behalf of the employee shall be added to the actual wages.
- c. Subsistence and Travel: The City will pay the Contractor for actual subsistence and travel allowance costs associated with the changed work required by labor agreements or acceptable to the City. Supporting documentation must be provided to the City.

2. Materials.

Payment will be for the purchaser's actual cost of supplier or vendor furnished materials. If the Contractor does not furnish satisfactory evidence of the cost of such materials, the cost will be the lowest current wholesale price at which such quantities of material are available and delivered to the job site. The City reserves the right to purchase materials for changed work, and the Contractor shall have no claims for costs or profit on such materials.

3. Equipment.

The prices paid for equipment directly and solely required for performance of the changed work will be those listed in the current edition of the Caltrans publication, "Labor Surcharge and Equipment Rental Rates". If the equipment is not shown in this publication, the Contractor shall be paid such hourly rental rates as are agreed upon by the Contractor and the Agency prior to use of the equipment, plus thirty-three and one-third percent (33-1/3%) for the cost of fuel, oil, lubrication, and field repairs and maintenance. In no case shall the hourly rental rates exceed those of established distributors or equipment rental agencies serving the area.

The rate paid for the use of equipment constitutes full compensation to the

Contractor for all costs, including fuel, power, oil, lubrication, supplies, small tools, small equipment, necessary attachments, repairs and maintenance of any kind, depreciation, storage, insurance, labor (except for equipment operators) and any and all costs to the Contractor incidental to the use of such equipment for the changed work.

Payment will not be made for the equipment while it is inoperative due to breakdowns or for time in which no changed work was performed. Payment for rentals will include time required to move equipment to the changed work from the nearest available rental source and to return it to the source. However, no moving, loading, or transportation costs will be paid if the equipment is used for any other portion of the Work.

Individual pieces of equipment having replacement value of five hundred dollars (\$500) or less shall be considered tools or small equipment and no payment will be made for those pieces of equipment.

4. Subcontracts.

Subcontract costs shall be the actual cost to the Contractor for work performed by a Subcontractor. The provisions set forth above for pricing of force account work apply to the computation of subcontract costs. Subcontractors shall compute markups as set forth in Section 9.05 of these General Provisions.

Section 9.05. Markups for Changed Work.

Only direct costs directly attributable to the performance of the changed work shall be allowed. All other costs shall be included in the allowed markups, including, but not limited, to overhead and profit; preparation of all paperwork related to changes in the Work, including field review, estimating and cost breakdown; coordination and supervision, both office and field, including the project superintendent; vehicles including gas and maintenance; small tools, incidentals and consumables; engineering, detailing, and revisions to shop drawings and as-built drawings; general office and administrative expense; extended and unabsorbed home office overhead; warranty; costs of bonds, liability insurance, and all taxes.

The Contractor's combined overhead and profit for work performed by its own forces shall not exceed twenty-five percent (25%) for labor, fifteen percent (15%) for materials, fifteen percent (15%) for equipment and two percent (2%) for bonds and insurance.

If the changed work is performed by a Subcontractor, the Subcontractor shall be entitled to an allowance of fifteen percent (15%) of its actual labor, material and rental costs for overhead and profit.

The Contractor shall be allowed to mark-up the Subcontractor's price five percent (5%) for its overhead and profit. Cumulative total markup for all tiers of contractors and subcontractors shall not exceed thirty percent (30%). If the net value of a change results in a credit from the Contractor or Subcontractor, the credit shall be the actual net cost, plus ten percent (10%) for overhead and profit. When both additions and credits covering related work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase or decrease, if any, with respect to the change.

Section 9.06. Construction Incentive Change Proposal (CICP).

A. General.

The Construction Incentive Change Proposal (CICP) Program provides a program for the Contractor to use its expertise to improve Contract performance to create an overall reduction in the total cost of the Contract. Proposing to delete work is not a CICP. Deleted work is addressed in Section 4.11 of these General Provisions. The CICP Program shall not apply to City contracts which have a cost of less than \$100,000. The Contractor and subcontractors may participate in the CICP Program. Participation of Subcontractors shall be through the Contractor; the Contractor and Subcontractor must agree upon the sharing agreement; and evidence of such agreement must be submitted with the CICP.

While a CICP is being considered or processed, the Contractor shall proceed with the Work as scheduled.

B. Description

A CICP is a formally written proposal for a Change Order. A CICP must be initiated, developed and identified as such by the Contractor or Subcontractor. A CICP must result in a net capital cost reduction while causing no increase in the total life cycle cost of the Project and shall comply with the following conditions:

1. Required function, reliability and safety of the Project will be maintained without detracting from the life expectancy or increasing maintenance requirements.
2. The proposed change shall not cause undue interruption of the Work, nor shall it extend the Contract Time.
3. The proposed change shall comply with all applicable permits, regulations and code requirements, and any other requirements set forth in the Contract Documents. The proposed change shall not involve payment of royalties by the City to the Contractor.

C. Submittal.

The Contractor shall submit a brief description of the proposed CICP prior to preparing the detailed submittal as outlined below.

A CICP submittal must contain pertinent information in supporting documents for City evaluation. As a minimum, the following information shall be submitted:

1. Name of individuals associated with the development and preparation of the CICP.
2. A detailed description and duly signed plans and specifications showing work as presently designed and the proposed changes.
3. A clear identification of all advantages and disadvantages for each proposed change.

4. A detailed procedure and schedule for implementing the proposed change. This detailed procedure and schedule shall include all necessary Contract amendments. Also indicated must be the latest date that the CICIP can be approved for implementation.
5. A summary of estimated costs, including the following:
 - a. Project construction costs before and after the CICIP. This shall be a detailed estimate identifying the following items for each trade involved in the CICIP: (i) quantities of material and equipment; (ii) unit prices of materials and equipment; (iii) labor hours and rates for installation; (iv) Contractor and Subcontractor markups; (v) operation and maintenance costs before and after the CICIP; and (vi) cost for implementing the CICIP not included elsewhere.
 - b. Contractor's share of savings based on the sharing provision below.
 - c. Other data as required by local permits and regulations and code requirements set forth in the Contract.
6. Time required for execution of the proposed change.

To the extent indicated herein, the Contractor may restrict the City's use of any CICIP or the supporting data submitted pursuant to this Program. Suggested wording for inclusion in CICIP's is as follows:

"This data furnished pursuant to the construction incentive clause of the Contract shall not be disclosed or duplicated in whole or in part beyond what is necessary to accomplish the review. This restriction does not limit the City's right to use the information if it is available from any source without limitations. The City has the right to duplicate, use and disclose any information if the CICIP is accepted."

The City may modify, accept or reject the CICIP. However, if the CICIP is modified or not acted upon with the time allotted in the proposal, the City will not be liable for the Contractor's cost of developing the CICIP if it is withdrawn or rejected.

D. Acceptance.

If the CICIP is accepted by the City, the processing procedure specified for Change Orders shall be used. Approval of the CICIP by the Architect or Consulting Engineer is required. If the CICIP is rejected, the Contractor may not, and shall not, appeal the decision.

E. Sharing Provisions.

Upon acceptance of the CICIP, the Contractor shall received fifty percent (50%) of the net capital savings based on the following formula:

Net Capital Savings = (Contract Cost Prior to CICIP + City's cost incurred in reviewing, redesigning and processing the CICIP) – (Revised Contract Cost After

CICP + CICP Development Cost + CICP Implementation Cost)

The Contractor's development cost is limited to that directly associated with the preparation of the CICP package. Development costs will be reimbursed after approval. However, the City will reject costs that cannot be satisfactorily substantiated.

Section 9.07. Effect on Sureties.

All changes authorized by the Contract Documents may be made without notice to or consent of the sureties on the contract bonds, and shall not reduce the sureties' liability on the bonds.

The City reserves the right to require additional payment or performance bonds to secure a Change Order.

Section 9.08. Unforeseen Site Conditions.

The Contractor shall promptly, and before the condition is disturbed, notify the Owner's Representative, in writing, of any:

1. Material that the 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.
2. Subsurface or latent physical conditions at the Site differing materially from those indicated in the Contract Documents.
3. Unknown physical conditions at the Site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

Upon receipt of notice from the Contractor, the Owner's Representative and the Architect or Consulting Engineer shall promptly investigate the conditions, and if it is determined that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a Change Order or CCD under the procedures described in the Contract Documents.

In the event that a dispute arises between the City and the Contractor as to 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, the Contractor shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all work to be performed under the Contract Documents. The Contractor shall retain any and all rights provided either by the Contract Documents or by law which pertain to the resolution of disputes and protests between the contracting parties. No contract adjustment which results in a benefit to the Contractor will be allowed unless the Contractor has provided the required written notice under this Section

No contract adjustment will be allowed under the provisions specified in this Section for any effects caused on unchanged work.

Section 9.09. Notice of Potential Claim.

The Contractor shall not be entitled to payment of any additional compensation for any cause, including any disagreement, protest or change, any act or failure to act by the City, or the happening of any event, thing or occurrence, unless the Contractor first has given the City due advance written notice of potential claim as hereinafter specified. The written notice of potential claim shall set forth the reasons for which the Contractor believes additional compensation and/or time will or may be due, the nature of the costs and/or time involved, and, insofar as possible, the amount of the potential claim. The notice must be given to the Owner's Representative prior to the time the Contractor performed the work giving rise to the potential claim for compensation, if based on an act or failure to act by the City, or in all other cases, within fifteen (15) Calendar Days of the happening of the event, thing, occurrence or other cause giving rise to the potential claim.

See Article 7, Section 7.15 for additional notice requirements related to time extensions.

The Contractor hereby agrees that the Contractor shall have no right to additional compensation for any claim that may be based on any such fact, failure to act, event, thing, occurrence or other cause for which no written notice of potential claim as required herein was filed.

Section 9.10. Claims in Excess of \$375,000.

For all claims in excess of \$375,000, Contractor shall give written notice of claim to the Owner's Representative within thirty (30) Calendar Days of the date of the Owner's Representative's estimate of sums due under Section 8.11 of these General Provisions, stating in detail all grounds alleged by the Contractor to justify an adjustment to the Owner's Representative's estimate and submitting all supporting documents and schedules. Thereafter, Contractor must comply with the requirements of the California Government Code regarding claims against public entities (Government Code Sections 900 and following).

The Contractor's notice of claim shall be certified under penalty of perjury and in compliance with the California False Claims Act, as set forth in Section 9.12 below. Failure to include these required certifications will constitute grounds for immediate rejection of the claim and shall be deemed a waiver and absolute bar of the claim, including any right to pursue the claim further.

Failure to comply with these notice and/or time requirements shall constitute a waiver of the claim and an absolute bar against further pursuing the claim.

Section 9.11. Claims of \$375,000 or Less.

All claims under this Contract of \$375,000 or less shall be resolved in accordance with Section 20104 et seq. of the Public Contract Code, except that the claim must be submitted no later than thirty (30) Calendar Days of the date of the Owner's Representative's estimate of sums due under Section 8.11 of these General Provisions. The Contractor's claim shall be certified under penalty of perjury and in compliance with the California False Claims Act, as set forth in Section 9.12 below. Failure to include these required certifications will constitute grounds for immediate rejection of the claim and shall be deemed a waiver and absolute bar of the claim, including any right to pursue the claim further.

Section 9.12. Claim Certification.

Contractor acknowledges that it has read and is familiar with the provisions of the False Claims Act (California Government Code §12650 et seq.). Submission by Contractor of any claim (as the term "claim" is defined in False Claims Act) to the City in connection with the Project,

whether on its behalf or on behalf of a Subcontractor or material supplier, shall constitute a representation by Contractor to the City that submission of the claim does not in any respect, violate the False Claims Act. Any party with an interest in the claim, including Contractor and any Subcontractor or material supplier, shall certify under penalty of perjury the validity and accuracy of any claim submitted to the City, as provided below. Compliance with this claims certification requirement shall be a condition precedent to any obligation City might otherwise have to review the claim and failure to provide such certification shall constitute a waiver of the claim.

The claim certification required by this section shall provide as follows:

CLAIM CERTIFICATION

Under penalty of perjury, and with specific reference to the California False Claims Act, Government Code sections 12650, et seq. I certify that submission of the attached claim is made in good faith; that the supporting data prepared by the undersigned company are accurate and complete to the best of my knowledge and belief; that submission of the claim to the City does not violate the False Claims Act; and that I am duly authorized to certify the claim on behalf of the claimant.

Dated: _____ Company _____

Signature _____

Title _____

ARTICLE 10. SAFETY, CONFINED SPACES, TRAFFIC CONTROL, UTILITIES AND TRENCHING

Section 10.01. General Safety Requirements.

The Contractor shall comply with all safety requirements in the General Provisions, as well as with all applicable occupational safety and health standards and rules set up to help eliminate or limit workplace hazards proven or suspected by research or experience to be harmful to personal safety and health

The Contractor shall have on record with the City the following twenty-four (24) hour emergency contact numbers:

- A. Traffic control device supplier: Supplier of barricades, steel plates, delineators, channelizers, construction signs, and other traffic control equipment to be used during construction.
- B. Contractor representative: An employee of the Contractor having the authority to make decisions and the ability to respond to an emergency on the project at any time.
- C. Safety Representative: The Contractor's Safety Representative shall have the authority to make decisions regarding safety and health concerns on the project and to direct the Contractor's personnel to abate any hazard identified by the City.

Section 10.02. Work During Hours of Darkness.

Working areas utilized by the Contractor during the hours of darkness shall be illuminated to conform to the minimum illumination intensities established by California Occupational Safety and Health Administrative Construction Safety Orders.

Section 10.03. Sewers and Appurtenances/Contaminations.

The Contractor is warned that when the work involves existing sewers and appurtenances that have been exposed to sewage and industrial wastes, these facilities shall be considered contaminated with disease-causing organisms. Personnel in contact with contaminated facilities, debris, wastewater or similar items shall be advised by the Contractor of the necessary precautions that must be taken to avoid becoming diseased. It is the Contractor's responsibility to urge its personnel to observe a strict regiment of proper hygienic precautions, including any inoculations recommended by the local public health officer.

Because of the potential danger of solvents, gasoline, and other hazardous material in the existing sewer and storm drain pipes, these areas shall be considered hazardous. The Contractor shall be aware of these dangers and shall comply with Article 108, "Confined Spaces", of the General Industrial Safety Orders (Cal-OSHA) contained in the California Administrative Code, Title 8.

Section 10.04. Confined Spaces.

When working in a confined space, the Contractor shall comply with all requirements of Article 108, "Confined Spaces", of the General Industrial Safety Orders (Cal-OSHA), contained in the California Administrative Code, Title 8, sections 5156 through 5159 ("Article 108"). The Contractor shall provide all monitoring and safety equipment necessary to perform pre-entry

checks of all confined spaces. The Contractor shall also provide all monitoring, safety and communications equipment required for operations in those confined spaces requiring conformance to Article 108.

Identified on the Contract Drawings are those confined spaces for which the City has determined, based upon experience or knowledge that an environment free of dangerous air contamination and/or oxygen deficiency cannot be ensured through the implementation of the applicable provisions of Article 108. The Contractor shall be provided with information regarding known hazards and known or potential permit spaces.

For entry into designated confined spaces, as well as permit-required confined spaces, the Contractor shall follow all procedures required for conformance with Article 108.

To assure compliance with the above, the Contractor shall submit for review to the Owner's Representative:

- A. The Contractor's detailed procedures for confined space operation, including without limitation, operating, rescue and surveillance of surrounding areas procedures.
- B. Copies of all documents and certificates that qualify the Contractor to safely perform work in confined spaces. The Contractor shall also submit all applicable Materials Safety Data Sheets (MSDS) and hazard information on chemicals, products, materials or procedures.
- C. Sufficient documentation and evidence that a confined space entry can be made in accordance with Article 108. Documentation shall include, but not be limited to the following:
 - Equipment availability, suitability and integrity
 - Personnel training
 - Experience
 - Supervision
 - Safety
 - Accident experience
 - Permit-required confined space policy
 - Lock-out/tag-out procedures (if applicable)
 - Hot work procedures (if applicable)

The Contractor's submittal shall be made at least ten (10) Calendar Days prior to any confined space entry in accordance with the requirements of Article 5, Section 5.10 of the General Provisions of the City's Standard Specifications and must be determined to be satisfactory by the City before such work will be allowed to proceed. The Contractor shall conform to the procedures established by its submittal at all times during operations in all confined space operations.

After the City has reviewed the Contractor's submittal to perform confined space entry work, the Contractor will be provided with the following:

- A. Notification of the location, physical characteristics, known hazards, etc. regarding

the confined space the Contractor anticipates entering.

- B. Information regarding safety items (e.g., nearby emergency equipment), precautions, procedures, safeguards, etc. installed or implemented and that may be available to the Contractor's employees in or near the confined space.

A debriefing session will be held with the Contractor at the conclusion of the entry operation to ascertain if any hazards were encountered or created and remain.

Failure of the City to identify a confined space shall not relieve the Contractor of its responsibility to conform to the requirements of Article 108 and this Section of the General Provisions.

Section 10.05. Public Convenience and Safety.

A. Public Convenience.

All work within public streets and/or roadway rights-of-way shall be done in an expeditious manner and cause as little inconvenience to the traveling public as possible. All public traffic shall be permitted to pass through the Work, and the Contractor shall conduct operations so as to offer the least possible obstruction and inconvenience to the public. Vehicles, bicycles, and pedestrians must be allowed to pass at all times except during an emergency closure.

In addition to the requirements for furnishing facilities for public safety as specified in Section 10.06 of these General Provisions, the Contractor shall erect such warning and directional signs as necessary or as directed by the Engineer for expediting the passage of public traffic through or around the Work and the approaches thereto. All warning and directional signs shall comply with Section 10.06, "Public Safety and Traffic Control", of these General Provisions and the Caltrans Manual of Traffic Controls. The Owner's Representative shall be notified at least twenty-four (24) hours in advance of the Contractor's desire to change any existing traffic patterns. No changes shall be made until approved by the Owner's Representative.

In addition to the requirements for furnishing facilities for public safety as specified in Section 10.06 of these General Provisions, the Contractor shall erect such warning and directional signs as necessary or as directed by the Engineer for expediting the passage of public traffic through or around the Work and the approaches thereto. All warning and directional signs shall comply with Section 10.06, "Public Safety and Traffic Control", of these General Provisions and the Caltrans Manual of Traffic Controls. The Owner's Representative shall be notified at least twenty-four (24) hours in advance of the Contractor's desire to change any existing traffic patterns. No changes shall be made until approved by the Owner's Representative.

When traffic control signals are shut down as provided in Section 86-1.05 of the State Specifications, the Contractor shall control traffic by the use of flaggers, as directed by the Engineer, at those locations set forth in the Special Provisions. No STOP signs will be permitted at these locations. The flaggers required for this operation shall be paid for as extra work as set forth in Article 8 of the General Provisions of the City's Standard Specifications.

When pipelines, to be installed under the Contract, cross certain streets or highways, as noted on the plans, the Contractor will be permitted to open the trench for only a portion of the width of the pavement at any one time so that one-way traffic can be maintained.

Water or dust palliative shall be applied if ordered by the City for the alleviation or prevention of dust nuisance caused by the Contractor's operations.

Fire hydrants on or adjacent to the Work shall be kept accessible to fire-fighting equipment at all times.

B. Pedestrian and Bicyclist Access.

The Contractor shall not block the movement of pedestrian or bicycle traffic. The Contractor shall provide for pedestrian and bicycle traffic by phasing construction operations or by providing alternative pedestrian and bicyclist access through or adjacent to construction areas. Effort must be made to separate the pedestrian or bicycle traffic from the work area. Proper advance notice signage with reasonable detours shall be installed and maintained through all phases of construction. Access to pedestrian and bicycle devices at traffic signals shall be maintained at all times. At no time shall pedestrians be diverted into a portion of the street used for vehicular traffic or on to private property unless adequate lane closure signage is in place. Walkways in construction areas shall be maintained smooth and be free of abrupt changes in grade. Pedestrian and bicycle access shall consist of four-foot (4') wide bridges across trenches and four-foot (4') wide passageways through construction areas. Hand railings for pedestrians shall be provided when required by Cal-OSHA Regulations or the Americans with Disabilities Act (ADA) on each side of each bridge or passageway to protect pedestrians from hazards caused by construction operations or adjacent vehicular traffic.

Railings or barricades, which border passageways located in roadway areas, shall be reflectorized on the side facing oncoming traffic.

C. Written Notification to Residences and Businesses

The Contractor shall notify, in writing, residents and business establishments along the route of the Work at least ten (10) Working Days prior to road closures and at least three (3) Working Days prior to disruption of ingress and egress. The notice provided to the residences or businesses shall include, at a minimum, schedule of closures and/or parking restrictions with estimated closure and/or parking restriction times, closure and/or parking restriction location, alternate route or detour, and name and twenty-four (24) hour phone number of a contact person employed by the Contractor.

D. Access to Driveways, Houses and Buildings.

Access and passable grades shall be maintained at all times for business establishments during construction. Safe and passable pedestrian, bicyclist, and vehicular access shall be provided and maintained to fire hydrants, homes, commercial and industrial establishments, churches, schools, parking lots, service stations, motels, fire and police stations, hospitals, and establishments of similar nature. Access to these facilities shall be continuous and unobstructed unless otherwise approved. Ramps and driveways shall not have "lips" or elevation differences greater than three-eighths of an inch (3/8") or one (1) cm.

When abutting property owner's access across the right-of-way line is to be eliminated, repaired, or replaced under the Contract, the existing access shall not be closed until the replacement access facilities are completed and functional.

E. Property Damage.

Any property damage caused by the Contractor shall be repaired at the Contractor's expense to the satisfaction of the City.

F. Work On Private Property.

The Contractor must obtain written permission from the owner of any privately owned property prior to beginning any work, storing materials or otherwise conducting any operations on said property. The written approval from the property owner must be on file with the City before any operations will be permitted on said property.

G. Hazardous Conditions Created.

Whenever the Contractor's operations create a condition hazardous to pedestrians, bicyclists, or the traveling public, the Contractor shall, at the Contractor's own expense, furnish, erect and maintain any fences, temporary railing (Type K), barricades, lights, signs and other devices necessary or as directed by the City to prevent accidents or damage or injury to the public or property.

If needed for public use, roadway excavation shall be conducted to maintain a smooth and even surface satisfactory for use by public traffic at all times. The surface of the roadbed shall be kept in a smooth, even condition free of humps and depressions, satisfactory for the use of public traffic as determined by the City.

Temporary facilities that the Contractor uses to perform the Work or store or stage material or equipment shall not be installed or placed where they will interfere with the free and safe passage of public vehicular, bicycle, or pedestrian traffic, and at the end of each day's work and at other times when construction operations are suspended for any reason, the Contractor shall remove all equipment and other obstructions from the portion of the roadway open for use by public traffic. Spillage resulting from hauling operations along or across any public traveled way shall be removed promptly, before the end of the working day.

Section 10.06. Public Safety and Traffic Control.

A. Responsibility for Safety.

It is the Contractor's responsibility to provide for public safety and traffic control. The Contractor shall furnish, erect and maintain such warning devices as are necessary to protect the public. The Engineer may review the Contractor's operations and/or warning devices and inform the Contractor if an unsafe or hazardous condition is observed. The Contractor may be directed by the Engineer to abate the hazard. The Contractor must comply with all directives for hazard abatement immediately and within the timeframe imposed by the Engineer. However, the Contractor shall not be relieved of its responsibility to protect the public by any approval given by the Engineer or by the Engineer's failure to point out any deficiency.

B. Passage of Emergency Vehicles.

The Contractor shall provide for the uninterrupted passage of emergency vehicles

through the Work zone at all times regardless of the controlled traffic conditions in place at the time.

C. Traffic Controls.

The protection and maintenance of existing signs and the removal, protection, storage and resetting of City traffic signs that are affected by the Work shall be the responsibility of the Contractor, as directed by the Engineer, or as specified in the Special Provisions. The Contractor shall inventory all existing signs prior to the start of work. The Engineer shall confirm the inventory in writing prior to the start of work. Traffic signs and traffic control facilities existing within the limits of the Project shall not be moved except as necessary to prevent them from being damaged by construction operations. When a sign needs to be removed because it interferes with the Contractor's work, it shall be done in one of the following prescribed manners:

1. Stop signs and other traffic control signs and facilities necessary for the control of traffic during the project shall be maintained in their original positions, as noted in the inventory, except for temporary repositioning necessitated by the Contractor's work. No signs shall be moved from their original positions without prior approval of the Engineer. Temporary sign positions must be equivalent to the original positions for driver visibility. The standard sign position is seven (7) to ten (10) feet from the edge of pavement. Stop signs should not normally be located more than thirty (30) feet from the roadway painted centerline (unless they are supplemental signs), more than forty (40) feet in advance of the limit line, or more than twenty (20) feet beyond the limit line. When the intersection approach width for one direction of traffic is thirty (30) feet or more, the Engineer may require that stop signs be erected both on the left and right sides of that approach.

Stop signs and other traffic control signs in temporary positions may be mounted on portable supports only during working hours when the Contractor's workers are available to maintain the signs in proper position at all times. The position and mounting devices for temporary signs shall be subject to the approval of the Engineer.

Outside of working hours, and at all other times when no Contractor's workers are available to maintain signs on portable temporary supports, all temporary stop signs and other traffic control signs must be mounted on their original or equivalent posts. The posts must be set in the ground with compacted backfill, to a depth of at least thirty-two (32) inches, in the same way that permanent sign are installed. The bottom of the sign plate must be at least five (5) feet but not more than seven (7) feet above the ground, and must be seven (7) feet above the ground if subject to pedestrian traffic adjacent to the post.

2. Traffic signs and traffic control facilities not necessary for the control of traffic during the Project shall be removed and salvaged by the Contractor. When signs are removed and salvaged as provided herein, they shall be stockpiled as noted in Section 15-2.04 of the State Specifications, in an upright position,

and the City Traffic Sign Maintenance Section shall be notified within twenty-four (24) hours of such stockpiling.

The project sign inventory shall indicate which of the above categories applies to each sign, subject to approval by the Engineer.

No additional payment shall be made for the above-described work. It shall be included in the unit prices for other activities.

The cost of work incurred by the City sign maintenance forces as a result of the failure of the Contractor to satisfactorily protect, maintain and reinstall City signs within the construction Project as set forth herein shall be subject to deduction from contract progress payments due to the Contractor.

The Contractor shall, forty-eight (48) hours in advance of beginning any work, notify the Engineer in writing of the name, location and twenty-four (24) hour per day telephone number of the company which will supply barricade and warning devices for the Project. Said supplier must be approved by the Engineer and must be available on a twenty-four (24) hour basis for maintaining, placing, and replacing barricades and warning devices. If the Engineer is unable to contact the Contractor or its superintendent, the supplier will be called directly, and the Contractor shall accept charges made by the supplier for service performed, as a result of the Engineer's call.

Reference is made to the requirements of California Vehicle Code, section 21400 et seq. regarding traffic control devices and barricades. All signs, barricades, delineators, and other traffic control devices used for the detouring or routing of traffic in, around, and through the construction area, shall conform to those standards set forth in the latest edition of the State of California, Department of Transportation "Manual of Traffic Controls for Construction and Maintenance Work Zones." Delineators shall have a Type III reflective sheeting surface of not less than 3" x 12". Barricades and delineators shall be maintained so that the reflective materials are clean and visible during hours of darkness.

A high level warning device is required for use on major streets at the direction of the Engineer, when a lane is closed or work encroaches in a lane of traffic or when barricades are placed in a moving lane of traffic. A single barricade shall not be placed alone in the traveled way.

Use of flashing arrow signs is required on major (four or more lanes) streets for lane closures during hours of darkness and for all lane closures lasting more than two (2) hours.

On major streets, opposing traffic is separated by delineators, traffic striping, or raised pavement markers. Where traffic is diverted to the left of an existing double yellow centerline into a painted median, or into a left-turn lane, delineators are to be utilized beyond the work and to return traffic to normal lanes.

All delineators used during hours of darkness must be stabilized by being nailed or fastened to the pavement.

Unless specifically set forth in the Special Provisions, all marked lanes of traffic shall be open on all major streets in each direction during the peak traffic hours of 7:00 a.m. to 8:00 a.m. and 3:30 p.m. to 6:00 p.m.

During the first Friday after Thanksgiving and the last twenty-four (24) Calendar Days of December, the Contractor shall not close any traffic lanes on a major street except as provided in the Special Provisions. The Engineer may grant permission to close traffic lanes on a major street when the Contractor submits a written request two (2) Working Days in advance, and the Contractor receives written permission from the Engineer. The directional flow of traffic, the proximity to retail business, the total flow of traffic related to the capacity of the roadway, and the interference to public safety will be conditions the Engineer considers in determining whether to grant or deny permission.

If, for an emergency, the Contractor is required to close a lane on a major street during peak traffic hours or during the last twenty-four (24) Calendar Days of December, the Contractor shall immediately notify the City Construction Inspection office.

A traffic lane shall be considered open if it is surfaced with asphalt at least ten (10) feet wide.

Major streets are those roadways with two or more marked traffic lanes in each direction or other street as determined by the Engineer.

A detailed traffic plan, prepared by a qualified Engineer will be required for lane closures during the hours of darkness or lasting more than one (1) day and shall be submitted for approval by the Engineer at least ten (10) Working Days prior to the proposed lane closure.

The Engineer may approve in writing traffic restrictions necessary for public safety or emergency conditions during peak traffic hours, and during the month of December.

The Contractor shall maintain traffic cones, barricades, temporary striping, or yellow delineators (reflectorized or illuminated) within and on the approaches to the Project to properly indicate to the motorist the driving centerline of the roadway. (The motorist shall be permitted to drive to the right of these devices as provided in the California Vehicle Code.) At least one barricade or delineator shall be placed approximately each fifty (50) feet and a C30 sign approximately each five hundred (500) feet adjacent to the work area. The cone spacing in the tapers shall be in accordance with Section 7-1.09 of the State Standard Specifications. The Contractor may remove the barricades at the direction of the Engineer if they interfere with the movement of traffic, under special conditions; however, the barricades shall be replaced when the Engineer determines the special conditions no longer apply. In lieu of barricades, temporary paint striping, or traffic cones may be used. To delineate the centerline of the roadway, the Contractor may use construction grade pavement striping tape (reflectorized). Six-inch (6") by four-inch (4") minimum pieces of tape shall be placed on the centerline at 25-foot (25') (maximum) intervals.

The Contractor shall not remove from the Project barricades or other traffic control devices placed within the Project limits, or on the approaches to the Project, for the direction and protection of the traveling public, until the Contractor has given three (3)

Working Days' advance written notice to the Engineer. Such notice shall also constitute the Contractor's request for City installation of permanent directional and control signs, striping, and markings on public roads. Neither the notice nor the placing of signs, striping, and/or markings shall in any way relieve the Contractor of its responsibility under the terms of the Contract.

Should the Contractor desire the City to do signing and striping on public roads and streets in advance of the timing set forth herein, a separate letter agreement may be made between the City and the Contractor.

On new developments, the Contractor will be required to maintain a Type III barricade eight (8) feet in length in the center of the road indicating that the road is closed except to construction personnel. The barricade is not to be removed until the Project is accepted by the City, and the City has provided any necessary signs and striping.

The Contractor shall do all traffic control work without direct payment as specified in Article 8, Section 8.04 of the General Provisions of the City's Standard Specifications, except as directed by the Engineer during times when traffic signals are out of service, as set forth in Section 10.05 of these General Provisions.

D. Inadequate Traffic Controls and After-Hour Maintenance and Repairs.

Should the Contractor appear negligent in furnishing and maintaining sufficient traffic control devices or protective measures or fail to provide flaggers as necessary to control traffic, the Engineer may direct the Contractor, at the Contractor's expense, to abate the hazard.

Should the Engineer point out the inadequacy of warning devices and protective measures, that action shall not relieve the Contractor from responsibility for public safety or abrogate the obligation to furnish and pay for these devices and measures.

Should the Contractor fail to properly furnish or maintain traffic controls, or correct a hazard caused by inadequate or inappropriate traffic control, the City will abate the hazard. All City costs to abate the hazard shall be reimbursed by the Contractor or deducted from the progress payment.

E. Competent Flaggers.

Whenever the Contractor's operations require one-way traffic or create a condition hazardous to the public traffic, or whenever requested by the Engineer, the Contractor shall provide competent and courteous flaggers whose sole duties shall consist of directing the movement of public traffic through or around the Work. All flaggers shall be trained as required by Cal-OSHA Regulations and shall be prepared to provide verification of such training to the City when requested.

F. Construction Signs.

The Contractor is responsible for supplying, installing and maintaining all construction signs and posts. Construction signs used in the City shall conform to the following minimum sizes:

<u>Sign Code</u>	<u>Minimum Size</u>
W1 (Rt or Lt)	30" x 30"
W2 (Rt or Lt)	30" x 30"
W3 (Rt or Lt)	30" x 30"
W5 (Rt or Lt)	30" x 30"
W6	24" x 24"
W11	30" x 30"
W15	30" x 30"
W18	30" x 30"
W19	30" x 30"
W33	30" x 30"
W44	36" x 36"
W50	30" x 30"
W58	36" x 36"
SW42	30" x 30"
SW43 (Rt or Lt)	30" x 30"
SW44 (Rt or Lt)	30" x 30"
Type K Marker	15" x 6"
Type L Marker	8" x 24"
Type N Marker	18" x 18"
Type P Marker	12" x 36"
Other Warning Signs	0" x 30"

<u>Sign Code</u>	<u>Minimum Size</u>
C1	36" x 36"
C2	36" x 24"
C3	40" x 20"
C3A	40" x 20"
C4	24" x 24"
C5 (Rt or Lt)	36" x 12"
C6	24" x 24"
C7	20" x 12"
C8	30" x 30"
C9A	36" x 36"
C10	24" x 24"
C11	48" x 30"
C13	48" x 18"
C14	28" x 12"
C16	36" x 36"
C18	36" x 36"
C19	36" x 36"
C20 (Rt or Lt)	36" x 36"
C21	36" x 36"
C22B	24" x 24"
C22C	24" x 12"
C23	24" x 24"
C24	24" x 24"
C25	24" x 24"
C27	24" x 24"
C28A	18" x 18"
C28B	18" x 18"
C29	24" x 7"
C30	36" x 24"
C32	36" x 24"
C36	36" x 36"
Other Construction Signs	30" x 30"

<u>Sign Code</u>	<u>Minimum Size</u>
R1	30"
R7	24" x 30"
R7A	24" x 18"
R10 (Rt or Lt)	36" x 12"
R11	30" x 30"
R11A	30" x 18"
R16	24" x 24"
R16A	24" x 18"
R17	24" x 24"
R17A	24" x 18"
R18-1 (Rt or Lt)	20" x 32"
R18-2 (Rt or Lt)	36" x 36"
R41	24" x 30"
R42	24" x 30"
Other Regulatory	

Signs

30" x 30"

G. Temporary Bridging of Excavations and Trenches.

Whenever necessary or requested by the City, trenches and excavations shall be bridged to allow an unobstructed flow of traffic.

1. Bridging shall be secured against displacement by using adjustable cleats, angle, bolts or other devices.
2. Bridging shall be placed and secured to work within the minimum noise levels in accordance with City Code, Section 8.24, "Notice Control".
3. Steel plates used for bridging shall extend at least one (1) trench width on each side beyond the edges of the trench. Temporary paving materials shall be used to feather the edges of the plates to minimize wheel impact.
4. Depending upon the depth of the excavation, soil type, vibration and other variables, the trench may require shoring to support bridging. The Contractor should confer with a California Licensed Engineer or other appropriate professional if there is any question about the capability of the excavation and bridging to support the forces of traffic.

WIDTH OF EXCAVATION	MINIMUM THICKNESS OF STEEL PLATES
2.0 ft. or less (0.6 m or less)	7/8 inch (22mm)
3.0 ft. (0.09 m)	1 inch (26 mm)
4.0 ft. (1.2 m)	1-1/4 inch (32 mm)

Whenever the work area is adjacent to a traffic lane and there is a pavement cut, ditch or trench over two (2) inches deep, the Contractor shall maintain continuous barricades spaced at approximately twenty-foot (20') intervals for the first one hundred (100) feet from the beginning of the cut, ditch or trench and at approximately fifty-foot (50') intervals thereafter. If the cut, ditch or trench is more than ten (10) feet from a traffic lane, the spacing may be greater but must not exceed two hundred (200) feet.

H. Entering and Leaving the Construction Zone.

Construction equipment shall enter and leave the roadway by moving in the direction of public traffic. All movements of workmen and construction equipment on or across lanes open to public traffic shall be performed in a safe manner that will not endanger the workmen or the public. When leaving a work area and entering a roadway carrying public traffic, the Contractor's equipment operator shall yield to public traffic.

I. Bus Stops.

If construction operations will obstruct a bus stop, the Contractor shall notify Folsom Stage Line (FSL) via the Folsom Public Works Department at 355-7272, forty-eight (48) hours in advance of beginning that portion of the Work and make provisions agreeable to FSL to provide an alternate location where people can safely board the bus.

Section 10.07. Barricading Open Trenches.

Any excavation permitted by the City to be left open shall be barricaded with Type II or Type III barricades with flashers. Signs stating "OPEN TRENCH" shall be posted when requested by the City. All open excavated areas shall be barricaded with at least two (2) Type III barricades at the end of the excavation that faces oncoming traffic. Any excavation within four feet (4') of the traveled way, not protected by K-rail or a similar traffic control barrier approved by the City, shall be backfilled at the end of the work shift or plated in accordance with Section 10.06(G), "Temporary Bridging of Excavations and Trenches", of these General Provisions.

Section 10.08. Existing Utilities.

A. General.

The Contractor shall coordinate and fully cooperate with the City and utility owners for the location, relocation, and protection of utilities. The Contractor's attention is directed to the existence of utilities, underground and overhead, necessary for all buildings in the work area. The Contractor shall arrange with utility owners for the location of service lines in advance of the actual construction and for the relocation of such facilities, if necessary, by the utility owner or the Contractor.

B. Maintenance and Protection.

Unless otherwise shown or specified in the Contract, the Contractor shall maintain in service all drainage, water, gas, sewer lines, power, lighting, telephone conduits, and any other surface or subsurface utility structure that may be affected by the Work. However, the Contractor, for convenience, may arrange with individual owners to temporarily disconnect service lines of other facilities along the line of the Work. The cost of disconnecting and restoring such utilities shall be borne by the Contractor.

Unless otherwise specified in the Special Provisions, the Contractor shall protect all existing utilities on all projects being constructed, whether inside or outside of highway rights-of-way. The utility owner in these cases may elect to provide the necessary protective measures and bill the Contractor for the cost. "Existing utilities" further includes traffic control devices, conduits, streetlights, and related appurtenances.

Existing utility facilities that are to be relocated, including traffic signals and light poles, shall be relocated prior to paving. No paving shall be performed around existing utility facilities that are to be relocated.

The public utility, where it is the owner, shall have the sole discretion to perform repairs or relocation work, or to permit the Contractor to do such repairs or relocation work.

C. Exact Locations Unknown.

It is recognized by the City and the Contractor that the location of existing utility facilities shown on the Contract Drawings and Specifications are approximate and that their exact locations are unknown. Recognition is given to the fact that there may be additional utilities existing on the property unknown to either party to the Contract. Location of utilities as shown on the Contract Drawings and Specifications represent the best information obtainable from utility maps and other information furnished by the various utility owners involved. The City warrants neither the accuracy nor the extent of actual installations as shown on the Contract Drawings and/or Specifications

Because of this uncertainty, it may become necessary for the Engineer to make adjustments in the line or grade of sewers or storm drains. Installation of such adjusted lines shall be made at the regular unit price bid for the work, and no additional compensation will be paid therefore, unless the scope and character of the work has been changed.

In accordance with Government Code section 4215, the City shall make provisions to compensate the Contractor for the costs of locating, repairing damage not due to the failure of the Contractor to exercise reasonable care, removing, relocating or protecting existing main or trunk line utility facilities not indicated in the Contract Drawings and Specifications with reasonable accuracy, and for equipment on the Project necessarily idled during such work. In no event shall the City be liable for any further or additional costs resulting directly or indirectly from any such occurrence. Compensation will be in accordance with Article 9, "Changes and Claims", of the General Provisions of the City's Standard Specifications, and in accordance with Section 8-1.09 of the State Specifications. Nothing herein shall be deemed to require the City to indicate the presence of existing utility services, laterals, or appurtenances whenever their presence can be inferred from other visible facilities such as buildings, meters, junction boxes, valves, service facilities, identification markings, and other indicators on or adjacent to the Work.

If the Contractor discovers utilities not identified in the Contract Drawings or Specifications, the Contractor shall immediately notify the Engineer and the utility owner by the most expeditious means available and later confirm in writing.

If the completion of the Work is delayed by failure of the City or the utility owner to remove, repair, or relocate the utility, such delay may be an excusable delay as defined and provided for in Article 7, Section 7.15 of the General Provisions of the City's Standard Specifications. Nothing herein shall preclude the City from pursuing any appropriate remedy against the utility for delays that are the responsibility of the utility. The Contractor, on a street, road, channel or pipeline construction project shall not be assessed liquidated damages for delay in completion of the project for that portion of such delay as is caused by failure of the City or the owner of a utility to provide for the removal or relocation of existing utilities.

D. Underground Service Alert (USA).

The City is a member of the Underground Service Alert (U.S.A.) one-call program. Except in an emergency, the Contractor and any Subcontractor planning to conduct any excavation shall notify the U.S.A. at least two (2) Working Days, but no earlier than fourteen (14) Calendar Days, in advance of performing excavation work. U.S.A. can be reached by calling the toll free number – 800-227-2600. U.S.A. does not accept emergency calls. The provisions of Government Code section 4216 shall be followed.

Each phase of a project shall be called into U.S.A. and continuing excavation reported every fourteen (14) Calendar Days. The U.S.A. will provide an inquiry identification number to the person contacting the center. The U.S.A. inquiry identification number shall be available to the Project Inspector at the job site along with the date U.S.A. was called. If the U.S.A. notifications are not kept up-to-date, the excavation may be stopped and a new forty-eight (48) hour notice will be required before continuing the excavation. If, at any time during an excavation for which there is a valid inquiry identification number, the field markings are no longer reasonably visible, the Contractor shall contact

the appropriate U.S.A. notification center to have the area re-marked.

Prior to calling U.S.A., the Contractor shall clearly mark the excavation site with white, water-soluble paint in paved areas or flags, stakes, whickers, or some other approved method, in unpaved areas. This paint shall be applied as white dots located inside the excavated area so that when construction is completed there will be no remnants of the paint. At those locations where the excavation is not known, the Contractor shall make an attempt to closely identify and outline the areas to be explored. The Contractor shall determine the exact location (twenty-four inches (24") from outside edge on either side of the facility) of utilities in conflict with the proposed excavation by exposing the subsurface installation with hand tools before using any power-operated or power-driven equipment. The Contractor shall not call in to U.S.A. the entire project boundaries or, on road construction projects, the entire length of the project. The Contractor shall only request the marking of facilities within the area to be excavated within fourteen (14) Calendar Days of the call.

E. Damage to Existing Utilities.

The Contractor shall notify the affected utility of any contact, scrape, dent, nick, or damage to their facility. Any operator or excavator who negligently violates Government Code section 4215 is subject to a civil penalty in an amount not to exceed ten thousand dollars (\$10,000). Any operator or excavator who knowingly and willfully violates Government Code section 4214 is subject to a civil penalty in an amount not to exceed fifty thousand dollars (\$50,000).

Markings.

The following table designates color codes and symbols that shall be used by the Contractor and the utility owners to identify utilities.

FIELD MARKINGS COLOR CODES AND SYMBOLS		
COLOR	SYMBOL	NAME
Safety Precaution Blue	W	Water
Safety Alert Orange	FA	Fire Alarm
	Tel	Telephone/Communication
	R	Railroad
	TV	Television/CATV
	WU	Western Union
Safety Green	S	Sewer
	D	Storm Drain
Safety Red	L	Street Lighting
	E	Electric
	T	Traffic Signals
High Visibility Safety Yellow	G	Gas
	Company Name	Oil or Chemical
		Steam
Purple	RW	Reclaimed Water
Pink/Fuchsia	TSM	Temporary Survey
White	USA	Proposed Excavation – Paint outline of proposed excavation area with white dotted line

Section 10.09. Excavation and Trench Safety.

A. Permit.

The Contractor must obtain a permit from the Division of Industrial Relations per Labor Code Section 6500, as specified in California Code of Regulations, Title 8, Article 6, Section 1539 "Permits" of the Construction Safety Orders, for all excavations five feet (5') or deeper to which an employee is required to descend. The permit shall be kept at the construction site at all times.

B. Shoring, Bracing, Shielding and Sheeting.

In accordance with Labor Code Section 6705, at least five (5) Working Days in advance of excavation of any trench or trenches five feet (5') or more in depth, with a total value of twenty-five thousand dollars (\$25,000) or more, the Contractor shall submit to the City a detailed plan showing the design of shoring, bracing, sloping, or other provisions for worker protection from the hazard of caving ground during the excavation of such trench or trenches. If such plan varies from the shoring system standards, the plan shall be prepared by a California registered civil or structural engineer. A signed copy of the detailed plan shall be on the site at the time of the excavation. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or protective system less effective than that required by the Construction Safety Orders. Nothing in this Section shall be construed to impose tort liability on the City or any of its employees. These systems must support the sides of the excavation and prevent soil movement that could cause injury to any person or structure. Any damage resulting from a lack of adequate shoring, bracing, shielding or sheeting shall be repaired at the Contractor's expense.

The Contractor shall immediately replace or repair any unsafe ladder, scaffolding, shoring, or bracing, or correct any other dangerous or hazardous situation that exists.

A Competent Person, as defined in California Code of Regulations, Title 8, Construction Safety Orders, Section 1504, "Definitions", shall be on site at all times when the Contractor's employees are working within the trench. A "Competent Person" is one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measure to eliminate them.

The price bid for work that will require an excavation of five feet (5') or deeper (or less if conditions warrant) shall include the cost of adequate sheeting, shoring and bracing, or equivalent method conforming to applicable safety orders, unless a separate bid item for such work is included in the bid form.

Section 10.10. Preservation of Property.

Roadside and/or on-site trees and shrubbery that are to remain, pole lines, fences, signs, traffic control devices, striping, survey markers and monuments, buildings and structures, conduits, under or above ground pipelines, and any other improvements and facilities shall be protected from injury or damage. If such objects are injured or damaged by reason of the Contractor's operations, said objects shall be replaced or restored at the Contractor's expense to a condition as good as when the Contractor entered upon the Work. The Contractor shall receive the Engineer's approval before the removal of any road sign or permanent traffic control device that interferes with the Work.

ARTICLE 11. CULTURAL RESOURCES

Section 11.01. Responsibility.

In the event cultural resources are discovered during subsurface excavations at locations of the work, the Contractor shall cease all construction operations at the location of such cultural resource find until such time that a qualified archeologist can be called to assess the value of these resources and make recommendations to the State Historic Preservation Officer for further direction. If the State Historic Preservation Officer or the Engineer directs the work be temporarily ceased at the location of the cultural find the Contractor shall temporarily suspend the work at the location.

Section 11.02. Controlling Operation.

If the Engineer or the State Historic Preservation Officer directs that the work be temporarily suspended for cultural purposes on a portion of the work which is the current controlling operation or operations on the Contract, the total number of days for which the suspension is in effect shall be added to the number of allowable contract days in computing the total number of allowable contract days.

Section 11.03. Non-Controlling Operation.

If a portion of the work at the time of such suspension is not a controlling operation, but subsequently does become the current controlling operation, the determining of contract time will be made on the basis of the current controlling operation or operations.

Section 11.04. Compensation Determination.

If, as a result of a temporary suspension of the work at a location or locations, the Contractor sustains a loss which could not have been avoided by his judicious handling of forces, equipment, and plant, to perform other work on the contract, 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, in the opinion of the Engineer, was unavoidable, to be determined as follows:

Compensation for idle time of equipment will be determined in the same manner as determinations are made for equipment used in the performance of extra work paid for on a force account basis, with the following exceptions:

- A. The right of way delay factor for each classification of equipment shown in the State of California Department of Transportation publication entitled "Labor Surcharge Equipment Rental Rates" will be applied to such equipment rental rate.
- B. The time for which such compensation will be paid will be the actual normal working time during which such delay condition exists, but in no case will exceed eight (8) hours in any one day.
- C. The days for which compensation will be paid shall be for all or portion of calendar days, excluding Saturdays, Sundays, and legal holidays, during the existence of such delay.

Actual loss shall be understood to include no items of expense other than idle time of equipment and necessary payments for idle time of men and the cost of extra moving of equipment. Compensation for idle time of equipment will be determined by the Engineer

and compensation for idle time of men will be determined by the Engineer as "Labor", and no markup will be added in either case for overhead or profit. Compensation for the cost of moving equipment shall be the actual cost without markup for overhead or profit.

ARTICLE 12. PROTECTION OF EXISTING TREES

Section 12.01. Protection of Existing Trees.

Protection of existing trees not authorized for removal shall be given special attention. The Contractor shall comply with the provisions of the City's Tree Preservation Ordinance. Every reasonable effort shall be made to avoid creating conditions adverse to the tree's health. The natural ground within the dripline of saved and protected trees shall remain as undisturbed as possible.

- A. Prior to initiating project construction, in order to avoid damage to the trees and their root systems, Contractor shall install an approved 4' high protective barrier fence completely around any existing tree that is not authorized for removal. The protective fencing shall not be moved or removed without written permission from the City Arborist.
- B. No signs, ropes, cables, or any other items shall be attached to any existing tree that is not authorized for removal, except those cables that may be recommended by a certified arborist for limb support.
- C. No vehicles, construction equipment, mobile home/office, supplies, materials, or facilities shall be driven parked, stockpiled, or located within the dripline of any existing tree that is not authorized for removal.
- D. Grade cuts or fills within the dripline of existing trees not authorized for removal shall not be permitted without authorization from the City, including issuance of an approved tree permit issued by the City Arborist if necessary. Cuts or fills that are necessary beyond the dripline but near the trees shall be contoured to drain away from the tree's dripline.
- E. No trenching whatsoever shall be allowed within the driplines of existing trees not authorized for removal without authorization from the City, including issuance of an approved tree permit issued by the City Arborist if necessary. If it is necessary to install underground utilities within the dripline of an existing tree not authorized for removal, the utility line shall be either bored or drilled. If the boring or drilling is determined to be impossible by the Engineer, the utility line trench may be hand dug under the direct supervision of a certified arborist.
- F. Roots which are approved to be severed or which fall within the structural section of the facility to be constructed shall be cut cleanly and treated with "root sealer" compound and covered with earth as soon as possible. Support roots that are inside the dripline of existing trees not authorized for removal shall be protected. The Contractor is required to hand-dig in the vicinity of major trees to prevent root cutting and mangling which may be caused by heavy equipment. Roots one inch (1") or greater in diameter encountered within the tree's dripline shall not be cut without the Engineer's approval, and shall be kept moist, as approved by the Engineer, and covered with earth within twenty-four (24) hours.
- G. All existing trees on the Site not authorized for removal and which require pruning shall be pruned prior to grading the Site. Native oak trees which require major pruning (branches and/or roots 2 inches in diameter or larger) shall be pruned by an

International Society of Arboriculture certified arborist.

- H. Any tree, regardless of species, that, in the opinion of the City Arborist, is irreparably damaged by the Contractor to the point of affecting the tree's long term health and longevity shall be mitigated for in according to the standards set forth in Folsom Municipal Code Section 12.16.070 – Mitigation.

ARTICLE 13. CUTTING AND PATCHING

Section 13.01. Section Includes

A. Execute cutting, fitting or patching of Work, required to:

1. Make parts fit properly.
2. Uncover Work to provide for installation of ill-timed Work.
3. Remove and replace Work not conforming to requirements of Contract Documents.
4. Remove and replace defective Work.
5. Remove samples of installed Work as specified for testing.
6. Remove existing materials (demolition) required prior to installation of specified Work.
7. Uncover Work to provide for Architect's or Consulting Engineer's observation of covered Work.

B. Do not endanger structural integrity of any Work by cutting or altering any part of it.

C. The Contractors with structural responsibility within their scope of Work shall solely execute structural cutting and patching required for this Project.

D. Minor cutting and patching of finishes and/or trim will be performed by the Contractor where required for the execution of its Work. Locations of all cutting and patching (core boring, etc.) shall be reviewed and approved by the Architect or Consulting Engineer prior to the start of Work.

E. The Contractor shall make the field measurements necessary for its Work and be responsible for their accuracy. Also, should any structural difficulties prevent a Contractor from installing its material properly, the Owner's Representative and Architect or Consulting Engineer shall be notified in writing within twenty-four (24) hours. Cutting into the walls, ceilings and floors, if necessary, shall be carefully and neatly performed and then be repaired as specified in the Contract Documents. The Architect or Consulting Engineer shall be consulted prior to the start of Work in all cases where cutting into a structural portion of the building is either desirable or necessary so that satisfactory reinforcement may be provided.

F. Patching of all exposed architectural finishes shall be performed under the supervision of the Project Inspector. Cutting and patching of existing architectural finishes shall be minimized to the extent possible through careful routing and placement of new Work. The Architect, Consulting Engineer or Project Inspector shall have the authority to reject substandard or unacceptable patching.

G. Patching of openings that are cut in any fire rated walls or membranes shall be

sealed tightly using approved materials only. Verify that fire rating envelopes are maintained and inspections provided prior to concealing Work. Cutting and patching, if required by Agencies to verify adequacy of protection after concealment, shall be performed at no cost to the City.

Section 13.02. Related Sections.

- A. Special Provisions.
- B. Article 14 - Alteration Project Procedures.
- C. Article 16 - Quality Control.
- D. Article 17 - Construction Facilities and Temporary Controls.

Section 13.03. Submittals.

- A. Prior to cutting which affects structural safety of Project, submit written notice to Architect or Consulting Engineer requesting consent to proceed with cutting. See items "C" and "E", Section 13.01.
- B. Should conditions of Work or schedule require change of materials or methods, submit written recommendation to Architect or Consulting Engineer, within forty-eight (48) hours, including:
 - 1. Conditions requiring change.
 - 2. Recommendations for alternative materials or methods.
 - 3. Submittals as required for substitutions.
 - 4. Quotations of charges or credits.
- C. Submit forty-eight (48) hour advance written notice to the Architect or Consulting Engineer, with a copy to the Owner's Representative, designating the time Work will be uncovered.
- D. Submit all materials to be used in cutting and patching in accordance with Article 5 of the General Provisions of the City's Standard Specifications.

Section 13.04. Materials.

- A. Primary Products: Materials for replacement of Work removed are to comply with Technical Specifications and are required to match original installation.
- B. Product Substitution: For any proposed change in materials, submit request for substitution in accordance with Article 5 of the General Provisions of the City's Standard Specifications.

Section 13.05. Examination.

- A. Examine existing conditions prior to commencing Work, including elements subject to movement or damage during cutting and patching.

- B. After uncovering existing Work, examine conditions affecting installation of new products and performance of Work.
- C. Beginning of cutting or patching operations means acceptance of existing conditions.

Section 13.06. Preparation.

- A. Provide means of shoring, bracing and temporary supports as required to maintain structural integrity of the Work.
- B. Provide devices, enclosures and methods to protect adjacent surfaces and areas of the property from damage, dust or disruption.
- C. Provide protection from the elements for areas, which may be exposed during cutting or patching.
- D. Maintain excavations free of water.

Section 13.07. Cutting.

- A. Execute cutting, fitting and adjustment of products to permit finished installation to comply with specified tolerances and finishes.
- B. Perform cutting and demolition by methods, which will prevent damage to other Work, and will provide proper surfaces to receive installation of repairs and new Work.
- C. Uncover Work to install improperly sequenced Work.
- D. Remove and replace defective, rejected or non-conforming Work.
- E. Remove samples of installed Work for testing when requested.
- F. Provide openings in the Work for penetration of Mechanical and Electrical Work.
- G. Employ only experienced installers to perform cutting for weather exposed, moisture resistant and sight-exposed surfaces.
- H. Cut concrete, tile plaster and other rigid materials using masonry/concrete saws and core drills. Pneumatic tools are not allowed without prior approval.

Section 13.08. Patching.

- A. Execute patching to match adjacent Work.
- B. Fit products together to integrate seamlessly with adjacent Work.
- C. Execute patching by methods to avoid damage to adjacent Work, and which will provide appropriate surfaces to receive finishing Work.
- D. Employ only experienced installers to perform patching for weather exposed, moisture resistant and sight-exposed surfaces.

- E. Restore Work with new products in accordance with requirements of the Contract Documents.
- F. At penetrations of fire rated walls, partitions, ceiling or floor construction, completely seal voids with approved fire rated material in accordance with the manufacturers installation instructions and applicable Codes.
- G. Fit Work to pipes, sleeves, ducts, conduits and other penetrations through affected surfaces neatly and leave in finished condition.
- H. All patched surfaces are to match adjacent finishes in all respects: Type, texture, thickness and color. For continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit or area.

ARTICLE 14. ALTERATION PROJECT PROCEDURES

Section 14.01. Section Includes

- A. Products and installation for patching and extending Work.
- B. Transition and adjustments.
- C. Repair of damaged surfaces, finishes, and cleaning.
- D. Salvage materials.

Section 14.02. Related Sections.

- A. Article 13 - Cutting and Patching.

Section 14.03. Alterations, Cutting and Protection.

Assign the work of moving, removal, cutting and patching, to trades qualified to perform the work in manner to cause least damage to each type of work, and provide means of returning surfaces to appearance of new work.

- A. Perform cutting and removal work to remove minimum necessary, and in a manner to avoid damage to adjacent work.
- B. Cut finish surfaces such as concrete, masonry, drywall, plaster or metals, by methods to terminate surfaces in a straight line at a natural point of division, or where indicated.
- C. Protect existing finishes, equipment, and adjacent work, which are scheduled to remain, from damage.
- D. Protect existing and new work from extremes of temperature.
 - 1. Maintain existing Interior work above 60 degrees F.
 - 2. Provide heat and humidity control as needed to prevent damage to remaining existing work and to new work.
- E. Provide temporary enclosures to separate work areas from existing building rooms/office spaces and from areas occupied by the City, whether for storage or human occupation. Temporary enclosures shall be suitable for preventing dust, over-spray and odors from penetrating areas occupied by the City. Failure to adequately protect existing improvements, causing cleaning shall be at the Contractor's expense.

Section 14.04. Products for Patching and Extending Work.

A. New Materials. As specified in product sections; match new materials to existing work.

1. Provide same products or types of construction as that in existing structure, as needed to patch, extend or match existing work.
2. Presence of a product, finish, or type of construction, requires that patching, extending or matching shall be performed consistent to, or better than, existing standards of quality.

B. Type and Quality of Existing Products: Determine by inspection and testing existing products where necessary, referring to existing Work as a standard.

Section 14.05. Examination.

A. Verify that demolition is complete, and areas are ready for installation of new Work.

B. Beginning of restoration Work means acceptance of existing conditions.

Section 14.06. Preparation.

A. Cut, move, or remove items as necessary for access to alterations and/or renovation Work. Replace and restore at completion. The full extent of cutting and patching is not shown or specified. The Contractor shall perform all cutting and patching as required.

B. Remove unsuitable material not marked for salvage, such as rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.

C. Remove debris and abandoned items from area and from concealed spaces and dispose of properly and legally.

D. Prepare surface and remove surface finishes to provide for proper installation of new work and finishes.

Section 14.07. Installation.

A. Coordinate work of alterations and renovations to expedite completion and to accommodate City occupancy. Patch and extend existing work using skilled mechanics that are capable of matching existing quality of workmanship. Quality of patched or extended work shall be not less than that Specified for new work.

B. Room Finishes. Complete in all respects consistent with the Contract Documents.

C. Remove, cut, and patch Work in a manner to minimize damage and to provide a means of restoring Products and finishes to specified condition.

D. Install Products as specified in individual sections.

Section 14.08. Transitions.

- A. Where new work abuts or aligns with existing, perform a smooth and even transition.
- B. Patch Work to match existing adjacent Work in texture and appearance, without breaks, steps or bulkheads.
- C. When finished surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendation to Architect.

Section 14.09. Adjustments.

- A. Where change of plane of 1/4 inch or more occurs, submit recommendation for providing a smooth transition.
- B. Where extreme change of plane of two inches or more occurs, request Instructions from Architect or Consulting Engineer as to method of making transition.
- C. Trim existing doors as necessary to clear new threshold Installation. Refinish trim as required.
- D. Fit work at penetrations of surfaces as shown on Drawings.

Section 14.10. Salvaged Materials.

- A. Salvaged Materials from existing facilities, which are specified in the Special Provisions or tagged in the field prior to the pre-bid walk-through to be salvaged, shall remain the property of the City. The Contractor shall include the removal, disassembly, preparation, marking, bundling, packaging, tagging, hauling, and stockpiling of salvaged materials or facilities to the location specified in the Special Provisions, or as directed by the Owner's Representative. Materials include parts, articles, and equipment of assembled facilities. Salvaging does not include the preparation of existing material that is to be reused in the work.
- B. When only specific materials from the facility are designated to be salvaged, the remaining materials from that facility shall be removed and disposed of as provided for elsewhere in the Contract Documents. Materials to be salvaged shall not be removed until their use in the existing facility is no longer required, as determined by the Owner's Representative.
- C. When practicable, salvaged materials shall be hauled directly to the location specified in the Special Provisions and stockpiled; however, salvaged materials may be temporarily stored at a location selected by the Contractor and approved by the Owner's Representative and later hauled to and stockpiled at their final location. Materials which are lost before stockpiling at their final location shall either be replaced by the Contractor, at the Contractor's expense, or, at the discretion of the Owner's Representative, the estimated cost of replacement may be deducted from any moneys due or to become due to the Contractor.
- D. Materials designated to be salvaged that are damaged, as determined by the Owner's Representative, shall be segregated from undamaged material. After review of the damaged materials by the Owner's Representative, all damaged

materials that are rejected by the Owner's Representative shall become the property of the Contractor and shall be disposed of as provided elsewhere in the Contract Documents.

- E. Materials to be salvaged that are damaged as a result of the Contractor's operations shall be repaired by the Contractor, at the Contractor's expense, to the satisfaction of the Owner's Representative. Materials that are damaged beyond repair as a result of the Contractor's operations shall be disposed of as provided elsewhere in the Contract Documents and replaced at the Contractor's expense; or, at the discretion of the Owner's Representative, the estimated cost of replacement may be deducted from any moneys due or to become due to the Contractor.
- F. Replacements for lost or damaged materials shall be of the same kind and of the same or better quality and condition as the lost or damaged materials were prior to their removal. Replacement materials should also be of the same size, color, weight etc. of the original materials. Matching or exceeding quality and condition alone may not permit the reuse of material.

Section 14.11. Repair of Damages Surfaces.

- A. Patch or replace portions of existing surfaces, which are damaged, lifted, discolored, or showing other imperfections.
- B. Repair substrate prior to patching finish.

Section 14.12. Finishes.

- A. Finish surfaces as specified in individual product sections.
- B. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest Intersections.
- C. Unless otherwise specified or shown, subsurface shall be prepared as recommended by finish material manufacturers for project conditions for the proper application of new finishes.

Section 14.13. Cleaning.

- A. Clean adjacent Owner occupied areas of work soiled by work of this Contract.

ARTICLE 15. PROJECT MEETINGS & PROCEDURES

Section 15.01. Section Includes

- A. The Owner's Representative will schedule and administer a preconstruction meeting, regular progress meetings, and specially called meetings throughout progress of the Work, and will:
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Preside at meetings.
 - 4. Record the minutes; include significant proceedings and decisions.
 - 5. Reproduce and distribute copies of minutes after each meeting to participants in the meeting and to parties affected by decisions made at meeting.
- B. Representatives of the Contractor, Subcontractors and suppliers attending meetings shall be experienced supervisory staff with written authorization to act on behalf of the entity each represents.

Section 15.02. Preconstruction Meeting.

- A. Timing: Prior to start of construction.
- B. Attendance: Architect or Consulting Engineer and consultants as appropriate, Owner's Representative, Contractors as requested.
- C. Purpose: Discuss and familiarize Contractors with construction administrative procedures to be used on Project.

Section 15.03. Progress Meetings.

- A. Timing: Frequency, day and time to be determined by the Owner's Representative, Architect or Consulting Engineer and the City.
- B. Attendance: Owner's Representative and each Contractor on site; Architect or Consulting Engineer, consultants, and Subcontractors when required.
- C. Purpose: To provide a formal and regular forum for the City, the Owner's Representative, Architect/Engineer, Contractor and Subcontractors to present questions, problems or issues that need to be addressed. It will also provide an opportunity to review the progress on previous issues and action items along with submittal and schedule review.

Section 15.04. Specially Called Meetings.

- A. The Owner's Representative may call a special meeting at any time during the course of the Project. Special Project meetings shall include representatives of the Project as requested in order to discuss problems and/or solutions that are common to the Project.

ARTICLE 16 - QUALITY CONTROL

Section 16.01. Section Includes

- A. Quality assurance and control of installation.
- B. References.
- C. Field samples.
- D. Mock-up.
- E. Inspection and testing laboratory services.
- F. Manufacturers' field services and reports.

Section 16.02. Related Sections.

- A. General Provisions and Special Provisions - Submittals
- B. Technical Specifications

Section 16.03. Quality Assurance/Control of Installation.

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply fully with manufacturers' instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Architect or Consulting Engineer before proceeding.
- D. Comply with specified standards as a minimum quality for the Work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Perform work by persons qualified to produce workmanship of specified quality.
- F. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.
- G. Contractor's Line of Authority: The Contractor shall provide one person who shall be both knowledgeable and responsible for all work to be performed on this Project. In the Contractor's absence, the Contractor's appointed representative shall be responsible for all directions given him/her and said directions shall be binding as if given to the Contractor. The Contractor's representative shall be responsible to coordinate all work to be performed.
- H. Shop and fieldwork shall be performed by mechanics skilled and experienced in the fabrication and installation of the work involved. All work on this Project shall be

done in accordance with the best practices of the various trades involved and in accordance with the drawings, approved shop drawings and these specifications.

- I. All work shall be erected and installed plumb, level, square and true and in proper alignment and relationship to the work of other trades. All finished work shall be free from defects. The City reserves the right to reject any materials and workmanship which are not considered to be up to the highest standards of the various trades involved. Such inferior material or workmanship shall be replaced by the Contractor at no additional cost to the City and without an extension of the Contract Time.
- J. All work shall be installed by a knowledgeable contractor and defined "certified to install" by the specified materials manufacturers. The specifications and recommendations of the manufacturer whose materials are used shall be strictly adhered to during the application or installation of materials.
- K. Any additional work beyond that specified or illustrated, or any modification thereto, that is necessary for the furnishing of guarantee shall be provided by the Contractor without additional cost to the City.

Section 16.04. References.

- A. Conform to reference standards by date of issue current on date of the Contract Documents.
- B. Should specified reference standards conflict with Contract Documents, request clarification from Architect or Consulting Engineer before proceeding.
- C. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
- D. The Contractor shall be responsible for being current and knowledgeable of all building codes involved for all trades under its direction.

Section 16.05. Field Samples.

- A. Install field samples at the Site as required by individual specification sections for review.
- B. Acceptable samples represent a quality level for the Work.
- C. Where field sample is specified in individual sections to be removed, clear area after field sample has been accepted by Architect or Consulting Engineer.

Section 16.06. Mock- Up.

- A. Assemble and erect specified items, with specified attachment and anchorage devices, flashings, seals, and finishes.
- B. Where mock-up is specified in individual sections to be removed, clear area after mock-up has been accepted by Architect or Consulting Engineer.

Section 16.07. Manufacturers' Field Services and Reports.

- A. Submit qualifications of observer to Architect or Consulting Engineer thirty (30) Calendar Days in advance of required observations.
- B. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust, and balance of equipment as applicable, and to initiate instructions when necessary.
- C. Individuals to report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.
- D. Submit report in duplicate within thirty (30) Calendar Days of observation to Architect for review.

ARTICLE 17. TEMPORARY FACILITIES AND CONTROLS

Section 17.01. Work Included

Temporary Facilities and controls required for this Work include, but are not necessarily limited to:

- A. Temporary water, power, light, heat and Project Identification Sign.
- B. Field office and associated telephone and utilities.
- C. Temporary weather protection.
- D. Parking and storage areas.
- E. Site fencing and security.
- F. Sanitary facilities.
- G. Dewatering.
- H. Emergency power and water shut-off.

Section 17.02. Project Identification Sign

Unless otherwise provided in the Special Provisions, the Contractor shall provide and install one eight foot by four foot (8' x 4') Project Identification Sign. The City shall establish the location for the Sign. The Sign shall be fabricated from exterior grade, 5/8" plywood with four inches by four inches (4" x 4") posts of sufficient length to provide appropriate and sage sign height for its location and soil embedment. The Sign shall be prepared by a professional sign manufacturer and shall include an opaque white background, opaque white posts, die-cut fabricated lettering with no more than two (2) letter fonts, and no more than two (2) letter colors. The Contractor shall provide an eight and one-half inch by eleven inch (8.5" x 11") mock-up of the Sign for approval by the City prior to fabrication. List the title of the Project, names of City of Folsom, architectural/engineering firm, Contractor and major Subcontractors. The Contractor shall allow no other signs to be displayed on the Project site.

Section 17.03. Temporary Utilities.

General: Charges for the use of utility services other than those associated with individual field offices or planned electrical service interruptions will be paid for by the City. The Contractor shall provide temporary heating, or ventilating, or cooling when permanent services are interrupted due to performance of the Work. The Contractor shall provide temporary means of operation for existing storm, water, sewer, gas, mechanical, electrical, and low voltage systems during construction. Any planned interruption of permanent services, facilities, or operations must be coordinated and approved in advance with the Owner's Representative.

A. Temporary Power.

The Contractor shall construct all temporary power facilities required to complete the Work and maintain in accordance with Division of Industrial Safety "Electrical Safety Orders" (ESO), Public Utilities Commission "Rules of Overhead Line Construction" (G.O. 95), and Cal-OSHA. Materials, devices and equipment used for these facilities shall be in good and safe condition but need not be new. The Contractor is responsible for the

removal of the temporary power. Existing electric outlets may be utilized, if permitted by the City and authorized by the Owner's Representative. Any additional power required shall be provided and paid for by the Contractor.

B. Temporary Lighting.

The Contractor shall provide, maintain, and remove temporary lighting necessary to complete the Work.

C. Temporary Heat.

The Contractor shall provide, maintain, and remove temporary heat necessary to complete the Work.

D. Temporary Water.

The Contractor shall provide sufficient hoses to carry water to every required part of construction and allow use of water facilities to Subcontractors engaged in the Work. The Contractor is also responsible for the removal of the temporary water. Existing water outlets may be utilized, except that no water may be drawn from fire hydrants without prior written approval of the City for such a connection. Any additional water required beyond that available from existing water outlets and/or as approved by the City shall be provided by the Contractor.

E. Temporary Telephone.

The Contractor shall provide its own telephone system. Use of City telephones will not be allowed.

F. Temporary Fire Protection.

The Contractor shall provide and maintain fire extinguishers and first aid kits in accordance with Cal-OSHA and federal requirements to be used in the event of an emergency.

G. Temporary Weather Protection.

The Contractor shall provide and maintain protection measures to ensure that damage(s) will not occur to City property during course of construction.

H. Temporary Dewatering.

The Contractor shall provide and maintain a dewatering system as required to perform its work. This temporary dewatering system may, and should, be reviewed by the Architect or Consulting Engineer and/or the Owner's Representative.

Section 17.04. Field Office/Storage Containers.

If desired, the Contractor may provide a temporary field office(s) or storage container(s). Locate field office(s)/storage container(s) consistent with the City's Standard Specifications and as directed by the Owner's Representative. Upon completion of Work, Contractor shall remove any and all temporary field office(s) and storage container(s).

Section 17.05. Parking of Vehicles.

The Contractor shall assume **all** responsibility for job site vehicle parking of its and its Subcontractors' vehicles. Locations of parking shall be as directed by the Owner's Representative. The Project Site may not accommodate on-site parking of construction personnel vehicles. The Contractor shall assure compliance with all applicable requirements for

on-street vehicle parking.

Section 17.06. Storage and Laydown Areas.

Only areas designated by the City can be used by the Contractor for laydown areas. The Contractor is responsible for providing its own fenced storage facilities (trailers or cargo containers). The use of storage and laydown areas shall be consistent with the provisions of the City's Standard Specifications.

Section 17.07. Temporary Site Fencing and Security.

The Contractor shall provide and maintain temporary fencing surrounding the buildings and/or areas under construction, and staging areas. The Contractor is responsible for the security of all equipment, material, and completed construction items. The Contractor is also responsible for securing any breeches to existing security system/buildings caused by its Work. Temporary measures may include watchman, temporary doors, temporary alarm, etc.

Section 17.08. Sanitary Facilities.

The necessary sanitary conveniences for the use of the workers on the project, properly obscured from public observance, shall be constructed and maintained by the Contractor in such manner and at such points as shall be approved by the Engineer, and their use shall be strictly enforced.

Section 17.09. Temporary Construction, Equipment and Protection.

Contractor shall provide, maintain and remove upon completion of Work, all temporary rigging, scaffolding, hoisting equipment, rubbish chutes, ladders, barricades, lights and all other protective structures or devices necessary for safety of workers and public property as required to complete the Work.

Safety: The contractor is responsible for the complete safety of City personnel, consultants, and the general public at all times.

Protection: The Contractor must protect all workers and equipment from power lines by maintaining safe distances and by providing protective devices where and as required by Industrial Safety Commission and Cal-OSHA.

Temporary construction and equipment: All temporary construction and equipment shall conform to all regulations, ordinances, laws and other requirements of the State of California and any other authorities having jurisdiction (including insurance companies), with regards to safety precautions, operations and fire hazards.

ARTICLE 18 – OPERATIONS AND MAINTENANCE DATA

Section 18.01. Qualified Personnel.

The Contractor shall insure that personnel experienced in maintenance and operation of described products prepare instructions and data.

Section 18.02. Format and Required Information for Instructions and Data.

Unless otherwise provided in the Special Provisions, the Contractor shall prepare data in the form of an instructional manual (Operations and Maintenance Manual) including, at a minimum, the following information:

- Drawings
- Illustrations
- Parts lists
- Wiring diagrams of systems
- Internal wiring diagrams and circuit board schematics and layout drawings
- Manufacturer's recommended spare parts lists
- Name, address and phone number of nearest parts and service agency
- Systems balance data
- Maintenance and service instructions
- Operation instructions
- Software including annotated source lists and programs

The data shall be presented to the following standards:

- A. Binders: Commercial quality, 8 and one-half inch by eleven inch (8.5" x 11") three-ring binders with hardback, cleanable, plastic covers; four inch (4") maximum rings size; when multiple binders are used, correlate data into related construction groupings.
- B. Cover: Identify each binder with typed or printed title "OPERATION AND MAINTENANCE INSTRUCTIONS"; list title of Project; identify subject matter of contents.
- C. Arrangement: Arrange content by systems, under specification section numbers; provide tabbed section divider for each separate product and system, with typed description of product and major component parts of equipment.
- D. Text: Manufacturer's printed data, or typewritten data on 20-pound paper as required to supplement product data. Provide logical sequence of instruction for each procedure, incorporating manufacturer's instructions.
- E. Drawings:
 - 1. Provide with reinforced punched binder tab.
 - 2. Bind in with text; fold larger drawings to size of text pages.
 - 3. Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams.

4. DO NOT use Project Record Documents as maintenance drawings.

- F. Table of Contents: Provide title of Project; names, addresses, and telephone numbers of design consultants and Contractor with name(s) of responsible parties; schedule of products and systems, indexed to content of volume.
- G. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- H. Product Data: Mark each sheet to clearly identify specific products, component parts and data applicable to installation; delete inapplicable information.
- I. Warranties: Bind in copy of each.

Section 18.03. Additional Information.

In addition to the requirement to submit additional information as set forth in Section 18.04, the Contractor shall provide the following additional information:

- A. Instructions for Care and Maintenance to include manufacturer's recommendations for cleaning agents and methods, precautions against detrimental agents and methods, and recommended schedule for cleaning and maintenance.
- B. Operating procedures for equipment and systems to include start-up, break-in, routing and normal operating instructions and sequences; include regulation, control, stopping, shut-down, and emergency instructions; include summer, winter, and any special operating instructions.
- C. Maintenance requirements to include routing procedures and guide for trouble-shooting; disassembly, repair and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.

Section 18.04. Training.

Before final inspection, the Contractor shall instruct the City's designated personnel in operation, adjustment, and maintenance of products, equipment, and systems at agreed upon times.

For equipment requiring seasonal operation, perform instructions for other seasons within six (6) months.

The Contractor shall instruct City personnel using the Operations and Maintenance Manuals as the basis for instruction and shall review the contents of the Manuals with City personnel in detail to explain all aspects of operation and maintenance.

The Contractor shall prepare and insert additional data in Operations and Maintenance Manuals when the need for such data becomes apparent during instruction.

Section 18.05. Submission of the Operations and Maintenance Manuals.

The Contractor shall submit two copies of preliminary draft Operations and Maintenance Manuals for review by the City as soon as possible.

The Contractor shall submit one copy of completed Operations and Maintenance Manuals in final form fifteen (15) Calendar Days prior to final inspection. The copy will be returned after final inspection with the City's comments. The Contractor shall review the content of the Operations and Maintenance Manuals as required prior to final submittal to the City.

The Contractor shall submit two copies of revised Operations and Maintenance Manuals in final form within ten (10) Calendar Days after final inspection.

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SPECIAL PROVISIONS

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SPECIAL PROVISIONS

SP-1 SCOPE AND LOCATION OF WORK

The City of Folsom (City) is located in Sacramento County. The City currently operates and maintains its water system within City limits. The Work of this contract includes connecting an existing main to existing water mains, water services and hydrant services along Baldwin Dam Road Right of Way from the intersection of Baldwin Lake Circle to 7251 Baldwin Dam Road and further south adjacent to a decommissioned booster pump station to provide better isolation for maintenance and replace aging infrastructure. The Project also includes decommissioning of an existing water mains and demolition of the decommissioned booster station.

The Work to be performed under this contract includes the furnishing of all labor, materials, tools and equipment for the Ashland Water Rehabilitation Project II. A summary of the Work is provided below. The summary provided below is for informational purposes only, and is not all inclusive:

1. Removal of existing main including a blow-off connection and construction of a new main tie-in with 3 isolation valves and blind flange at Baldwin Lake Circle.
2. Removal of existing main and construction of 6 new water main tie-ins with 3 isolation valves each and piping at Southcreek Circle (2 connections), Mosswood Circle (2 connections), between 7511 and 7497 Baldwin Dam Road (1 connection), and Valley Pines Drive (1 connection).
3. Removal of existing main and construction of new water main tie-in with 3 isolation valves and piping to future connection and a blowoff valve at 7635 Baldwin Dam Road.
4. Transfer and replacement of 22 water services to either the 14-inch asbestos cement pipe or 18-inch welded steel pipe in Baldwin Dam Road (newer water main).
5. Construction of 19 new meter boxes and removal of old meter boxes with water meters provided and installed by the City.
6. Extension of water service lateral to existing meter box at 7545 Baldwin Dam Road.
7. Replacement of concrete driveway sections at 7405 Baldwin Dam Road.
8. Removal of a wharf hydrant along Mosswood Circle and replacement with new steamer hydrant and new hydrant connection to newer water line.
9. Transfer and replacement of 3 existing fire hydrants and service connections to newer water line.
10. Decommissioning of waterlines on Baldwin Dam Road by means of water-tight mechanical means, welded on plates.
11. Abandon/ removal of isolation valves on Baldwin Dam Road as indicated.
12. Demolition of an existing decommissioned pump station within the limits of the existing site as indicated.

13. Construction of new water main tie in and 1 isolation valve at Ashland Pump Station to remove existing tees.
14. Sealing of cracks, slurry seal, pavement thermoplastic stripping and marking of Baldwin Dam Road as indicated.
15. Grind and re-pave Digger Pine Lane as indicated.
16. Providing public notifications, SWPPP compliance, potholing/field verification, disinfection and testing, traffic and pedestrian control, tree protection/removal, surface restoration, site security and other work as indicated and required.

SP-2 MEASUREMENT AND PAYMENT

A. Scope:

- i. Measurement and payment shall be made in accordance with Article 8. Measurement and Payment of the City of Folsom General Provisions. Payment for various items of the Bid Schedule as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies and manufactured articles, for all labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the work all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs for the construction of the work specified and shown therefore shall be included in the prices listed in the Bid Schedule for the various items of work.
- ii. All Work included in the Contract Drawings and/or Specifications as part of this Project shall be performed or constructed in accordance with City of Folsom Design and Procedures Manual, Improvement Standards and Standard Construction Specifications and Details, whether stated or not.
- iii. The items below are broken down into lump sum and unit price items. The Contractor shall provide bid prices based on the descriptions, plans, and specifications with the understanding that all work must be included in the stipulated items. Payment for lump sum items will be made at the contract lump sum price upon completion, unless otherwise specified. Payment for unit price items will be made at the contract unit price for each unit installed or completed.
- iv. All items involving materials and installation are on a furnish and install basis.

- v. In underground installations, no extra compensation will be made for removal of surface improvements, excavation regardless of material, over excavation shown or placement and removal of temporary asphalt as required, disposal of surplus material in a lawful manner, bedding, backfill, and compaction, testing, or any other work specified or shown.
- vi. Compensation for safety measures, traffic control, cleanup and any site restoration necessary to pre-existing conditions shall be included in the prices of the various contact items of work unless specified elsewhere.

B. Definitions of Bid Quantities

- i. Quantity of work to be paid for under any item for which a unit price is fixed in Contract Documents shall be number, as determined by City, of units of work satisfactorily completed in accordance with Contract Documents or as directed by City. Unless otherwise provided, determination of number of units of work so completed will be based, so far as practicable, on actual measurement or count within prescribed or ordered limits, and no payment will be made for work done outside of limits. Measurements and computations will be made by methods set forth in Contract Documents, including without limitation this Section. If methods are not so set forth, measurements shall be made in any manner which City considers appropriate for class of Work measured (e.g., pre-assigned values, percentage completion, units completed or incremental milestones). Contractor must immediately inform City of any disputes regarding quantity measurements and shall immediately supply City with any documentation supporting the disputed measurements.

C. Scope of Payment

- i. Except as otherwise expressly stated in this Section, payment to Contractor at the unit price or other price fixed in Contract Documents for performing Work required under any item, or (if the Contract is on a single lump sum price basis) at the lump sum price fixed in the Contract Documents for performing all Work required under Contract Documents, and as either may be adjusted pursuant to any approved Change Order or Construction Change Directive, shall be full compensation for completing, in accordance with Contract Documents, all Work required under the item or under Contract Documents, and for all expense incurred by Contractor for any purpose in connection with the performance and completion of said Work, including all incidental work necessary for completion of the Work.
- ii. The Contract Sum, whether lump sum, unit price or otherwise, shall be deemed to include all costs necessary to complete required Work, all costs (if any) for loss or damage arising from nature of Work or prosecution of the Work, and from action of elements. Unless Contract Documents expressly provide otherwise, the Contract Sum shall be deemed to include:

- i. Any and all costs arising from any unforeseen difficulties which may be encountered during, and all risks of any description connected with, prosecution of Work or prosecution of Bid Item (whether lump sum or unit price) until acceptance by City;
 - ii. All expenses incurred due to suspension, or discontinuance of Work or discontinuance of Bid Item (whether lump sum or unit price) as provided in Contract Documents;
 - iii. Escalation to allow for cost increases between time of Contract Award and completion of Work or completion of Bid Item (whether lump sum or unit price).
- iii. Whenever it is specified herein that Contractor is to do work or furnish materials of any class for which no price is fixed in Contract Documents, it shall be understood that Contractor is to do such work or furnish such materials without extra charge or allowance or direct payment of any sort, and that cost of doing work or furnishing materials is to be included in price Bid, unless it is expressly specified herein, in particular cases, that work or material is to be paid for as extra work.
- iv. Unit Prices shall apply to work covered by unit prices regardless of actual quantities performed on the Project.
- v. No payment shall be made for materials or equipment not yet incorporated into the Work, except as specified in this Section.
- vi. The City may, in its discretion, where Contractor requests payment on the basis of materials and equipment not incorporated in the Work, require Contractor to satisfy the following conditions:
 - i. The materials and/or equipment shall be delivered and suitably stored at the Site or at another local location agreed to in writing, for example, a mutually acceptable warehouse;
 - ii. Full title to the materials and/or equipment shall vest in City at the time of delivery to the Site, warehouse or other storage location;
 - iii. Obtain a negotiable warehouse receipt, endorsed over to City for materials and/or equipment stored in an off-site warehouse. No payment will be made until such endorsed receipts are delivered to City;
 - iv. Stockpiled materials and/or equipment shall be available for City inspection, but City shall have no obligation to inspect them and its inspection or failure to inspect shall not relieve Contractor of any obligations under the Contract Documents. Materials and/or equipment shall be segregated and labeled or tagged to identify these specific Contract Documents;
 - v. After delivery of materials and/or equipment, if any inherent or acquired defects are discovered, defective materials and/or

equipment shall be removed and replaced with suitable materials and/or equipment at Contractor's expense;

- vi. At Contractor's expense, insure the materials and/or equipment against theft, fire, flood, vandalism, and malicious mischief, as well as any other coverages required under the Contract Documents;
- vii. Contractor's Application for Payment shall be accompanied by a bill of sale, invoice or other documentation warranting that City has received the materials and equipment free and clear of all liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect City's interest therein, all of which must be satisfactory to City. This documentation shall include, but not be limited to, conditional releases of mechanics' liens and stop notices from all those providing materials and equipment as to which the Application for Payment relates, as well as unconditional releases of the same from the same as to the previous Application for Payment for which they have not already been provided.
- vii. Amounts previously paid for materials and equipment prior to incorporation into the Work shall be deducted from amounts otherwise due Contractor as they are incorporated.

D. Basis of Payment

- i. Unit Price Quantities: When estimated quantity for specific portions of Work is listed in Bid Form, quantity of Work to be paid for shall be actual number of units satisfactorily completed, as determined by City and certified by Contractor, in accordance with Contract Documents.
- ii. Lump Sum: When estimated quantity for specific portion of Work is not indicated and unit is designated as lump sum, payment will be on a lump sum basis for Work satisfactorily completed in accordance with Contract Documents.
- iii. Allowances: Allowance items (if any) will be paid for as provided in this Section. Funds authorized for Allowance work will not be released for Contract payments unless City has authorized Allowance work in writing.
- iv. City does not expressly, or by implication, agree, warrant, or represent in any manner, that actual amount of Work will correspond with amount shown or estimated and reserves right to increase or decrease amount of any class or portion of Work, to leave out entire Bid Item or Items, or to add work not originally included in Bid or Contract Documents, when in its judgment such change is in best interest of City. No change in Work shall be considered a waiver of any other condition of Contract Documents. No claim shall be made for anticipated profit, for loss of profit, for damages, or for extra payment whatever, except as otherwise expressly provided for in Contract Documents, because of any differences

between amount of work actually done and estimated amount as set forth herein, or for elimination of Bid Items.

E. Allowances and Alternatives

- i. Any Bid Item may be deleted from the Work and Contract Sum, in total or in part, prior to or after award of Contract without compensation in any form or adjustment of other Bid Items or prices therefore.
- ii. Payment of all items is subject to provisions of Contract Documents, including without limitation this Section.
- iii. For all Bid Items, furnish and install all work indicated and described in Specifications and all other Contract Documents, including connections to existing systems. Work and requirements applicable to each individual Bid Item, or unit of Work, shall be deemed incorporated into the description of each Bid Item (whether Lump Sum, or Unit Price).

F. Description of Bid Items

- i. Item 1 - Mobilization (LS) – See General Provisions Section 8.02, paragraph C.
- ii. Item 2- Construction Procedure, Sequence of Operations, ACP Handling Plan and Special Constraint Plans (LS) – See Special Provisions SP-28 and SP-41.

The City will pay not more than two percent (2%) of the total Contract Sum as a separate pay item for construction procedure, sequence of operations, ACP handling and special constraint plans. In the event the Contractor submits a construction procedure, sequence of operations, and construction sequencing plan preparation pay item greater than two percent (2%) of the total Contract Sum, the City will pay any excess construction procedure, sequence of operations, and special constraint plans amount with the final Progress Payment.

The unit price per lump sum shall include but not limited to the construction work plan, construction schedule, and work sequencing plan as described in this Contract Documents.

- iii. Item 3 – Permits (LS) – See Special Provisions SP-30.

The City will pay not more than one fourth of a percent (0.25%) of the total Contract Sum as a separate pay item for all required plans and permits. In the event the Contractor submits the permit preparation pay item greater than one fourth of a percent (0.25%) of the total Contract Sum, the City will pay any excess permit amount with the final Progress Payment.

The unit price per lump sum shall include but not limited to the encroachment permit, private property construction permit and other related permits required by the City.

- iv. Item 4 – Traffic Control Plan and Operations (LS) – See General Provisions Division 6 and Section 10.06, Special Provisions SP-29 and Section 02800.

The City will pay not more than three percent (3%) of the total Contract Sum as a separate pay item for the traffic control plan and traffic control operations. In the event the Contractor submits a traffic control plan and operations pay item greater than three percent (3%) of the total Contract Sum, the City will pay any excess traffic control plan and operations amount with the final Progress Payment.

The unit price per lump sum shall include but not limited to all aspects of traffic control, public notifications, flag persons, temporary signing, delineation, maintenance and detours (including electronic portable changeable message board signs) for work areas and is to conform to Section 12 of Caltrans Standard Specifications: Temporary Traffic Control, along with MUTCD and MUTCD California Supplement. No additional compensation for traffic control or detours will be allowed.

Traffic control that is necessary to protect the work or the public at sites where excavation is not required in traffic areas shall be considered a part of the rest of the work at those sites, and no additional compensation shall be made therefor. Progress payments will be made by prorating the bid item amount by taking a ratio of the total overall value of work completed over the total contract value of work. In the event the contractor does not comply with the approved Traffic Control Plan, the Contractor shall pay a penalty to the City of Folsom in the amount of, **FIVE HUNDRED DOLLARS (\$500.00) per occurrence**. The Engineer will issue a Notice of Non-Compliance and the Contractor will terminate work at once until deficiencies are rectified per the approved Traffic Control Plan.

- v. Item 5 – Stormwater Pollution Prevention Plan Compliance and Best Management Practices (LS) – See General Provisions Section 6.08, Special Provisions SP-26, and Section 01140.

The City will pay not more than one percent (1%) of the total Contract Sum as a separate pay item for storm water pollution prevention plan, erosion and silt control. In the event the Contractor submits a storm water pollution prevention plan (SWPPP) and construct required best management practices (BMP) as outlined in the SWPPP and as required by the City during construction shall be paid no greater than one percent (1%) of the total Contract Sum, the City will pay any excess storm water pollution prevention plan amount with the final Progress Payment.

The contract lump sum price paid for non-permitting Storm Water Pollution Prevention Plan shall include full compensation for preparation, submission, and re-submission of a Storm Water Pollution Prevention Plan (SWPPP) for approval by the Engineer prior to commencing any field work. The SWPPP shall be prepared in accordance with requirements set forth in Section 01500 of the Specifications. The lump sum price shall also

include full compensation for furnishing of all transportation, labor, materials, tools, equipment, and all incidental work for implementing the SWPPP for the project.

- i. Item 6 – Sheeting, Shoring and Bracing (LS) – See Special Provisions SP-33.

The City will pay not more than five percent (5%) of the total Contract Sum as a separate pay item for the sheeting, shoring and bracing. In the event the Contractor submits sheeting, shoring and bracing pay item greater than five percent (5%) of the total Contract Sum, the City will pay any excess sheeting, shoring and bracing amount with the final Progress Payment.

The unit price per lump sum shall include but not limited to all labor, materials, equipment and supplies required to prepare and submit a sheeting, shoring and bracing plan by a Registered Civil Engineer, provide sheeting, shoring, and bracing for all open cut construction, including but not limited to trenches for the installation of the pipeline and laterals. Contractor shall follow all safety and health requirements set forth by CDIR and OSHA.

- ii. Item 7 – Utility Locating (LS) – See Special Provisions SP-15 and Section 02610, Paragraph 1.04.

The unit price per lump sum shall include all labor, materials, equipment and supplies required for all pothole and utility locating trench excavation, trench and pavement restoration. The work shall include but not limited to preparing and submitting a pothole plan to the City and Engineer for its approval, contacting underground service alert five (5) days in advance, pothole existing utilities for the water installation, surveying pothole location, cleaning, backfill, placement of temporary pavement patch as per Contract Specification, informing the City and Engineer for any deviation in utility location as shown in the Contract Drawings.

- iii. Item 8 – Rock Excavation Allowance (LS)

The contract lump sum for Rock Excavation shall include full compensation for furnishing all materials, equipment, labor, dewatering, hauling, off-site disposal or rock if not suitable for onsite fill and incidentals to remove all rock encountered within trench profile based on the quantity of rock excavated to install underground facilities as defined in Section 02200 2.01 D. This bid item is an allowance item and payment for this work will be based on force account stipulations of actual work completed per Section 9.04.

- iv. Item 9 – Decommissioning of Existing Water Mains (LS)

The contract lump sum price paid for Decommissioning of Existing Water Mains shall include full compensation for furnishing all materials, equipment, labor and incidentals required to seal and abandon existing water mains, and finish new water main where this work is not included in

other bid items, removal of valve riser and boxes for isolation valves scheduled for abandonment and associated restoration of surface features and removal of existing and temporary isolation valves required for the decommissioning process whether or not indicated on the plans.

- v. Item 10 – Tree Protection (LS) – See Section 01140 and General Provisions Article 12.

The contract lump sum price paid for Tree Protection shall include full compensation for furnishing all materials, equipment, labor and incidentals required to protect in place all trees impacted by the project whether or not indicated on the plans. This bid item includes replacement of any tree damaged by equipment or construction operations.

- vi. Item 11 – Ashland Pump Station Site Demolition, Grading, Excavation and Hauling (LS) – See Section 02055

The contract lump sum price paid for Site Demolition, Grading, Excavation and Hauling shall include full compensation for furnishing all materials, equipment, labor, cutting/removal, hauling, disposal and incidentals for demolition of facilities located within the site, including but not limited to concrete, pumps, piping, storage tank, electrical equipment, site grading in order to provide a finished grade that adequately drains to the appropriate drainage facility. This item does not include excavation of the pipeline and appurtenance trench areas.

- vii. Item 12 – Water Service – Level 1 (LS)

The contract unit price paid per each for Water Service – Level 1 shall include full compensation for furnishing all materials, equipment and labor as required to replace the existing one-inch water service line between the existing corporation stop and the existing angle meter stop upstream of the existing meter and extension of the service lateral to the newer main. This bid items includes homeowner notification, any temporary water service, sawcutting of existing pavement, pavement removal, excavation, disposal of waste materials (including pipes and fittings that are to be removed following new water service installation), the installation of a new one-inch copper tubing size (CTS) polyethylene (PE) tubing water service with stainless steel inserts, two-inch PVC sleeve, tracer wire, tapping sleeve, bedding, initial and intermediate backfill including roadway subgrade material and associated compaction, removal and/or installation of temporary caps; blind flanges; marking tape; placement and removal of temporary paving; restoration of any surfaces that was damaged with this item (matching the existing surface); restoration of any surfaces identified in the contract documents and/or signed Right of Entry Agreement (see Appendix B) such as replacing concrete driveway, grass, bark, plants, gravel road, steps, irrigation pipe and appurtenances resetting rocks or boulders landscape lighting and other miscellaneous materials to provide existing or better surface condition per the City and the homeowner satisfaction; Contractor shall also take pre

and post-construction pictures in presence of the homeowner and the City; all work in accordance with Section 01757, disinfection of water distribution systems and other related sections for water main system testing, disinfection, startup and commissioning, including pressure testing and flushing to pass water quality tests; temporary striping (where applicable) 95% relatively compaction on AB and AC; and all incidentals.

Water services under this Bid Item include the following addresses:

7331 Baldwin Dam Road

7341 Baldwin Dam Road

7535 Baldwin Dam Road

viii. Item 13 – Water Service – Level 2 (LS)

The contract unit price paid per each for Water Service – Level 2 shall include full compensation for furnishing all materials, equipment and labor as described for Bid Item No. 12 for Water Service - Level 1 plus a no-fee permit for a new meter, a new meter box at a new location including setting the meter box, idler arm, PVC water service piping between the meter and the existing connection to the private system, couplings, connection to the private water system, remove and disposal of existing meter box, removal of piping between existing angle meter stop and connection to the private system. Surface restoration for these water services will be less significant than Level 1, 3 or 5. The City will provide the new meter and touch reader.

Water services under this Bid Item include the following addresses:

7511 Baldwin Dam Road

7545 Baldwin Dam Road (work to extend service lateral between new box and existing bid separately. See Bid Item 30)

7667 Baldwin Dam Road

9800 Mosswood Circle

ix. Item 14 – Water Service – Level 3 (LS)

The contract unit price paid per each for Water Service – Level 3 shall include full compensation for furnishing all materials, equipment and labor as described for Bid Item No. 13 for Water Service Level 2 plus restoration of any surfaces identified in the contract documents and signed Right of Entry Agreement (see Appendix B) such as replacing concrete driveway, asphalt, grass, bark, plants, gravel road and/or resetting rocks or boulders.

Water services under this Bid Item include the following addresses:

7527 Baldwin Dam Road

7543 Baldwin Dam Road

7545 Baldwin Dam Road

7549 Baldwin Dam Road

7567 Baldwin Dam Road

7635 Baldwin Dam Road

x. Item 15 – Water Service – Level 4 (LS)

The contract unit price paid per each for Water Service – Level 4 shall include full compensation for furnishing all materials, equipment and labor as described for Bid Item No. 13 for Water Service - Level 2 plus tree protection work (i.e. hand digging) specific to the water service.

Water services under this Bid Item include the following addresses:

7671 Baldwin Dam Road

9809 Mosswood Circle

xi. Item 16 – Water Service – Level 5 (LS)

The contract unit price paid per each for Water Service – Level 5 shall include full compensation for furnishing all materials, equipment and labor as described for Bid Items 14 and 15 plus restoration of rock wall, retaining wall cutting/ rehabilitation, river rock replacement, deeper installation, tree replacement and/or other special considerations concerned with the individual property as described in the plans.

Water services under this Bid Item include the following addresses:

7311 Baldwin Dam Road

7321 Baldwin Dam Road

7403 Baldwin Dam Road

7405 Baldwin Dam Road (work to replace concrete driveway shall be bid separately. See Bid Item 29)

9867 Mosswood Circle

xii. Item 17 – Water Service – Level 6 (LS)

The contract unit price paid per each for Water Service – Level 6 shall include full compensation for furnishing all materials, equipment and labor as described for Bid Items 15 for Water Service – Level 4, except that the existing newer main pipe material is steel and the hot tap connection will include removal of existing pipe coating, field welding and field applied cement mortar coating.

Water services under this Bid Item include the following addresses:

7251 Baldwin Dam Road

9800 Valley Pines Drive

xiii. Item 18 – Water Main Tie-in at Baldwin Lake Circle (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and Baldwin Lake Circle shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, blind flange, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/ permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xiv. Item 19 – Water Main Tie-in at Southcreek Circle North (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and the northernmost Southcreek Circle shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/ permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xv. Item 20 – Water Main Tie-in at Southcreek Circle South (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and the southernmost Southcreek Circle shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and

associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xvi. Item 21 – Water Main Tie-in at Mosswood Circle North (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and the northernmost Mosswood Circle shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xvii. Item 22 – Water Main Tie-in at Mosswood Circle South (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and the southernmost Mosswood Circle shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xviii. Item 23 – Water Main Tie-in at 7635 Baldwin Dam Road (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at 7635 Baldwin Dam Road shall include full compensation for furnishing all materials, equipment, labor, dewatering

trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, supports, connections to existing piping, blowoff valve assembly and associated valve box, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xix. Item 24 – Water Main Tie-in at 7497 Baldwin Dam Road (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at 7497 Baldwin Dam Road shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/ permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xx. Item 25 – Water Main Tie-in at Valley Pines Drive (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located at the intersection of Baldwin Dam Road and the Valley Pines Drive shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of asbestos cement pipe including asbestos cement mitigation, piping and associated fittings, locating wire, cathodic protection, three new isolation valves and one temporary isolation valve and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust wall (temporary/ permanent), thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade

material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xxi. Item 26 – Water Main Tie-in at Adjacent Pump Station (LS)

The contract lump sum price paid for the water main tie in to the existing distribution main located adjacent the pump station shall include full compensation for furnishing all materials, equipment, labor, dewatering trench and existing water mains, and incidentals for completing the tie-ins, as shown in the Contract Drawings and in accordance with these Specifications including homeowner notification, saw cutting of existing pavement, pavement removal, excavation, steel plates, cutting removing of welded steel piping, piping and associated fittings, locating wire, cathodic protection, one new isolation valve and associated risers and valve box, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xxii. Item 27 – Hydrant Water Service 6-inch (EA)

The contract unit price paid per each for Hydrant Water Service (6-inch) shall include full compensation for furnishing and installing fire hydrant service as shown on the Drawings and per the Specifications, including notification, saw cutting of existing pavement, pavement removal, excavation, piping and associated fittings, re-setting the existing hydrant in place, locating wire, cathodic protection, one new isolation valves and associated risers and valve boxes, supports, connections to existing piping, fittings as needed to complete the tie-in, restraint, thrust blocks, disinfection and testing, encasement bedding, backfill including roadway subgrade material and associated compaction, asphalt concrete, surface restoration, and transport and disposal of materials in accordance with applicable State and Federal regulations.

xxiii. Item 28 – 6-inch hydrant (EA)

The contract unit price paid per each for Hydrant (6-inch) shall include full compensation for furnishing and installing fire hydrant as shown on the Drawings and per the Specifications, including connection to the hydrant service lateral.

xxiv. Item 29 – Remove and Replace Concrete Driveway at 7405 Baldwin Dam Road (SF)

The contract unit price paid per square foot shall include full compensation for furnishing all materials, equipment and labor for removal and reconstruction of concrete driveway including homeowner notification, saw cutting, removal and disposal of waste materials, base

material, dowling, reinforcement, forming, concrete, concrete placement, finishing, protection, curing and all incidentals to remove and replace the concrete driveway to match the appearance of the adjoining concrete.

xxv. Item 30 – Service Extention to Existing Meter at 7545 Baldwin Dam Road (LS)

The lump sum contract unit price paid for Service Extention to existing meter at 7405 Baldwin Dam Road shall include full compensation for furnishing all materials, equipment and labor as required to extend a water service line between the new meter location and the existing angle meter stop upstream of the existing meter (approximately 376 LF) and new ball valve construction. This bid items includes homeowner notification, any temporary water service, saw cutting of existing pavement, pavement removal, excavation, disposal of waste materials (including pipes and fittings that are to be removed following new water service installation), tracer wire, bedding, initial and intermediate backfill including roadway subgrade material and associated compaction, removal and/or installation of temporary caps; blind flanges; marking tape; placement and removal of temporary paving; restoration of any surfaces that was damaged with this item (matching the existing surface); restoration of any surfaces identified in the contract documents and/or signed Right of Entry Agreement (see Appendix B) such as replacing concrete driveway, grass, bark, plants, gravel road, steps, irrigation pipe and appurtenances resetting rocks or boulders landscape lighting and other miscellaneous materials to provide existing or better surface condition per the City and the homeowner satisfaction; Contractor shall also take pre and post-construction pictures in presence of the homeowner and the City; all work in accordance with Section 01757, disinfection of water distribution systems and other related sections for water system testing, disinfection, startup and commissioning, including pressure testing and flushing to pass water quality tests; temporary striping (where applicable) 95% relatively compaction on AB and AC; and all incidentals.

xxvi. Item 31 – Grind and Re-pave at Digger Pine Lane (SF)

The contract unit price paid per square foot for Grind and Re-pave at Digger Pine Lane shall include full compensation for furnishing all materials, equipment, labor and incidentals for remove all existing asphalt pavement by grinding and re-pave the streets from edge of existing pavement as shown on plan including protection/re-setting of all monuments; restoration of all surface features; and adjustment of utility vault/boxes to final grade.

xxvii. Item 32 – Asphalt Concrete Pavement (Ton)

The contract unit price paid per ton for Asphalt Concrete Pavement shall include full compensation for furnishing all materials, equipment, labor and incidentals to remove and replace pavement within the City of Folsom Road right-of-way not included in the above bid items and in accordance

with Sections 02200 and 02500 of these Specifications and the Contract Drawings.

xxviii. Item 33 – Type II Slurry Seal (SY)

The contract unit price paid per square yard for Polymer Modified Type II Slurry Seal shall include full compensation for furnishing all materials, equipment, labor and incidentals for polymer modified slurry seal, including preparation, sealing cracks, placing of materials, post sweeping, removal of all pavement striping, seal coat, and construction in accordance with Caltrans Standard Specifications.

xxix. Item 34 – Pavement Thermoplastic Striping and Marking (SF)

The contract lump sum price paid for Pavement Thermoplastic Striping and Marking shall include full compensation for furnishing all materials, equipment, labor and incidentals to replace all pavement striping and markings previously removed for restoration and slurry seal, whether or not shown on the Contract Drawings, to the satisfaction of the Engineer and in accordance with Caltrans Standard Specifications.

G. Allowances:

- i. Allowance work shall be provided as specified in the General Provisions.
- ii. The Amount given on Bid Item 8 is the sum of money set aside for each the Allowance Item. These amounts shall be included in the Contract Sum on the Bid Form.
- iii. If the cost of work done under any Allowance Item is less than the amount given on the Bid Form under that Allowance Item, the Contract Sum shall be reduced by the difference between the amount given in the Bid Form and the cost of work actually done.

SP-3 STANDARD SPECIFICATIONS

The City of Folsom Standard Construction Specifications and Standard Construction Details are considered as part of the Contract Documents and are the primary reference for technical specifications for the construction of City projects. Any item of work not specified in the following Contract Specification sections or not shown in the Contract Drawings shall be referred to the City Standards, available at:

<https://www.folsom.ca.us/government/community-development/development-engineering-services/improvement-standards-construction-specifications-and-details>

The Contractor shall refer to any modifications to the City's standard construction details, if any, which are included in the Contract Drawings.

SP-4 CONFORMANCE WITH CODES AND STANDARDS

In addition to those listed in the General Provisions (Section 4.06, 6.01), the Contractor will comply with Clean Air Act Section 306, Executive Order 11738, and EPA

regulations at 40CFR 15, which prohibits dealing with entities in noncompliance with cited acts.

SP-5 EXPERIENCE REQUIREMENTS

The Contractor and subcontractors performing the work of this contract shall have a minimum level of experience of five (5) projects of similar magnitude and conditions in the field of water systems within the last seven (7) years. Experience shall include but not be limited to coordinating water shut-downs and performing water tie-ins.

SP-6 TIME OF COMPLETION

The work done under this Contract shall be completed within 225 Calendar Days from the Notice to Proceed. Contractor's construction operations shall be conducted during day time hours between 7:00 a.m. and 5:00 p.m except where night work is specifically required on the Drawings or in the Specifications. Flushing, disinfection, tie-ins and water shut down are only allowed between 7:00 a.m. and 3:00 p.m. All work shall occur Monday through Friday. No work on weekends or Legal Holidays will be allowed. However, in areas of high traffic, see Section 02800 Traffic Control. Exceptions to the work hour limitations described above are allowed only with the City's written permission.

If the Contractor is willing to honor the contract bid price, issuance of Notice to Proceed may be delayed up to 4 months after contract acceptance and may occur at the Contractor's discretion depending on Contractor's work schedule.

SP-7 LIQUIDATED DAMAGES

In accordance with the General Provisions (Section 7.19), if the work is not completed by the Contractor in the time specified in the Contract Documents it is agreed that the Contractor will pay to the City as fixed and liquidated damages, and not as a penalty, the sum of \$1,500 for each Calendar Day of delay until the Date of Completion.

SP-8 PRE-CONSTRUCTION MEETING

Before commencement of construction, a pre-construction conference will be held per Section 01040.

SP-9 PROGRESS MEETINGS AND SCHEDULES

The Contractor shall schedule and hold regular weekly progress meetings per Section 01040. If necessary additional progress meetings may be necessary at the request of the Contractor or the Engineer.

SP-10 STAGING AREA AND SERVICES

The City shall not supply any staging area(s) as part of this project. The Contractor shall be responsible for staging all materials and equipment in a manner that minimizes public impact and is acceptable to the City. Contractor may at his own discretion identify private property owners and must secure all permits required for entry and use of said property. Contractor shall submit to the City written documentation verifying approval for use of private property.

SP-11 SURVEYS

Survey data shown on the plans is based on the project benchmarks shown on the Drawings. The City will not furnish any surveys. It is the Contractor's responsibility to establish all grades, lines, levels and benchmarks required for the project. Contractor shall match existing elevations. Verify all grades, lines, levels, and dimensions as indicated on the Drawings and report any errors or inconsistencies to Owner's Representative before commencing work.

SP-12 GEOTECHNICAL CONDITIONS

A project specific geotechnical investigation has been performed for this project and the geotechnical report is included with the Contract Documents in Appendix C. The Contractor assumes the responsibility to make any and all additional investigations they deem necessary to characterize the working environment sufficient to prepare a bid and prosecute work. The Contractor may make any arrangements he wishes with private individuals or public agencies to make sub-surface explorations necessary to prepare an informed bid and to plan the work. The City assumes no responsibility for sub-surface conditions. The contractor is required to obtain any and all permissions required including encroachment permits.

SP-13 DIFFERING SITE CONDITIONS

- A. In the event that site conditions are materially different than shown on the plans, represented in the geotechnical report, or observable from public right-of-ways during the bidding period, the Contractor shall promptly notify the Owner's Representative in writing. The Owner's Representative shall investigate the conditions, and if he finds that such conditions do materially differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the Work under this Contract, the Owner's Representative will recommend to the City that an equitable adjustment be made by modifying the Contract by Change Order to account for differing site conditions.
- B. No claim of the Contractor under this clause or any other shall be allowed unless the Contractor has given notice required under A., above.

- C. No claim of the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this Contract.

SP-14 SALVAGED MATERIALS

Contractor shall salvage equipment and materials specified in the Contract Documents per General Provisions Section 14.10. Salvaged materials shall be delivered to the City's Corporation Yard, located at 1013 Leidesdorff St.

SP-15 EXISTING UTILITIES LOCATING

Contractor provide utility locating services as needed for construction, per plans and as specification in Section 02610, paragraph 1.04.

SP-16 HEALTH AND SAFETY

The Contractor shall be solely and completely responsible for conditions of the job site, including health and safety of all persons (including employees, subcontractors, service personnel and site visitors) and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. Health and Safety provisions shall conform to U.S. Safety Orders, Title 8, U.S. Environmental Protection Agency Standard Operations Guides, and all other applicable Federal, State, County and local laws, ordinances, codes and regulations that may be detailed in other parts of these documents. Where any of these are in conflict, the more stringent requirements shall be followed. The Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth herein.

SP-17 DEWATERING OR GROUNDWATER ISSUES

The Contractor shall provide dewatering per Section 02140.

SP-18 CLEANUP

The Contractor shall not allow the site of work to become littered with trash and waste material but shall maintain the site of the work in its normal, neat and orderly conditions throughout the construction period. On or before the completion of the work, the Contractor shall remove all rubbish from any area which he has occupied and leave them in first-class condition to the satisfaction of the Project Engineer.

SP-19 CONTRACTOR USE OF PREMISES – PRIVATE PROPERTY

- A. Work occurring within private property, or that will otherwise have the potential to impede traffic into adjacent commercial or residential properties shall be coordinated with affected property owners through the Owners' Representative, or directly with affected property owners at the direction of the Owner's Representative. Contractor shall include proposed schedules and specific

construction procedures for reducing the impact of the work on private property in the Construction Procedure, Sequence of Operation, and Special Constraint Plans. Contractor shall notify the City, Owner's Representative, and all affected private property owners.

- B. The Contractor shall reconstruct and restore any damaged lawn, shrubs, plants, trees, bark, pavers, decorative stones, soil, concrete driveways and steps, stamp concrete, irrigation pipe and appurtenances, special walkway materials and other miscellaneous materials to existing or better condition as satisfied per the City and a homeowner. Contractor shall also take pre and post-construction pictures in presence of the homeowner and the City.
- C. The City will obtain written permission or "Right-Of-Entry" or "ROE" from the owner of any privately owned property prior to beginning any water related work or otherwise conducting any operations on said property.

SP-20 REFERENCE FORMS

The Contractor shall use the standard proposed Change Order, Request for Information, and Submittal transmittal form provided in the Project Forms section of the Contract Documents.

SP-21 SUBMITTALS

- A. The Contractor shall use the Submittal Transmittal form for transmitting all submittals, shop drawings, or other information required for review by Owners' Representative. The procedure governing such submittals is included in the City of Folsom General Provisions, Section 5.10.
- B. Accompany each submittal with a Submittal Transmittal form which contains the following information:
 - i. Contractor's name and the name of Subcontractor or supplier who prepared the submittal.
 - ii. The project name and identifying number.
 - iii. Description of the submittal and reference to the contract provision or specification section and paragraph number being addressed.
 - iv. Statement of whether the Submittal is per specification or is a substitution or deviation.
 - v. Submittals shall be addressed to the Owner's Representative:

Eric Jones, P.E.
Senior Civil Engineer
ejones@hydroscience.com

**HydroScience Engineers
10569 Old Placerville Road
Sacramento, CA 95827**

**CC: Kelsie Gugino
kgugino@folsom.ca.us
Senior Civil Engineer
City of Folsom
50 Natoma Street
Folsom, CA 95630**

C. The following is a preliminary list of submittals. The Contractor is responsible for meeting all submittal requirements specified in these Contract Documents.

- i. Initial Contract Schedule (within 7 Calendar Days of NTP)
- ii. Schedule of Values (within 10 Calendar Days of NTP)
- iii. Pre and Post Construction Photos
- iv. Environmental Protection Plan including Non-permitting SWPPP (within 30 Calendar Days of NTP)
- v. Pothole Excavation Plan
- vi. Traffic Control Plan (20 Calendar days prior to commencement of work)
- vii. Meter Permits (20 Calendar Day prior to commencement of work)
- viii. Construction Procedure, Sequence of Operations, and Special Constraint Plans (20 Calendar Days prior to commencement of work)
- ix. Safety and Accident Response Plan (20 Calendar days prior to commencement of work)
- x. Emergency Contact Information (20 Calendar days prior to commencement of work)
- xi. Groundwater Dewatering Plan (To be determined if dewatering is deemed necessary)
- xii. Shoring, Bracing, Shielding and Sheet piling Plan including the Department of Occupations Safety & Health Permit for Trenches/Excavations (20 Calendar Days prior to commencement of work)
- xiii. Shop Drawings and/or Product Information for all materials of construction as specified by Contract Documents (within 60 Calendar Days of NTP). Including, but not limited to:
 - a. Pipeline and appurtenances
 - b. Imported bedding and backfill materials including sample testing
 - c. Cathodic protection
 - d. Cast-in-place concrete
 - e. AC/AB submittal
 - f. Slurry Seal
- xiv. Potholing Results/Report
- xv. Disinfection Plan/Reports
- xvi. Record Drawings (15 days following substantial completion)

SP-22 DOCUMENT PRECEDENT

The component Contract Documents are intended to provide explanation for each other. Any work shown on the Plans and not in the Specifications, or vice versa, is to be executed as if indicated in both. In case of conflict in the Contract the following order of precedence will govern interpretation of the Contract:

1. Field Instructions or other written directives
2. Special Provisions and Project-specific Specifications (Technical Specifications)
3. Project Plans
4. City of Folsom General Conditions
5. City of Folsom Standard Construction Details
6. City of Folsom Standard Construction Specifications
7. Sacramento County Standard Plans
8. Sacramento County Standard Specifications

Any work, for which there are no provisions in these Specifications, the Special Provisions or Contract Specifications, or on the Contract Drawings, shall be performed in accordance with the provisions of the State Specifications.

SP-23 CONSTRUCTION PHOTOS

The Contractor shall provide pre-construction, during construction and post-construction photos for all aspects of the work performed on the project. If the Contractor does not adequately document pre-construction conditions of all areas (including public Right-of-Way and private property) of the work, the Contractor will be obligated to restore any disputed private property or public property conditions to the satisfaction of the property owner and the City.

Construction photos shall be color, date stamped, digital images, delivered to the City on a CD or DVD. An index will be provided that clearly relates picture number to location (address for private properties). This format will be discussed further during the Pre-Construction Meeting.

The Contractor may also use video tape medium to establish site conditions, however this will not relieve the requirements for construction photos.

Pre-construction photos will be delivered to the Engineer for review prior to beginning construction. Photos during construction should be used to document changes in work from the Contract Documents, repair of existing underground utilities, and any other such useful information. Post-construction photos shall be taken at the same locations as the pre-construction photos for comparison. This will also be the case for the post-construction video.

SP-24 AGREEMENTS

The City will obtain written permission or “Right-Of-Entry” from the owner of any privately owned property prior to beginning any water related work or otherwise conducting any operations on said property. The written approval from the property owner must be on file with the City and Contractor before any operations will be permitted on said property. A copy of ROE must be at the job site.

SP-25 RECORD DRAWINGS

The Contractor shall record on a set of working drawings provided by the City dimensioned locations of all buried and concealed piping, conduit, valves, stub outs, etc., and shall deliver same to the Owner’s Representative upon completion of the job. Refer to General Provisions Section 4.15 for more detailed information. Said drawings shall also show all changes made in actual construction from that shown on the Contract drawings. These drawings shall have all dimensions and corrections shown. The Project Engineer will transfer this information onto a reproducible set of working drawings stamped as “Record Drawing” which will be provided to the City.

Contractor shall keep an updated set of working drawings as noted above, and shall present these drawings prior to the acceptance of the project for review by the Engineer.

SP-26 STORM WATER POLLUTION PREVENTION PLAN

The Contractor shall be responsible for development; submittal and implementation of a project specific Storm Water Pollution Prevention Plan (SWPPP) per General Provisions Section 6.08. Contractor must also comply with SWPPP provisions for projects less than 1 acre as outlined in Appendix A and implement Best Management Practices (BMP) to comply with NPDES General Permit for Storm Water Discharges Associated with Construction Activity from Small Linear Underground/Overhead Projects, LUPs, General Permit including latest revisions by Regional Water Quality Control Board.

SP-27 FEES AND COST NOT EXPRESSLY PAID FOR BY THE CITY

Bid prices shall include everything necessary for the Completion of the Work and fulfillment of the Contract, including but not limited to furnishing all materials, equipment, tools, excavation, sheeting, bracing and supports, plans, labor and services. Bid prices shall include all Federal, State and local taxes, and all other fees and costs. No fees or costs shall be paid for by the City. See general Provisions Section 2.02.

SP-28 CONSTRUCTION PROCEDURE, SEQUENCE OF OPERATIONS, AND SPECIAL CONSTRAINT PLANS

- A. Twenty (20) Calendar Days prior to commencement of work, the Contractor shall submit a project specific Construction Procedure and Sequence of Operations Plan. The plan shall provide detailed drawings and a written description of the construction procedure and sequence to:
- i. What equipment will be present including standby equipment;
 - ii. What assistance will be required by the City's operating personnel;
 - iii. An emergency backup plan identifying what action will be taken if Work cannot be completed within the allotted time;
 - iv. What individual will be in charge of the activity;
 - v. Conduct work on private property and minimize the impact to private property / commercial properties to the extent possible. Ingress/egress shall remain open at all times so as not to adversely affect the business or businesses. Provide estimated timelines for completion of key activities that can be used to notify affected private property owners of construction activities that will affect them.
 - vi. Complete work that will require temporarily closing lanes for traffic.
 - vii. Contractor to coordinate any required operation of valving for isolation with the City.
 - viii. Complete work of installing new water lines prior to connecting with existing water system. Contractor shall test all new piping prior to connecting with existing water system as per City standard technical specifications.
- B. The Contractor shall not commence work prior to receiving an "Approved" or "Make Corrections Noted" submittal review response from the Owner's Representative.
- C. The Contractor shall prepare a temporary water and sewer service connection plan for all affected private property owners whose water service may be shut down during the construction of this project. The temporary water service connection plan must be approved by the City and the Engineer prior to begin of construction.
- D. Sequence of Construction:
- i. Contractor shall refer to Phases of Construction and Shut Down Plans in Appendix D of Technical Specifications.
 - ii. The Contractor is responsible in selecting the means and methods of constructing and replacing the existing water lines. A detailed sequence of construction plan shall be submitted to the City and the Engineer for approval prior to begin of construction.

E. Maintaining Water Service:

- i. Contractor shall maintain water service to each house during the course of construction with the following exception. Upon notice as required within Special Provision 37, and 30 minute final notice, to the affected resident, the Contractor may discontinue water service to a home for a maximum time of 4 continuous hours. If additional time is required to make necessary repairs, the Contractor shall notify the resident of the schedule and continue work the next day.
- ii. Regardless of the circumstances, the Contractor shall not leave a home without water service for more than 4 continuous hours.
- iii. The Contractor is required to be proactive in notifying homeowners of schedules and plans of construction and outages.
- iv. The Contractor shall take all feasible steps to minimize the reconnection time period in which individual services are inoperative.

SP-29 TRAFFIC CONTROL PLAN

Twenty (20) Calendar Days prior to commencement of work, Contractor shall submit to the Owner's Representative a traffic control plan for any work requiring modifications of existing traffic patterns as described in Section 02800.

SP-30 PERMITS

The Contractor shall be responsible for the application process and fees associated with obtaining all permits required for the commencement and execution of the project, including but not limited to permits for encroachment, construction water, storm water pollution prevention, discharge of construction water, right-of-entry, excavations and trench safety.

Hydrant permits can be obtained through the Water Department. The cost of the Hydrant Permit and construction water shall be considered as included in the prices paid for the various contract items of work and no additional compensation will be allowed. For permit application and associated costs please contact the Water Department at (916) 335-8337. In the event that the City has declared a Stage 5 Water Emergency, the City may deny the Contractor a hydrant permit or use of City water for construction. Regardless, the Contractor shall supply water as required for completion of the project at no additional cost to the City.

SP-31 SPECIAL INSURANCE REQUIREMENTS

There will be no special insurance requirements for this project in regards to Excess or Umbrella Liability, Railroad protective Liability, Builder's Risk, or Environmental Liability Insurance (See General Provisions Section 3.10-D). The Contractor is hereby made aware of and responsible for submittal of the appropriate documentation required verifying adherence to the specific insurance requirements delineated herein. Failure to

obtain insurance and submit required documentation of insurance in compliance with City requirements may, at the discretion of the City, result in the loss of a working day(s) toward completion of the project.

SP-32 ENERGY EFFICIENCY REQUIREMENTS

The Contractor will comply with the energy efficiency requirements in the state energy conservation plan issued as required by the Energy policy and Conservation Act (P.L. 94-163).

SP-33 EXCAVATION AND TRENCH SAFETY

- A. The Contractor shall comply with all requirements of General Provisions Section 10.09. The Contractor shall be responsible for the design, construction and effects of sloping and shoring systems for the project. The Contractor shall submit to the Owner's Representative a detailed plan stamped and signed by a Professional Civil Engineer, licensed in the State of California, showing the design of shoring, bracing, sloping, or other provisions for worker protection as required by General Provisions 10.09-B. The shoring, bracing, shielding and sheeting plan shall contain alternative (i.e., contingent) systems should the initial systems not achieve the following minimum performance requirements.
 - i. Protect personnel that enter the excavation.
 - ii. Protect existing utilities, pavements and structures.
 - iii. Excavation of slopes and/or installation of the shoring system must be done in a manner that does not damage existing structures, pavements, and utilities including through settlement, heave, or vibrations.
 - iv. Prevent caving or lateral movement of excavation walls and associated loss of adjacent ground and adjacent ground surface settlement, even when subjected to construction vibrations.
 - v. Provide stable excavation walls, slopes, and bottom.
 - vi. Allow for removal of shoring and excavation backfilling in a manner that does not damage the finished pipeline or existing structures, pavements, and utilities including through settlement, heave, or vibrations. Any void space created by shoring removal should be completely filled with controlled density fill.
 - vii. Resist lateral loads from vehicular traffic, construction equipment and spoils, and hydrostatic pressures, if any.
- B. Site specific shoring design submittal shall be required when excavations fall within an imaginary plane projected downward at an inclination of 1H: 1V from the nearest edge of adjacent structures and utilities.
- C. The Contractor shall monitor and evaluate subsurface soil conditions encountered in project excavations. Contractors and their excavation designers shall acknowledge Cal/OSHA requirements to develop their own assessment of safe

slopes for the project. The responsibility for soil type classification and determination of safe temporary slope inclinations is a field decision to be made at the time of excavation by the Contractor's "competent person".

- D. In the interest of public safety and convenience, the entire open trench and all excavations shall be plated and equipment relocated as directed to minimize public impact at the end of each working day. The completed sections of trench shall be backfilled and compacted, and when in streets, opened to traffic as soon as possible.

SP-34 SPECIAL PREVAILING WAGE REPORTING REQUIREMENTS

The Contractor shall comply with all State prevailing wage reporting requirements, per General Provisions Section 6.01-K.

SP-35 SAFETY AND ACCIDENT RESPONSE PLAN

20 days prior to the start of any on-site work, Contractor shall submit a Safety and Accident Response Plan. The plan shall detail Project-specific safety and accident prevention precautions and programs, complete with respect to procedures and actions that the Contractor intends all parties and individuals that will be on the work site to follow in order for the Contractor and all others to comply with all applicable laws and regulations, particularly Safety and Health Requirements of the California Division of Industrial Safety and the Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA). The Contractor shall not be allowed to proceed with onsite activity until the Owner's Representative has received the plan.

The Safety and Accident Response Plan shall also include the Contractor's Confined Space Program and/or permits, per General Provisions Section 10.04.

The Contractor shall revise their plan for safety precautions and programs at appropriate times to reflect changes in the construction conditions, the Work, the Contractor's means, methods, techniques, sequences, and procedures of construction. The Contractor shall disseminate the original plan and revisions to all parties and individuals that will be on the Work site.

The Contractor shall submit to the Owner's Representative, on a weekly basis, copies of all OSHA-required site records and training certificates. The Contractor shall perform a safety inspection at the end of each working day to identify and correct any unsafe conditions prior to leaving the site.

SP-36 SPECIAL DOCUMENTS REQUIRED FOR FINAL PAYMENT

The Contractor shall retain contract records for 3 years after final payment is made and all other pending matters are closed. In addition, access to pertinent contract records for the duration of the 3-year period shall be provided to the City and duly authorized

representatives for the purpose of making audit, examination, excerpts, and transcriptions. Refer to General Provisions Section 8.11.

SP-37 SCHEDULING REQUIREMENTS

The Contractor shall provide, in writing, notification to residents or businesses when Contractor is affecting resident/businesses per General Provisions Section 10.05. This includes but is not limited to commencement with construction, water tie-ins, road work, etc. The Contractor shall be required to provide Door Hanger only notification to residents and business based on the time table below:

- i. 30 days (Commercial and 7515 Baldwin Dam Rd)
- ii. 14 days (Residential and Commercial)
- iii. 7 days (Residential and Commercial)
- iv. 3 days (Residential and Commercial)
- v. Day of construction, knock on door (Commercial and Residential)

The Contractor shall coordinate with the salon business located at 7515 Baldwin Dam Road scheduling of construction for any construction access, water shut-offs, Type II Slurry Seal, etc.

No work shall be conduct on Monday for private roads located within the project area.

SP-38 TRAFFIC STRIPING REPLACEMENT

All traffic striping affected by construction shall be replaced in-kind, per Section 2.10 of the City's Standard Construction Specifications and Section 02500. All striping shall be thermoplastic and installed according to the following schedule as specified therein:

- i. Yellow Lane Striping: install same day as overlay.
- ii. "Cat Tracking" for Remaining Striping: day following overlay.
- iii. Remaining Striping and Markings: Not more than one day following review and approval of "Cat Tracking" by the Engineer.
- iv. Markers: Not more than two weeks following overlay.

SP-39 PRESERVATION OF TREES AND ROOTS

All trees and their roots must be preserved as per Section 01140, Article 12 of General Provisions and City's Tree Preservation Ordinance found at:

<https://www.folsom.ca.us/civicax/filebank/blobdload.aspx?blobid=10624>

The construction management and inspection team shall retain a certified project arborist. The project arborist will monitor the health of trees to be preserved and ensure appropriate tree management actions take place in accordance with the project plans and specifications. All construction activities identified in the plans and conducted within the

Critical Root Zone (CRZ) of trees shall be performed under the direct supervision of the project arborist.

SP-40 COORDINATION WITH OTHER SERVICES

The Contractor shall coordinate seven (7) days in advance with garbage disposal service, emergency services, U.S Postal Services and other applicable routine services in the project area with its agency prior to begin construction.

SP-41 ASBESTOS CEMENT PIPE REMOVAL

The excavation, storage and disposal of asbestos cement pipe (ACP) shall be required as part of this project. The exact quantity of ACP to be removed, stored and disposed of as part of this project is unknown. The Contractor shall be required to submit for approval a detailed plan outlining how ACP is to be removed, how and where the material will be stored on-site and how the material shall be disposed. The Contractor's ACP Handling Plan covering the removal, storage and disposal of ACP encountered shall be submitted to the Engineer no later than the mandatory Preconstruction Meeting.

Contractor shall be required to immediately notify the Engineer whenever ACP is encountered during construction. The ACP shall be removed in accordance with the Contractor's approved ACP Handling Plan and stored as specified until it can be safely disposed of. The Contractor shall be required to follow all Federal, State and County regulations for the safe removal, handling, storage and disposal of ACP materials and debris. The Contractor shall be required to submit a hazardous waste disposal manifests for all ACP hauled from the project site and no final contract payment shall be made until all manifests are accounted for and submitted by the Engineer.

All ACP material removed shall be stored in secure, airtight containers at all times. No broken or crushed ACP shall be left in the ground except where specifically allowed by law.

No ACP may be removed, stored or disposed of without the direct approval and authorization of the Engineer. ACP material generated from the Contractor's excavation operations shall be disposed of offsite daily. All ACP materials that cannot be disposed daily shall be stored in airtight containers as approved and specified by the Engineer.

Remove Asbestos Cement Pipe shall include full compensation for furnishing all labor, material, tools, equipment, and incidentals and for doing all the work involved in removing, storing and disposing of all ACP as part of this project, including submittal of all the Contractor's ACP Handling Plan and hazardous waste disposal manifests as required, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer, and no separate payment will be made therefor.

Full compensation for conforming and performing all work in accordance with all Federal, State and County hazardous waste and safety regulations, including payment of

all special handling costs, storage fees, document preparation and all other fees and costs associated with the safe handling, excavation, storage and disposal of the ACP shall be considered as included in the bid items that include asbestos pipe removal, and no separate payment will be made therefor.

SP-42 PAYMENT RETENTION

There shall be reserved from the monies earned by the Contractor on estimates a sum equal to five (5) percent of such estimates.

SP-43 OTHER CHANGES TO GENERAL PROVISIONS

The following redline edits (Special Provisions Attachment 1) to the General Provisions are hereby incorporated to the Contract Documents. Contractors shall check the box titled “CHECK HERE TO ACKNOWLEDGE CHANGES TO GENERAL PROVISIONS” in the Sealed Proposal acknowledging acceptance of these changes. **Failure to check this box will result in the Contractor’s bid being considered non-responsive.**

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SPECIAL PROVISIONS ATTACHMENT 1

Section 2.06. Contractors/Subcontractors Dir Registration Requirement

Contractors and subcontractors on all public works projects are required to register with the Department of Industrial Relations (DIR) in accordance with Section 1725.5 of the Labor Code. Beginning March 1, 2015, only bids from contractors and subcontractors that are listed on the DIR website as registered will be accepted. All contracts awarded on or after April 1, 2015 are required to use only registered contractors and subcontractors. The DIR will keep an up to date listing of registered contractors at:

<https://efiling.dir.ca.gov/PWCR/Search.action>

Inadvertent listing of an unregistered subcontractor will not necessarily invalidate a bid. Unregistered contractors or subcontractors may be replaced with registered ones. A contract with an unregistered contractor or subcontractor is subject to cancellation, but is not void as to past work. Contractors and subcontractors must register and pay the applicable fee; this may be done online at the DIR website:

<https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm>

Section 2.07 Competency of Bidders.

It is the intention of the City to award a Contract only to a Bidder who furnishes satisfactory evidence that the Bidder has the requisite experience and ability, and has sufficient capital, facilities, and plant to enable the Contractor to prosecute the Work successfully and promptly, and to complete the Work within the time stated in the Contract. If required by the Special Provisions, a statement of experience and business standing, together with that of particular Subcontractors that were designated in the Bid, shall be submitted on a City-provided form by the three (3) apparent low Bidders within seven (7) Calendar Days after the opening of Bids. Bidders in contention for contract awards may be asked to attend a post-bid interview. To determine the experience of a Bidder, the City will consider any relevant evidence that the Bidder, and/or its personnel, has satisfactorily performed on other contracts of similar nature and magnitude or difficulty.

Section 2.08. Joint Venture Bids.

If two or more prospective Bidders desire to bid jointly as a joint venture on a single project, the joint venture Bid must be accompanied by a notarized copy of a valid license issued to the joint venture by the Contractor's State License Board. If a copy of the joint venture license is not filed with the Bid, the Bid will be rejected.

Section 2.09. Subcontractors.

In accordance with the Subletting and Subcontracting Fair Practices Act of the Public Contract Code, section 4100 et seq. (the "Act"), each Bidder shall list in the bid form: The name and the location of the place of business of each Subcontractor whom the Bidder proposes to perform work or labor or render service to the prime Contractor in or about the construction of the Work, or a Subcontractor licensed by the State of California who, under subcontract to the prime Contractor, is proposed by the Bidder to specially fabricate and install a portion of the Work according to detailed drawings contained in the Contract, in an amount in excess of one-half of one percent (0.5%) of the total bid, including additive Alternates, if any, or, in the case of a Bid for the construction of streets or highways, including bridges, in excess of

one-half of one percent (0.5%) of the Bidder's total bid, including additive Alternates, or ten thousand dollars (\$10,000), whichever is greater.

The portion of the Work that will be done by each Subcontractor. The Bidder shall list only one Subcontractor for each portion as is defined by the Bidder in the Bid. If a Bidder fails to specify a Subcontractor for any portion of the Work to be performed under the Contract (or specifies more than one Subcontractor for the same work) as required in Section 2.08(A) above, the Bidder agrees that the Bidder is fully qualified to perform that portion itself and that the Bidder shall perform that portion of the Work.

If after the award of the Contract, the Contractor subcontracts any portion of the Work, except as provided in Section 4107 or 4109 of the Act, the Contractor shall be subject to the penalties specified in Section 4111 of the Act.

The apparent low Bidder shall submit the license numbers of all Subcontractors to the City within ten (10) Calendar Days, not counting Saturdays, Sundays, and holidays, of Bid opening. If the low Bidder is not the apparent low Bidder, the low Bidder shall submit the license numbers of all Subcontractors to the City within ten (10) Calendar Days, not counting Saturdays, Sundays, and holidays, of the date notified.

Section 2.10. Addenda.

The correction of any material discrepancies in, or material additions to/omissions from, the Plans, Specifications, or other Contract, or any interpretation thereof, during the bidding period will be made only by an Addendum issued by the City. A copy of each Addendum issued by the City will be mailed or delivered to each planholder listed on the City planholder list and is a part of the Contract. Any interpretation or explanation not included in the Addenda will not be considered binding. Bids must include acknowledgment of all Addenda issued prior to the bid date.

Section

Section 2.11. Assignment of Antitrust Actions.

The Bidder is required to comply with Public Contract Code section 7103.5(b), which addresses assignment of antitrust actions.

Section 2.12 Bid Guarantee.

The Bid shall be accompanied by a bid guarantee in the form of a bidder's bond, cash, a certified check or a cashier's check in an amount not less than ten percent (10%) of the bid amount, including additive Alternates, if any. A bid bond shall be executed in favor of the City by a surety company authorized to do business in California, and the attorney-in-fact who executes the bond on behalf of the surety shall attach to the bond a certified, current copy of its Power of Attorney. A certified or cashier's check must be made payable to the City. The bid guarantee shall pledge that the Bidder will enter into a contract with the City in accordance with the terms stated in the bid form and Agreement for Construction and will furnish required performance and payment bonds and insurance certificates. The City is authorized to forfeit the bid guarantee as necessary to reimburse the City for costs incurred for failure of the successful Bidder to enter into the contract and/or furnish the required performance and/or payment bond and/or insurance certificates. The amount of the bid guarantee shall not be deemed to constitute a penalty or liquidated damages. The City is not precluded by a bid guarantee from recovering from the defaulting Bidder damages in excess of the amount of said bid guarantee incurred as a result of

the failure of the successful Bidder to enter into the contract with the City for the Work or the failure of the successful Bidder to provide the required bonds and/or insurance certificates. Bid guarantees for the unsuccessful bidders will be released upon contract execution by the bidder awarded the contract or 60 days after the bid opening, whichever is earlier.

Section 2.13. Modification or Withdrawal of Bid.

A Bid may be modified or withdrawn at any time prior to the hour fixed in the Notice to Contractors for the submission of Bids by a written request of the Bidder filed with the City at the location where the Bid was submitted. Modifications and/or withdrawals shall be in writing. Telephone or fax modifications will not be accepted. The withdrawal of a Bid will not prejudice Special Provisions Attachment 1 the right of a Bidder to file a new Bid within the time prescribed.

Section 2.14 Public Opening of Bids.

Bids will be opened and read publicly at the time and place indicated in the Notice to Contractors or in a subsequent Addendum. Bidders or their authorized representatives and other interested parties are invited to be present.

Section 2.15 Rejection of Bids.

The City reserves the right to reject any and all Bids. The City reserves the right to waive irregularities in a Bid and to make an award in the best interest of the City. Bids containing omissions, erasures, alterations, conditions, or additions not called for may be rejected.

Section 2.16 Disqualification of Bidders.

More than one Bid from any individual, firm, partnership, corporation or association, under the same or different names, will not be considered. Reasonable ground for believing that any Bidder is interested in more than one Bid for the Work will cause rejection of all Bids in which such Bidder is interested. If there is reason to believe that collusion exists among Bidders, none of the participants of such collusion will be considered.

Any Bid in which the prices obviously are unbalanced may be rejected.

Section 2.17 Relief of Bidders.

Attention is directed to Public Contract Code sections 5100 through 5107, concerning relief of Bidders and in particular to the requirement therein that if the Bidder claims a material mistake was made in its Bid, the Bidder shall give the City written notice within five (5) days after the opening of the Bids (excluding Saturdays, Sundays, or City holidays) of the alleged mistake, explaining in the notice in detail how the mistake occurred.

Section 2.18 Bid Protests

As set forth in the Resolution of Disputes Regarding the Bidding Process form to be included with the bids, any Bidder may file a protest against the award of the Contract to any other Bidder. All Bidders shall be provided with notice of the date and time of the City Council meeting at which the award of the Contract for the Project shall be considered. All Bidders will be provided with an opportunity to bring to the City Council's attention disputes and/or protests

regarding the bidding process. No Bidder may bring any action or proceeding challenging the bidding process unless the alleged grounds for the dispute and/or protest are presented in a timely manner and consistent with this section. to the City Council before or during the meeting Any Bidder complying with these procedures may bring an action within sixty (60) Calendar Days from the action of the City Council, in accordance with Section 860 et seq of the California Code of Civil Procedure, to determine the validity of the City Council's action on the award of the Contract. See form for Resolution of Disputes Regarding the Bidding Process governing the procedures for disputes and/or protests regarding the bidding process.

- A. Any bid protest must be in writing and received by the City Clerk at 50 Natoma Street, Folsom, CA 95630 before 5:00 p.m. no later than five (5) working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements; however, if the date set for the City Council bid award is less than five (5) working days from the bid opening, the bid protest must be submitted to the City Clerk at least 24 hours prior to the time set for the City Council meeting:
- B. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest.
- C. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.
- D. A copy of the protest and all supporting documents must also be transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest
- E. The protested bidder may submit a written response to the protest, provided the response is received by Owner before 5:00p.m., within two (2) working days after the Bid Protest Deadline or after receipt of the bid protest, whichever is sooner (the "Response Deadline"). If there are less than two working days remaining prior to the City Council meeting to award the bid, the response must be submitted to the City Clerk prior to the start of the City Council meeting. The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- F. A copy of the response and all supporting documents must also be transmitted by fax or by e-mail, by or before the Bid Protest Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- G. The procedure and time limits set forth in this section are mandatory and are the bidder's sole and exclusive remedy in the event of bid protest. The bidder's failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.

- H. Owner reserves the right to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest responsive bid, and to issue a notice to proceed with the work notwithstanding any pending or continuing challenge to its determination.

Section 3.02. Award of the Contract.

Award of the Contract will be to the lowest, responsive, responsible Bidder whose Bid complies with the specified requirements. The award, if made, will be made within 45 days after the opening of Bids, unless otherwise specified. If the lowest responsive, responsible Bidder refuses or fails to execute the Contract or to provide required bonds and/or insurance certificates, the City may award the Contract to the second lowest responsive, responsible Bidder. The specified period of time within which the award may be made may be subject to extension for further periods as agreed upon in writing by the City and the Bidder.

The City reserves the right to award the Contract based on any combination of base bid and Alternates as determined by the City. This process is conducted by the City in a "blind selection" format, i.e., without knowledge of the identity of any of the Bidders before ranking of all Bidders from lowest to highest has been determined. All awards will be made in the City's best interest. The City will comply with state law requirements for submission of a PWC-100 form (contract award notice) to DIR for all public works projects.

Section 3.03. Performance and Payment Bonds.

The format of the Performance Bond and Payment Bond forms shall be those contained in these Specifications. As part of the execution of the Contract, the successful Bidder shall furnish the following corporate surety bonds to the benefit of the City. Bonds shall be executed by a surety company authorized to do business in the State of California. When the amount to be paid to the Contractor is based upon units of work to be performed or items to be provided, the term Contract Sum as used below for the purpose of posting Performance and Payment Bonds shall be computed on the basis of the unit price bid multiplied by the Estimated Quantities of work to be performed.

A. Performance Bond.

The Performance Bond, to guarantee the performance of all covenants and stipulations of the Contract, shall be on the form provided by the City and shall be in a sum not less than one hundred percent (100%) of the original Contract Sum as set forth in the Contract. The bond shall contain a provision that the surety thereon waives the provisions of California Civil Code sections 2819 and 2845.

B. Payment Bond.

The Payment Bond, to guarantee the payment of wages and of bills contracted for materials, supplies, or equipment used in the performance of the Contract, shall be on the form provided by the City and shall be in a sum not less than one hundred percent (100%) of the original Contract Sum as set forth in the Contract. The bond shall be in accordance with the provisions of California Civil Code section 8152, 8154, and 9550, 9552, 9554, 9558, 9560, and 9564, and any acts mandatory thereof, and shall, by its terms, inure to the benefit of all persons, companies, or corporations entitled to file claims under California Civil Code section 9100 and California Unemployment Insurance Code section 13020. Said bond shall also contain a provision that the surety waives the provisions of California Code of Civil Procedure section 2819 and 2845.

Section 5.19. Inspection.

All work done and all materials and equipment furnished shall be subject to the inspection and approval of the City. Neither the final inspection and payment, nor any interim inspection or progress payment shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents. Any work, materials or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefor may have been made.

The Project Inspector shall be considered to be a representative of the City and shall be designated at the pre-construction conference. It is the Project Inspector's duty to inspect the Work.

Where the Contract Documents, instructions by the Project Inspector, Owner's Representative or the Architect or Consulting Engineer, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested or approved before the Work proceeds, such work shall not proceed, nor shall it be covered up without inspection. If any part of the Work is covered prior to inspection, the City may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Project Inspector at least twenty-four (24) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Project Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of safe access (e.g. ladders) for the Project Inspector to perform his/her duties. The Contractor shall furnish the Project Inspector with any information necessary to fully inform him/her of conditions.

The Project Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the City, its representatives, or the Architect or Consulting Engineer. The failure of the Project Inspector to order the work stopped does not excuse the Contractor from complying with the Contract Documents for that work. Upon issuing a stop work notice, the Project Inspector shall notify the Architect or Consulting Engineer, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Architect or Consulting Engineer shall be final. The Contractor shall thereafter comply with the instructions of the Architect or Consulting Engineer regarding corrections needed to cure the defect. The suspended work shall be resumed only when the instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work.

Should the Owner's Representative or the Architect or Consulting Engineer determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the Owner's Representative, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any Subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and material necessarily

involved in the examination and replacement shall be allowed the Contractor and a change order shall be issued for such cost and any time extension justified by delays to the critical path. Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 8-hour work day or 40-hour week, or to vary the period during which work is carried on each day, it shall give the Owner's Representative and the Project Inspector a minimum of 48-hours notice so that inspection may be provided. Additional inspection costs incurred because of overtime or shift work that are incurred at the request of the City shall be paid by the City. All other additional inspection costs shall be borne by the contractor unless otherwise agreed to by the parties. If this overtime work is necessitated by the Contractor's error or failure to perform, the cost of inspection will be borne by the Contractor.

SECTION 6.01. COMPLIANCE WITH LAWS AND REGULATIONS.

The Contractor shall keep itself fully informed of and shall observe and comply with, and shall cause any and all persons, firms, or corporations employed by it or under it to observe and comply with all federal and state laws, and county or municipal ordinances, regulations, orders, and decrees which in any manner affect those engaged or employed on the Work, or the materials used in the Work, or in any way affect the conduct of the Work. No pleas of misunderstanding of such laws, ordinances, codes, regulations, orders or decrees or ignorance of the same on the part of the Contractor shall modify the provisions of the Contract Documents. The Contractor and the Contractor's surety shall indemnify and save harmless the City and the City's officers, officials, agents, employees, volunteers, members, affiliates and their duly authorized representatives against any claim for liability arising from, or based upon the violation of any such law, ordinance, regulation, order or decree, whether by the Contractor, the Contractor's employees, or any Subcontractor or supplier.

Attention is directed to certain laws that affect the Contract. The listing of these laws in this Section is not to be construed as a listing of all applicable laws. The Contractor is solely responsible for familiarity and compliance with all applicable laws.

A. Prevailing Wage Rate.

The Contractor shall pay, and shall cause all Subcontractors under it to pay, not less than the specified prevailing wage rates, including, but not limited to, overtime, Saturday, Sunday and holiday work, travel and subsistence, to all workers employed in the execution of this Contract. Pursuant to Chapter 1 of Part 7, Division 2 of the Labor Code, commencing with Section 1770, the Director of the California Department of Industrial Relations (DIR) of the State of California has determined the prevailing rate of wages in the locality in which the work on the project is to be performed for each craft, classification, or type of worker needed to execute this Contract. The prevailing rates so determined are on file with the City Clerk and they are available for public inspection. They may also be obtained on the internet at

<http://www.dir.ca.gov/OPRL/DPreWageDetermination.htm>

Those prevailing wage rates hereby are incorporated in this Contract and made a part hereof. The Contractor should contact the DIR as indicated in the prevailing wage determinations to obtain predetermined wage changes.

The responsibility to check prevailing wage rates is the Contractor's. In the event this Contract calls for work requiring any craft, classification, or type of worker for which the DIR has not specified a prevailing wage rate, the Contractor shall contact the Owner's Representative within ten days following the first advertisement to request a determination. After consultation with the DIR, the City will issue a determination of the prevailing wage for the specified work, and the

Contractor and all Subcontractors shall pay each worker engaged in the specified work not less than those rates. Pending such determination, the wages may be assumed to be those in the applicable collective bargaining agreement, but no adjustment in the Contract Sum shall be made if such assumption is incorrect.

The Contractor shall obtain and post copies of all applicable prevailing wage rates in a prominent place at the job site, in accordance with the regulations of the Department of Industrial Relations.

B. Hours of Work; Approval of Schedules.

Eight (8) hours of labor constitutes a legal day's work, and forty (40) hours constitutes a legal work week. No worker employed at any time by the Contractor, or by any Subcontractor upon the Project, shall be required or permitted to work more than eight (8) hours in any one calendar day or forty (40) hours in any one week, except as provided in Labor Code Sections 1810 through 1815.

Overtime shall be paid at the rate of not less than one and one-half (1-1/2) times the basic rate of pay, or at such higher rate as may be required by the DIR, applicable statutes or collective bargaining agreements.

The City reserves the right to approve or disapprove the days scheduled for work, and the hours during which work is in progress. Overtime and shift work may be established by the Contractor with reasonable notice and the written permission of the City. No work other than overtime and shift work shall be done between the hours of 6:00 p.m. and 7:00 a.m., except such work as is necessary for the proper care and protection of the work already performed or except in case of an emergency. Failure of the Contractor to perform the work in accordance with this policy shall be deemed to be a failure on the Contractor's part to comply with the Contract and is cause for termination.

C. Records of Hours Worked and Wages.

All public works projects are subject to compliance monitoring and enforcement by the Department of Industrial Relations in accordance with Section 1771.4 of the Labor Code. The Contractor and all Subcontractors shall furnish the records specified in Section 1776 directly to the Labor Commissioner in accordance with Section 1771.4. The Contractor shall maintain, and shall cause all its Subcontractors to maintain, records of the hours and wages of all employees employed on the Project, and those records shall be open at all times for inspection by the City and/or the Division of Labor Standards Enforcement of the Department of Industrial Relations, in accordance with Sections 1776 and 1812 of the Labor Code.

The Contractor shall not carry on its payrolls any person not actually employed by the Contractor, nor shall it carry on its payrolls employees of a Subcontractor. The Contractor shall show on its payrolls all persons actually employed by the Contractor on the Project, in any capacity. The Contractor shall supervise all Subcontractors to ensure that all Subcontractors comply with this Section.

The Contractor shall provide, and shall require all Subcontractors to provide, on a monthly basis, included with the progress payment request and the final payment request, verification of the actual wages paid to any or all employees on the Project, including but not limited to copies of timecards, payroll checks and stubs, job cost detail ledger for labor, evidence of payment of benefit contributions, and any other records necessary to establish compliance. The Contractor shall submit the monthly certified payrolls for all workers employed at the Site directly to the Owner's Representative with the monthly progress payment request. Failure to submit timely,

complete certified payrolls or the other documents described in this section shall entitle the City to withhold payment from the Contractor. Additionally, in the event of noncompliance with this section, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the Contractor must comply. In the event of continued noncompliance, the penalties specified in subdivision (h) of the Labor Code section 1776 may be deducted from progress payments to the Contractor.

In accordance with Government Code Section 8546.7, or any amendments thereto, all books, records, and files of the Contractor, or any Subcontractor connected with the performance of this Contract, shall be subject to examination and audit by the Auditor General for a period of three (3) years after final payment. Contractor shall preserve and cause to be preserved such books, records and files for the audit period.

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SF-9

SUBMITTAL TRANSMITTAL

Date:

Project Name: _____

Attention: _____

The items listed below are subject to all the provisions of the plans, specifications, and addenda.

- | | |
|--|---|
| <input type="checkbox"/> Approved | <input type="checkbox"/> Resubmit |
| <input type="checkbox"/> Approved as Noted | <input type="checkbox"/> Submit additional copies |
| <input type="checkbox"/> Not Approved | <input type="checkbox"/> |

No. of Copies	I.D. No.	Manufacturer of Supplier	Subject Title

Enclosures:

Contractor	(3)
Project Engineer	(1)
Construction Inspector	(1)
Project File	(1)



REQUEST FOR INFORMATION

City of Folsom

50 Natoma Street, Folsom, CA 95630
Phone: 916-461-6162
Fax: 916-351-8912



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

NAME & ADDRESS OF PROJECT:

DATE OF ISSUANCE:

RFI NUMBER:

CONTRACT FOR:

NAME & ADDRESS OF CONTRACTOR:

ENGINEER:

File Reference
OWNER ☐
ENGINEER ☐
CONTRACTOR ☐
FIELD ☐
OTHER ☐

DESCRIPTION OF PROBLEM / CLARIFICATION / INFORMATION REQUIRED:

Reference:

Subject:

Description:

PROPOSED SOLUTION:

Submitted by: _____
Name Company / Position

RESPONSE:

This document is to provide additional information or clarification only, and does not constitute authorization or direction to proceed with any changed or additional work. Changed or additional work must be separately authorized in writing by the City.

Response by: _____
Signature of A/E or other respondent Date

Reviewed by: _____
Signature of A/E or other respondent Date

Cc: ☐ Contractor
☐ IOR
☐ CM
☐ Other:
☐ Other

REQUEST FOR PROPOSAL

City of Folsom

50 Natoma Street, Folsom, CA 95630

Phone: 916-461-6162

Fax: 916-351-8912



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

NAME & ADDRESS OF PROJECT:

PROPOSAL REQUEST NUMBER: #1

DATE OF ISSUANCE:

NAME & ADDRESS OF CONTRACTOR:

OWNER: City of Folsom

File Reference

OWNER ☐

CONTRACTOR ☐

FIELD ☐

OTHER ☐

Please submit an itemized proposal for changes in Contract Sum and Contract Time for proposed modifications to the Contract Documents described herein. Submit proposal within **2** days.

THIS IS NOT A CHANGE ORDER, A CONSTRUCTION CHANGE DIRECTIVE OR A DIRECTION TO PROCEED WITH THE WORK DESCRIBED IN THE PROPOSED MODIFICATIONS.

Insert a written description of the proposed modification:

Attachments:

(List attached documents that support description)

REQUESTED BY:

(Signature)

(Printed name and title)

CONSTRUCTION CHANGE DIRECTIVE

City of Folsom

50 Natoma Street, Folsom, CA 95630

Phone: 916-461-6162

Fax: 916-351-8912



CITY OF
FOLSOM
DISTINCTIVE BY NATURE

NAME & ADDRESS OF PROJECT:

DATE OF ISSUANCE:

DIRECTIVE NUMBER:

File Reference

OWNER ☐

ENGINEER ☐

CONTRACTOR ☐

FIELD ☐

OTHER ☐

NAME & ADDRESS OF CONTRACTOR:

Documentation supporting proper completion of work by this C.C.D. **must** be attached to pay application.

PROPOSED ADJUSTMENTS

1. The proposed basis of adjustment to the Contract Sum:

☐ Lump Sum (increase) (decrease) of \$ _____

☐ Unit Price of \$ _____ per _____

☐ Time & Materials, Not to Exceed \$ _____

2. The Contract Time is proposed to: ☐ Be adjusted ☐ Remain unchanged.

3. The proposed adjustment, if any: ☐ An increase of _____ days ☐ A decrease of _____ days

FIELD AUTHORIZATION

Owner's representative: _____
(Authorized Signature) (Print Name) (Date)

Notes: _____

Signature by the Contractor indicates the Contractor's agreement with the proposed adjustments in Contract Sum and Contract Time set forth in this Change Directive as full and complete satisfaction of any direct or indirect additional costs incurred by Contractor in connection with performance of the change work.

ACCEPTED

DATE :

CONTRACTOR (Company Name)

(Authorized Signature)

(Print Name)

When signed by the Owner and Architect and received by Contractor, this document becomes effective IMMEDIATELY, and the Contractor shall proceed with the change(s) described above.

APPROVED

DATE:

Construction Manager (Company Name)

(Authorized Signature)

(Print Name)

ACCEPTED

DATE:

City of Folsom

OWNER

(Authorized Signature)

(Print Name)

City of Folsom
Environmental & Water Resources Department
50 Natoma Street
Folsom, CA 95630



Change Order No. 1

Contractor:

Project:

Date:

Project Manager:

Upon mutual acceptance and execution of this document by the **City of Folsom**, hereinafter referred to as “City,” and _____ hereinafter referred to as “Contractor,” Contractor is hereby directed to make the following change or changes for the consideration set forth below:

DESCRIPTION OF THE CHANGES:

ITEM #	DESCRIPTION	CREDIT/COST
1	Bid Item work reflected changes in quantities, with a net deduction . (See Attachment 1)	
2	Extra Work - (See Attachment 1)	
3	Sum of deducted work and extra work	
	NET CHANGE ORDER ADJUSTMENT	

ORIGINAL CONTRACT AMOUNT	
Net change by previous change orders	
Contract sum prior to this change order	
Contract adjustment by this change order	
NEW CONTRACT AMOUNT (including all change orders)	\$0.00

Acceptance of this Change Order constitutes an agreement between the City and Contractor, and the work is to be performed subject to the same terms and conditions as are contained in the original Contract with Contractor and for work on the above-mentioned project.

Acceptance of this Change Order constitutes acceptance of the Change Order as full and complete satisfaction of any direct or indirect additional costs incurred to you in connection with performance of the changed work.

END OF TEXT - SIGNATURE PAGE FOLLOWS

IN WITNESS WHEREOF, the parties hereto have signed the Agreement on the date set forth opposite their names.

CONTRACTOR:

(Must be signed by two officers of the corporation in compliance with Corporations Code section 313.)

Date

Tax I.D. Number

Signature

Signature

Print Name

Print Name

Title

Title

CITY OF FOLSOM, A Municipal Corporation:

Date

Elaine Andersen, City Manager

ATTEST:

FUNDING AVAILABLE:

Christa Freemantle, City Clerk

Date

Stacey Tamagni, Finance Director

Date

ORIGINAL APPROVED AS TO CONTENT:

ORIGINAL APPROVED AS TO FORM:

Marcus Yasutake,
Environmental and Water Resources Director

Date

Steve Wang, City Attorney

Date

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT

State of California
County of Sacramento

}

On _____, before me, _____, Notary Public,

Personally appeared _____

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of State of California that the forgoing paragraph is true and correct.

WITNESS my hand and official seal.

SIGNATURE _____

PLACE NOTARY SEAL ABOVE

.....
Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of attached document

Title or type of document: _____

Document Date: _____ Number of Pages: _____

Signer(s) Other than Named Above: _____ None _____

**PROPRIETARY INFORMATION AGREEMENT
BETWEEN
THE CITY OF FOLSOM
AND**

(Contractor)

The City of Folsom (hereinafter referred to as City) wishes to receive from _____ (hereinafter referred to [Contractor] as Contractor) certain technical information claimed by the Contractor to be proprietary and hereinafter referred to as "Proprietary Data". Submittal of Proprietary Data by Contractor to City is required by the construction contract for testing, operating, and maintaining equipment, equipment assemblies and systems constructed under the contract. Contractor and City agree for a period of ____ years as follows:

1. The proprietary data is submitted to the City based on the understanding that the City would not disclose the same to others outside the City, nor reproduce the contents of said proprietary data or provide copies thereof to others outside the City without authorization from Contractor. Contractor claims proprietary rights in the contents of the proprietary data as a basis for preventing disclosure of the contents thereof to others. Contractor understands that the City has reservations as to the propriety of excluding the proprietary data from disclosure under the California Public Records Act (Government Code, Section 6250, et seq.).

2. The City may make such disclosure or reproduction of the proprietary data as is reasonably necessary or convenient to operate and maintain the subject equipment and to otherwise fully enjoy the use and benefit of the subject equipment.

3. Except as provided in paragraph 2, above, if any person makes a proper request to review or be provided with copies of the proprietary data or any part thereof, immediately upon notification thereof, Contractor agrees to defend the City and its officers, agents, and employees against any action resulting from denial of such request. If Contractor fails to promptly provide such defense, the City, its officers, agents, and employees shall be free to grant such requests.

4. Contractor shall indemnify and hold harmless the City, its officers, agents, and employees from any and all claims, costs, liabilities or damages, including attorney's fees and court costs resulting from the performance of this agreement.

EXECUTED on this ____ day of _____, 20__.

CITY OF FOLSOM _____

(Contractor) _____

By _____

By _____

Title _____

Title _____

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.01 Summary

- A. The work to be done consists of furnishing all labor, materials, equipment, and services for the **Ashland Water Rehabilitation Project II** including all water services, water hydrants services, water main tie-in including isolation valves and connections to the existing water main; all trenching and backfilling; all piping; all paving and rehabilitation of surface features; all geotechnical work; all temporary traffic control; all site work and grading; all in-place pipe abandonment; and all miscellaneous work as shown, specified or required for a complete, operational installation.

1.02 Project Site Conditions

<u>Item</u>	<u>Description</u>
Location	City of Folsom, California
Site	Baldwin Dam Road Right of Way from the intersection of Baldwin Lake Circle to 7251 Baldwin Dam Road and Baldwin Dam Road adjacent the decommissioned pump station
Elevations	300 feet to 400 feet
Average Ambient Temperatures	Monthly Average Low: 38° F Monthly Average High: 94° F
Exterior Temperature Range	30° F to 115° F
Humidity Range	10% to 100%

1.03 Contractor Scope of Services:

- A. The work to be performed under this contract comprises of furnishing all labor, materials, and equipment (unless otherwise excluded under "City Pre-purchases") to complete the scope of work generally described under SP-1 Scope and Location of work and SP-2 Measurement and Payment as further detailed in the plans and these specifications.

1.04 City Scope of Services

- A. All labor, materials, equipment or services necessary for the Ashland Water Rehabilitation Project II will be provided by the Contractor. All required services for construction shall be included in the Contractor's scope of services and directly reflected in the Contractor's final bid.

1.05 City Pre-purchased Equipment

- A. The City will provide water meters 2-inch and smaller.
- B. No other pre-purchased materials or equipment will be provided by the City.

1.06 Work Included

- A. The Contractor shall furnish all labor, superintendence, materials, power, light, heat, fuel, water, tools, appliances, equipment, supplies, services, and other means of construction necessary or proper for performing and completing the work.
- B. The Contractor shall obtain and pay for all required permits including obtaining a no-fee meter permit through Community Development for each address that needs a new water meter.
- C. Contractor shall perform and complete the work in the manner best calculated to promote rapid construction consistent with safety of life and property, to the satisfaction of the Owner's Representative and in strict accordance with the Contract Documents.
- D. The Contractor shall clean up the work site and maintain it during and after construction, until accepted, and shall do all work and pay all costs incidental thereto.
- E. The Contractor shall repair all structures, pavement, and property, in kind, that may be damaged or disturbed during performance of the work.
- F. The Contractor shall provide and maintain such modern plant, tools, and equipment as may be necessary to perform in a satisfactory and acceptable manner all the work required by this Contract. Only equipment of established reputation and proven efficiency shall be used. The Contractor shall be solely responsible for the adequacy of his equipment.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01014 WORK SEQUENCE

PART 1 - GENERAL

1.01 Summary

- A. Section includes requirements, constraints and limitations on the sequence and scheduling of Work required to complete the project.
- B. Refer to City of Folsom Standards Construction Specifications for additional requirements.
- C. Related Sections

<u>Section</u>	<u>Title</u>
Section 01010	Summary of Work
Section 01311	Scheduling and Reporting

1.02 General Constraints on Work Sequence

- A. The Contractor shall keep the Owner's Representative fully advised as to plans for carrying out the work and obtain the Owner's Representative's approval for all phases of construction operations, as hereinafter specified.
- B. The existing water main facilities are currently and continuously in use and shall not be interrupted except as specified herein.
 - 1. The Contractor shall coordinate the work to avoid any interference with normal operation of the watermain facilities.
 - 2. The Contractor shall keep the Owner's Representative fully advised as to plans for carrying out the work and obtain the Owner's Representative's approval for all phases of construction operations, as hereinafter specified.

1.03 Outage Plan

- A. As part of the Construction Procedure, Sequence of Operations, and Special Constraints Plans as described in Special Provision 28, the Contractor shall submit a detailed outage plan and time schedule for operations that will make it necessary to remove any part of the water system from service. The schedule shall be coordinated with the construction schedule specified in Section 01311-Scheduling and Reporting and shall meet the restrictions and conditions specified in this section.
- B. The Contractor shall observe the following requirements:
 - 1. The water system shall be isolated, dewatered, decommissioned, de-energized, or depressurized in accordance with the detailed outage plan and schedule. The Owner's Representative shall be notified in writing at least one week, or as specified below, in advance of the planned operation.
 - 2. Contractor to notify any affected customers of water outage caused by contractor shutdowns.
 - 3. City shall operate the existing water system isolation valves to provide isolation of the system for work.
 - 4. Whenever the construction work requires dewatering of facilities, the Contractor shall provide the necessary pumping and piping.

5. Whenever temporary isolation of existing facilities is required for execution of the work, the Contractor shall provide the necessary labor and temporary valves/ piping and wiring as required.
6. Any temporary facilities and equipment not required after completion of the final work shall be promptly removed.
7. When shutdown of any existing facilities is necessary, the Contractor shall notify the Owner's Representative not less than 7 days prior to the shutdown.
8. The Contractor shall not begin an alteration until specific permission has been granted by the Owner's Representative in each case. The Owner's Representative will coordinate the Contractor's planned procedure with the operation of the system. The making of connections to existing facilities or other operations that interfere with the operation of the water system shall be completed as quickly as possible and with as little delay as possible.
9. The Owner's Representative will be the sole judge of when the Contractor's operations are causing interference with existing water facilities, and the Owner's Representative's orders and instructions shall be carried out without delay.
10. Thrust wall and block restraints must reach full compression strength prior to initializing operation of water facilities that may cause thrust to occur.

1.04 Existing Permits (Not Used)

1.05 Sequence of Work

A. The general sequence of work is described in the plans. See Drawing G005.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01040 COORDINATION AND PROJECT REQUIREMENTS

PART 1 - GENERAL

1.01 Project Coordination

- A. Coordinate scheduling, submittals and work of various Sections of the Specifications and subcontractors to assure efficient and orderly sequence of interdependent construction.
- B. Contractor shall have in possession prior to award and throughout construction a valid Business License and a valid Contracting License.

1.02 Survey work

- A. Vertical and horizontal datum are based on the coordinates and benchmarks shown on the Drawings. The Contractor shall establish other vertical and horizontal control from these Owner furnished reference points as required to properly lay out and construct the Work. All connections shall be installed based on actual elevations of existing structures to which connections are made.
- B. The Contractor shall lay out all work, including structures and pipelines, and shall be responsible for any errors resulting therefrom. In all questions arising as to proper location of lines and grades, the City's decision will be final.
- C. As part of the bid price for the construction of the improvements the Contractor shall provide and be responsible for the layout of all work specified in the contract.
 - 1. All Contractor surveying shall be done by a registered land surveyor.
 - 2. Contractor shall submit the surveyor's credentials prior to any layout work.
 - 3. The Contractor shall provide all necessary surveys, field staking, and positioning for the construction of all components at the proper alignment, elevations, grades, and positions, as indicated on the Drawings and as required for proper operation and function. The Contractor shall stake the work limits.
- D. The Contractor's layout shall be based upon existing structures and the vertical and horizontal datum established by the Owner.
- E. The Contractor shall supply such labor as required, at no extra charge, to aid and assist the Owner's Representative in checking line, location and grades of the work as set by the Contractor, if requested by the Owner's Representative. Work shall include moving materials and equipment that interfere with a clear line of sight between horizontal control points and the construction work.
- F. The Contractor shall survey the forms of the first slab pour of all major structures to check line and grade of the concrete forms.

1.03 Preconstruction Conference

- A. Date, Time and Location: A Preconstruction Conference will be held after execution of the Contract and before construction is started at the site to discuss all phases of construction scheduling and operations. The Owner's Representative will fix the date, time and location of the meeting in accordance with requirements of the General Conditions.
- B. The Owner's Representative will prepare the agenda, preside at the meeting, and prepare and distribute a transcript of the proceedings to all parties.

- C. The Contractor submit the following at the pre-construction meeting as one hard copy and one electronic version on DVD/CD/USB Flash Drive, contribute appropriate items for discussion, and be prepared to discuss all items on the agenda:
 - 1. An overall project schedule clearly indicating all critical path items leading to the specified time of completion.
 - 2. A one-month detailed schedule showing all pertinent operations including submittals, procurements and planned construction activities for that month period.
 - 3. Schedule of Values.
 - 4. An overall schedule of shop drawings and submittals.
 - 5. A list of permits to be obtained by the Contractor.
 - 6. Construction Procedure, Sequence of Operations, and Special Constraint Plans.
 - 7. Preliminary Traffic Control Plans.
 - 8. Pothole Excavation Plan.
 - 9. Safety and Accident Response Plan and permit-required confined space policy and procedures.
 - 10. SWPPP.
- D. The Consulting Engineer shall respond to requests for information and provide construction administrative services as requested by the Owner and Construction Manager.
- E. Required Attendance
 - 1. Owner's Representative.
 - 2. Contractor and Major Subcontractors.
 - 3. Consulting Engineer.
 - 4. City.
 - 5. Project Arborist
 - 6. Representatives of City agencies having any degree of control or responsibility, if available.
- F. Agenda will include, but will not necessarily be limited to, the following:
 - 1. Designation of Responsible Personnel.
 - 2. Project Directory.
 - 3. Contractor's Emergency Contact List.
 - 4. Subcontractors.
 - 5. Coordination with other Contractors.
 - 6. Construction Schedule.
 - 7. Project Schedule Constraints.
 - 8. Progress Meeting
 - 9. Notifications
 - 10. Outages and Tie-in Procedures.
 - 11. Processing of Shop Drawings and Distribution of Submittals.
 - 12. Contractor's List of Submittals.
 - 13. Processing of Field Decisions and Change Orders.

14. Requirements for Copies of Contract Documents.
15. Insurance in Force.
16. Schedule of Values.
17. Processing and Schedule of Payments.
18. Use of Premises.
19. Location of the Contractor's Temporary Facilities.
20. Contractor Responsibility for Safety and First Aid Procedures.
21. Security
22. Housekeeping.
23. Record Drawings.
24. Letter of Notice to Proceed.
25. Testing During Construction
26. Any Other Project Related Items.

1.04 Progress Meetings

- A. Regular progress meetings will be held at the site to discuss progress of the work, and any current or anticipated issues to be addressed, and to assure proper coordination of efforts between all parties involved in the construction and with the public.
 1. Meetings will be held weekly.
 2. Meetings to be held in the field or other mutually agreed location.
 3. The Contractor shall furnish agendas and meeting minutes and any updates to the monthly and overall project schedules at the progress meeting. Any significant changes to the overall project schedule identified at the progress meeting shall be reflected in an updated schedule submitted by the following weekly meeting.
 4. Required Attendance
 - a. Owner's Representative.
 - b. Contractor and Major Subcontractors.
 - c. Consulting Design Engineer.
 - d. Site Inspector
 - e. City.
 - f. Project Arborist, if required
- B. Agenda will include, but will not necessarily be limited to, the following:
 1. Work Progress
 2. Schedule
 3. Submittals
 4. RFIs
 5. Coordination with Owner
 6. Resolution of conflicts or problems

7. Payment Requests
8. Change Orders
9. Safety
10. Other items affecting progress of Work

1.05 Alternative Project Procedures

- A. Plan, schedule and perform alteration work as required to minimize impacting the City's continued operations.
- B. The existing utility lines must remain in operation during construction
- C. Perform cutting, fitting and patching in accordance with provisions in other paragraphs of this Section and The City of Folsom Standard Construction Specifications. Where new work abuts or aligns with existing work perform a smooth even transition. When a smooth unnoticeable transition is not feasible cut existing surfaces along a straight line at a natural dividing point and provide a groove or cover plate as recommended by the Engineer.
- D. Provide new construction in accordance with the technical specifications or if not specified provide new construction matching adjacent or similar existing work in material and finish.

1.06 Material and Equipment

- A. All Material and Equipment Substitutions submittals shall be in compliance with requirements listed under Section 01300 – Submittals.
- B. In preparing these Specifications, the Engineer has named those products which to its knowledge meet the Specifications and are equivalent in construction, functional efficiency, and durability.
- C. Wherever catalog numbers and specific brands or trade names preceded by "similar and equal" or followed by the designation "or equal" are used in conjunction with a designated material, product, thing, installation, or service mentioned in these Specifications, they are used to establish the standards of quality and utility required.
- D. The first-named manufacturer is the basis for the project design and the use of alternative-named or unnamed manufacturer's products proposed by the Contractor may require modifications in the project design and construction. Where only one product has been named by brand, it is the only brand, trade name, or manufactured product known to the Engineer that meets these Specifications.
- E. Wherever catalog numbers and specific brands or trade names not preceded by designation "similar and equal" nor followed by the designation "or equal", are used in conjunction with a designated material, product, thing, installation, or service mentioned in these Specifications, to ensure compatibility with existing facilities, no substitutions will be favorably reviewed.
- F. Compatibility of Equipment and Material:
 1. Similar items, equipment, devices or products furnished under a single specification section shall all be made by the same maker and have interchangeable parts.
 2. In addition, but only if so stated in each affected Specification Section, similar items furnished under two or more Specification Sections shall be made by the same maker and have interchangeable parts.
 3. All similar materials or products that are interrelated or used together in an assembly shall be compatible with each other.
- G. Transportation and Handling:
 1. Transport and handle products in accordance with manufacturer's instructions.

2. Promptly inspect shipments to assure that products comply with requirements, quantities are correct, and products are undamaged.
3. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

H. Storage and Protection:

1. Store and protect products in accordance with manufacturer's instructions. Seals and labels shall be intact and legible.
2. For exterior storage of fabricated products, place items on sloped supports, aboveground.
3. Cover products subject to deterioration from moisture, dust, or sunlight with opaque watertight but breathable sheet covering. Provide ventilation to avoid condensation.
4. Provide offsite storage and protection including insurance coverage when site does not permit onsite storage or protection.
5. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
6. Provide facilities, equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
7. Arrange storage of products to permit access for inspection. Periodically inspect to assure products are undamaged and are maintained under specified conditions.

I. Installation Standards and Manufacturers' Recommendations:

1. Install all products and materials in strict compliance with the most restrictive of the following:
 - a. The manufacturer's or provider's written instructions or recommendations. Follow step-by-step installation procedures.
 - b. Recommendations of referenced trade associations or standards.
 - c. These specifications and drawings.
2. Where conflicts exist present alternatives with advantages and disadvantages to Engineer for decision.

J. If reference standards or manufacturer's instructions contain provisions that would alter or are at variance with relationships between the parties to the Contract set forth in the Contract Documents, the provisions in the Contract Documents shall take precedence.

K. Substitutions

1. Substitutions which are equal in quality and utility to those specified will be permitted, subject to the following provisions.
 - a. General Provisions Section 5.12
 - b. Sufficient data, drawings, samples, literature, calculations, or other detailed information as will demonstrate to the Engineer that the proposed substitute is equal in quality and utility to the material specified in the project documents. All substitutions shall be clearly identified in project submittals and appended to this list.
 - c. The Engineer will favorably review in writing such proposed substitutions as are, in its opinion, equal in quality to the items or materials specified.
2. Failure of the Contractor to submit proposed substitutions for review in the manner described above and within the time prescribed shall be sufficient cause for rejection by the Owner's Representative of any substitutions otherwise proposed.

L. Modifications and Costs

1. If alternative named or substitutions are proposed by the Contractor and favorably reviewed by the Engineer, the Contractor is responsible for providing, at no additional cost to the Owner, any electrical, mechanical, structural, or other related changes or testing that may be required to accommodate or provide the particular material or equipment the Contractor desires to use.
2. Any deviation from the Specifications or the Drawings resulting from the type of material or equipment to be used shall not be the basis for any "extra charges" above and in excess of the original bid price of the work.
3. In addition the Contractor is responsible for all additional costs to the Owner, and its agents and representatives, for evaluation of data submitted by the Contractor for alternative named or substitutions and any redesign necessary. The Owner shall deduct said costs from the Contract monies due the Contractor.

1.07 Protection of Materials and Equipment

- A. Materials and equipment shall be shipped, handled, stored, and installed by methods that will prevent damage to the items. Damaged items will not be permitted as part of the Work except in cases of minor damage that have been satisfactorily repaired and are acceptable to the Owner's Representative.
- B. Materials shall be stored in such a manner as to ensure the preservation of their quality and fitness for the Work. When considered necessary by the Owner's Representative, materials shall be placed on platforms or other hard, clean surfaces, and covered when directed.
- C. Materials shall be stored so as to facilitate inspection. Storage areas shall be suitably fenced, if necessary to protect the public or the material.
- D. Unless otherwise designated in the General Requirements, locations and arrangements for storage sites for materials and equipment outside the limits of work, shall be selected and maintained by the Contractor at its expense. Full compensation for furnishing such storage sites as may be necessary or required by the Contractor shall be considered as included in the price bid and no additional compensation will be allowed therefor. The Owner shall be specifically exempted in any agreement from any liability incurred from the use of private property for construction purposes. Use of portions of the Owner's area at the site for materials and equipment storage shall be permitted only upon the approval of the Owner's Representative.

E. Pipe

1. Pipe and appurtenances shall be handled, stored, and installed as recommended by the manufacturer. Pipes with soft coatings, such as coal tar enamel or the like, or pipes of materials which are subject to deterioration by sunlight or heat, such as PVC pipe, shall be stored to protect the coating or pipe from physical damage or other deterioration and shall only be handled with padded, wide slings. Pipes shipped with interior bracing shall have the bracing removed only when recommended by the pipe manufacturer.

F. Equipment

1. Definition:
 - a. For the purpose of this section, equipment means any mechanical, electrical, or instrumentation devices, and other items with one or more moving parts that requires an electrical, pneumatic, electronic or hydraulic connection.
2. Packing and Marking:

- a. All equipment shall be adequately and effectively protected against damage from moisture, dust, handling, or other cause during transport from manufacturer's premises to the Work site.
 - b. Each item or package shall be clearly marked with the number unique to the specification reference covering the item.
 - c. Each piece of equipment shall receive, as far as practicable, a distinguishing mark that shall be shown on the packing lists.
3. Stiffeners shall be used where necessary to maintain shapes and to give rigidity. Parts of equipment shall be delivered in assembled or sub-assembled units where possible.
4. Identification of Equipment:
- a. All pieces of equipment with an assigned equipment number shall have affixed to them, in a prominent location, a label or tag displaying the assigned equipment number.
 - b. Equipment lacking a number shall have a similar tag providing a unique description of the item.
 - c. Markers shall be of stainless steel or aluminum, affixed to the item in question with stainless steel fasteners or as otherwise approved by the Owner's Representative. Plastic tape labels will not be acceptable.

G. Delivery and Acceptance of Equipment

- 1. Contractor is responsible for shipment, delivery, off-loading, and acceptance of all material and equipment required for the Work.
- 2. The Owner's personnel or Owner's Representative will not accept materials or equipment deliveries for the Contractor.
- 3. The source quality control tests and delivery inspections shall be at the Contractor's expense for any materials or equipment specified herein and shall include the following:
 - a. Test items at the place of manufacture during and/or on completion of manufacture, comprising material tests, hydraulic pressure tests, electric and instrumentation subsystem tests, performance and operating tests and inspections in accordance with the relevant standards of the industry and more particularly as detailed in individual clauses of these specifications to satisfy the Owner's Representative that the items tested and inspected comply with the requirements of this contract.
 - b. All items delivered at the site or to any authorized place of storage may be inspected to satisfy the Owner's Representative that such items are of the specified quality and workmanship and are in good order and condition at the time of delivery.
 - 1) To that end, the Contractor shall be prepared to remove all coverings, containers or crates to permit the Owner's Representative to conduct an inspection.
- 4. Should the Owner's Representative find indication of damage or deficient quality of workmanship, the Contractor shall provide the necessary documentation or conduct such tests deemed necessary by the Owner's Representative to demonstrate compliance.

H. Storage of Equipment:

- 1. During the interval between delivery and installation, all equipment to be incorporated into the project shall be stored to prevent damage or deterioration.
 - a. Environmental controls such as heaters or protective encapsulation shall be provided to ensure against condensation and moisture damage.

- b. In the event prolonged (more than 90 days or per manufacturer's recommendation) storage is required for any item of rotating equipment, the Contractor shall institute a preventive maintenance program which shall include grease protection of bare metal surfaces, periodic indexing of rotating parts, renewal of grease in bearings and any procedures recommended by the manufacturer.

- 1) The Contractor shall maintain adequate records to demonstrate full compliance with these requirements.

- 2) All equipment shall be available for inspection by the Owner's Representative.

2. Electrical and Control Panels

- a. To insure adequate protection of all electrical and instrumentation equipment and panels and electric motors, all such equipment shall be stored in a suitable enclosure designed to protect the equipment from dust and moisture.

- b. The Contractor shall be responsible for maintaining the storage facilities and equipment stored therein and shall make provision for all utilities required.

- c. Continuous access shall be provided to the Owner's Representative for all equipment so stored.

3. Protection of Equipment After Installation:

- a. After installation, all equipment shall be protected from damage, including but not limited to, moisture, condensation, dust, abrasive particles, debris and dirt generated by the placement, chipping, sandblasting, cutting, finishing and grinding of new or existing concrete, terrazzo and metal; and the fumes, particulate matter, and splatter from welding, brazing, and painting of new or existing piping and equipment.

- b. Contractor shall lubricate and rotate by hand, all rotating equipment per the manufacturer's recommendations.

- c. Contractor shall provide temporary heat to control panels to prevent condensation buildup on the inside of un-energized panels. Provide temporary electrical connection to equipment and panels equipped with space heaters or internal heating elements.

- d. The Contractor is advised that as minimum, vacuum cleaning, blowers with filters, protective shielding, and other dust suppression methods will be required at all times to adequately protect all equipment.

- e. During concreting, including finishing, all equipment that may be affected by cement dust must be completely covered.

- f. During painting operations, all grease fittings and similar openings shall be covered to prevent the entry of paint.

- g. Electrical switchgear, unit substation, and motor load centers shall not be installed until after all concrete work and sandblasting in those areas have been completed and accepted.

I. Hazardous Materials

- 1. The storage and handling of potential pollution causing and hazardous materials, including but not necessarily limited to, gasoline, oil and paint shall be in accordance with all local, state and federal requirements.

- 2. All hazardous materials shall be stored and handled in strict accordance with the Material Safety Data Sheets for the products.

- 3. Material Safety Data Sheets, shall be submitted to the Owner's Representative prior to the delivery of materials to the project.

1.08 Safety

A. General

1. The construction of this project may expose the contractor's workers to areas that may be considered a confined space and/or hazardous to open flame or sparks. The Contractor shall require the workers to observe proper safety and hygienic precautions.
2. The Contractor shall be solely responsible for the storage, usage, handling and application of all hazardous materials encountered or provided in the Contract.

B. Safety and Health Regulations

1. The Contractor shall comply with all applicable regulations, including but not limited to 29 CFR Parts 1910 through 1926, of the Occupational Safety and Health Administration (OSHA) for Construction Work as promulgated by the US Department of Labor and the California Labor Code, Division 5, Safety in Employment, Occupational Safety and Health.
2. Prior to excavation of trenches 5-feet or deeper, the Contractor shall submit to the Construction Manager a copy of the company's annual Cal-OSHA trenching permit.

1.09 Cutting, Fitting and Patching

A. Provide cutting, fitting, or patching required to complete the Work and to make all of its parts fit together properly. Include cutting, fitting, and patching required to:

1. Fit the several parts together and to integrate with other work.
2. Uncover work to install or correct ill-timed work.
3. Remove and replace defective and non-conforming work.

B. Request guidance from the Engineer prior to beginning cutting or altering construction, which affects:

1. Structural integrity of any element.
2. Functional performance of any element.
3. Integrity of weather-exposed or moisture-resistant elements.
4. Efficiency, maintenance, or safety of elements.

C. Execute cutting and patching using workers that specialize in and are skilled in installing the type of work being cut or patched.

D. Perform work in accordance with the Contract Documents or in the absence of specific requirements comply with best trade practice for the work involved.

1. Execute work by methods that will avoid damage to other work.
2. Provide proper support and substrates to receive patching and finishing materials.
3. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection.
4. Report any hazardous or unsatisfactory conditions to the Engineer.

1.10 Connection to Underground Utilities or Conduits

A. Obtain best available current information on location, identification and marking of existing utilities, piping and conduits and other underground facilities before beginning any excavation. In areas where utilities that participate in Underground Service Alert may occur, call 800 642 2444 in Northern California for information at least 48 hours in advance of beginning work.

- B. The location of existing utilities and underground facilities known to the Consulting Engineer are shown in their approximate location based on information available at the time of preparing the Drawings. Individual house services for gas and sewer may or may not be shown. The actual location, size type and number of utilities and underground facilities may differ from that shown and utilities or underground facilities may be present that are not shown.
- C. Use extreme care when excavating or working in areas that may contain existing utilities, conduits or other underground facilities. Use careful potholing, hand digging and probing to determine the exact location of underground installation. Some locations contain multiple pipes or conduits. Prior to performing any subsurface work, investigate, determine and prepare a plan to turn off or disconnect each utility believed to be in the within 100 feet of the subsurface work in the event of an accidental breach of a utility conduit.
- D. Where connections to existing utilities or other underground facilities is required or where new piping or conduits may cross or interfere with existing utilities or underground facilities carefully excavate and uncover existing installations to a point 1 foot below the pipe or conduit to determine the actual elevation and alignment. Call the Owner's Representative's attention to differing existing conditions that may require a clarification or change.
- E. The Contractor shall notify the City of utilities when its work is in progress and shall make arrangements as are necessary to make any emergency repairs. Should any damage to a utility occur during the progress of the work, the Contractor shall notify the owner of the utility at once and render every assistance possible to repair the damage and restore service. No extra compensation will be made for the repair of any services or utility damaged by the Contractor nor for any damage incurred through neglect or failure to provide adequate protection to existing utilities. This provision exists even in the event that a utility or service is damaged after backfilling or is not discovered until after completion of the backfilling.
- F. All utilities encountered during the Work shall remain in continual service under the Contract, unless otherwise noted on the drawings, or unless the Engineer and owner of the said utility are in agreement to shutdown the said utility.

1.11 Excavation and Trenching; Work Within Confined Spaces

- A. Submit specific plans to the City showing details of provisions for worker protection from caving ground in accordance with Section 6705 of the California State Labor Code per Section 02350 Sheeting, Shoring and Bracing.
- B. Work Within Confined Spaces: Work within confined spaces is subject to applicable laws, regulations and safety orders including applicable regulations.
- C. The foregoing provisions do NOT reduce the requirement for the Contractor to maintain safety in ALL operations performed by the Contractor or its Subcontractors.

1.12 Contractor's Quality Control

- A. The Contractor shall be fully responsible for inspecting the work of its suppliers and Subcontractors to assure that the work when completed will comply with the standards for materials and workmanship required by the Contract Documents.
- B. Inspections, periodic observations and testing performed by the Owner or the Engineer are for the Owner's benefit and information only and shall not be construed as partial or incremental acceptance of the work and shall not be deemed to establish any duty on the part of the Owner or the Engineer to the Contractor, its subcontractors or suppliers.
- C. The Contractor shall:
 - 1. Monitor quality control over suppliers, manufacturer, products, services, site conditions, and workmanship, to produce work of specified quality.

2. Comply fully with manufacturer's installation instructions, including performing each step in sequence as recommended by the manufacturer.
 3. Submit a Request for Information to Engineer before proceeding with work when manufacturers' instructions or reference standards conflict with Contract Documents.
 4. Comply with specified standards as a minimum quality for the work except when more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
 5. Perform work by persons specializing in the specific trade and class of work required and qualified to produce workmanship of specified quality.
 6. Secure products in place with positive anchorage devices designed and sized to withstand seismic, static and dynamic loading, vibration, and physical distortion or disfigurement.
- D. If reference standards or manufacturers' instructions contain provisions that would alter or are at variance with relationships between the parties to the Contract set forth in the Contract Documents, the provisions in the Contract Documents shall take precedence.
- E. The Contractor shall provide assistance required by the Engineer to adequately inspect the Work including ladders, scaffolding, lighting, ventilation and other aids to facilitate access and provide a safe working environment.

1.13 Testing Laboratory Services and Certified Laboratory Reports

- A. Provide testing service in accordance with specific requirements contained in each technical specification section. Submit Certified Laboratory Reports required by technical specification sections.

1.14 Permits

- A. The Contractor shall be responsible for the application process and fees associated with obtaining all permits required for the commencement and execution of the project, including but not limited to:
1. Work within any street right of way, s
 2. Storm water pollution prevention,
 3. RWQCB Permit for discharging water from dewatering operations.
 4. Discharge of construction water into the local drainage system,
 5. Legal disposal of demolition debris and excess materials
 6. Right-of-entry,
 7. Excavation and trench safety.
- B. Any work performed within the City right-of-way will require encroachment permits. The Contractor shall obtain a no-fee encroachment permit from the City's Community Development Department.
- C. The Contractor shall abide by conditions of all permits and shall obtain proof of satisfaction of conditions from issuers of permits, prior to acceptance of the Work by the City.

1.15 Convenience and Access

- A. Contractor shall conduct his Work so as to minimize inconvenience to local traffic, residences, etc. The Contractor shall regard the rights of the public by not undertaking more work than he can properly conduct and complete by the end of the day.
- B. The Contractor shall provide access to all fire hydrants at all times.

- C. Unless the Contractor makes other arrangements with property owners, it shall provide and maintain safe and adequate vehicular access to driveways for residences at all times except when necessary trench excavations preclude such access for reasonable periods of time. The excavated trench shall be backfilled or plated as soon as possible to provide access.
- D. The Contractor shall cooperate with the various forces involved in the collection and removal of trash and garbage from residences adjacent to the work, to the extent that the existing schedule for these services can be maintained.

1.16 Pre-Construction/ Post-Construction Photographs

- A. The Contractor shall provide pre-construction photographs prior to commencement of work on the site.
- B. The photographs shall be digital, color, and shall indicate the date, description of subject, and the location where the photograph was taken.
- C. Before construction may begin, a CD shall be burned with all pre-construction photographs and shall be delivered to the City.

Pre-construction photographs shall be taken at locations selected by the Contractor, and also as directed by the Engineer. At a minimum photographs will be taken at 50-foot intervals with one photo taken up line and the other photo taken down line.

- D. The Contractor shall document post-construction conditions by re-photographing the same subjects, from the same locations, as taken for the pre-construction photographs. Contractor shall burn a CD with all post-construction photographs.

1.17 Public Notification

- A. Public notification shall consist of providing project information signs and establishing and implementing a procedure to provide written construction notices (handouts and/or mailings) to affected properties, and door-to-door notification as described under Special Provision 37. A written Public Notification Plan shall be provided to the Engineer for review prior to implementation and shall include documentation that required noticing has been accomplished.
- B. Written Notifications: A copy of all written notices shall be provided to the Engineer for review at least one week prior to handout and/or mailing
 - 1. Notifications shall include the type(s) of work, the period the work will last, parking and any ingress/egress impacts, construction times and dates. Notifications shall also include 24-hour contact information for the Contractor and a contact if residents or businesses have question regarding work or if they have special needs that need to be accommodated.
 - 2. Written notifications shall consist of, at a minimum, a general notice describing the overall project including an outline of the proposed work tasks and a second task-specific notice of the construction that will impact individual residents within the construction area. Should additional tasks impact a property, the Contractor shall provide additional task-specific notice(s) as necessary.
 - 3. The task-specific notices shall be provided to affected residents. On the day before work is to begin, the Contractor shall securely attach a door hanger reminding affected residents of the type of work (ie shut down, digouts, overlay, slurry seal, etc.), period the specific construction will last, construction time and date of construction, information regarding access to their property and information regarding street closures, parking and/or detours. Any notices remaining on doors the evening of construction completion shall be picked up and disposed of by the Contractor.

4. Failure to comply with the notification requirement will result in a stop work order. The Contractor shall maintain an updated and chronological record at the job site of all written notifications along with a list of recipients. Such records shall be made available upon request by the Engineer.
5. No work shall take place prior to the required notification, re-notification, or coordination work with affected facilities.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

****END OF SECTION****

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SECTION 01071 STANDARD REFERENCES

PART 1 - GENERAL

1.01 Abbreviations

A. Wherever used in these specifications, the following abbreviations will have the meanings listed:

<u>Abbreviation</u>	<u>Title</u>
AAMA	Architectural Aluminum Manufacturer's Association
AASHO	American Association of State Highway Officials
ACI	American Concrete Institute
AFBMA	Anti-Friction Bearing Manufacturer's Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute, Inc.
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
CALSPEC	Standard Specifications, State of California
CBC	California Building Code
CMC	California Mechanical Code
CPC	California Plumbing Code
CALTRANS	Department of Transportation State of California Business & Transportation Agency
FEDSPEC	Federal Specifications General Services Administration Specification and Consumer Information Distribution Branch
IEEE	Institute of Electrical and Electronics Engineers
ISA	Instrument Society of America
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association

<u>Abbreviation</u>	<u>Title</u>
OSHA	Occupation Safety and Health Act U.S. Department of Health Occupational and Health Administration
SSPWC	Standard Specifications for Public Works Construction
U.L., Inc.	Underwriter's Laboratories, Inc.

1.02 Applicable Publications

- A. Wherever references are made to published specifications, codes, standards, or other requirements, and where no date is specified, it shall be understood that the latest specifications, standards, or requirements of the respective issuing agencies published as of the date that the work is advertised for bids, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.

PART 2 - MATERIALS (NOT USED)

PART 3 - EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01140 ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.01 Summary

- A. The Contractor shall protect the environment both onsite and offsite, throughout and upon completion of the construction project. The Contractor shall keep the work site clean and free from rubbish and debris. Materials and equipment shall be removed from the site when they are no longer necessary on a daily basis as directed by the Owner's Representative. All cables, slings and other materials used to set the pipe and equipment shall be removed from the project site. Upon completion of the work and before final acceptance, the work site shall be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance.
- B. See General Provisions for additional environmental protection requirements. The most stringent requirements shall apply.

1.02 Submittals

- A. The Contractor shall develop an Environmental Protection Plan in detail and submit to the Engineer within thirty (30) days from the date of the Notice to Proceed. This plan shall include the following items:
 - 1. Copies of required permits.
 - 2. Proposed disposal sites.
 - 3. Copies of any agreements with public or private landowners regarding equipment, materials storage, borrow sites, fill sites, or disposal sites. Any such agreement made by the Contractor shall be invalid if its execution causes violation of local or regional grading or land use regulations.
 - 4. Storm Water Pollution Prevention Plan.
- B. The Contractor shall provide a certification letter of compliance by the Project Arborist at the completion of work.
- C. Submit the Non-Permitted SWPPP in electronic format and in hard copy. Submit in accordance with Section 01300. Include in Non-Permitted SWPPP, a copy of Storm Water Permit Waiver application and/or approval letter. Definitions of abbreviations pertaining to SWPPP are provided in Section 1.07. Distribute the favorably reviewed plan to all employees and to all subcontractors and their employees.

1.03 Protection and Restoration of Existing Improvements

- A. The Contractor shall be responsible for the protection of public and private property at and adjacent to the Work and shall exercise due caution to avoid damage to such property.
- B. The Contractor shall repair or replace all existing improvements which are not designated for removal (e.g., curbs, sidewalks, survey points, fences, walls, signs, utility installations, pavements, structures, etc.) and are damaged or removed as a result of its operations. Repairs and replacements shall be at least equal to existing improvements and shall match them in finish and dimension.
- C. Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed because of the Contractor's operations, they shall be restored or replaced

in as nearly the original conditions and location as is reasonably possible. See Specification Section 01700 to minimum restoration of improvements requirements.

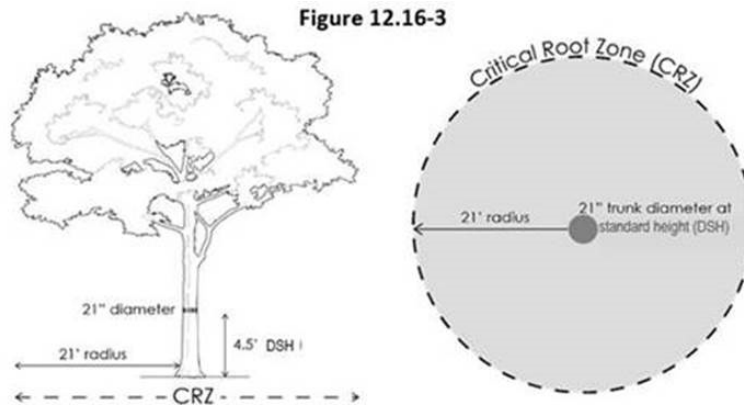
- D. The Contractor shall give reasonable notice to occupants or owners of adjacent property to permit them to salvage or relocate plants, trees, fences, sprinklers, and other improvements within the right-of-way which are designated for removal or would be destroyed because of the Work.

E. Tree Protection:

1. The Contractor shall not remove, cut, deface, injure or destroy trees or shrubs outside the work area limits. Do not remove, deface, injure or destroy trees within the work area without permission from the Engineer.

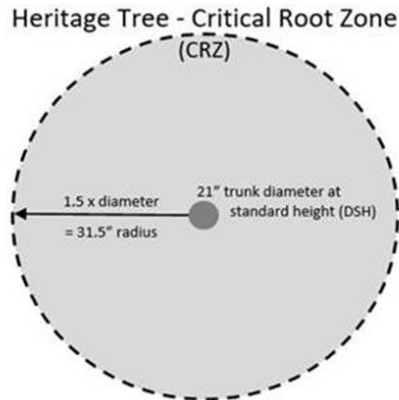
The Contractor shall protect trees that are located near the limits of the Contractor's work areas which may possibly be defaced, bruised or injured or otherwise damaged by the Contractor's operations. No ropes, cables or guys shall be fastened to or attached to any existing nearby trees or shrubs for anchorages unless specifically authorized. Where such special emergency use is permitted, the Contractor shall be responsible for any damage resulting from such use.

2. The construction management and inspection team shall retain a certified project arborist. The project arborist will monitor the health of trees to be preserved and ensure appropriate tree management actions take place in accordance with the project plans and specifications, the most recent version of the International Society of Arboriculture's Best Management Practices - "Managing Trees During Construction" and the City of Folsom's Tree Care and Maintenance Standards. All construction activities identified in the plans and conducted within the Critical Root Zone (CRZ) of trees shall be performed under the direct supervision of the project arborist. The project arborist shall have the authority to stop work on the project if the requirement set forth herein are not maintained during construction.
 - a. "Critical root zone (CRZ)" means the area of soil extending from the tree trunk where roots required for future tree health and survival are located. This critical root zone area for all trees except heritage trees is a circle with a minimum radius of one foot for every one inch in trunk diameter at DSH. Refer to Figure 12.16-3 below.



- b. For heritage trees, the critical root zone area shall be a circle with a minimum radius of one and one-half feet for every one inch in trunk diameter at DSH, unless reduced by the project arborist. Refer to Figure 12.16-4 below.

Figure 12.16-4



3. Where hand digging is specified on the plans, non-destructive methods (e.g. hand labor). Hand excavation shall be accomplished in 6-inch lifts with shovels, pry bars or similar tools. Excavation with a pickaxe or other similar tools shall not be allowed. The contractor may propose alternative excavation means for review and approval by the project arborist and City.
4. Do not cut roots unnecessarily during excavating or trenching operations. Expose major roots encountered in the course of excavation and do not sever. Wrap them in burlap as a protective measure while exposed. Any necessary root severance shall be performed with sharp, sterile hand tools. Roots that have been ripped, torn, or crushed shall be traced by to undamaged tissue and cut cleanly, resulting in a flat surface with the adjacent bark firmly attached and paint them with a heavy coat of an approved tree seal.
5. Roots exposed from grade cuts or trenching shall not be allowed to dry out. If roots will be exposed overnight or if directed by the project arborist, the cut faces shall be moistened and covered until backfilled.
6. Any pruning for construction clearance shall be performed by or under the direct supervision of the project arborist. Trim and seal tree limbs overhanging the line of the work and in danger of being damaged by the Contractor's operations in accordance with recognized standards for such work and with City and Project Arborist approval.
7. The following actions are prohibited within the CRZ:
 - Any excavation using means and methods other than hand digging.
 - Parking of vehicles, equipment, or storage of material, unless otherwise approved by the City
 - Wounding or breaking tree trunks or branches through contact with vehicles or heavy equipment
 - Contamination of soil by washing out equipment or conducting vehicle maintenance.
8. A certification letter by the project arborist attesting compliance with these requirements shall be submitted to the City upon project completion.
9. The Contractor shall repair or replace any trees or other landscape features scarred or damaged by equipment or construction operations as specified below. The repair and/or restoration plan shall be favorably reviewed prior to its initiation.

1.04 Air Pollution and Dust Control

- A. The Contractor at its expense shall take whatever steps, procedures, or means as are required to prevent abnormal dust conditions being caused by its operations in connection with the execution

of the Work; and on any unpaved road which the Contractor or any of its subcontractors are using, excavation or fill areas, demolition operations, or other activities.

1. Control shall be by sprinkling, use of dust palliatives, modification of operations, or any other means acceptable to agencies having jurisdiction.
 2. Haul routes shall be kept visibly wet during excavation and hauling operations.
 3. Exposed stockpiles of soil and other backfill material shall be enclosed, have silt fencing, be covered, be watered regularly or have soil binders added to minimize erosion.
 4. Dust-producing activities shall be suspended when high winds create construction-induced visible dust plumes moving beyond the project site, in spite of dust control measures.
- B. Unless the construction dictates otherwise, and unless otherwise approved by the Owner's Representative, the Contractor shall furnish and operate a self-loading motor sweeper with spray nozzle at least once each working day to keep paved areas acceptably clean whenever construction, including restoration, is incomplete.
1. If visible soil material is carried onto adjacent public streets, such streets shall be swept with water sweepers.

1.05 Noise Abatement

- A. Operations at the Worksite shall be performed so as to minimize unnecessary noise.
- B. Special measures shall be taken to suppress noise during night hours.
- C. Noise levels due to construction activity shall not exceed the levels specified by local ordinance.
- D. Internal combustion engines used on the Work shall be equipped with a muffler of a type recommended by the manufacturer. No internal combustion engine shall be operated without said muffler.

1.06 Drainage Control

1. In all construction operations, care shall be taken not to disturb the existing drainage pattern whenever possible.
2. Particular care shall be taken not to direct drainage water onto private property. Drainage water shall not be diverted to streets or drainage ways inadequate for the increased flow.
3. Drainage means shall be provided to protect the Work and adjacent facilities from damage due to water from the site or due to altered drainage patterns from construction operations.
4. Temporary provisions shall be made by the Contractor to insure the proper functioning of gutters, storm drain inlets, drainage ditches, culverts, irrigation ditches, and natural water courses.

1.07 Non-permitted Stormwater Pollution Prevention Plan Requirements

- A. The Contractor shall prepare and implement a non-permitted Storm Water Pollution Prevention Plan (SWPPP) per General Provisions Section 6.08 and comply with SWPPP provisions for projects less than 1 acre as outlined in Appendix A.
1. The Contractor shall incorporate the actual construction means and methods to be employed to be in compliance with the non-permitted SWPPP. The Contractor shall submit an updated non-permitted SWPPP when significant changes occur for the project and in accordance with Section 01300.
 2. The Contractor shall have a Designated SWPPP Manager prepare updates to the non-permitted SWPPP during construction as required by the Permit and be on site to oversee the implementation, respond to changed conditions, and monitor the non-permitted SWPPP.

3. The Contractor will be responsible for amending, implementing, and maintaining the SWPPP, as necessary.

B. Erosion Control

1. To reduce potential water-borne erosion impacts, the Contractor shall incorporate the following best management practices into the project:
 - a. Erosion control measures to reduce post-construction erosion, such as re-vegetation with local native plant species and installation of appropriate slope protection.
 - b. Provide and maintain all necessary erosion and sediment control measures throughout the construction period as required to minimize stormwater pollution control from the Contractor's work area. Erosion and sediment control measures may include, but are not limited to, straw bale dikes, sand bag dikes, silt fences, drainage swales, pipe drains, sediment traps, protective sheets, jute matting, hydro-seeding, and appropriate surface contouring. The Contractor shall notify the Owner's Representative if erosion and sediment control measures do not operate properly and shall take all necessary protective action.
 - c. The Contractor shall secure erosion control devices at the end of each work shift during the period from November 1 to April 30, or when rain is forecast prior to the next workday.
 - d. Grading activities shall be prohibited during the period when rain is falling, and runoff is observed at the site. The Contractor shall immediately secure the site for erosion control and storm water runoff.
 - e. Prepare drainage ways that handle concentrated or increased runoff from disturbed areas by using riprap or other lining materials to control erosion.
 - f. Reduce erosion by limiting the area and time of exposure, and by the provision of diversion channels.
 - g. Use temporary plant cover, mulching, and/or structures to control runoff and protect areas subject to erosion during construction.
 - h. Minimize soil exposure during the rainy season by proper timing of grading and construction and be prepared to shut down all earthwork if heavy precipitation occurs.
 - i. Have erosion control equipment and materials on site if needed in an emergency to quickly construct temporary collectors, diversion channels, intercept drains, berms, dikes or filters.
2. Grading and permits and the appropriate environmental clearances shall be obtained by the Contractor prior to any export of materials off site.

1.08 Construction Cleaning

- A. The Contractor shall, at all times, keep property on which work is in progress and the adjacent property free from accumulations of waste material or rubbish caused by employees or by the Work. All surplus material shall be removed from the site immediately after completion of the work causing the surplus materials. Upon completion of the construction, the Contractor shall remove all temporary structures, rubbish, and waste materials resulting from its operations.

1.09 Disposal of Material

- A. The Contractor shall make arrangements for disposing of materials outside the Site and the Contractor shall pay all costs involved.
 1. The Contractor shall first obtain permission from the property owner on whose property the disposal is to be made and absolve the City from any and all responsibility in connection with the disposal of material on said property.

2. When material is disposed of as above provided, the Contractor shall conform to all required codes pertaining to grading, hauling, and filling of earth.

1.10 Parking and Storage Areas

- A. All stockpiled materials and parked equipment at the job site shall be located to avoid interference with private property and to prevent hazards to the public.
- B. Locations of stockpiles, parking areas, and equipment storage must be approved by the Owner's Representative.

1.11 Biological Resources Protection

- A. The Contractor shall comply with one of the following biological resources protection measures to protect migratory and/or special status birds:
 1. Perform all construction activities before and/or after nesting season of March 15 – August 31 annually.
 2. If construction is planned to occur during nesting season of March 15 – August 31, the Contractor shall hire a qualified biologist or ornithologist to conduct preconstruction field surveys in and adjacent to the project area for nesting raptors and migratory birds, prior to the removal of any tree on the site or prior to any construction on the project site, if such construction will take place during nesting season. Surveys shall be conducted during the season immediately preceding grading operations when birds are building and defending nests or when young birds are still in nests and dependent on the parents. If no raptor or special status bird nests are found during the surveys, construction may proceed unconstrained by conflicts with raptors and/or migratory birds. If nests are found, construction activities within 300 feet shall be postponed until fledglings have left the nest as determined by a qualified wildlife biologist.

1.12 Cultural Resources Protection

- A. If historical, archeological or paleontological artifacts are discovered, all work must stop in the immediate vicinity. The Contractor shall protect the discovered items, notify the Owner's Representative, and comply with applicable law.
- B. If human remains are discovered, all work must stop in the immediate vicinity of the find, and the County Coroner must be notified, according to Section 5097.98 of the State Public Resources Code and Section 7050.5 of California's Health and Safety Code.
- C. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed.

**** END OF SECTION ****

SECTION 01300 SUBMITTALS

PART 1 - GENERAL

1.01 Summary

A. Section Includes:

1. Description of general requirements for project Submittals.

1.02 Submittals

A. Where required by the Specifications, the Contractor shall submit descriptive information which will enable the Consulting Engineer to advise the City whether the Contractor's proposed materials, equipment or methods of work are in general conformance with the design concept and are in compliance with the drawings and specifications. The information to be submitted shall consist of drawings, specifications, descriptive data, certificates, samples, test results and other such information, all as specifically required in the Specifications.

B. The Contractor shall submit the following items:

1. Schedule of Submittals and Shop Drawings
2. List of Submittals, Shop Drawings, Product Data and Materials
3. Contractor's Safety Program
4. Designated Safety Supervisor
5. Designated "Competent Person(s)"
6. Schedule of Values
7. Construction Schedule
8. Substitutions List
9. Shop Drawings
10. Product Data
11. Samples
12. Material Safety Data Sheets
13. Operation and Maintenance Manuals
14. Project Closeout Information
15. Warranty Data
16. Others as Specified in the Technical Specifications
17. Manufacturer's Instructions
18. Manufacturer's Certifications and Test Reports

C. Quantity of Submittals:

1. Submit one (1) digital PDF format of all submittals.
 - a. PDF submittal shall be clear and readable.
 - b. Provide searchable PDF file.

- c. Annotate or mark submittal to clearly show the item or model being submitted.
 - d. Organization and Binding of Submittals: The initial and subsequent submittals of drawings and data for review shall be organized and bound with a Table of Contents so that eventually they may be used as guides for preparing the required maintenance manuals. PDF files shall have active links in the Table of Contents, or they shall have bookmarks per the Table of Contents.
2. If paper copies are submitted:
- a. Provide three (3) copies to the Owner's Representative and a scanned electronic copy where feasible. The Contractor shall state the number of copies the Contractor wants to be returned where necessary.
- D. Where the Contractor is required by these Specifications to submit samples of products, the Contractor shall provide a sufficient number of physical samples to allow three (3) to be retained by the Owner's Representative of all structural and architectural products involving color, finish, texture, or the like.
- E. List of Submittals:
- 1. Within thirty-five (35) days after the Notice to Proceed, the Contractor shall submit a List of Submittals to the Owner's Representative for review.
 - 2. The List shall include all items of equipment and materials for necessary project disciplines (Civil, Electrical, Mechanical etc) and the names of manufacturers with whom purchase orders have been or will be placed.
 - 3. The List shall be arranged in the same order as the Specifications and shall contain sufficient data to identify all items of material and equipment the Contractor proposes to furnish. The List shall include Specification and/or Drawing references.
 - 4. After the submission is favorably reviewed and returned to the Contractor by the Owner's Representative, it shall become the basis for the submission of detailed manufacturer's drawings, catalog cuts, curves, diagrams, schematics, data, and information on each separate item for review as set forth in the Specifications.
- F. The Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall ensure that the material, equipment or method of work shall be as described in the submittal.
- 1. Submittals shall contain all required information, including satisfactory identification of items, units and assemblies in relation to the contract drawings and specifications.
 - 2. The Contractor shall verify that the material and equipment described in each submittal conforms to the requirements of the specifications and drawings.
 - 3. Unless otherwise approved by the Consulting Engineer, submittals shall be made only by the Contractor, who shall indicate by a signed stamp on the submittals that the Contractor has checked the submittals and that the work shown conforms to contract requirements and has been checked for dimensions and relationship with work of all other trades involved.
 - 4. If the information shows deviations from the specifications or drawings, the Contractor, by statement in writing accompanying the information, shall identify the deviations and state the reason(s) therefore.
 - 5. The Contractor shall ensure that there is no conflict with other submittals and shall notify the Consulting Engineer in each case where the Contractor's submittal may affect the work of another contractor or the City.

6. The Contractor shall ensure coordination of submittals among the related crafts and subcontractors.

1.03 Submittal Transmittal Procedure

- A. General: Submittals regarding material and equipment shall be accompanied by a transmittal form from the Contractor. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate, discrete specification sections for which a submittal is required. However, submittals for various items shall be made with a single form only when the items taken together constitute a manufacturer's package or are so functionally related that expediency indicates checking or review of the group or package as a whole.
- B. Submittal Identification: Each set of submittals or samples shall be attached to the submittal transmittal form.
 1. The submittal number shall be made up of two parts: XXX-ZZ. The XXX shall be sequential number 001 for the first item submitted, 002 for the second, etc. The ZZ shall be the sequential number of a specific submittal or resubmittal (01 for the first submittal, 02 for the first resubmittal, etc.).
 2. All submittals shall show the contract title, shall indicate the name of the vendor, and shall indicate when the equipment and/or material will be required by the construction schedule.
 3. The submittal must be adequate to permit a comprehensive review without further reference to the Contractor. The documents submitted must be separately identifiable on the Contractor's submittal transmittal form.
- C. Deviation from Contract: If the Contractor proposes to provide material or equipment which does not conform to the specifications and drawings, this shall be indicated under "deviations" on the submittal transmittal form accompanying the submittal copies.
 1. If the City accepts such deviation, the City shall issue an appropriate Contract Change Order, except that, if the deviation is minor, or does not involve a change in price or in time of performance, a Change Order need not be issued.
 2. If any deviations from the Contract requirements are not noted on the submittal, the review of the shop drawing shall not constitute acceptance of such deviations.
- D. Submittal Completeness: Submittals which do not have all the information required to be submitted, including deviations, shall be considered as not complying with the intent of the contract and are not acceptable and will be returned without review.
 1. A complete submittal shall contain sufficient data to demonstrate that the items comply with the Specifications, shall meet the minimum requirements for submissions cited in the technical specifications, shall include materials and equipment data and seismic anchorage certifications where required, and shall include any necessary revisions required for equipment other than first named.
- E. Review of Subsequent Resubmittals: It is considered reasonable that the Contractor shall make a complete and acceptable submittal to the Owner's Representative at least by the second submission of data. At the discretion of the Consulting Engineer costs associated with the review of any subsequent resubmittals may be borne by the Contractor. The Contractor will be billed for these costs by the City. Costs due may be deducted from progress payments due the Contractor by the City.

1.04 Submittal Review

- A. The Contractor shall provide all submittals to the Owner's representative at the earliest feasible time possible to facilitate a comprehensive review that does not impact construction related progress.
- B. Within 14 calendar days after receipt of the submittal by the Consulting Engineer, the submittal will be reviewed by the Consulting Engineer and the Consulting Engineer will return the marked-up submittal. On complex drawings and equipment, the Consulting Engineer shall acknowledge receipt within 30 days and advise the Contractor when the submittal will be returned. The returned submittal shall indicate one of the following actions.
 - 1. If the review indicates that the material, equipment or work method is in general conformance with the design concept and complies with the drawings and specifications, submittal copies will be marked "NO EXCEPTIONS TAKEN". In this event, the Contractor may begin to implement the work method or incorporate the material or equipment covered by the submittal.
 - 2. If the review indicates limited corrections are required, copies will be marked "MAKE CORRECTIONS NOTED". The Contractor may begin implementing the work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in operation and maintenance data, a corrected copy shall be provided. Otherwise, no resubmittal will be required.
 - 3. If the review reveals that the submittal is insufficient or contains incorrect data, copies will be marked "AMEND AND RESUBMIT". The Contractor shall not undertake work covered by this submittal until the submittal has been revised, resubmitted and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".
 - 4. If the review indicates that the material, equipment or work method is not in general conformance with the design concept or in compliance with the drawings and specifications, copies of the submittal will be marked "REJECTED - SEE REMARKS". Submittal with deviations which have not been identified clearly may be rejected. The Contractor shall not undertake work covered by such submittal until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED".
- C. Review of drawings, methods of work, or information regarding materials or equipment the Contractor proposes to provide shall not relieve the Contractor of responsibility for errors therein and shall not be regarded as an assumption of risks or liability by the Consulting Engineer, the Owner's Representative or the City, or by any officer, employee or subcontractor thereof, and the Contractor shall have no claim under the contract on account of the failure or partial failure of the method of work, material, or equipment so reviewed.
 - 1. A mark of "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED" shall mean that the City has no objection to the Contractor, upon its own responsibility, using the plan or method of work proposed, or providing the materials or equipment proposed.
 - 2. Favorable review of submittals does not constitute a change order to the Contract requirements.
 - 3. The favorable review of all submittals by the Consulting Engineer shall apply in general design only and shall in no way relieve the Contractor from responsibility for errors or omissions contained therein.
 - 4. Favorable review by the Consulting Engineer shall not relieve the Contractor of its obligation to meet safety requirements and all other requirements of laws, nor constitute a Contract Change Order.

5. Favorable review by the Consulting Engineer will not constitute acceptance by the Consulting Engineer of any responsibility for the accuracy, coordination, and completeness of the submittals or the items of equipment represented on the submittals.
6. The favorable review of shop drawings shall be obtained prior to the fabrication, delivery and construction of items requiring shop drawing submittal.

****END OF SECTION****

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SECTION 01301 SCHEDULE OF VALUES

PART 1 - GENERAL

1.01 Summary

- A. This Section defines the process whereby the Schedule of Values (lump sum price breakdown) shall be developed. Monthly progress payment amounts shall be determined from the monthly progress updates of the Schedule activities.

1.02 Submittals

- A. Detailed Schedule of Values

1. The Contractor shall prepare and submit a detailed Schedule of Values to the Owner's Representative within 30 days from the date of Notice to Proceed.
2. The detailed Schedule of Values shall be based on the accepted preliminary Schedule of Values for major work components. Because the ultimate requirement is to develop a detailed Schedule of Values sufficient to determine appropriate monthly progress payment amounts, sufficient detailed breakdown shall be provided to meet this requirement.
3. The Owner's Representative shall be the sole judge of acceptable numbers, details and description of values established. If, in the opinion of the Owner's Representative, a greater number of Schedule of Values items than proposed by the Contractor are necessary, the Contractor shall add the additional items so identified by the Owner's Representative.
4. The Contractor and Owner's Representative shall meet and jointly review the detailed Schedule of Values within 35 days from the date of Notice to Proceed.
5. The value allocations and extent of detail shall be reviewed to determine any necessary adjustments to the values and to determine if sufficient detail has been proposed. Any adjustments deemed necessary to the value allocation or level of detail shall be made by the Contractor and a revised detailed Schedule of Values shall be submitted within 40 days from the date of Notice to Proceed.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

****END OF SECTION****

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SECTION 01311 SCHEDULE AND REPORTING

PART 1 - GENERAL

1.01 General

- A. The scheduling of the work under the Contract shall be performed in accordance with the requirements of this Section.
- B. The development of the schedule, the cost loading of the schedule, monthly payment requisitions and project status reporting requirements of the Contract shall employ computerized Critical Path Method (CPM) or bar chart scheduling.

1.02 Definitions and Requirements

- A. Critical Path Method (CPM): CPM, as required by this Section, shall be interpreted to be generally as outlined in the Association of General Contractors (AGC) publication, "The Use of CPM in Construction." except that either "i-j" arrow diagrams or precedence diagramming format may be utilized. In the case of conflicts between this specification and the AGC Document, this specification shall govern.
- B. Construction Schedules: Construction schedules shall include a graphic network diagram and computerized construction schedule reports.
- C. Networks: The CPM network shall be in a form of a time scaled "i-j" activity-on-arrow or precedence type diagram and may be divided into a number of separate sheets with suitable match lines relating the interface points among the sheets.
 - 1. Individual sheets shall not exceed 36-inch by 60-inch.
- D. All construction activities and procurement shall be indicated in a time-scaled format and a calendar timeline shall be shown along the entire sheet length.
 - 1. Each activity arrow or node shall be plotted so that the beginning and completion dates of each activity are accurately represented along the calendar timeline.
 - 2. All activities shall be shown using the symbols that clearly distinguish between critical path activities, non-critical activities and free float for each non-critical activity.
 - 3. All activity items shall be identified by their respective Activity Number, Responsibility Code, Work Duration, and their Dollar Value.
 - 4. All non-critical path activities shall show their total float time in scale form by utilizing a dotted line or some other graphical means.
- E. Duration Estimates: The duration estimate indicated for each activity shall be computed in calendar days and shall represent the single best estimate considering the scope of the activity work and resources planned for the activity. Except for certain non-labor activities, such as curing of concrete or delivery of materials, activity duration shall not exceed 10 calendar days nor be less than one calendar day unless otherwise accepted by the Owner's Representative.
- F. Float Time: Float time shall be as follows:
 - 1. Definition: Unless otherwise provided herein, float as referenced in these documents, is total float. Total float is the period of time measured by the number of calendar days each non-critical path activity may be delayed before it and its succeeding activities become part of the critical path. If a non-critical path activity is delayed beyond its float period, that activity then

becomes part of the critical path and controls the end date of the project. Thus, the delay of the non-critical path activity beyond its float period will cause delay to the project itself.

2. Float Ownership: Neither the Owner nor the Contractor owns the float time. The project owns the float time. As such, liability for delay of the project completion date rests with the party actually causing delay to the project completion date. For example, if Party A uses some, but not all of the float time and Party B later uses the remainder of the float time as well as additional time beyond the float time, Party B shall be liable for the costs associated with the time that represents a delay to the project's completion date. Party A would not be responsible for any costs since it did not consume all of the float time and additional float time remained, therefore, the project's completion date was unaffected.

1.03 Submittals

- A. Submit schedules per requirements of Specification Section 01300.
- B. Preliminary or Initial Contract Schedule
 1. The Contractor shall submit a preliminary schedule document at the Preconstruction Conference or within 7 days of NTP (whichever comes earlier), to identify the manner in which the Contractor intends to complete all work within the Contract Time.
- C. Original Schedule
 1. The Contractor shall submit an original schedule document within 21 days following the Preconstruction Conference.
- D. Revised or Updated Schedules
 1. Submit when required to reflect changes to original schedule.

1.04 Construction Schedule

- A. The schedule shall indicate the major components of the project work and the sequence relations between major components and subdivisions of major components.
- B. The schedule shall be cost loaded based on the schedule of values as approved by the Owner's Representative.
- C. Sufficient detail shall be included for the identification of subdivisions of major components into such activities as:
 1. All work tasks requiring a partial of existing facilities and roadways.
 2. Trenching and backfilling.
 3. Piping
 4. Manhole construction.
 5. Finished pavement.
 6. Site work.
 7. Other important work within the overall project scope.
- D. Planned durations and start dates shall be indicated for each work item subdivision. Each major component and subdivision component shall be accurately plotted on time scale sheets not to exceed 36-inch by 60-inch in size. Not more than one sheet shall be employed to represent this information.

1.05 Schedule Review

- A. The Owner's Representative and the Contractor shall meet to review and discuss the preliminary schedule within 14 days after it has been submitted to the Owner's Representative.
 - 1. The Owner's Representative's review and comment on the schedules shall be limited to Contract conformance with the sequencing and milestone requirements as stated in other sections of the specifications.
 - 2. The Contractor shall make corrections to the schedules necessary to comply with the Contract requirements and shall adjust the schedules to incorporate any missing information requested by the Owner's Representative.

1.06 Acceptance

- A. The acceptance of the Contractor's schedule by the Owner's Representative and City will be based solely upon the schedule's compliance with the Contract requirements.
- B. By way of the Contractor assigning activity durations and proposing the sequence of the Work, the Contractor agrees to utilize sufficient and necessary management and other resources to perform the work in accordance with the schedule.
- C. Upon submittal of a schedule update, the updated schedule shall be considered the "current" project schedule.
- D. Submission of the Contractor's progress schedule to the City or Owner's Representative shall not relieve the Contractor of the Contractor's total responsibility for scheduling, sequencing, and pursuing the Work to comply with the requirements of the Contract Documents, including adverse effects such as delays resulting from ill-timed work.

1.07 Monthly Updates and Periodic Schedule Submittals

- A. Following the acceptance of the Contractor's Original Construction Schedule, the Contractor shall monitor the progress of the Work and adjust the schedule each month to reflect actual progress and any changes in planned future activities.
 - 1. Each schedule update submitted must be complete including all information requested in the original schedule submittal.
 - 2. Each update shall continue to show all work activities including those already completed.
 - 3. These completed activities shall accurately reflect the "as built" information by indicating when the work was actually started and completed.
- B. Neither the submission nor the updating of the Contractor's original schedule submittal nor the submission, updating, change or revision of any other report, curve, schedule or narrative submitted to the Owner's Representative by the Contractor under this Contract, nor the Owner's Representative's review or acceptance of any such report, curve, schedule or narrative shall have the effect of amending or modifying, in any way, the Contract completion date or milestone dates or of modifying or limiting, in any way, the Contractor's obligations under this Contract. Only a signed, fully executed change order can modify these contractual obligations.
- C. The monthly schedule update submittal will be reviewed with the Contractor during a construction progress meeting held on a month end date to be determined. The goal of these meetings is to enable the Contractor and the Owner's Representative to initiate appropriate remedial action to minimize any known or foreseen delay in completion of the Work and to determine the amount of Work completed since the last month's schedule update.
 - 1. The status of the Work will be determined by the percent complete of each activity shown in the Network Diagram.

2. These meetings are considered a critical component of the overall monthly schedule update submittal and the Contractor shall have appropriate personnel attend.
 3. As a minimum, these meetings shall be attended by the Contractor's Project Manager and General Superintendent.
 4. Within seven (7) calendar days after the progress meeting, the Contractor shall submit the revised schedule.
 5. Within five (5) calendar days of receipt of the above noted revised submittals, the Owner's Representative will either accept or reject the monthly schedule update submittal.
 6. If accepted, the percent complete shown in the monthly update will be the basis for the Application for Payment to be submitted by the Contractor.
 7. If rejected, the update shall be corrected and resubmitted by the Contractor before the Application for Payment for the update period can be processed.
- D. Schedule Revisions: The Contractor shall highlight or otherwise identify all changes from the previous schedule. The Contractor shall modify any portions of the schedule that become infeasible because of activities behind-schedule or for any other valid reason.

1.08 Change Orders

- A. Upon approval of a change order, or upon receipt by the Contractor of authorization to proceed with additional work, the change shall be reflected in the next submittal of the schedule by the Contractor.
- B. The Contractor shall utilize a sub-network in the schedule depicting the changed work and its effect on other activities.
- C. This sub-network shall be tied to the main network with the appropriate logic so that a true analysis of the Critical Path can be made.

1.09 Project Status Reporting

- A. In addition to the submittal requirements for the scheduling identified in this Section, the Contractor shall provide monthly project status reports.
- B. The Contractor shall prepare monthly written narrative reports of the status of the project for submission to the Owner's Representative. Written status reports shall include:
 1. The status of major project components (Percent Complete, amount of time ahead or behind schedule) and an explanation of how the project will be brought back on schedule if delays have occurred.
 2. The progress made on critical activities indicated on the schedule.
 3. Explanations for any lack of work on critical path activities planned to be performed during the last month.
 4. Explanations for any schedule changes, including changes to the logic or to activity durations.
 5. A list of the critical activities scheduled to be performed in the next two-month period.
 6. The status of major material and equipment procurement.
 7. The value of materials and equipment properly stored at the site, but not yet incorporated into the work-in-place.
 8. Any delays encountered during the reporting period.
 9. An assessment of inclement weather delays and impacts to the progress of the Work.

- C. The Contractor may include any other information pertinent to the status of the project. The Contractor shall include additional status information requested by the Owner's Representative.

1.10 Inclement Weather Provisions of the Schedule

- A. The Contractor's construction schedule shall include lost days on the CPM schedule's critical path due to inclement weather typical for the area of construction based on the average rain days for the past five (5) years.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

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SECTION 01500 CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.01 Summary

- A. The Contractor shall provide all temporary facilities and utilities required for execution of the work, protection of employees and the public, protection of the work from damage by fire, weather or vandalism, and such other facilities as may be specified or required by any legally applicable law, ordinance, rule, or regulation.
- B. Temporary facilities utilized on the project shall be in complete accordance with requirements set forth in the Caltrans Standard Specifications.
- C. The Contractor shall keep the work site clean and free from rubbish and debris. Materials and equipment shall be removed from the site when they are no longer necessary on a daily basis as directed by the Owner's Representative. All cables, slings and other materials used to set the pipe and equipment shall be removed from the project site. Upon completion of the work and before final acceptance, the work site shall be cleared of equipment, unused materials, and rubbish to present a clean and neat appearance.

1.02 Temporary Facilities

A. Electrical Service

- 1. The Contractor shall arrange, at its own cost, with the local utility to provide adequate temporary electrical service at a mutually agreeable location.
- 2. The Contractor shall then provide adequate jobsite distribution facilities conforming to applicable codes and safety regulations.
- 3. The Contractor shall provide, at its own cost, all electric power required for construction, testing, general and security lighting, and all other purposes whether supplied through temporary or permanent facilities.

B. Water

- 1. The Contractor shall pay for and shall construct all facilities necessary to furnish water for its use during construction.
- 2. Water used for human consumption shall be kept free from contamination and shall conform to the requirements of the State and local authorities for potable water.
- 3. The Contractor shall pay for all water used for the Contractor's operations prior to final acceptance.
- 4. A backflow assembly shall be required for construction and sales trailers or temporary landscape irrigation systems. These backflow devices and those required for loading new water mains shall be certified by a licensed backflow tester and the results provided to the Environmental & Water Resources Department. Water shall only be drawn into the contractor's main through a construction meter. See Standard Detail WR-18 "Temporary Connection for Loading and Testing".

C. Sanitary Conveniences

- 1. The Contractor shall provide suitable and adequate sanitary conveniences for the use of all persons at the site of the Work.

2. Such conveniences shall include chemical toilets or water closets and shall be located at appropriate locations at the site of the Work.
3. All sanitary conveniences shall conform to the regulations of the public authority having jurisdiction over such matters.
4. At the completion of the Work, all such sanitary conveniences shall be removed, and the site left in a sanitary condition.

D. Telephone/Internet

1. The Contractor shall arrange, at its own cost, with the local utility to provide adequate temporary telephone or internet services for its use during construction.
2. Contractor shall pay for all required services required for its own use as necessary.

1.03 Construction Facilities

A. Construction hoists, shoring, and similar temporary facilities shall be of ample size and capacity to adequately support and move the loads to which they will be subjected. Railings, enclosures, safety devices, and controls required by law or for adequate protection of life and property shall be provided.

B. Staging and Falsework

1. Temporary supports shall be designed by a professional registered engineer with an adequate safety factor to assure adequate load bearing capability. If requested by the Owner's Representative, the Contractor shall submit design calculations for staging and shoring prior to application of loads.
2. Excavation support shall be in accordance with applicable codes and regulations.

C. Temporary Enclosures

1. When sandblasting, spray painting, spraying of insulation, or other activities inconveniencing or dangerous to property or the health of employees or the public are in progress, the area of activity shall be enclosed adequately to contain the dust, over-spray, or other hazard.
2. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the Contractor shall provide suitable temporary enclosures.

D. Warning Devices and Barricades

1. The Contractor shall adequately identify and guard all hazardous areas and conditions by visual warning devices and, where necessary, physical barriers.
2. Such devices shall, as a minimum, conform to the requirements of Cal/OSHA.

E. Culvert Bypassing and Protection

1. The Contractor shall provide bypass and pumping facilities for any flowing culverts that encroach upon project trenching activities.
 - a. Bypassing facilities will only be required in high risk situations to prevent flooding the trench. Culvert bypassing risk shall be at the sole discretion of the Contractor.
2. Culvert bypassing systems shall be submitted to the Engineer for review prior to construction activities. Culvert bypassing plans shall provide, but not be limited to, the following information:
 - a. Means of protecting culverts during trench construction activities.
 - b. Construction means and methods describing culvert plugging, bypassing, and relocation of flowing water.
 - c. List all equipment necessary to perform bypassing and culvert protection undertakings.

- d. Detail the bypass system's receiving stream crossing or drainage channel and the existing condition of the structure.
3. Culvert crossings damaged during construction activities identified by the project Inspector shall be restored in kind by the Contractor at no additional cost to the Owner unless otherwise negotiated.

1.04 Access Roads

- A. Access roads shall be maintained to all storage areas and other areas to which frequent access is required. Similar roads shall be maintained to all existing facilities on the site of the Work to provide access for delivery of material and for maintenance and operation. Where such temporary roads cross buried utilities that might be injured by the loads likely to be imposed, such utilities shall be adequately protected by steel plates or wood planking, or bridges shall be provided so that no loads shall discharge on such buried utilities.

1.05 Working Hours

- A. Construction shall be allowed only between the hours of 7:00 a.m. and 5:00 p.m. Flushing, disinfection, tie-ins, and water shut-downs are only allowed between 7:00 a.m. and 3:00 p.m. Monday through Friday unless otherwise approved in writing by the Owner's Representative.
- B. The Contractor shall be responsible for any inspection and additional administration costs incurred by the Owner, or its agents and representatives, for work by the Contractor outside the hours defined above on weekdays, or any work on weekends or holidays recognized by the Owner. Such costs shall be withheld from the succeeding monthly progress payment. Any work specifically required to be performed outside the normal working hours is excluded from the provisions of this paragraph.
- C. The Contractor shall notify the Owner's Representative at least one working day prior to any work outside the normal working hours defined above, on weekends or holidays.

1.06 Project Sign

- A. The Contractor shall provide, install and maintain for the duration of the project a project sign as designated below. The sign shall be installed within seven (14) days of Notice to Proceed and shall be installed where directed by the Owner's Representative.
 1. 8'x4' exterior grade plywood, minimum 3/4" thick
 2. Two coats exterior quality paint for background, one coat exterior quality paint for lettering.
 3. Erect supports and framing on secure foundation, rigidly braced and framed to resist loadings. Install sign surface plumb and level; anchor securely.
 4. Colors of sign shall be as designated by the Owner's Representative.
 5. Remove sign at the end of the project.
- B. Contents of Project ID Sign
 - Project Name: ASHLAND WATER REHABILITATION PROJECT II
 - Utility Owner: CITY OF FOLSOM
 - Engineer and Owner's Representation: HydroScience Engineers, Inc.
 - Construction Cost: Information to be input by Contractor
 - Start Date: Information to be input by Contractor
 - Estimated End Date: Information to be input by Contractor

**** END OF SECTION ****

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SECTION 01540 SECURITY

PART 1 - GENERAL

1.01 General

- A. The Contractor shall safely guard all work, materials, equipment and property from loss, theft, damage and vandalism. Contractor's duty to safely guard property shall include the Owner's property and other private property from injury or loss in connection with the performance of the Contract.
- B. The Contractor may make no claim against the Owner for damage resulting from trespass.
- C. The party responsible for security shall make good all damage to property of Owner and others arising from failure to provide adequate security.
- D. Security measures taken by the Contractor shall be at least equal to those usually provided by the Owner to protect the existing facilities during normal operation.
- E. A security program shall be maintained throughout construction until final acceptance and occupancy precludes need for Contractor's security program.
- F. Fire Extinguishers
 - 1. Sufficient number of fire extinguishers of the type and capacity required to protect the Work and ancillary facilities, shall be provided and maintained in readily accessible locations.
- G. Temporary Fences
 - 1. Except as otherwise provided, the Contractor shall enclose the site of the Work with a fence adequate to protect the Work and temporary facilities against acts of theft, violence, or vandalism.
 - 2. In the event all or a part of the site is to be permanently fenced, this permanent fence or a portion thereof may be built to serve for protection of the Work site, provided however, that any portions damaged or defaced shall be replaced prior to final acceptance.
 - 3. Temporary openings in existing fences shall be protected to prevent intrusion by unauthorized persons. During night hours, weekends, holidays, and other times when no work is performed at the site, the Contractor shall provide temporary closures or guard service to protect such openings. Temporary openings shall be fenced when no longer necessary.
 - 4. If existing fencing or barriers are breached or removed for purposes of construction, the Contractor shall provide and maintain temporary security fencing equal to the existing in a manner satisfactory to the Owner's Representative.

1.02 Contractor's Access to the Site

- A. Access to the project site for Contractor's employees, material, tools, and equipment shall be via roads designated by the Owner's Representative and as shown on the Drawings.
- B. The Contractor shall ensure that each of its employees, representatives, material men, suppliers and others acting for the Contractor shall be subject to the following:
 - 1. No Contractor employee's personal vehicle shall be allowed to park anywhere other than the Contractor Employee's Parking Area.
 - 2. The Area shall be designated by the Owner's Representative.
 - 3. The Contractor shall prepare and maintain this area as required.

C. The Contractor shall obtain and follow all security measures and procedures as outlined by the Owner and Police Departments.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

****END OF SECTION****

SECTION 01700 RESTORATION OF IMPROVEMENTS

PART 1 - GENERAL

1.01 Description of Work

- A. Contractor shall be responsible for the protection and restoration or replacement of any improvements existing on public or private property at the start of work or placed there during the progress of the work. Existing improvements shall include but not limited to permanent surfacing, planted areas, sprinkling systems, ditches, culverts, fences, walls, grass, bark, gravel, river rock etc. All improvements shall be reconstructed to equal or better, in all respects, than the existing improvements removed. See Section 02775 for concrete work including sidewalks, driveways and curbs.
- B. Contractor shall document existing improvements and conditions (video, photos, etc..) prior to commencement of any construction activities. Where there are disputes regarding restoration of existing improvements, the City will side with the private property owner if no documentation to the contrary can be provided by the Contractor.

1.02 Filed Verification of Improvements

- A. The Contractor shall carefully examine the site of the work and to acquaint itself with all conditions relating to the protection and restoration of existing improvements. The City does not guarantee that all improvements are shown on the Drawings, and it shall be the Contractor's responsibility to protect and restore all existing improvements whether or not each is provided for specifically on the Drawings.

1.03 Scheduling of Restoration Work

- A. Initial restoration (rough grading, temporary aggregate if necessary, removal of excess excavated material and debris) shall be done each day to the extent necessary to allow the movement of local traffic and permit access to all properties for emergency vehicles. Maintenance of streets, drives, sidewalks, etc. shall be the responsibility of the Contractor (including dust control, grading, stabilization, etc.) until the restoration is complete and has been accepted by the City.
- B. Restoration of each street or section of utility line shall follow the construction in a timely fashion so as to minimize inconvenience to the adjacent property owners and the general public. The manner in which this restoration is done by the Contractor will be a determining factor in the approval by the Owner's Engineer of staking requests and partial payment requests.

1.04 Warranty of Restoration Work

- A. The Contractor shall include all restoration work under the two (2) years guarantee included in the General Conditions, Section 5.23.

PART 2 - MATERIALS

2.01 General

- A. Materials used for repair or replacement of surface improvements shall be equal to or better than the material removed. All materials shall meet or exceed the City's standards.

2.02 Replacement of Aggregate Roads and Driveways

- A. Unless otherwise specified, roads or other paved surfaces in which the surface is removed, broken, or damaged, or in which the ground has caved or settled during the work under this contract, shall be resurfaced and brought to the original grade and section. Requirements for paving restoration are covered in Section 02500 – Asphalt Concrete Paving.

2.03 Replacement of Cultivated Areas and Other Improvements

- A. Cultivated or planted areas and other surface or subsurface improvements, including irrigation systems, which are damaged by actions of the Contractor shall be restored as nearly as possible to their original condition at the Contractor's expense. Existing guard posts, barricades, and fences shall be protected and replaced if damaged. Contractor shall protect street lighting, traffic signals, telephone or other existing facilities from damage. Not all existing facilities are shown on the Drawings. Contractor shall restore all existing facilities damaged due to construction.
- B. Underground Sprinkling Equipment: Underground sprinkling lines, valves & heads, and water system backflow devices and boxes are specifically excluded from the pay items. The Contractor shall take the necessary precautions to preserve this equipment during construction. Any underground sprinkling equipment disturbed by the Contractor shall be replaced in kind or better at the Contractor's expense. Irrigation piping shall be solvent welded PVC Schedule 80. All underground sprinkling equipment shall be replaced in a timely fashion so as to minimize damage to the lawn areas. The Contractor will be responsible for any lawn damage caused by delayed replacement of the sprinkling equipment.
- C. Ornament Shrubbery, Bushes and Trees: Ornament shrubbery, bushes and trees that are removed or damaged during construction shall be replaced in kind and size in a vigorous growing condition. All shrubs, bushes and trees to be replaced shall be insured by a two (2) year warranty commencing from the date of installation.
- D. Gravel Surfaces: Gravel surfaces that are removed or damaged during construction shall be replaced and maintained as follows:
1. Place a minimum of six (6) inches of compacted material.
 2. The material shall be placed in the trench at the time it is backfilled. The surface shall be maintained by blading, sprinkling, rolling, adding material, etc., to maintain a safe, uniform surface. Excess material shall be removed from the premises immediately.
 3. Material for use on gravel surfaces shall be road base obtained from sound, tough, durable gravel or rock meeting the following requirements for gradation:

Passing 1-inch sieve	100%
Passing ½-inch sieve	79-91%
Passing No. 4 sieve	49-61%
Passing No. 16 sieve	27-35%
Passing No. 200 sieve	7-11%

- E. River Rock: River rocks which are removed for construction, shall be replaced with equal or better type and size. The Contractor shall take the necessary precautions to preserve the rocks during construction for reuse during restoration work.

2.04 Replacement of Lawn Improvements

- A. All areas of established grass shall be replaced with turf as nearly as possible to their original condition.

- B. Topsoil shall be removed and placed at a minimum depth of four (4) inches over all areas disturbed by the Contractor's operations. The subgrade shall be graded to conform to the adjacent contours and shall be approved by the Owner's Engineer before placing topsoil. The topsoil shall be in accordance with ASTM D5268. The soil shall be dark, organic natural surface soil, exclusive of muck or peat, suitable for the establishment of grass or other vegetable growth.
- C. Fertilizer: After the topsoil has been placed, it shall be fertilized at the rate of two (2) pounds per 1,000 square feet, in equal proportions of nitrogen, phosphoric acid and potash, or as directed by the Owner's Engineer. Fertilizer shall be applied just before the placing of the seed to retain its full benefit before unfavorable weather can cause deterioration.
- D. Seeding: All previously seeded lawn areas shall be reseeded with Class A seed. Other areas disturbed by the Contractor's operations shall be seeded with Roadside seed. Seed mixtures, application rates, and methods shall be in accordance with Section 816 of the current MDOT Standard Specifications for Construction. Seasonal limitations on seeding in Section 816 of the current MDOT Standard Specifications for Construction are waived. The Contractor shall repeat the seeding procedure as often as necessary to produce a close stand of weed-free grass.
- E. Mulching: All seeded areas shall be mulched immediately following the seeding. Mulching shall be applied to all newly seeded areas at a rate of two (2) tons per acre in accordance with the requirements of Section 816 of the current MDOT Standard Specifications for Construction. Separate loose straw mulch is prohibited on residential lawn areas.
- F. Hydro Application: All fertilizing, seeding, and mulching shall be applied by an approved Hydro seeding and mulching process unless separate applications as heretofore described are approved by the Owner's Engineer.
- G. Sod shall be placed wherever grass is removed and replaced and as noted on the plans or specifications. All sod shall be nursery grown, conforming to MDOT requirements for Class A. Seeding may only be used with approval of the city and property owner. Sod shall be approved by the Owner's Engineer before placing and shall be placed in accordance with the requirements of Section 816 of the current MDOT Standard Specifications for Construction. The base on which the sod is to be laid shall consist of a minimum of four (4) inches of topsoil placed and fertilized in the same manner required for seeding.

2.05 Accessories

- A. Tree Wrap: Provide new, clean, plain, 8-ounce weight burlap material 6 inches wide for wrapping tree trunks.
- B. Weed Barrier Fabric: Provide Pro-5 fabric as manufactured by the DeWitt Co., or equal.
- C. Gravel: Provide smooth river bed gravel of solid or mixed color range to be as selected and meeting the requirements of ASTM C 33 and graded according to Size No. 467, Table II.
- D. Mulch: Provide ground corn cobs, wood chips, tree barks, buckwheat hulls or other approved materials for mulch.

PART 3 - EXECUTION (NOT USED)

3.01 Removal

- A. The Contractor shall remove existing surface features as may be necessary for the performance of the work and shall rebuild the surface feature thus removed in as good a condition as found with the requirements specified.

3.02 Grades

- A. Lawn Grades: Grade lawns to meet walks, curbs and adjoining surfaces after uniform settlement of surfaces. Correct water pockets or ridges which appear after surface settlement takes place on or before the end of the guarantee period.

3.03 Soil Conditioning

- A. Disking: Before the application of topsoil, sodding or seeding, disk the area to be seeded, sodded or planted with groundcover to a depth of 6 inches. Continue the disking until the subsoil surface is sufficiently broken to provide a good bond between subsoil and topsoil. Spread 6 inches of planting soil over the disked area to a uniform depth and density.
- B. Ground Limestone: Incorporate ground limestone, if required by the results of the soil test report, into the upper 3 inches of planting soil. Uniformly spread fertilizer and mix into the soil to a depth of 1-1/2 inches or as recommended by the manufacturer.

3.04 Seeding and Sodding

- A. Seeding: Sow seed at the rate recommended by the seed producer. Evenly rake the surface after seeding with a fine-tooth rake. Mulch all newly seeded areas and cover with a minimum of 1/4-inch of straw or hay, approximately at the rate of 1 bale per 1,000 square feet, then thoroughly wet.
- B. Sodding: Lay sod in such a manner that the surface is smooth and even and all edges abut one another tightly. Water and roll sod so that a bond is produced between the prepared topsoil and the sod. On slopes greater than 3 to 1, stake installed sod with approved wooden sod stakes at a minimum rate of three stakes per square yard of sod.

3.05 Graveled, River Rock and Bark Areas

- A. Lay a weed barrier in accordance with the manufacturer's recommendations and top with a 4-inch layer of gravel. Edge graveled areas with metal edging.

****END OF SECTION****

SECTION 01710 FINAL CLEAN-UP

PART 1 - GENERAL

1.01 Requirements

- A. As a condition precedent to final acceptance or release of a structure, space or process unit for use by the Owner, the Contractor shall thoroughly clean all roads, shoulders, and construction areas prior to final Acceptance.
- B. All existing culverts, drainage sumps, and existing stormwater facilities shall be cleared of silt, sand, debris and construction materials. Should any existing structures, culverts, or drainage channels be compromised by construction related activities, the Contractor shall restore to the fullest extent of the pre-existing conditions as required by the Owner's Representative or Inspector.
- C. At the completion of the project, the Contractor shall perform the following:
 - 1. Remove and dispose of all excess or waste materials, debris, rubbish, and temporary facilities from the site, structures and all facilities.
 - 2. Repair pavement, roads, sod, and all other areas affected by construction operations and restore them to original condition or to minimum condition specified. Contractor shall restore the pavement to the fullest extent required by the Engineer.
 - 3. Remove spatter, grease, stains, fingerprints, debris, dust, labels, tags, packing materials and other foreign items or substances from interior and exterior surfaces, equipment, signs and lettering.
 - 4. Repair, patch and touch up chipped, scratched, dented or otherwise marred roadway signs, striping, guard railing, or other materials to match the pre-existing condition.
 - 5. Contractor shall refinish trenching activities to match existing surface conditions to the fullest extent feasible and to the satisfaction of the Inspector.
- D. As the Contractor executes construction related procedures along the identified alignments shown in the contract drawings, preliminary cleaning shall be conducted such that downstream facilities can be reopened in the public right of way.
 - 1. All significant clean up items such as sign or guard railing replacement shall be conducted at the earliest possible moment during the project to protect the public from dangerous situations.
 - 2. Insignificant cleanup items may be included in the project punch list and completed prior to Acceptance.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

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SECTION 01720 RECORD DRAWINGS

PART 1 - GENERAL

1.01 General

- A. The Contractor shall provide the Owner's Representative neatly and legibly marked contract drawings showing the final horizontal and vertical location of all piping, manholes, and culverts. Marking of the drawings shall be kept current and shall be done at the time the material and equipment are installed. These drawings shall be available to the Owner's Representative throughout the construction period. Final payment shall not be made until the marked up record drawings are delivered to and approved by the Owner's Representative.

1.02 Maintenance of Documents

- A. The following shall be maintained in the Contractor's field office in clean, dry, legible condition: Contract Drawings, Specifications, Addenda, approved Shop Drawings, Samples, photographs, Change Orders, other Modifications of Contract, test records, survey data, Field Orders, and all other documents pertinent to Contractor's Work.
- B. Two full-sized sets of the Contract Drawings will be furnished to the Contractor by the Owner. These Drawings shall be updated with record information and one copy of the updated record drawings shall be submitted for review to the Owner's Representative every month. The Record Drawing shall be up-to-date and its completeness shall be a precondition of the next month's partial payment request approval.
1. Mark and record field changes and detailed information contained in submittals and change orders.
 2. Record actual depths, horizontal and vertical location of underground pipes and other buried utilities. Reference dimensions to permanent surface features.
 3. Identify specific details of pipe connections, location of existing buried features located during excavation, and the final locations of piping, manholes, and culverts.
 4. Provide schedules, lists, and layout drawings.
 5. Make annotations with erasable colored pencil conforming to the following color code:

Annotations	Color
Additions	Red
Deletions	Green
Comments	Blue
Dimensions	Graphite

- C. Documents shall be available at all times for inspection by the Owner's Representative.
- D. Record documents shall not be used for any other purpose and shall not be removed from the office without approval of the Owner's Representative.
- E. The Contractor may submit additional size D sheets detailing record work as approved by the Owner's Representative.
- F. The Contractor shall not conceal any work until the required record drawing information has been recorded.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 01757 DISINFECTION & TESTING

PART 1 - GENERAL

1.01 Summary

- A. This section includes: disinfection, cleaning and testing requirements for new facilities affected by the Work.

1.02 References

- A. American Water Works Association (AWWA):
1. C651 – Disinfection Water Mains
 2. C652 – Disinfection of Water Storage Facilities
 3. C653 – Disinfection of Water Treatment Plants

1.03 Submittals

- A. Submit flushing and disinfection plan outlined below along with an 8.5" X 11" water plan sheet which details procedure to be utilized to disinfect the facilities including:
1. Method and locations of disinfectant application.
 2. Locations of sampling points.
 3. Method of flushing and location of flushing ports (as appropriate for method of chlorination).
 4. Method of dechlorination (as appropriate for method of chlorination).
 5. Disposal location for chlorinated water (as appropriate for method of chlorination).
- B. Submit disinfection reports and include the following:
1. Date issued.
 2. Project name and location.
 3. Treatment subcontractor's name, address, and phone number.
 4. Type and form of disinfectant used.
 5. Time and date of disinfectant injection start.
 6. Time and date of disinfectant injection completion.
 7. Test locations.
 8. Initial and 24-hour disinfectant residuals in milligrams per liter for each outlet tested.
 9. Time and date of flushing start.
 10. Time and date of flushing completion.
 11. Disinfectant residual after flushing in milligrams per liter for each outlet tested.
- C. Submit bacteriological reports and include the following:
1. Date issued.
 2. Project name and location.
 3. Laboratory's name, certification number, address, and phone number.

4. Time and date of water sample collection.
5. Name of person collecting samples.
6. Test locations.
7. Time and date of laboratory test start.
8. Coliform bacteria test results for each outlet tested.
9. Certification that water conforms or fails to conform to bacterial standards of SDWA.
10. Bacteriologist's signature and bacteriological laboratory's evidence of certification.

1.04 Quality Assurance

- A. Bacteriological and physical chemistry laboratory: Certified by state in which Project is located.

1.05 Product Delivery, Storage, and Handling

- A. Protect chlorine and bacteriological samples against damage and contamination.
- B. Maintain caution label on hazardous materials.
- C. Maintain storage room dry and with temperatures as uniform as possible between 60 degrees Fahrenheit and 80 degrees Fahrenheit.

1.06 Protection

- A. Provide necessary signs, barricades, and notices to prevent persons from accidentally consuming water or disturbing system being treated.

PART 2 - PRODUCTS

2.01 Materials Requirements

- A. Temporary valves, bulkheads, or other water control equipment and materials required for the implementation of the testing plan shall be provided by the Contractor. No materials shall be used which would be injurious to the structure or its future function.
- B. All appropriate equipment to properly flush, pressurize, disinfect and test the water system
- C. Refer to City Standard Drawing WR-18 for requirements regarding temporary connection for loading and testing.

PART 3 - EXECUTION

3.01 General

1. Construction phases requiring completion prior to testing. Testing of the water system may proceed only after:
 - a. Seven-day notice is given to the City Staff prior to disinfection or shutdown.
 - b. Joint utility crossings are completed.
 - c. The sewer system has passed testing.
 - d. Street subgrade has passed inspection by the Construction Inspector.
 - e. Bases to be lime-treated, cement treated, or localized areas are dug up and new material is placed and compacted shall be pressure tested before and after the disturbance.

- f. An approved backflow device and construction meter shall be installed for loading the new system with potable water.
- B. The Contractor is to provide a flushing and disinfection plan for all procedures outlined below.
- C. Contractor to notify any affected customers of water outage by contractor shutdowns.
- D. All water appurtenances shall be installed prior to performing disinfection. This includes property functioning combination air vacuum valves and water sampling stations.
- E. Water services will be cut to the proper length in the meter box.
- F. All valves will be exposed and operational.
- G. Water main shutdowns and tie-ins are only to occur Tuesday through Thursday.

3.02 On-site Water System Sterilization Requirements

- A. Cleaning and Flushing
 - 1. Complete hydrostatic/leakage tests prior to disinfection.
 - 2. Prior to chlorination, Contractor shall clean all newly constructed and/or modified facilities to be disinfected in accordance with AWWA C651.
 - 3. Remove all water, paint flakes, sediment, dirt and foreign material accumulated during cleaning.
 - 4. Load and flush the water system at 3 ft/sec to remove debris from all outlets on new system from new or existing blow off. Velocity flushing shall be continuous throughout the duration. Connection to the existing system must be made with an approved and tested RPPA backflow device per City Standard Drawing WR-18. If pipe is stored without covering the ends, pipes are left with ends exposed in trench overnight, or excessive dirt enters the pipe, or excessive dirt enters the pipe, then pigging will be required. This pigging will be done at the contractor's expense and no extra contract days will be allowed.
 - 5. Contractor shall protect pipes from adverse environmental exposure between flushing and disinfection stages.
- B. Pressure Test
 - 1. Contractor shall verify with the Construction Inspector that all system valves are open prior to testing. In pipe installation of 12-inch or larger, Contractor shall pressure test to every valve.
 - 2. The Construction Inspector will be present for the duration of the test.
 - 3. Pressure testing shall be conducted for two hours at 150 pounds per square inch (PSI), or at one-and-one-half times the operating pressure, whichever is higher, measured at the system high point. The test gauge shall be liquid-filled and of 300 PSI maximum capacity.
 - 4. No detectable leakage is allowed.
 - 5. Any repairs or adjustments to the water system to eliminate leaks shall be observed by the Construction Inspector.
- C. Chlorine Disinfection of Pipelines & Water Quality Testing
 - 1. General:
 - a. Perform disinfection of water lines in accordance with AWWA C651 and as specified in this Section.
 - b. Disinfection inspections shall begin only after the pressure test has passed.
 - c. Disinfections will only begin on Mondays or Tuesdays.

2. Inspection:

- a. Verify that water system is completed and cleaned of soil and debris prior to chlorination.
- b. Start disinfection when conditions are satisfactory.

D. Bacteriologic Test:

1. NSF 60 approved Chlorine shall be drawn through the total system at a rate of 25-50 milligrams per liter (mg/l) so that no point in the system contains less than 25 mg/l or no more than 50 mg/l.
2. City of Folsom Water Quality Division will test chlorine residual immediately following injection process and again 24 hours later.
3. Once the first chlorine test has passed and before the second chlorine test, all the gate valves in the new water system shall be fully operated to ensure all internal parts of the valve come in contact with the disinfection solution.
4. The disinfection test is considered failed if the chlorine residual is below 10 mg/l after 24 hours and the disinfection procedure must be repeated. If disinfection needs to be repeated the cost is \$200 per attempt.
5. After 2nd test, City of Folsom Water Quality will authorize flushing of chlorinated water from system. The water system shall be flushed until the turbidity is equal or less than 1 NTU, and less than 1 ppm chlorine residual prior to discharge. The discharge location and neutralization methods shall be documented in the Storm Water Pollution Prevention Plan (SWPPP) and approved by the Construction Inspector.
6. The newly constructed water line will then be filled and pressurized with system water through an approved and tested RPPA backflow device. This water is to remain in the new water line undisturbed until the second bacteriological sample is taken. The Contractor is required to coordinate and pay for the collection and testing of all water samples with a California Department of Public Health certified laboratory. Samples are to be pulled at the same locations that chlorine samples were pulled.
7. Draw 1st bacteria sample (Heterotrophic Plate Count) 16 hours minimum after loading water line with system water. HPC samples shall be pulled from every location that was sampled for chlorine.
8. Draw 2nd bacteria sample (Present/Absent Coliform/E-coli) 24 hours after HPC.
9. HPC: less than 100 Colony Forming Units per mL (CFU/mL). P/A bacteria samples shall be pulled from every location that was sampled for chlorine.
10. P/A: Not Detected.
11. The bacteriological test is considered failed and sterilization must be repeated if lab results indicate excessive HPC (>100) and/or present Coliform/E-Coli.
12. Provide both test results and copies of chain of custody to the Environmental & Water Resources Department, Water Quality for verification.
13. After verification of results by Folsom Water Quality, the valve on the stub will be closed and contractor may connect to City's water system.
14. After connection and re-energizing of the main, contractor will flush nearest outlet to connection. The City will collect a precautionary bacteria sample after final connection.
15. The Contractor shall be required to pay for and utilize a California Department of Public Health certified testing laboratory for all water collection, sampling, and testing.

16. All samples taken by the Contractor's sample collector must be collected in the presence of the Construction Inspector.
17. Tablet disinfection is not allowed.

3.03 Repairs or Connections to Existing Lines

- A. Clean and sterilize the interior surfaces of new piping, fittings, equipment, and appurtenances to be installed in an existing potable water system or connected to an existing system.
- B. Clean and sterilize the existing pipe or facilities for a minimum distance of 3 pipe diameters back from the ends of the pipe. Plug the ends of the line when work is not being performed on the pipe.
- C. Perform sterilization by swabbing each item with a concentrated chlorine solution.
 1. Each piece is to be disinfected prior to being assembled for installation in the existing pipe.
 2. Disinfect each piece just prior to assembly to help prevent recontamination.
 3. Plug the ends of the assembly until a new item is to be added to the assembly.
 4. Store disinfected materials on blocks to prevent contact with the ground.

3.04 Flushing Post Disinfection

- A. Remove disinfection water from the facilities as appropriate for the type of disinfectant and method used for disinfection.
- B. Flush facilities with potable water containing no more disinfectant residual than the active distribution system or 1.0 milligrams per liter, whichever is greater (as appropriate for method of chlorination).
- C. Continue flushing until water at designated flushing ports contains disinfectant residual equal to concentration specified above.

3.05 Disposal of Chlorinated Water

- A. Dispose of chlorinated water in accordance with the submitted disinfection test plan and applicable requirements of federal, state, county, and city having jurisdiction over disposal of hazardous wastes in location of the Project and disposal site.
- B. Chlorinated water may only be disposed of in a sanitary sewer system with the written permission of the City. If allowed, discharge the chlorinated water at a low rate so it does not surcharge the sewer line.

3.06 Connection and Tying into Existing Facilities

- A. Connection to existing City water facilities shall only be made upon approval of the Construction Inspector and the Environmental & Water Resources Department. The Contractor shall only tie the new system into the existing system under the following conditions:
 1. The tie-in procedure shall be approved by the Construction Inspector prior to beginning of the work.
 2. Tie-ins shall be accomplished within 10 calendar days of passing tests.
 3. Connection of new water mains to the existing City of Folsom water system shall be by hot tap or cut in tees as specified by the contract drawings.
 4. The new water main shall remain isolated from the existing system throughout the entire construction and sterilization process by means of an approved tested reduced pressure principle assembly (RPPA) backflow device.

5. Only authorized City of Folsom personnel may operate control valves on existing and newly tied in water systems.
6. All water pipe stocked onsite shall remain clean and have ends covered until time of installation.
7. Lateral stubs from hot tap to back of wall may be loaded with 100 ppm NSF 60 approved chlorine solution and disinfected with the slug method.
8. Alternative disinfection procedures require prior authorization from the City of Folsom Environmental & Water Resources Department, Water Quality Division.
9. Blow-off valves on hot tapped laterals shall be constructed within 4 feet of back of walk.
10. City of Folsom Water Quality Division will conduct initial and final disinfections chlorine residual testing.
11. Contractor shall be required to pay for and utilize a California Department of Public Health certified testing laboratory for all collection and testing of bacteriological samples.
12. The tie-in site shall be maintained clean and sanitary.
13. All materials used in the tie-in shall be clean and swabbed with a 1% to 5% chlorine solution to the satisfaction of the Construction Inspector.
14. Tie-ins shall take place only after the newly constructed water system has passed all required testing procedures, upon the approval of the Construction Inspector and the Environmental & Water Resources Department.
15. And effort shall be made to construct shut-downs at times when there is least interference with consumer services.
16. Connections shall be made only after diligent preparation, in order that the shutdown duration is minimized.
17. Notification to the Fire Department and affected consumers shall be made by the Contractor 48 hours in advance of the work.
18. Out of service fire hydrants in the City serviced area shall be bagged by the Contractor.
19. After the tie-in has been made, the Contractor shall contact the Environmental & Water Resources Department to flush the segment/system tie-in to the satisfaction of the Construction Inspector and the Environmental & Water Resources Department.
20. In the event that the new water system cannot be tied into the City system within 10 calendar days, the new system shall maintain a minimum chlorine residual of 0.5 ppm or be subject to water quality testing and re-chlorination, subject to the approval of the Environmental & Water Resources Department.

3.07 New Hot Tapped Stubs

1. Ensure that all pipe is clean during and after installation;
 - a. Fill pipe with 100ppm NSF 60 approved chlorinated water. Water Quality to verify
 - b. Let soak for 3 hours and then flush with system water after Water Quality verification that the residual has not fallen below 50ppm
 - c. 1 hour 150lb pressure test
 - d. Draw 1st bacteria sample (Heterotrophic Plate Count) 16 hours minimum after the line is filled with system water and remains undisturbed.
 - e. Draw 2nd bacteria sample (Present/Absent Coliform/E-Coli) 24 hours after HPC.

- f. HPC: less than 100 Colony Forming Units per mL (CFU/mL)
- g. P/A: Not Detected.
- h. The bacteriological test is considered failed and flushing must be repeated if lab results indicate excessive HPC and/or present Coliform/E-Coli. If the disinfection needs to be repeated the cost is \$200 for every repeated attempt.
- i. Provide both test results and copies of chain of custody to Environmental & Water Resources Department Water Quality for verification.
- j. After verification of results by Folsom Water Quality, valve on hot tap will be opened for service.

3.08 Corrosion Protection System Testing, Ductile Iron

- A. At the completion of the pipe installation and prior to curb and gutter construction, the Corrosion Engineer shall conduct a test of the corrosion monitoring system in the presence of the Construction Inspector. A report of the test results shall be submitted to the Environmental and Water Resources Department for review and approval. The report shall include test station locations as specified on the approved plans, appurtenances tested, test result, and recommendations for future monitoring and maintenance.

3.09 Continuity Testing

- A. Confirm pipe is continuous by performing continuity test. The continuity shall extend from the meter on the service line to the main to allow for an accurate trace.
- B. The Construction Inspector will test continuity:
 - 1. Upon City acceptance of the street subgrade.
 - 2. After paving and raising of iron.

3.10 City Acceptance

- A. Private systems including meters and backflow devices shall connect to the City system upon City acceptance of installation and testing per this section.

****END OF SECTION****

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SECTION 02055 DEMOLITION AND SITE PREPARATION

PART 1 - GENERAL

1.01 Summary

A. Demolition and site preparation includes all clearing, grubbing and demolition Work.

1.02 Job Conditions

A. The Contractor shall determine the actual condition of the site as it affects the Work.

1.03 Quality Assurance

A. General: All work shall be performed in accordance with the local building codes, State Industrial Safety Orders and requirements of the Occupational Safety and Health Act requirements.

B. Schedule: Demolition must be scheduled to allow all existing roadways and utilities to remain in continuous operation. No interruption in operation will be permitted without previous authorization from the Owner's Representative.

C. Protection

1. Demolition shall be performed in such a manner as to not harm adjacent structures, equipment, existing landscaping or natural vegetation.
 - a. The Contractor shall assume full responsibility for such disturbance.
 - b. All costs of any such repair, rehabilitation, or modifications shall be borne by the Contractor.
2. The Contractor shall provide such protection as may be required to transfer material to the ground.
 - a. Throwing, dropping or permitting the free fall of material and debris from heights which would cause damage to other work, existing structures, or equipment; undue noise or nuisance; or excessive dust will be expressly prohibited.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 General

A. The Contractor shall adhere to all demolition and site preparation requirements set forth in the City of Folsom Standard Construction Specifications.

B. The Contractor shall notify the Owner's Representative when demolition of existing is completed and dispose of refuse materials in an appropriate manner.

3.02 Performance

A. Clearing and Grubbing

1. The site of all open-cut excavations and areas to be cleared as indicated on the Plans shall be cleared and grubbed prior to excavation.

B. Equipment and Piping Removal

1. All equipment and piping to be removed shall be properly disconnected from structures, piping, electrical, and instrumentation systems.
2. The Contractor shall do all resurfacing and other work as necessary to comply with the above requirements.
3. Removal of any existing and operational culverts shall be restored in kind at the Contractor's expense unless proven that the culverts condition was previously compromised by age, corrosion or other cause unrelated to construction activities. The Owner's Representative or Inspector shall be present during excavation and trenching or all culvert crossings.

C. Pavement Removal

1. All pavements and concrete pads shall be saw-cut on a neat line at right angles to the curb or concrete face.

D. Old Services Removal

1. All old services and meter boxes shall be removed as part of Contractor's work.
2. Removal of old services and meter boxes shall only be completed after new services and meters box are installed, tested, and approved by the City.

E. Utility Interference

1. Where existing utilities interfere with the prosecution of the work, the Contractor shall temporarily relocate the utilities out of the construction project's right of way and restore in kind prior to final backfilling efforts.

3.03 Salvage

- A. The Owner has the right to salvage any items identified within the project vicinity.
- B. The Contractor shall notify the Owner's Representative five days prior to any salvage or demolition work.
1. The Owner's Representative will mark items to be salvaged.
 2. The Contractor shall be responsible for properly disconnecting, removal from their foundations, cleaning and storing salvaged items. Salvaged items shall be delivered by the Contractor to a storage location designated by the Owner.
 3. All drop offs must be coordinated with the City.

3.04 Removed Material and Debris

- A. Where Contractor is directed on the Drawings to "Demolish" or "Remove" material or facilities it is understood that the material will be removed and disposed of offsite unless specifically stated otherwise or directed by the Owner's Representative.
- B. All removed material not designated for salvage and all debris shall become the property of the Contractor and shall be removed from the site.
- C. Materials and debris generated by demolition activities shall not be allowed to accumulate. Debris shall be removed daily and disposed of in a manner allowed by law.

3.05 Backfill

- A. Holes or depressions in the ground remaining after demolition of structures, pipelines, or equipment shall be filled with compacted backfill materials as specified in Section 02200 - Earthwork.

3.06 Restoration

- A. Restore adjacent structures and facilities damaged during demolition or other construction to original or better condition.

**** END OF SECTION ****

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SECTION 02140 DEWATERING

PART 1 - GENERAL

1.01 Summary

- A. Scope: The work of this Section includes dewatering necessary to lower and control groundwater levels and hydrostatic pressures to permit excavation and construction to be performed properly under dry conditions. The Section describes the requirements for properly disposing of dewatering water and debris.
- B. Contractors Responsibility: Dewatering operations shall be adequate to assure the integrity of the finished project. The responsibility for conducting the dewatering operation in a manner that will protect adjacent structures and facilities rests solely with the Contractor. The cost of repairing any damage to adjacent structures and restoration of facilities shall be the responsibility of the Contractor. Contractor shall secure all necessary permits to complete the requirements of this Section of the Specifications.
- C. Work shall be completed in dry trench conditions. Combined dewatering and shoring systems shall be required to preserve the undisturbed bearing capacity of the subgrade soils at the bottom of excavations and meet all of the following minimum performance requirements.
 - 1. Provide stable excavation walls and bottom.
 - 2. Provide a reasonably dry base of excavation.
 - 3. Filter native soil and prevent loss of ground from dispersion and erosion.
 - 4. Prevent piping (boiling) of the excavation bottom.
 - 5. Where shoring is not designed to resist hydrostatic pressures, draw down the groundwater level below and beyond the excavation bottom and sidewalls.

1.02 References

- A. Work shall be performed in accordance with the City of Folsom Standard Construction Specifications Section 6.5.

1.03 Submittals

- A. The following shall be submitted in compliance with Section 01300 – Submittals:
 - 1. Groundwater Dewatering Plan
 - a. Prior to commencement of excavation, the Contractor shall obtain acceptance of the City for the method, installation, monitoring, testing, removal, discharge points (s) and other system details of the Contractor's proposed dewatering system. To that end, the Contractor is to submit a detailed plan and schedule for dewatering activities of excavations prepared and signed by a Professional Engineer registered in California.
 - b. The Groundwater Dewatering Plan shall address the following:
 - 1) Estimated volume to be dewatered.
 - 2) Discharge location
 - a) Discharge to sewer is only allowable discharge location.
 - b) Discharge to storm drain is not allowed.
 - 3) Discharge flow regulation.

- 4) Number of temporary tanks used, if any.
 - 5) Traffic control plan for temporary tanks, if any.
 - 6) Notification of City wastewater staff 48 hours prior to discharge.
 - 7) Sump pump installation detail drawing.
 - 8) Emergency procedures in the event of a sanitary sewer overflow caused by the discharge.
2. Demonstration of proposed dewatering system and verification that adequate personnel, materials and equipment are readily available for all dewatering activities.
 3. Copy of any permit or discharge requirements.
 4. Compliance with SWPPP requirements.

1.04 Control and Observation

- A. Adequate control shall be maintained to ensure that the stability of excavated and constructed slopes are not adversely affected by water, that erosion is controlled and that flooding of excavation or damage to structures do not occur.
- B. It shall be the sole responsibility of the Contractor to control the rate and effect of the dewatering in such a manner as to avoid all objectionable settlement and subsidence.
- C. Where critical structures or facilities exist immediately adjacent to areas of proposed dewatering, reference points shall be established and observed at frequent intervals to detect any settlement that may develop.
- D. A daily report shall be maintained. The following shall be recorded:
 1. Elevation of ground water and piezometric water levels in observation wells (if any).
 2. Change in elevation of reference points established.

PART 2 - PRODUCTS

2.01 Equipment

- A. Dewatering system shall include well points, sump pumps, temporary pipelines for water disposal, rock or gravel placement, and other means including standby pumping equipment maintained on the job site continuously.
- B. Mesh Screen
 1. Provide 1/4" wire mesh screen at the discharge location to capture debris.

PART 3 - EXECUTION

3.01 General Requirements

- A. An adequate dewatering system shall be maintained to lower and control the groundwater to permit excavation, construction of structures, placement of piping, and placement of fill materials to be performed under dry conditions.
- B. Sufficient dewatering equipment shall be installed to predrain the water-bearing strata below the bottom of foundations, drains, sewers, pipelines and other excavations.

- C. The Contractor shall maintain the water level below the bottom of excavation in all work areas where groundwater occurs during excavation construction, backfilling, and up to acceptance.
- D. The hydrostatic head in water-bearing strata below foundations, drains, sewers, pipelines and other excavations shall be reduced to ensure that the water level and piezometric water levels are below the excavation surface at all times.
 - 1. The piezometric water level shall be maintained a minimum of 3-feet below the excavation surface all times.
- E. The dewatering system shall be placed into operation prior to excavation below ground water level to lower the ground water level and shall be operated continuously 24 hours a day, 7 days a week until drains, sewers, pipelines and structures have been constructed and leak tested and fill materials have been placed and dewatering is no longer required.
- F. The site shall be graded to facilitate drainage. Surface runoff shall be diverted from excavations. Water entering the excavation from surface runoff shall be collected in shallow ditches around the perimeter of the excavation, drained to sumps, and be pumped or drained by gravity away from the excavation.
- G. Dewatering shall at all times be conducted in such a manner as to preserve the undisturbed bearing capacity of the subgrade soils at proposed bottom of excavation.
- H. If foundation soils are disturbed or loosened by the upward seepage of water or an uncontrolled flow of water, the affected areas shall be excavated and replaced with drain rock at no additional cost to the Owner.
- I. Flotation shall be prevented by the Contractor by maintaining a positive and continuous removal of water. The Contractor shall be fully responsible and liable for all damages which may result from failure to adequately keep excavations dewatered.
- J. If well points or wells are used, they shall be adequately spaced to provide the necessary dewatering and shall be sandpacked and/or other means shall be used to prevent pumping of fine sands or silts from the subsurface. A continual check shall be maintained to ensure that the subsurface soil is not being removed by the dewatering operation.
- K. Maximum allowable discharge is 50 gallon/ minute.
- L. Discharges to the sewer system shall be limited to dry weather periods only. A shut-off system shall be required to automatically terminate discharge during a rain event.
- M. Contractor shall visually monitor the discharge manhole to assure the sewer does not overflow.
- N. Water and debris shall be disposed of in a suitable manner in compliance with local and State regulations and without damage to adjacent property. No water shall be drained into the installed or under construction facilities. Water shall be filtered to remove sand and fine-sized soil particles and further treated if required by regulatory agencies before disposal into any drainage system.
- O. If the Contractor proposes to dispose of construction dewatering water such that it will reach a surface water, the Contractor shall obtain permits as required by law for this activity per Central Valley Regional Water Quality Control Board Order R5-2008-0081 Waste Discharge Requirements for Dewatering and Other Low Threat Discharges to Surface Waters.
 - 1. Contractor shall build adequate time into the construction schedule to obtain coverage under Order R5-2008-0081 if the Contractor believes dewatering will be necessary.
 - 2. To obtain coverage under this Order, the Discharger must submit a complete Notice of Intent including
 - a. information concerning its discharge location;

- b. a map showing the location of the site, treatment system (if applicable), discharge point(s), and receiving water;
 - c. an evaluation of reclamation options;
 - d. narrative and schematic descriptions of the existing or proposed treatment system, including blueprints signed by a Registered Engineer or Geologist (if applicable);
 - e. analysis of the proposed effluent for specified pollutants; and
 - f. the appropriate fee.
- P. Any other necessary permits for disposal of water, if applicable, shall be obtained by the Contractor from the appropriate regulatory agencies.
- Q. Discharge into the storm drain system or onto ground is not allowed.
- R. The release of groundwater to its original level shall be performed in such manner to prevent disturbance of natural foundation soils, prevent disturbance of compacted backfill and prevent flotation or movement of structures, pipelines, and sewers.
- S. Dewatering of trenches and other excavations shall be considered as incidental to the construction of the Work and all costs thereof shall be included in the various contract prices in the Bid Forms, unless a separate bid item has been established for dewatering.
- T. Contractor shall comply with all discharge permit and SWPPP requirements.

**** END OF SECTION ****

SECTION 02150 PIPE ABANDONMENT

PART 1 - GENERAL

1.01 Summary

- A. Section includes abandonment in place of existing water lines by mechanical plugs.

1.02 References

- A. Section 02200 – Earthwork

1.03 Quality Assurance

- A. The Engineer will inspect all materials and work to ensure compliance with the Contract Documents.

1.04 Definitions

- A. Abandonment. Pipeline abandonment consists of demolition in-place of sections of water service pipeline as specified in this Section.

1.05 Submittals

- A. Conform to requirements of Section 01300 - Submittals.
- B. Contractor shall confirm pipe material and size prior to submitting plug information.
- C. At least 10 days prior to commencing abandonment activities, submit plan for abandonment, describing proposed mechanical plug including technical specifications, bypass pumping requirements and plugging, if any, and other information pertinent to completion of work.

PART 2 - PRODUCTS

2.01 Plugs for Pipe Sections

- A. Manufactured Mechanical Plug: Commercially available plug specifically designed and manufactured to be used with pipe being abandoned to provide a water tight seal.
 - 1. Contractor shall confirm pipe material and size prior to submitting plug information.
 - 2. Material shall be aluminum and neoprene or equivalent approved by the Engineer.
 - 3. Approved manufacturer shall be Night Cap or equivalent approved by the Engineer.
- B. Grout plugs shall not be allowed.
- C. Welded plate shall be used for steel pipe abandonment.
- D. Acceptable Model
 - 1. Pipetech, Aluminum / PL Plug or Equal.

PART 3 - EXECUTION

3.01 Generation

- A. The area over the facility to be removed or abandoned shall be excavated and, after removal or abandonment as specified, backfilled and compacted in accordance with Section 02200.
- B. Removed materials shall remain the property of the City, unless otherwise noted, and shall be stored on-site or transported to another location as directed by the Engineer.

3.02 Abandonment

- A. Where indicated on the Plans, or directed by the Engineer, the Contractor shall abandon existing water mains and/or appurtenances as follows:
 - 1. Expose, cut, remove, and install mechanical plug on water lines where shown.

3.03 Removal

- A. Where indicated on the Plans, or directed by the Engineer, existing water mains shall be removed and abandoned by the contractor as follows:
 - 1. Expose, cut, remove, and mechanical plug ends of water mains where shown, place backfill and compact behind plug to bear between the plug and the undisturbed earth in accordance with the Standard details, and backfill excavation to finished grade as shown on the Standard Details.
 - 2. Where water mains are to be abandoned and removed to a tee or valve, expose, cut and mechanical plug the pipeline at the fitting, remove all abandoned valves and valve boxes within the limits or the abandonment shown, place backfill and compact behind plug to bear on undisturbed earth in accordance with the Standard Details, and backfill excavation to finished grade.

3.04 Field Quality Control (Not Used)

3.05 Protection of Persons and Property

- A. Provide safe working conditions for employees throughout demolition and removal operations. Observe safety requirements for work below grade.

****END OF SECTION****

SECTION 02200 EARTHWORK

PART 1 - GENERAL

1.01 Summary

- A. This section specifies all operations necessary to the excavation, loosening, filling, grading, hauling, compacting, removal, and control of earth, rock or other unspecified material for the construction of project facilities. This section also includes the quality assurance and placement requirements for all related backfill materials and their respective standards.
- B. Earthwork shall also include the following operations:
1. Backfill placement for site grading, structures, and piping.
 2. Compaction under and around structures.
 3. Pavement subgrade preparation.

1.02 References

- A. The following documents are a part of this section insofar as they are specified and modified herein. In case of conflict between the requirements of this Section, and the following documents, the requirements of this section shall prevail.

<u>Reference</u>	<u>Title</u>
California Test Method 217	Method of Test for Sand Equivalent
ASTM C136	Method of Test for Sieve or Screen Analysis of Fine and Coarse Aggregates
ASTM D420	Standard Recommended Practice for Investigating and Sampling Soil and Rock for Construction Purposes
ASTM D1556	Method of Test for Density of Soil in Place by the Sand-Cone Method
ASTM D1557	Method of Test for Moisture-Density Relations of Soils, Using 10 lb. (4.5 kg) Hammer and 18 in. (457 mm) Drop
ASTM D2049	Standard Test Method for Relative Density of Cohesionless Soils
ASTM D2922	Standard Test Method for Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)
ASTM D2419	Standard Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D3017	Method of Test for Moisture Content of Soil and Soil Aggregates in Place by Nuclear Methods (Shallow Depth)
ASTM D4318	Standard Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
Caltrans	2018 Standard Specifications

- B. The Contractor shall also utilize the City of Folsom Standard Construction Specifications for construction requirements not listed herein.

1.03 Definitions

- A. Compaction: The degree of compaction is specified as percent of relative compaction. The relative compactions refer to the maximum relative densities of dry soil obtainable at optimum moisture content.
- B. Excavation Slope: Excavation slope shall be defined as an inclined surface formed by removing material from below existing grade.
- C. Embankment Slope: Embankment slope shall be defined as an inclined surface formed by placement of material above existing grade.

1.04 System Description

A. Soils Report

1. See project geotechnical report:

Geotechnical Report: Ashland Water Rehabilitation Project No. 2 – Folsom, CA. Blackburn Consulting, 2491 Boatman Avenue, West Sacramento, CA 95691, December 2020.

1.05 Performance Requirements

1. Where mud or other soft or unstable material is encountered, remove such material, and refill space with stabilization material approved for use by the Engineer.
2. The Contractor shall obtain acceptable import material from other sources if surplus or borrow materials obtained within project easements do not conform to specified requirements or are not sufficient in quantity.
3. No extra compensation will be made for hauling or fill materials nor for water required for sufficient compaction.

1.06 Submittals

- A. Submit current technical data for each type of material specified to prove compliance with the specifications in accordance with the requirements of Specification Section 01300 - Submittals.
- B. Contractor shall submit an excavation and backfill plan detailing hauling truck staging and routes, expected traffic impacts, proposed equipment and machinery, anticipated construction durations per section, temporary excavation stockpiling areas, and backfilling process. Excavation and backfilling plan shall be separate but consistent with statements provided in the Contractor's shoring plan.
- C. Mix Designs for all fill materials indicating referenced testing standards, gradations, Atterberg limits, specific gravity, sand equivalent, R-value, durability, moisture content.
- D. Submit documentation related to Contractor's proposed testing laboratory, capabilities, and equipment.
- E. Submit certified test reports of all specified tests performed by the Contractor.
 1. Test reports shall be signed and sealed by a registered Geotechnical Engineer who practices geotechnical engineering in the State of California.

1.07 Quality Assurance

- A. All soils testing will be done by a testing laboratory of the Owner's choice and expense except as otherwise noted.
- B. The Owner's Representative will take samples and perform tests for compliance with the specifications including Atterberg limits, specific gravity, sand equivalent, R-value, durability,

moisture content, gradation, compaction, and density tests during placement of backfill materials to check compliance with these specifications.

- C. The Contractor shall remove surface material at locations designated by the Owner's Representative and provide such assistance as necessary for sampling and testing.
- D. The Owner's Representative may direct the Contractor to construct inspection trenches in compacted or consolidated backfill to determine that the Contractor has complied with these specifications.
- E. The Owner will bear the costs for sampling and testing specified in this Paragraph. The Contractor shall pay costs associated with retesting due to the Contractor's failure to comply with the specifications.
- F. Sequencing and Scheduling
 - 1. If necessary, stockpile excavated material in order to utilize it in separate locations. The Contractor shall not stockpile excavation spoils in an active roadway at any time during the project.
 - 2. Perform excavation and backfilling in a manner that encourages drainage at all times.

PART 2 - PRODUCTS

2.01 Fill Materials

- A. Water for earthwork compaction and dust control shall be imported. No water supply facilities are available throughout the project right of way. Contractor may establish a standing reservoir within the limits of the identified construction lay down yard. The cost of water facilities shall be borne by the Contractor.
- B. Unless noted herein, Fill materials shall be utilized in accordance with requirements shown on the project drawings and detailed in the City of Folsom Standard Construction Specifications. Minimum trenching dimensions and elevations are reflected in the contract documents.
- C. The Contractor shall not repurpose excavation spoils at any time during the utility trench backfilling process unless otherwise approved by the Engineer of record and designated as a select fill.
- D. Classification of Excavated Materials:
 - 1. Rock:
 - a. Earth encountered during the course of excavation which is sufficiently hard to cause refusal to equipment specified below shall be deemed inexcavatable and therefore classified as 'rock'. Earth deemed inexcavatable shall be removed by substantial means such as reciprocating hydraulic hammers and shall conform to this specification.
 - b. Refusal to be considered as the inability of the following equipment to excavate material as caused by the hardness of the earth: Rock bucket excavator equipped with rock teeth and single ripper tooth, with minimum operating weight of 105,200 lbs and using a single ripper tooth. Refusal shall be demonstrated to Engineer prior to earth being deemed inexcavatable and therefore defined as rock subject to this rock clause and unit price compensation.
 - c. All rock excavation shall be under one classification. This classification shall include solid ledge rock in its natural location that requires systematic quarrying or drilling, and also boulders that exceed 0.25 CY in volume.
 - d. When rock is encountered, strip free of earth. After verification by a representative of the Owner and/or Engineer that the material encountered is rock (as defined above), employ

an independent surveyor to determine rock quantities before removal operation begins. In computing the volumetric content of rock excavation for payment, the pay lines shall be taken as follows:

- 1) For structures (including foundations, manholes wet well, emergency storage vaults, etc.): 24 Inches outside the exterior limits of foundations and from rock surface to 12 Inches below bottom of foundations or unless otherwise noted in the project Geotechnical Report.
 - 2) For piping and utilities: A width 24 Inches wider than the outside diameter of the pipe or conduit and from rock surface to 6 Inches below bottom exterior surface of the pipe or conduit.
 - 3) Rock removed for benching, sloping excavations and other activities that are subject to the Contractor's means and methods shall not be included in the pay quantity.
- e. Hydraulic Hammer: Hydraulic hammering or alternative means approved by the Engineer shall be employed where refusal has been demonstrated and normal excavation procedures are not feasible.
 - f. Remove and handle excavated materials regardless of its type, character, composition, condition, or depth.
 - g. Blasting shall only be allowed under specified circumstances and performed in a method that limits the amount of public impacts. All blasting activities shall be under the discretion of the Engineer, Owner and City representatives. The contractor shall bear the responsibility for obtaining all required permits and notifications associated with any blasting activities.

E. Trenching for Utilities

1. Make all trenches open vertical or sloped construction, as recommended by the manufacturer of the pipe, and with sufficient width to provide free working space at both sides of trench and around installed item as required for caulking, joining, backfilling, and compacting. Where no manufacturer's recommendations are available, trenches shall be 24 inches wider than pipe.
 - a. Where recommended trench widths are exceeded redesign shall be performed at no extra cost to the City, using stronger pipe or special installation procedures.
 - b. Restore all surfaces damaged or cut during excavation to original condition.
2. Excavate trench straight and true to line and grade and to a depth below the bottom of the pipe sufficient to provide for pipe bedding material as required. Trenches over-excavated in depth shall be re-filled with suitable materials and compacted to 95 percent (95%) relative compaction.
3. The Contractor shall provide all labor, equipment and materials for dewatering trenches and excavations and subsequent control of ground water.

F. Trench Bedding and Initial Backfill for Utilities:

1. Trench Bedding and Initial Backfill shall be in accordance with City of Folsom Standard Construction Specifications Section 6.7, Standard Detail WR-15 and Standard Detail WR-01 unless otherwise Approved by the Engineer. The bedding and initial backfill section for utilities and pipelines shall be defined as indicated on the plans.
2. For all piping, trench bedding and initial backfill shall be 3/4" Class II aggregate base material in conformance with these specifications and Section 26 of the State Specifications. Backfill shall be mechanically consolidated to 95% relative compaction and shovel sliced under the haunches of the pipe.

3. Any trench soil or moisture condition that prevents the bedding and haunching material from forming a firm and stable base requires the use of granular fill material for bedding and haunching and foundation as approved by the Engineer. Granular fill material shall consist of 3/4-inch gravel or crushed rock of which 100% shall pass the 3/4" sieve and with no material passing the No. 4 sieve.

G. Intermediate Fill for Utilities:

1. Native material compacted to 95% relative compaction may be used for intermediate fill. Maximum particle size for native material shall not exceed 3 inches in the greatest dimension and shall be free of leaves, grass, roots, stumps, and other vegetable matter.

H. Imported Select Fill:

1. Imported Select Fill material shall be pea gravel or crushed rock. All applications of select fill materials shall be Approved and Inspected by the Engineer prior to installation.
2. General requirements for select fills are described as:
 - a. The material shall be free from peat, wood, roots, bark, debris, garbage, rubbish or other extraneous material.
 - b. 100% of material shall pass the 3/4-inch sieve.
 - c. Not more than 10% material shall pass the No. 8 sieve.
 - d. The material shall have a minimum sand equivalent of 50 per Test Method No. Calif. 217.
 - e. The amount of fines passing a No. 200 sieve shall not exceed 20 percent.

I. Select Fill:

1. Select Fill material shall be unclassified material and may be obtained from excavation on the Work site.
2. The material shall be free from peat, wood, roots, bark, debris, garbage, rubbish or other extraneous material.
3. The maximum size of stone shall not exceed 3 inches.
4. The percent of rock greater than 1 ½ inches shall not exceed 15 percent.
5. The Expansion Index shall be less than 35 percent.
6. The amount of fines passing a No. 200 sieve shall not exceed 20 percent.

J. Drain Rock:

1. Drain Rock material shall be clean crushed stone or gravel material. Contractor may propose one of the following:
 - a. Granular Fill in accordance with City of Folsom Standard Construction Specifications Section 6.7E. Gradation shall be 3/4-inch minus with no material passing the No. 4 sieve.
 - b. Class 1, Type A Permeable Material in accordance with Caltrans Standard Specification Section 68-2.02F(2).

K. Sand:

1. All sand utilized for the project shall conform to the flowing gradation:

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight Passing</u>
3/8 inch	100
No. 4	90 - 100

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight Passing</u>
No. 50	0 - 100
No. 100	0 - 8
No. 200	0 - 4

L. Class 2 Aggregate Base:

1. Class 2 Aggregate Base shall be ¾-inch maximum size free from organic or other deleterious substances, in conformance with the City of Folsom Standard Construction Specifications and CALTRANS Standard Specifications Section 26.

<u>U.S. Standard Sieve Size</u>	<u>Percent by Weight Passing</u>
1 inch	100
¾ inch	90 - 100
No. 4	35 - 60
No. 30	10 - 30
No. 200	2 - 9

<u>Test</u>	<u>Minimum Value</u>
Resistance (R Value)	78
Sand Equivalent	22
Durability Index	35

M. Controlled Low-Strength Material (CLSM)

1. As a proposed alternative, the Contractor may elect to utilize a controlled density fill in lieu of the pipe bedding, initial and intermediate backfills specified herein. The Controlled density fill shall be hand tool excavatable controlled low-strength material (CLSM).
2. Controlled density fill mix design shall be produced and delivered by a concrete manufacturing batch plant and submitted to the Engineer for Approval prior to application. Periodic compressive strength testing shall be conducted by a third party, materials testing and engineering firm licensed to conduct compressive strength testing and results shall be submitted to the Engineer for review.
3. Compressive strength requirements:
 - a. Mix designs used for Pipe Bedding and Trench Backfill shall generate a 100-150 psi 28-day compressive strength in accordance with ASTM D4832.
 - b. Mix Designs used for Backfill of Excavations shall generate a 150-300 psi 28-day compressive strength in accordance with ASTM C4832.
4. Mix design requirements:
 - a. Water-cement ration shall not exceed 3.5.
 - b. Minimum cement content shall be 50 pounds per cubic yard.

- c. Fly ash content shall not exceed 300 pounds per cubic yard.
- d. Unit weight shall be between 100 and 130 pounds per cubic foot in the as-placed condition as determined by ASTM D6023.
- e. Slump shall be between 6 and 8 inches when tested in accordance with ASTM C143.

N. Rip-Rap Slope Protection

1. The Contractor shall furnish and install rip-rap slope protection where shown on the Drawings or to facilitate slope stabilization during construction activities.
2. Rip-rap slope protection shall be done with quarry stone or crushed rock, well graded coarse to fine, hard and durable with a percentage of wear less than 60 percent when tested for resistance to abrasion in conformance with ASTM C535. The rip-rap material shall be free of roots and organic material. The stones shall be angular, and the least dimension of any piece shall not be less than ¼ of its greatest dimension. Rip-rap as placed in any portion of the completed layer shall meet the requirements of Caltrans Section 72-2.02, slope protection, and the following gradations:

<u>Weight of Individual Pieces</u> <u>(lbs)</u>	<u>Percentage Smaller</u> <u>(by weight)</u>
200	100
100	70 - 100
50	40 - 80
25	15 - 40
5	0 - 5

O. Geotextiles

1. Filter Fabric
 - a. Where specified or shown on the Drawings, filter fabric for subsurface drainage or gradation separation shall be a Class "A" non-woven polypropylene geotextile fabric and per Caltrans Section 96-1.02B.
2. Geotextile Reinforcement
 - a. Where specified or shown on the Drawings, fabric for soil stabilization or reinforcement shall be woven geotextiles, Mirafi Geolon HP370, or equal.
3. Erosion Control Mat
 - a. Where specified or shown on the Drawings, erosion control mat shall be Contech CFB2 Temporary Degradable Erosion Blanket, or equal.
 - b. Anchor and install erosion control blanket per manufacturer's requirements.

PART 3 - EXECUTION

3.01 General

A. Overexcavation

1. At the direction of the Owner's Representative: Where the undisturbed condition of natural soils is inadequate for support of planned construction, the Owner's Representative will direct the Contractor to overexcavate to adequate supporting soils. The excavated space shall be

backfilled and compacted to the specified elevation with 3/4-inch Class II or 3/4-inch crushed rock. Filter fabric shall be provided around all 3/4-inch crushed rock.

2. Due to Contractor's Operations: Should the excavation be carried below the lines and grades specified on the drawings or should the bottom of the excavation be disturbed because of the Contractor's operations and require overexcavation and backfill, the Contractor shall backfill such excavated space with a compacted material in accordance with fill requirements of this Section. Backfill and compaction shall be at Contractor's expense.
3. As an alternative to overexcavation, the Owner's Representative may direct the Contractor to reinforce the soil with woven geotextiles equivalent to Mirafi Geolon HP370.

B. Removal of Obstructions

1. The Contractor shall remove all brush, trees, logs, stumps, roots, heavy sods, heavy growth of grass, all decayed vegetative matter, fences, and all structures where the proper construction and completion of the Work require their removal. The Contractor shall also remove all rocks, stones, broken concrete and pavement, debris and all obstructions of whatsoever kind or character, whether natural or artificial, encountered in the Work.
2. Material that is removed as hereinbefore specified, and is not to be incorporated in the Work, shall be properly disposed of off the site.

C. Surplus Material

1. Unless otherwise specified, surplus excavated material shall be disposed of in accordance with applicable ordinances and environmental requirements.
2. No excavated material shall be deposited on private property unless written permission from the Owner thereof is secured by the Contractor. Before the Owner will accept the work as being completed, the Contractor shall file a written release signed by all property owners with whom the Contractor has entered into agreements for disposal of excess excavated material absolving the Owner from any liability connected therewith.
3. The Contractor shall satisfy himself that there is sufficient material available for the completion of the required earthwork before disposing of any material inside or outside the site. The Contractor shall replace shortage of material, caused by premature disposal of any material by the Contractor.
4. Material shall not be stockpiled to a depth greater than 5 feet above finished grade within 25 feet of any excavation or structure except for those areas designated to be preconsolidated. For these areas, the depth of stockpiled material shall be as specified. The Contractor shall maintain stability of the soil adjacent to any excavation.

D. Borrow Material

1. If the quantity of acceptable material from excavation is not sufficient to construct the embankments required by the work, the quantity of material needed to complete the embankments shall consist of imported borrow conforming to specified requirements.

E. Hauling

1. When hauling is done over highways and/or private streets, the loads shall be trimmed and the vehicle shelf areas shall be cleaned after each loading. The loads shall be watered after trimming to eliminate dust.

F. Haul Roads

1. If required, Contractor shall construct haul roads required to transport materials on the Work site. Alignment of haul roads shall be selected to avoid interference with concurrent

construction operations and facility operations. Haul roads shall be removed after completion of embankment construction.

G. Finish Grading

1. Finish surfaces shall be smooth, compacted and free from irregularities. The degree of finish shall be that normally obtainable with a blade-grader.
2. Finished grade will be as specified by the contours, plus or minus 0.10 foot, except where a local change in elevation is required to match sidewalks, curbs, manholes and catch basins, or to ensure proper drainage. Allowance for topsoil and grass cover, and subbase and pavement thickness shall be made so that the specified thickness of topsoil can be applied to attain the finished grade.
3. When the Work is at an intermediate stage of completion, the lines and grades shall be as specified plus or minus 0.5 foot to provide adequate drainage.
4. If the soil is to be cultivated or straw is to be incorporated into the surface, rocks larger than 2-1/2 inches in maximum dimension, roots and other debris on the surface of the slope shall be removed and disposed of prior to cultivation or placement of straw.

H. Control of Erosion

1. The Contractor shall maintain earthwork surface true and smooth and protected from erosion. Where erosion occurs, the Contractor shall provide fill or shall excavate as necessary to return earthwork surfaces to the grade and finish specified.

3.02 Earthwork for Structures

A. Earthwork for structures shall be in conformance with specification requirements stated herein, and per the City of Folsom Standard Construction Specifications.

B. Structure Excavation

1. The bottom shall not be more than 0.15 foot above or below the lines and grades specified on the contract drawings. If the elevation or structure excavation is not specified, the excavation shall be not more than 0.15 foot above or below the elevation specified for fill material below the structure. Slopes shall vary no more than 0.5 foot from specified grade unless the excavation is in rock where the maximum variation shall be 2 feet.
2. Unless otherwise specified, excavations shall extend a sufficient distance from walls and footings to allow for placing and removal of forms, installation of services, and for inspection, except where concrete is specified to be placed directly against excavated surfaces.

C. Foundation Treatment

1. The foundation of the new structures shall be excavated, backfilled and compacted as specified herein, on the contract drawings or as provided in the City of Folsom Standard Construction Specifications the Contractor shall make the necessary provisions to protect the foundations of existing structures adjacent to the new structures against disturbance during the new foundation installation activities.
2. At the completion of the excavation, the Owner's Representative shall inspect the bottom of the excavation. No further earthwork shall be performed prior to this inspection. Where unsuitable material is found, the Contractor shall overexcavate as directed by the Owner's Representative.
3. Upon the Owner's Representative's approval, the bottom of the excavation shall be scarified to a depth of 8 inches, then moisture conditioned to within two percentage points of optimum moisture content, and then shall be re-compacted to a minimum of 90 percent of maximum relative compaction.

D. Structure Fill and Backfill

1. Structural Fill and Backfill shall conform to the requirements of this Section or as shown on the Drawings. In the case of a conflict the more restrictive requirement shall govern.
2. After completion of construction below the elevation of the final grade, and prior to backfilling, forms shall be removed and the excavation shall be cleaned of debris.
3. Structure backfill shall not be placed until the subgrade portions of the structure have been inspected. No backfill material shall be deposited against concrete structures until the concrete has developed a compressive strength of not less than the specified 28 day concrete strength is reached.
4. Structural Backfill material shall be placed in uniform layers with uncompacted thickness of not more than 8 inches and shall be brought up uniformly on all sides of the structure. Each layer of backfill shall be compacted to a relative compaction of not less than 90 percent. The top 12 inches shall be compacted to at least 95 percent relative compaction. Where the backfill is under roadway or traffic area, the material within 8 inches below the roadbase shall be compacted to a relative compaction of not less than 95 percent. Compaction by means of water jetting or water ponding shall not be permitted.
5. Unless otherwise specified, backfill around and above pipelines within the excavation line of any structure shall be the same as that specified for structures.
6. Controlled Density Fill may be used for structural backfill where Approved by the Engineer.

E. Drain Rock

1. Drain rock below and around structures shall be completely encased in filter fabric.
 - a. Seams shall be overlapped a minimum of 3 feet and fastened per manufacturer's recommendations.
 - b. Repair all tears and cuts in fabric prior to backfill.
 - c. Take precautions to not damage fabric during backfill.
2. Drain rock to be placed under structures shall be compacted with 2 to 4 passes of a vibrating compactor into an even surface to minimize migration of finer material that may be placed on top of the rocks.

3.03 Excavation and Backfill for Pipelines and Conduits

A. Trench Excavation

1. General Requirements:
 - a. Unless otherwise specified or indicated, excavation for pipelines and conduits shall be open cut. Trenching machines may be used except where their use will result in damage to existing facilities and where hand digging is required on plans.
 - b. Where, in the opinion of the Owner's Representative, the undisturbed condition of the natural soils below the excavation grades indicated or specified is inadequate for the support of the planned pipeline, the Owner's Representative will direct the Contractor to overexcavate to adequate supporting soils and backfill the excavated space to the proper elevation. The bottom of the trench excavation shall be firm and dry.
 - c. Unless otherwise shown, trenches shall be excavated at least 12 inches below the final elevation of the barrel of the pipe.
 - d. The trench may be excavated by machinery to the grade indicated on the Drawings provided that the soil material remaining in the bottom of the trench is no more than slightly disturbed.

e. Open Trench:

- 1) Trench Excavation shall proceed in advance of pipe installation only so far as can be backfilled the same day.
- 2) Trench Stability: (AWWA 605-05 4.1.1.3)
 - a) Where necessary to prevent caving, trench excavations in unstable soils shall be adequately supported with steel sheeting or trench boxes. Before sheeting is withdrawn, or trench boxes moved forward, they shall be raised, in place, just above the pipe crown to safely allow the constructor to completely fill any voids left in the pipe zone.

B. Trench Width

1. The width of trench shall be a minimum 24 inches wider than the pipe outside diameter, with a minimum of 12 inches clear on each side as shown on Standard Detail WR-15. The maximum width shall be inclusive of all sheeting, lagging and bracing.
2. Wherever the maximum allowable trench width is exceeded for any reason, the Contractor shall provide improved bedding and/or extra strength pipe, as directed by the Owner's Representative.
3. All pipelines shall have minimum of 12 inches bedding material below the barrel of the pipe. Bedding shall be placed and compacted as specified for initial trench backfill and shall be placed to provide uniform support for the pipe.
4. Where, in the opinion of the Owner's Representative, stabilization of the undisturbed foundation below the overexcavated depth as shown is required because of the soft, spongy or unstable condition, backfill selected by the Owner's Representative shall be placed in the trench bottom.

C. Grading of Pipe Trench Bedding:

1. Bedding grading material shall be as specified in Section 2.01 F.
2. For all water main piping:
 - a. Place 12 inches of Bedding material below bottom of pipe.
 - b. Place Bedding material at uniform density, with minimum possible compaction.
3. Bell or coupling holes:
 - a. Dig holes after trench bottom has been graded.
 - b. Provide holes of sufficient width to provide ample room for grouting, banding, or welding of Welded Steel Piping.
 - c. Excavate holes only as necessary for making joints and to ensure that pipe rests upon prepared trench bottom and not supported by any portion of the joint.
4. Depressions for joints, other than bell-and-spigot:
 - a. Make in accordance with recommendations of joint manufacturer for particular joint used.

D. Initial Backfill & Bedding

1. After the pipe has been properly installed on the consolidated bedding and inspected, initial backfill shall be placed around the pipe to a depth over the pipe as shown in the Drawings. The backfill material shall be placed in horizontal layers and compacted by power-operated tampers, rollers, or vibratory equipment to the relative compaction in accordance with Fill Requirements. Jetting of bedding or initial backfill is not allowed.
2. After the pipe is laid, place bedding and backfill material in lifts:

- a. First Lift: Place and compact the bedding material in a single lift, even with the spring line of the pipe. Compact to 95% of maximum density.
- b. Second and Subsequent Lifts: Place and compact bedding material in lifts of approximately 8 inches in uncompacted depth and compact to 95 percent of maximum density.
- c. Per City Standard Detail WR-15, the Contractor shall shovel slice the bedding material uniformly in the "Haunch Zone" to the pipe spring line. During shovel slicing activities, the Contractor shall monitor the pipelines slope to avoid incremental lifting of the utility pipeline.
- d. Per City Standard Detail WR-01 the Contractor shall provide sand backfill around polyethylene tubing.
- e. Each layer shall be compacted to the specified relative compaction prior to placing subsequent layers. The thickness of the loose layer may be increased when in-place compaction tests satisfactory to the Owner's Representative show that the specified relative compaction can be obtained. No further backfilling will be permitted until the Owner's Representative has accepted the initial backfill.

E. Subsequent Backfill

1. Above the level of initial bedding and backfill, the trench shall be filled with material as specified unless otherwise indicated on the Drawings. The backfill material shall be placed in horizontal layers and shall have a moisture content such that the required degree of compaction may be obtained. Each layer shall be compacted by power-operated tampers, rollers or other suitable equipment to the relative compaction as indicated in same table. Each layer shall be compacted to the specified relative compaction prior to placing subsequent layers.
2. Under structures:
 - a. Backfill trench up to underside of structure with aggregate base course material compacted to 95 percent of maximum density.
3. Under roadways, paved areas or storage areas:
 - a. Backfill trench up to within 2 feet of finish grade as indicated on the Drawings with native material compacted to 90 percent of maximum density.
 - b. Then backfill from 2 feet below finish grade to underside of pavement as indicated on the Drawings with aggregate base course material compacted to 95 percent of maximum density.
 - c. In areas outside the improved section of roadways or in open country:
 - 1) Backfill to finish grade as indicated on the Drawings with native material compacted to 90 percent of maximum density.
4. Through earth slopes adjacent to, or supporting structures:
 - a. Backfill to finish grade with aggregate base course material or select material compacted to 95 percent of maximum density.
5. Under existing intersecting pipes or conduits larger than 3 inches in diameter:
 - a. Backfill from bottom of new pipe trench to spring line of intersecting pipe or conduit with aggregate base course material compacted to 90 percent of maximum density.
 - b. Extend aggregate base course material two feet on either side of intersecting pipe or conduit to ensure that material remains in place while other backfill is being placed.

- c. Backfill remainder of trench as specified in "Trench backfill above pipe bedding and for conduits and ductbanks" above.
- 6. Compaction:
 - a. In-place density of compacted trench backfill, and bedding determined in accordance with ASTM D 1556, or with ASTM D 2922 and ASTM D 3017.
 - b. Maximum density obtained in laboratory when tested in accordance with ASTM D 1557.
 - c. Consolidation:
 - 1) Do not use water-settling methods such as flooding, poling, or jetting.

3.04 Paving Subgrade Preparation

- A. The prepared subgrade shall be scarified to a depth of at least 8 inches, moisture conditioned as necessary, and recompacted to at least 95 percent of the maximum relative compaction based on the ASTM D1557 test method.
- B. Any localized zones of soft or pumping soils observed within the excavation base should either be scarified and recompacted as discussed above or be overexcavated and replaced with suitable material.
- C. Aggregate base course shall be compacted to at least 95 percent of the maximum relative compaction based on the ASTM D1557 test method.

3.05 Site Fill

- A. Unless otherwise specified general site fill material shall be Select Fill or Engineered Fill compacted to a relative compaction of at least 90 percent. If the existing slope in an area to be filled is steeper than 5:1, the Contractor shall bench the area prior to filling.

3.06 Field Quality Control

- A. Tests:
 - 1. Confirmation tests:
 - a. Contractor's responsibilities:
 - 1) Accomplish specified compaction of trench backfill.
 - 2) Control operations by confirmation tests to verify and confirm that compaction work complies, and is complying at all times, with requirements specified in this Section concerning compaction, control, and testing.
 - 3) Cost of confirmation tests: Paid for by the Contractor.
 - 4) Qualifications of Contractor's testing laboratory: Acceptable to Engineer. Provide lab certification.
 - 5) Copies of confirmation test reports: Submit promptly to the Engineer.
 - b. Frequency of confirmation testing:
 - 1) Perform testing not less than as follows:
 - a) For trenches: At each test location include tests for each type or class of backfill from bedding to finish grade.
 - b) In open fields: 2 every 1,000 linear feet.
 - c) Along dirt or gravel road or off traveled right-of-way: 2 every 500 linear feet.

- d) Crossing paved roads: 2 locations along each crossing.
- e) Under pavement cuts or within 2 feet of pavement edges: 1 location every 400 linear feet.
- 2) Compliance tests:
 - a) Frequency of testing: Periodic compliance tests will be made by the Engineer to verify that compaction is meeting requirements previously specified.
 - b) If compaction fails to meet specified requirements: Perform remedial work by one of the following methods:
 - (i) Remove and replace backfill at proper density.
 - (ii) Bring density up to specified level by other means acceptable to the Engineer.
- 3) Retesting:
 - a) Costs of retesting: Contractor is responsible for the costs of retesting required to confirm and verify that remedial work has brought compaction within specified requirements.
 - b) Contractor's confirmation tests during performance of remedial work:
 - (i) Performance: Perform tests in manner acceptable to the Engineer.
 - (ii) Frequency: Double amount specified for initial confirmation tests.

****END OF SECTION****

SECTION 02350 SHEETING, SHORING AND BRACING

PART 1 - GENERAL

1.01 Scope

A. This Section provides specifications for sheeting, shoring, bracing, or other excavation supports.

1.02 References

A. This section references the following documents. They are part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the most stringent requirement shall prevail.

<u>Reference</u>	<u>Title</u>
ASCE	Guidelines of Engineering Practice and Tied Back Excavations
Caltrans	Caltrans California Trenching and Shoring Manual
OSHA	Occupation Safety and Health Act, US Department of Health
CAL OSHA	State of California Construction Safety Orders – California State Labor Code
CCR	California Code of Regulations – Title 8
CLC	California Labor Code – Sections 6705 to 6707
NAVFAC	Department of the Navy Naval Facilities Engineering Command
USS	United States Steel Corp – Steel Sheet Piling Design Manual

1.03 Definitions

- A. Shoring: A temporary structural system designed to support vertical faces, or nearly vertical faces, of soil or rock for purposes of excavation. Shoring includes cantilevered sheet piling, internally braced sheet piling, slurry walls, soldier piles and lagging, trench plates and vertical shoring, slide rail, and other similar shoring systems. Sloping (Benching) of the soil is not considered shoring as described herein however, sloping (benching) is considered an appropriate means of constructing a safe trench and may be considered for the use of project excavation.
- B. Shielding: A temporary structural system designed to protect workers from trench failure. A shield is not considered to be a temporary structural system designed to support vertical trench faces, or nearly vertical faces, of soil or rock for purposes of excavation and maintain trench wall consolidation. A shield may be used in conjunction with an active shoring system but shall not be substituted as an or equal.
- C. For the purpose of bidding, the Contractor shall reference the project geotechnical report referenced in Section 01900, Seismic Criteria and available in Appendix C to identify the appropriate soil conditions per the OSHA Soil Classification System.

1.04 Quality Assurance

A. Protection and Trench Safety

1. Pursuant to Section 6705 of the State Labor Code, all open excavations greater than 5 feet in depth shall be constructed with bracing, sheeting, shoring, or other equivalent method designed for the protection of life and limb.

2. The trench excavation and support system shall comply in all respects with the requirements of Article 6 of the Construction Safety Orders of the Division of Industrial Safety.
3. The Contractor's attention is directed to the provisions of Subarticle 1540 (4), Article 6 of the California Construction Safety Orders for alternative shoring and sloping system. It shall be the Contractor's responsibility to provide the additional strength required to support the sides of the excavation against loads which may exceed those employed to derive the criteria set forth in the Industrial Safety Orders.
4. The Contractor shall submit to the Owner's Representative a detailed plan showing the design of sheeting, shoring, bracing, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of such trench or trenches. The plan shall be prepared and stamped by a California registered Civil Engineer.
5. It shall be understood that the above-stipulated requirements are the minimum to be provided. The Contractor shall be solely responsible for all liabilities that may arise from the Contractor's failure to provide adequate shoring, bracing or sheeting as necessary to support the excavation under any or all of the conditions of loading which may exist, or which may arise during the construction of the project.

B. Excavation for structures

1. All excavations shall be properly shored, sheeted and braced to prevent shifting of material, to prevent damage to structures or other work, and to avoid delay to the Work, all in accordance with applicable safety and health regulations.
2. Before starting excavation for structures, the Contractor shall submit, for record purposes, complete design calculations and working drawings of proposed sheeting and bracing arrangements which have been prepared, signed and sealed by a California registered Civil Engineer. Shoring system means and methods are the sole responsibility of the Contractor however, the proposed shoring system shall be applicable to working excavation conditions, existing soils, groundwater tables, and required constructability. The shoring system should be consistent with recommendations provided by the Geotechnical Engineer. If the Inspector or Owner's representative determines that the Contractor's shoring system means and methods are producing an unsafe environment or do not adequately account for the existing work environment, the Inspector may shut down construction until the shoring system is deemed safe by a licensed Civil Engineer.
3. Bracing shall be arranged so as not to place any strain on portions of completed work until the general construction has proceeded far enough to provide ample strength. If the Owner's Representative is of the opinion that, at any point, the sheeting or supports are inadequate or unsuited for the purpose, the Owner's Representative may order the Contractor to resubmit design calculations and working drawings for that point, taking into consideration the observed field conditions.
4. If the new calculations show the need for additional sheeting and bracing, the Contractor shall immediately install facilities necessary to meet or exceed identified requirements.
5. The sole responsibility for the design, methods of installation, and adequacy of the sheeting and supports shall be and shall remain that of the Contractor.
6. The working drawings for shoring, sheeting and bracing will not be checked by the Owner's Representative.

C. Submittals

1. The following shall be submitted in compliance with Specification Section 01300 - Submittals.
2. Trench Support Shop Drawings and Calculations:

- a. In accordance with the requirements of Section 6705 of the Labor Code of the State of California, the Contractor shall submit detailed drawings and supporting calculations to the Owner's Representative before excavation, showing the design of sheeting, shoring, bracing, or other provisions to be made for worker protection from the hazard of caving ground during the excavation of any trench or trenches 5 feet or more in depth.
 - 1) Where such drawings vary from excavation support standards set forth in California Code of Regulations Title 8 - Construction Safety Orders, submit design calculations pursuant to general engineering design practice.
 - 2) Provide means for safe and stable excavations that are not less effective than required in CCR Title 8 - Construction Safety Orders.
 - 3) For excavations other than trenches, submit, in advance of excavation work, design calculations as performed pursuant to general engineering design practice, as specified in this Section, and detail drawing showing means for safe and stable excavations. In design calculations and detail drawing, cover, as a minimum:
 - a) Excavations adjacent to structures and other improvements, and
 - b) Excavations 5 feet or more in depth, or less than 5 feet in depth when there is potential for cave-in, at other locations.
- b. The Contractor's Sheeting, Shoring and Bracing design submittal shall include the following items:
 - 1) Provide calculations for the different load, support, and other conditions that occur during the sequence of installation of shoring, construction of facilities protected by the shoring, and sequence of removal of shoring. Provide design calculations that clearly disclose assumptions made, criteria followed, and stress values used for the materials being used.
 - 2) Provide sketches showing the condition at various stages of installation and removal of shoring.
 - 3) Show structures, pipelines, and other improvements located near the shoring, and the shoring on a plan.
 - 4) When utilities penetrate the shoring, submit an elevation of all sides of the shoring showing the locations of the penetrations. Submit details on ground support and sealing around utility penetrations.
- c. The design shall be signed and stamped by a California registered Professional Civil Engineer. The drawings and calculations will be for record purposes only and will not be checked by the Owner's Representative. Responsible charge of the submitted sheeting, shoring and bracing drawings and calculations will remain under the sole responsibility of the California registered Professional Civil Engineer of record whom signed and stamped the sheeting, shoring, and bracing design.
- d. The sheeting, shoring and bracing design shall take the geotechnical data, soil characteristics, and sheeting, shoring, and bracing recommendations into consideration reported in the project specific geotechnical report. Please note discrepancies between the submitted design and recommendations listed in the geotechnical report.
- e. In accordance with the requirements of Section 7-1.02K(6)(b) of the 2015 CalTrans Standard Specifications, protective plans not requiring a signature shall be submitted at least 5 days before the Contractor intends to begin excavation. If the protective plan requires a signature, the plan shall be submitted at least 20 days before the Contractor intends to begin excavation.

- f. Detailed Sequence of Installation and Removal of Shoring:
 - 1) Consider effects of ground settlement in the sequence of installation and removal of shoring.
 - 2) Provide individual drawings/details illustrating the conditions at various stages in the sequence of installation and removal of shoring.
- 3. Certification
 - a. The minimum required protection will be that described in the Cal/OSHA Construction Safety Orders of the California Division of Industrial Safety.
 - b. If the Contractor presents excavation plans that vary from the shoring system standards established by the Construction Safety Orders, the Plans shall be prepared, stamped, and signed by a California registered Civil Engineer.

1.05 Scheduling and Sequencing

- A. Do not begin work on excavations, trenches, and means for providing stability of excavation and trenches until submittals have been accepted by Engineer and until materials necessary for installation are on site.
- B. Submit submittals a minimum of 20 days prior to the scheduled date to begin excavation work.
- C. The Contractor shall sequence the installation and removal of the shoring system in strict accordance with the signed and stamped Sheeting, Shoring, and Bracing design. In soils deemed unstable, the Contractor shall only construct trenching that can be open and closed in (1) business day. The Contractor shall coordinate closely with the geotechnical engineer to determine the quality of existing soils and the potential for allowing open cut trenches to remain un-backfilled for multiple days.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 General

- A. The design, planning, installation and removal of all lagging, sheeting, shoring, sheet piling, and bracing shall be accomplished in such a manner as to maintain the undisturbed state of the soils adjacent to the trench and at and below the excavation bottom.
- B. The use of horizontal strutting below the barrel of a pipe or the use of a pipe as a support will not be permitted.
- C. Sheet piling and timbers in trench excavations shall be withdrawn in a manner so as to prevent subsequent settlement of the pipe or additional backfill loadings that might overload the pipe.
- D. Where measurements and observations indicate possibility of failure or excessive movement of excavation support, determined in accordance with general engineering design practice, take appropriate action immediately.
- E. In the event of an unknown utility line or obstruction is encountered during trenching activities, the contractor shall discontinue construction progress and notify the Engineer. The Contractor will coordinate with the Civil Engineer of record responsible for the Sheeting, Shoring, and Bracing design and adjust the shoring system design as necessary to accommodate the avoidance of the existing
- F. Installation and Removal

1. The Contractor shall select a shoring system and method of removal which will minimize soil that sticks to shoring from creating large voids and causing settlement. To prevent settlement caused by pulling shoring, the Contractor shall fill voids with sand, pea gravel, pressure inject grout or an approved controlled density fill.

3.02 Performance Requirements:

A. General:

1. Support faces of excavations and protect structures and improvements in vicinity of excavations from damage and loss of function due to settlement or movement of soils, alterations in ground water level caused by such excavations, and related operations.
2. Herein Specified Provisions:
 - a. Complement, but do not substitute or diminish, obligations of Contractor for the furnishing of a safe place of work pursuant to provisions of the Occupational Safety and Health Act of 1970 and its subsequent amendments and regulations and for protection of the Work, structures, and other improvements.
 - b. Represent minimum requirement for:
 - 1) Number and types of means needed to maintain soil stability.
 - 2) Strength of such required means.
 - 3) Methods and frequency of maintenance and observation of means used for maintaining soil stability.

B. Provide safe and stable excavations by means of sheeting, shoring, bracing, sloping, and other means and procedures, such as draining and recharging groundwater and routing and disposing of surface runoff, required to maintain the stability of soils and rock.

C. Provide support for trench excavations for protection of workers from hazard of caving ground.

D. Provide Shoring:

1. Where, as result of excavation work and analysis performed pursuant to general engineering design practice, as defined in this Section:
 - a. Excavated face or surrounding soil mass may be subject to slides, caving, or other types of failures.
 - b. Stability and integrity of structures and other improvements may be compromised by settlement or movement of soils, or changes in soil load on structures and other improvements.
2. For trenches 5 feet and deeper.
3. For trenches less than 5 feet in depth, when there is a potential for cave-in.
4. Where indicated on the Drawings.
5. For safe and stable excavations, use appropriate design and procedures for construction and maintenance to minimize settlement of supported ground and to prevent damage to structures and other improvements, including:
 - a. Using stiff support systems.
 - b. Following appropriate construction sequence.
 - c. Preventing Soil Loss Through or Under Support System:
 - 1) Provide support system that is tight enough to prevent loss of soil and extend deep enough to prevent heave or flow of soils from supported soil mass into the excavation.

- d. Providing surface runoff routing and discharge away from excavations.
- e. Where dewatering is necessary, recharge groundwater as necessary to prevent settlement in area surrounding excavation.
- f. Where sheet piling is used, use interlocking type sheets. The sheet piles shall be continuous and driven in interlock. If the bottom of the excavation is located below the water table, use "thumb and finger" type interlock.
- g. Not applying shoring loads to existing structures and other improvements.
- h. Not changing existing soil loading on existing structures and other improvements.
- i. Provide welded steel packing between soil retaining members such as sheet piles and wales and similar members when the gap exceeds 1/2 inch before the wales are loaded.

3.03 Design

A. General

- 1. Design means for safe and stable excavations in accordance with general engineering design practice.
- 2. Design steel members in accordance with CBC (most recent edition) and the AISC Manual of Steel Design.
- 3. Design shoring involving materials other than steel in accordance with CBC (most recent edition).
- 4. Perform design in accordance with soil characteristics and design recommendations contained in the project geotechnical report referenced in Section 01900, Seismic Criteria and provided in Appendix C.
- 5. When electing to design with material stresses for temporary construction higher than allowable stresses prescribed in the Manual of Steel Construction and the applicable building codes, increase in such stresses shall not exceed 10 percent of value of prescribed stresses.
- 6. Minimum safety factor used for design shall not be less than 1.5.
- 7. The calculated minimum depth of penetration of shoring below the bottom of the excavation shall be increased not less than 30 percent if the full value of passive pressure is used in the design.
- 8. The maximum height of cantilever shoring above the bottom of excavation shall not exceed 15 feet. Use braced shoring when the height of shoring above the bottom of excavation exceeds 15 feet.
- 9. The location of the point of fixity for shoring shall not be less than half the calculated minimum embedment depth below the bottom of the excavation.
- 10. Generally acceptable references for the design of shoring and excavations are as follows:
 - a. Caltrans California Trenching and Shoring Manual.
 - b. NAVFAC Design Manual 7.2 - Foundations and Earth Design.
 - c. NAVFAC Design Manual 7.3 - Soil Dynamics Deep Stabilization and Special Geotechnical Construction.
 - d. USS Steel Sheet Piling Design Manual.
 - e. Guidelines of Engineering Practice for Braced and Tied-Back Excavations published by American Society of Civil Engineers.

B. Shoring design shall be performed by a Shoring Design Engineer meeting the following qualifications:

1. Shall be registered as a civil or structural engineer in the State of California.
2. Shall have not less than 5 years experience in the design of shoring.
3. The shoring design firm shall obtain errors and omissions insurance for the Project for an amount of not less than \$500,000.

C. Soldier Piles and Lagging:

1. Provide lagging over the full face of the excavation. Joints between pieces of lagging shall be tight to prevent loss of soil.
2. Provide full face lagging all around penetrations through the lagging.
3. If the soldier piles are installed in predrilled holes, the predrilled holes shall be filled with controlled density backfill after the soldier piles are installed.
4. The effective width of driven soldier piles for passive soil resistance shall not exceed 2 times the width of the pile. The effective width of concrete encased soldier piles for passive soil resistance shall not exceed 2 times the width of the concrete encasement.
5. Fill voids behind lagging with gravel or other material acceptable to the Engineer.
6. Apply loads from tie back soil, rock, or deadman anchors concentrically to soldier piles or wales spanning between soldier piles. Wales shall be back-to-back double channels or other members acceptable to the Engineer. Eccentrically loaded with section soldier piles or wales are not acceptable.
7. Design soldier piles for downward loads including vertical loads from tie back anchors.

D. Soil Anchors, Rock Anchors, and Deadmen Anchors:

1. Design tie back anchors for a safety factor of not less than 2 times the calculated load from the shoring.
2. Proof load all production anchors to not less than 125 percent of the calculated load from the shoring. Lock off anchors at the calculated anchor load.
3. The length of soil anchors used to calculate resistance to load from the shoring, shall not include any length within the potential active pressure soil failure zone behind the face of shoring.
4. Design tie rods for anchors for 130 percent of the calculated load from the shoring.
5. Design tie rods for anchors for 150 percent of the calculated load from the shoring when tie rod couplers are used and for other conditions where stress concentrations can develop.

E. Steel Plating and Vertical Shoring

1. Steel plating shall be required for all excavations greater than 5-feet in depth.
2. Steel plates utilized for the design shall be nonskid finishes.
 - a. If excavations are to be left open for 5 days or less, steel plates may be placed over the excavation.
 - b. In existing AC Pavement, the Contractor shall place cold mix Asphalt "Cutback" around the perimeter of the plates for a smooth transition. If the excavation will be left open longer than 5 days, the Contractor shall saw cut/grind a key into edges of the pavement around the perimeter of the excavation to support the plates.

- 1) These keys shall be cut/ground to a depth equal to the thickness of the plates used to span the excavation.
3. Hydraulic Vertical shores may be Aluminum and shall be sized in accordance with the horizontal loading calculated in the Sheeting, Shoring and Bracing system design.
4. When excavating in less stable soils requiring close or intermittent sheeting, the Contractor may utilize an Aluminum Waler & Hydraulic Shore System for trench wall support.

3.04 Sequencing

- A. The Contractor shall not start excavation until the trench support drawings have been returned to the Contractor.
- B. When the construction sequence of structures requires the transfer of bracing to the completed portions of any structure, the Contractor shall secure the written acceptance of the Owner's Representative prior to the installation of such bracing.

**** END OF SECTION ****

SECTION 02500

ASPHALT CONCRETE PAVING, SLURRY SEAL AND MARKINGS

PART 1 - GENERAL

1.01 Summary

- A. This section provides specifications for asphalt concrete pavement for prepared subgrade or aggregate base course and for slurry seal.
- B. This section provides specifications for thermoplastic stripping, lettering and informational and direction markings.

1.02 References

- A. Paving shall be in conformance with the requirements of Caltrans Standard Specification, 2018, City of Folsom Standard Construction Specifications, and the requirements set forth herein.
- B. State of California Department of Transportation Standard Specifications, latest edition (Caltrans Standard Specifications):
 - 1. Section 37 - Bituminous Seals.
 - 2. Section 39 - Asphalt Concrete.
 - 3. Section 84 – Traffic Stripes and Pavement Markings, 84-2 Thermoplastic Traffic Stripes and Pavement Markers
 - 4. Section 85 – Pavement Markers, 85-1.02C Reflective Pavement Markers
 - 5. Section 88 - Engineering Fabrics.
 - 6. Section 92 - Asphalts.
 - 7. Section 93 - Liquid Asphalts.
 - 8. Section 94 - Asphaltic Emulsions.
- C. Caltrans Standard Test Methods:
 - 1. Calif Test 202 - Sieve Analysis of Fine and Coarse Aggregates.
 - 2. Calif Test 304 - Preparation of Bituminous Mixtures for Testing.
 - 3. Calif Test 362 - Determining Asphalt Content in Bituminous Mixtures by Vacuum Extraction.
 - 4. Calif Test 375 - Determining the In-Place Density and Relative Compaction of AC Pavement.
 - 5. Calif Test 379 - Determining Asphalt Content in Bituminous Mixtures (Troxler Nuclear Gauge Model 3241).
- D. Standard Specifications for Public Works Construction (RS):
 - 1. Section 214 - Pavement Markers
- E. ASTM International (ASTM):
 - 1. D 1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft. lbf/ft³)(2,700 kN-m/m³).
 - 2. D 1561 - Standard Practice for Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor.

1.03 Submittals

- A. Contractor shall submit product data showing that all paving materials conform to the requirements of this section, Caltrans Standard Specifications and applicable requirements set forth in the City of Folsom Standard Construction Specifications.
- B. Submittals shall be in accordance with Specification Section 01300 - Submittals.
- C. Contractor shall submit the following information for review and approval by the Engineer:
 - 1. Mix Design;
 - 2. Shop Drawings;
 - 3. Product Data of proposed Materials:
 - a. Asphalt
 - b. Asphalt Aggregate
 - c. Pavement Reinforcing Fabric
 - d. Pavement markings
 - 4. Contractor shall submit copies of Quality Control testing laboratory reports verifying that the aggregate material conforms to the specified gradations or characteristics.
 - 5. ISSA laboratory testing reports
 - 6. Certificates of Compliance and Competence by the Contractor performing the work.
 - 7. Submit method to remove existing striping and thermoplastic striping material (thermoplastic paint). Include method to recover grindings, paint residue, blast media, and wastewater
 - 8. Contractor shall provide Traffic Control Plans for all aspects where work is on or adjacent to city street per Section 02800 Traffic Control and obtain Engineer and City approval prior to beginning paving work.
- D. Delivery & Storage
 - 1. Asphalt pavement delivery:
 - a. Transport the mixture from the mixing plant to the point of use in vehicles having tight bodies previously cleaned of all foreign materials.
 - b. Treat bodies as necessary to prevent material from sticking to the bodies.
 - c. Cover each load with canvas or other suitable material of sufficient size and thickness to protect the asphalt mixture from the weather.
- E. Project Conditions
 - 1. The project is within a residential area
 - a. One lane must always remain open during construction at all times.
 - 2. Environmental requirements:
 - a. Asphalt concrete:
 - 1) Place asphalt concrete only when surface is dry, when atmospheric temperature in the shade is 40 degrees Fahrenheit and rising, or above 50 degrees Fahrenheit if falling.
 - 2) Do not place asphalt concrete when weather is foggy or rainy nor when base on which material is to be placed is in wet or frozen conditions or when, in the opinion of the Engineer, weather conditions will prevent proper handling, finishing, compaction of the mixtures.

F. Hours of Work

1. **The Contractor shall perform all arterial roadway work between the hours of 8:00 P.M. and 6:00 A.M., and all residential and bike trail work between the hours of 7:00 A.M. and 5:00 P.M (Monday through Friday).**
2. If the contractor requests to perform arterial roadway work during daytime hours, a request must be made in writing and approved by the engineer prior to the work occurring. Included in the request should be a detailed plan to control vehicle and pedestrian traffic through the work zone. For authorized and approved daytime work, lane closures on arterial roadways shall not be allowed before 8:30 A.M and after 3:30 P.M.
3. If the Contractor fails to meet this requirement, the Contractor shall pay liquidated damages to the City of Folsom, in the amount of **One Thousand Dollars (\$1,000)** for each occurrence.

PART 2 - PRODUCTS

2.01 Asphalt Concrete

- A. All materials shall be in conformance with the following requirements of the latest Caltrans Standard Specification:

<u>Material</u>	<u>Requirements</u>
Crushed aggregate base	Section 26, Class II, 3/4" Max.
Asphalt concrete	Section 39, Type B, 1/2" Max.
Asphalt Binder	Section 92, PG 64-10
Tack coat	Section 39, Section 94, CSS1h,
Pavement Reinforcing Fabric	Section 96

- B. Asphalt concrete pavement shall consist of a subgrade as shown. The finish course shall consist of Type B, PG 64-10 asphalt concrete, of at least 3 inches thickness or as shown on the Drawings, whichever is thicker.
- C. A minimum of 6 inches of aggregate base or as shown on the Drawings, whichever is thicker, will be placed below all new asphalt paving.

2.02 Equipment

- A. Spreading and compacting equipment:

1. Spreading equipment shall conform to Section 39-5.01 and all applicable referenced sections, of the Caltrans Standard Specifications:
 - a. Only in areas inaccessible to the machine, by approval of the Engineer, will hand spreading be permitted.
2. Compaction equipment shall conform to Section 39-5.02 and all applicable referenced sections, of the Caltrans Standard Specifications.

2.03 Polymer Modified Slurry Seal (Type II)

- A. Slurry Seal

1. The Contractor shall perform Polymer Modified Slurry Seal in accordance with Section 37-2 of the State Specifications, City of Folsom Standard Construction Specifications and except as modified herein.

2. The aggregate shall comply with Type II gradation. Aggregates shall be 100% crushed material with no rounded particles and shall be volcanic in origin and black in color, as supplied by George Reed, Table Mountain Plant, Sonora, CA., or equal. **The use of gray or light-colored aggregate will not be allowed.**
3. The aggregate (excluding mineral filler) shall conform to the following quality requirements:

<u>Test</u>	<u>California Test</u>	<u>Requirements</u>
Sand Equivalent (Min.)	217	60 min
Durability Index (Min.)	229	55 min
Percentage of Crushed Particles (Min.) ¹	205	100%
Los Angeles Rattler Loss at 500 Rev. (Max.) ²	211	35%

Notes:

1. CT205, Section D, is amended to read: "Any particle having 2 or more freshly, mechanically fractured faces shall be considered a crushed particle."

2. Los Angeles Rattler shall be performed on the parent aggregate before crushing

4. Polymer Latex

- a. Styrene butadiene rubber latex shall be added to the water/soap phase by injection prior to the mill manufacture of the asphalt emulsion by the emulsion producer.
- b. The latex shall be BASF NX 1118 or approved equal.
- c. The amount of latex solids shall be between 3 and 4 percent of the asphalt residual content and shall be certified by the emulsion producer for each load of emulsion delivered to the job site.
- d. No supplementary field addition of polymer latex will be allowed. Samples of latex shall be provided and shall conform to the following requirements.

<u>Test</u>	<u>Requirements</u>
Total Solids, min % 60	Total Solids, min % 60
Bound Styrene % 24 - 60	Bound Styrene % 24 - 60
PH at 25 Degrees C 4.2 – 5.2	PH at 25 Degrees C 4.2 – 5.2
Brookfield Viscosity RVT 1000 - 4000	Brookfield Viscosity RVT 1000 - 4000
Residual Monomer % 0.08 Max	Residual Monomer % 0.08 Max

5. Mineral Filler

- a. The mineral filler either shall be Portland Cement or other approved mineral filler, if required. Portland cement if used, shall be commercially available Type II, and shall be free of lumps and clods.

6. Mix Design

- a. At least 7 working days before slurry seal placement commences, the Contractor shall submit to the engineer for approval a laboratory report of tests and proposed mix design covering the specific materials to be used on the project.
 - 1) The percentage of asphalt emulsion in the mix design and application rate shall be as specified below:

Asphalt Emulsion Content (% of Type II dry aggregate)	15 - 17
Application Rate (pounds/ square yard) 1	14 - 18

- b. The tests and mix design shall be performed by a laboratory capable of performing the applicable International Slurry Seal Association (ISSA) tests. The proposed slurry seal mixture shall conform to the requirements specified when tested in accordance with the following tests:

<u>Test</u>	<u>ISSA Test Method</u>	<u>Requirements</u>
Slurry Seal Consistency	T106	3 max
Wet Stripping	T114	Pass
Compatibility	T115	Pass (a)
Cohesion Test (b). Kg – cm within 1 hr	T139	20 min.
Wet Track Abrasion, g/sq. ft.	T110	75 ax.

- 1) Mixing test must pass at the maximum expected air temperature at the project site during application.
 - 2) Using project source aggregate asphalt emulsion and set-control agents if used.
 - c. The laboratory report shall be signed by the laboratory that performed the tests and mix design and shall show the results of the tests on individual materials, comparing the test results to those required by the specifications. The report shall clearly show the proportions of aggregate, filler (as determined from the tests, minimum and maximum), water (minimum and maximum), asphalt solids content based on the dry weight of aggregate, and set-control agent usage. Previous laboratory reports covering the same materials may be accepted provided they are made during the same calendar year.
7. Proportioning
- a. Asphalt emulsion shall be added at a rate determined by the mix design and in the range of the table above. A job mix design shall be submitted by the Contractor for approval by the engineer that conforms to the specification limits, and that is suitable for the traffic, climate conditions, curing conditions and final use. This will include recommended application rate of slurry to suit the job conditions.
 - b. The Slurry Seal mixture shall be proportioned by the operation of a single start/stop switch or lever, which automatically sequences the introduction of aggregate, emulsified, asphalt, admixtures, if used, and water to the pug mill.

- c. Calibrated flow meters shall be provided to measure both the addition of water and liquid additives to the pug mill. If necessary for workability, a retarding agent, that will not adversely affect the seal, may be used.
- d. Water, and retarder if used, shall be added to ensure proper workability and
 - 1) permit uncontrolled traffic on the slurry seal no more than three (3) hours after placement without the occurrence of bleeding, raveling, separation or other distress; and
 - 2) prevent development of bleeding, raveling, separation of other distress within fifteen (15) days after placing the slurry seal.

8. Material Sampling

- a. The minimum acceptable sampling frequency shall be as follows:
 - 1) Asphalt Emulsion – minimum once daily
 - 2) Mineral Aggregate – minimum once weekly
 - 3) Application mixture – minimum once daily
- b. All Samples of asphalt emulsion and aggregate for slurry seal shall be captured from the storage tank of the slurry seal application truck in use on the work. Inspector shall observe the sampling of 1 gallon of the emulsion, 10 lbs. of the slurry seal aggregate and 1 gallon of the mixture. Contractor shall provide the samples and containers to the Inspector. The Engineer or his representative shall be permitted to take samples of materials from the project at anytime. The agency may elect to perform testing on the samples to verify compliance of the materials with the specifications.
- c. Testing shall be undertaken by the Engineer whenever deemed necessary. The Engineer, or his representative, may suspend the application of the slurry seal whenever changes in the materials or quality of the applied slurry are noted. Work shall resume only when the noted deficiencies are corrected to the satisfaction of the Engineer. When work is suspended for this reason, samples will be taken immediately.
- d. The City may send samples to a testing laboratory. Testing will be at the City's expense unless deficiencies are verified by the testing. The Contractor shall reimburse the City for the cost of any testing required by deficient materials or application of the slurry mix.

B. Post Sweeping

- 1. Initial post sweeping shall begin one (1) day after seal placement. Care shall be taken to avoid unraveling the seal. Excessive sweeping will not be allowed. The contractor shall insure that all loose material is removed from roadway surface, curb, gutter, driveways, sidewalks, and abutting adjacent areas by the end of each work day.
- 2. The Contractor shall sweep all sealed and adjacent areas with a self-propelled vacuum or regenerative air sweeper equipped with an operational spray bar. All loose aggregate on driveways, walkways or sidewalks shall be pushed into the street area with the use of a portable blower or broom prior to sweeping the street.
- 3. Any additional sweepings required to remove excess material, as determined by the engineer, shall be performed at no additional expense to the City.
- 4. On streets where there is excessive shedding of aggregate, as determine by the engineer, "No Parking" signs may be required to ensure that all loose aggregate can be accessed by the sweeper.

2.04 Seal Coat

- A. The Seal Coat supplied and installed shall be a cold-applied resurfacing and sealing material such as RaynGuard OverKote, or an approved equal.
- B. All slurry seals shall receive the seal coat for the full width of the slurry seal, plus a minimum of 24-inches on outside the slurry seal area, except that seals shall not overlap concrete curb and gutter.

2.05 Thermoplastic Paint:

- A. Conform to SS Subsection 84-2.02

2.06 Reflective Pavement Markers:

- A. Conform to SS Subsection 85-1.02C

2.07 Blue Reflective Hydrant Pavement Markers

- A. Conform to RS Subsection 214

PART 3 - EXECUTION

3.01 Examination

- A. Verification of conditions: Verify surfaces and site conditions are ready to receive work. If unsatisfactory conditions exist, do not commence installation until such conditions have been corrected. Beginning application means acceptance of existing conditions.

3.02 Asphalt Pavement Preparation

- A. Protection
 - 1. Protect concrete pavements and walks, curbs and bases, and other improvements adjacent to the operations with suitable materials.
 - 2. Building and other surfaces shall be covered with paper or other protection, when required.
 - 3. Contractor shall be responsible for any damage caused by Contractor's employees. All damage caused by the Contractor's operations shall be repaired to the satisfaction of the Engineer at no additional cost to Owner.
- B. Asphalt Concrete Removal
 - 1. All asphalt concrete pavement surface that has been removed, broken or damaged shall be completely re-paved in accordance with the requirements stated herein unless otherwise noted in the Contract Documents.
 - 2. Existing pavement shall be saw cut and removed clean in accordance with City of Folsom Standard Construction Specifications and Caltrans Standard Specifications. The Contractor shall coordinate with the Engineer to determine the full extent of pavement restoration/removal.
 - 3. All asphalt paving shall be cut to a neat, straight line and the exposed edge shall be tacked with emulsion prior to paving. The exposed base material shall be graded, recompact, and resealed prior to paving. Reference the Contract Drawings or City of Folsom Standard Construction Specifications for compaction requirements.
 - 4. Removed asphalt shall be disposed from the work site at the Contractor's expense. Removed asphalt shall not be used as backfill material on-site.

5. Reclaimed asphalt material may be used on the Work site only with written approval from the Construction Manager/Engineer. Reclaimed asphalt is asphalt that has been removed with a “grinding machine” and mixed with aggregate material to meet pre-approved requirements.

C. Compaction of Asphalt Concrete Paving

1. Compact until roller marks are eliminated and a density of 92% minimum to 98% maximum has been attained per ASTM D2041.
2. Compacting equipment shall conform to the provisions of Caltrans Standard Specification Section 39.

D. Preparation of Subgrade

1. Subgrade shall be prepared in accordance with Section 02200 – Earthwork, and in accordance to City of Folsom Standard Construction Specifications.
2. Shape subgrade to line, grade, and cross section shown in the drawings.
3. Scarify subgrade to 6 inches depth below the finished subgrade elevation. Compact to 95 percent relative compaction.
4. Immediately prior to applying tack coat, or immediately prior to placing the asphalt pavement when tack coat is not required, the subgrade to receive asphalt pavement shall conform to the compaction requirement and elevation tolerances specified for the material involved and shall be cleaned to remove any loose or extraneous material.
5. If the asphalt pavement is placed on an existing base or pavement which was not constructed as part of the contract, the Contractor shall clean the surface by sweeping, flushing, or other means to remove all loose particles of paving, all dirt and all other extraneous material immediately before applying the tack coat.
6. The finished subgrade shall be within a tolerance of 0.05 of a foot of the grade and cross section shown and shall be smooth and free from irregularities and at the specified relative compaction.

E. Placement of Aggregate Base Course

1. Place aggregate base course and surface course to a minimum thickness as required Folsom Standard Construction Specifications. Compact to 95% relative compaction and install in accordance with Caltrans Standard Specification Section 26.

3.03 Tack Coat Application

- A. A tack coat of asphaltic emulsion shall be applied to all vertical surfaces of existing pavement, curbs, gutters, and construction joints in the surfacing against which additional material is to be placed, or as otherwise specified in this Section.
- B. Tack coat shall be applied in one application at a rate of 0.1 gallons per square yard of surface covered.
- C. Apply tack coat on surfaces to receive finish pavement per Caltrans Standard Specifications 39. Apply tack to metal or concrete surfaces that will be in contact with the asphalt concrete paving.

3.04 Asphalt Pavement Installation

- A. Placing materials in a windrow, then picking it up and placing it in the asphalt paver with loading equipment will be permitted provided that:
 1. The asphalt paver is of such design that the material will fall into a hopper which has a movable bottom conveyor to feed and screed.

2. The loader is constructed and operated so that substantially all of the material deposited into windrows is picked up and deposited into the paving machine.
 3. The windrow is deposited only so far in advance of the paver to provide for continuous operation of the paver and not so far as to allow the temperature of the asphalt pavement in the windrow to fall below 260 degrees Fahrenheit.
- B. Unless lower temperatures are directed by the Engineer, asphalt concrete shall be spread, and the first coverage of initial or breakdown compaction shall be performed when the temperature of the mixture is not less than 250 degrees Fahrenheit, and all breakdown compaction shall be completed before the temperature of the mixture drops below 205 degrees Fahrenheit.
- C. Asphalt pavement shall be spread and compacted in the number of layers and of the thicknesses indicated in the following table:
1. A thickness tolerance of within 0.1 inches is allowed for asphalt concrete.
 2. A total thickness tolerance of within 0.2 inches is allowed for asphalt concrete base.

Total Thickness Indicated on Drawings ^a	Number of Lifts	top Layer Thickness		Next Layer Thickness		All other Layer Thicknesses	
		Min	Max	Min	Max	Min	Max
<2-3/4"	1	-	-	-	-	-	-
3"	2	1-1/4"	1-1/2"	1-1/4"	1-1/2"	-	-
3-1/4" - 4-3/4"	2	1-3/4"	2-1/4"	1-3/4"	2"	-	-
>5"	b	1-3/4"	2-1/4"	1-3/4"	2"	1-3/4"	4-3/4"

Notes:

- a. When pavement reinforcing fabric is shown to be placed between layers of asphalt pavement, the thickness of asphalt pavement above the pavement reinforcing fabric shall be considered to be the "Total Thickness Indicated on the Drawings" for the purpose of spreading and compacting the asphalt pavement above the pavement reinforcing fabric.
 - b. At least 2 layers shall be placed if the total thickness is less than 5 inches. At least 3 layers shall be placed if the total thickness is more than 5 inches, and less than 10-1/2 inches. At least 4 layers shall be placed if the total thickness is greater than 10-1/2 inches.
- D. A layer shall not be placed over another layer which exceeds 3 inches in compacted A layer shall not be placed over another layer which exceeds 3 inches in compacted thickness until the temperature of the layer which exceeds 3 inches in compacted thickness is less than 160 degrees Fahrenheit at mid depth:
1. If the temperature of any layer drops below 140 degrees Fahrenheit, or if directed by the Engineer, apply tack coat before placing next layer.
- E. Unless otherwise indicated on the Drawings, asphalt mixtures shall not be handled, spread, or windrowed in a manner that will stain the finished surface of any pavement or other improvements.
- F. The completed mixture shall be deposited on the prepared subgrade at a uniform quantity per linear foot, as necessary to provide the required compacted thickness without resorting to spotting, picking-up or otherwise shifting the mixture.
- G. Spreading:
1. All layers of asphalt pavement shall be spread with an asphalt paver and shall conform to Section 39-6.02 and all applicable referenced sections of the Caltrans Standard Specifications.

2. At locations where the asphalt pavement is placed over areas inaccessible to spreading and rolling equipment, all layers of asphalt pavement shall be distributed directly out of the back of the dump truck and spread by hand:

- a. Asphalt pavement spread by hand shall be compacted thoroughly to the required lines, grades, and cross-sections by means of pneumatic tampers, or by other methods that will produce the same degree of compaction as pneumatic tampers.

H. Compaction:

1. Compaction of asphalt pavement shall conform to Section 39-6.03 and all applicable referenced sections of the Caltrans Standard Specifications.
 2. Minimum required density for each layer of asphalt pavement shall be 95 percent of that obtained in the laboratory in accordance with ASTM Test Method D 1561.
- I. Segregation shall be avoided and the surfacing shall be free of pockets of coarse or fine material. Asphalt pavement containing hardened lumps shall not be used:
1. In areas inaccessible to paving and compacting equipment where spreading is done by hand, minimize the amount of segregation.
- J. Location of longitudinal joints in the top layer will be determined by the Engineer and shall not adversely affect the quality of the finished product.
- K. At all locations, or as directed by the Engineer, the asphalt concrete shall be square and at least 1 inch thick when conforming to existing surfacing. Tapering or feathering is not allowed.

3.05 Surface Tolerance

- A. Finished grade shall not deviate more than 0.02 foot in elevation from the grade indicated in the drawings. Slopes shall not vary more than ¼ inch in 10 feet from the slopes shown in the drawings.

3.06 Slurry Seal

A. Mixing and Spreading Equipment

1. The slurry seal shall be mixed in a self-propelled mixing machine equipped with a continuous flow pug mill capable of accurately delivering and automatically proportioning the aggregate, emulsified asphalt, water and additives to a double shafted, multi-blade pug mill mixer capable of minimum speeds of 200 revolutions per minute.
2. A minimum of two operational mixing machines of 12 cubic yard capacity, or larger, shall be maintained on the project. The slurry seal retention time in the pug mill shall be less than three seconds. No retention of mixed slurry seal shall be allowed within the pug mill by gate shut-off or other mechanical means. The mixing machine shall have sufficient storage capacity of aggregate, emulsified asphalt, and water to maintain an adequate supply to the proportioning controls.
3. The mixing machine shall be equipped with hydraulic controls for proportioning the material by volume for the mix. Each material control device shall be calibrated, properly marked, present and lockable at the direction of the engineer. The mixing machine shall be equipped with a water pressure system and nozzle type spray bars to provide a water spray immediately ahead of the spreader box.
4. The mixing machine shall be equipped with an approved fines feeder that provides a uniform, positive, accurately metered, pre-determined amount of a mineral filler, if used, at the same time and location that the aggregate is fed.

5. The slurry mixture shall be uniformly spread by means of a controlled spreader box conforming to the following requirements:
 - a. The spreader shall be capable of spreading a traffic lane width and shall have strips of flexible rubber belting or similar material on each side of the spreader box and in contact with the pavement to prevent loss of slurry from the box. The box shall have baffles, or other suitable devices, to insure uniform application on super elevated sections and shoulder slopes. Spreader boxes shall be maintained in such a manner as to prevent chatter (wash boarding) or other surface defects that will affect the esthetic value of the finished slurry seal mat.
 - b. The rear flexible strike-off blade shall make close contact with the pavement and shall be capable of being adjusted to the various crown shapes so as to apply a uniform slurry seal.
 - c. Slurry mixture, to be spread in areas inaccessible to the controlled spreader box, may be spread by other approved methods.

B. Preparation

1. Prior to application of slurry seal, all cracks ¼" wide and wider shall be sealed in accordance with requirements of Section 02600.
2. After crack sealing and immediately prior to the application of the slurry seal, the surface area shall be cleaned of all foreign materials such as, but not limited to leaves, sand, gravel, dirt, motor oil, paint, thermoplastic striping and vegetation. Contractor shall protect existing hydrant and lane line delineators by covering with temporary plastic or other means. The City shall approve surface preparation before sealing proceeds.

C. Application

1. Apply slurry seal per Caltrans Standard Specification Section 37 and as modified by City of Folsom Standard Construction Specifications.
2. Apply slurry seal at end of project after all paving, sealing of crack per Section 02600 and major construction is complete.
3. Apply slurry seal to new, overlay and existing asphalt as indicated on the Drawings.
4. Apply slurry seal coat at the rate described above.
5. Prior to the application of any Slurry Seal, appropriate construction safety signs (such as "Loose Gravel" signs) must be posted at all locations within the project site where there is a vehicular or bicycle turning movement, or as requested by the engineer.
6. Slurry seal shall not be placed when the atmospheric temperature is less the 55°F or during unsuitable weather, which includes but not limited to rainy and windy conditions.
7. The streets to be sealed shall be closed from the time the application begins until the engineer determines the mixture has achieved sufficient sit to be opened to traffic. Work will not be considered complete until all utility boxes and manholes are exposed.
8. Temporary pavement markers shall be placed at locations of existing striping on all slurry sealed street, if the permanent striping is not installed before the end of the workday affecting such markers and markings.

D. Correction Work

1. Slurry sealed areas which have been improperly prepared, are not uniform in color, have been improperly sealed, or have failed for any other reason prior to final acceptance shall be removed and redone at Contractor's expense to the satisfaction of the engineer. Slurry seal deposited on other than asphalt concrete surfaces shall be cleaned to the satisfaction of the City.

3.07 Seal Coat Application

A. Installation shall be performed according to manufacturer's recommendations.

3.08 Pavement Markings

A. Layout of Markings

1. Perform and establish cat-tracks and dribble lines on the pavement to be approved by the City prior to placing the stripes and markings. No thermoplastic stripes and pavement markings shall be installed until the surface and the striping layout has been approved by the Engineer.
2. Layout the markings at the locations indicated on Drawings.
3. Apply letters, numerals, and symbols using stencils and templates.

B. Preparation

1. Surfaces which are to receive thermoplastic traffic stripes or pavement markings shall be thoroughly clean, free from loose materials and dry; and such areas shall be thus prepared by the Contractor to the satisfactions of and with methods approved by the Engineer.
2. Removal of existing traffic striping, pavement markings, and pavement markers:
 - a. Remove existing thermoplastic paint in areas of new striping and prior to applying slurry seal in areas where slurry seal is required on Drawings
 - 1) Remove thermoplastic paint by a method that minimizes damage to existing pavement.
 - b. Removal of existing traffic striping, pavement markings, and pavement markers in conformance with the provisions in Caltrans Standard Specification Section 15, Existing Facilities.
 - c. If grinding or sand-blasting is used for the removal of existing traffic striping and pavement markings, and such removal operation is being performed within 10 feet of a lane occupied by public traffic, the residue including dust shall be removed immediately after contact between the grinding or sand-blasting material and the surface being treated. Such removal shall be by a vacuum attachment operating concurrently with the grinding or sand-blasting operation. After the removal of existing traffic striping and pavement markings on the asphalt concrete pavement, a fog seal shall be applied to the surface of grinding or sand-sand-blasting areas.
 - d. New striping and pavement markings shall be installed within 24 hours of removal of existing striping and pavement markings.
 - e. Existing pavement markers to be removed, shall be done so in a manner as to leave the existing asphalt concrete pavement undamaged. Damage to the asphalt concrete resulting from the removal of pavement markers shall be considered as any depression more than one-fourth inch (1/4") deep and shall be patched using type A, No. 4 maximum asphalt concrete.
 - f. Recover and dispose of grindings, paint residue, blast media, and waste water from areas undergoing marking removals
3. The Engineer will inspect surfaces to be painted after Contractor has laid out pavement markings, and prior to application of paint materials. Correct deficiencies in layout and surface preparation prior to application of paint.
4. Thermoplastic traffic stripes and pavement markings shall be placed in accordance with Caltrans Standard Specification Subsection 84-2
5. Protect existing, adjacent facilities from overspray and spillage

6. Permanent striping and markings shall be installed no sooner than ten (10) calendar days and no later than fifteen (15) calendar days after final lift of overlay or slurry seal is placed. Temporary markings shall be installed the same day that the original markings are removed or destroyed and shall be maintained until permanent striping is placed.
7. Thermoplastic and paint shall be placed as close as possible to existing utility structures and frames and covers without covering them.
8. Contractor shall protect the newly installed pavement markers, pavement markings, traffic lines and signs from damage until the materials have cured. Any markers, markings, stripes or signs broken, misaligned or otherwise disturbed shall be repaired by Contractor prior to opening the roadway to traffic.
9. Any damage to the new stripes or markings due to the failure of the Contractor to protect his work shall be repaired by him at no additional cost.
10. Walk-behind striping machine is not allowed.
11. Any overlap, dripping or tracking of thermoplastic or paint onto adjacent surfacing shall be removed to the satisfaction of the Engineer.

C. Weather Limitation

1. Thermoplastic material shall be applied only to dry pavement surfaces and only when the pavement surface temperature is above 50° F and when the weather is not excessively windy, dusty, foggy, or humid. Verify suitability of the weather with the Engineer in the field.

D. Application

1. Apply thermoplastic paint in conformance with Caltrans Standard Specification Subsection 84-2.03.
2. Install pavement markers in conformance with Caltrans Standard Specification Section 85-1.03

E. Tolerances

1. Width of stripes shall not vary more than 1/4 inch, plus or minus, from the width shown on Drawings. The alignment and straightness of stripes shall not deviate more than 1/2 inch in 50 feet. Deviations in excess of the tolerances specified shall be erased by wet sandblasting, and the painting reapplied.

F. Cleanup

1. Remove paint overspray, drips, and spills from adjacent surfaces by means, which will not damage the surfaces.

3.09 Field Quality Control

A. The Contractor shall control the quality of Work and shall provide adequate testing to assure compliance with these Specifications:

1. The type and size of the samples shall be suitable to determine conformance with stability, density, thickness and other specified requirements. Use an approved power saw or core drill for cutting samples. Furnish all tools, labor, and materials for cutting samples, testing, and replacing the pavement where samples were removed. Take a minimum of 1 sample for every 4,000 square feet of asphalt pavement placed.

B. Contractor shall perform in-place density and compaction tests of the completed pavement in accordance with California Test Method Number 375, to determine compliance with the specified requirements. Submit test results to Engineer for approval.

- C. Cracks, settling of surface, improper drainage, improper compaction, and sloppy connection to previously laid surfaces will be construed as improper workmanship and will not be accepted.

****END OF SECTION****

SECTION 02600 SEALING CRACKS IN ASPHALT PAVING

PART 1 - GENERAL

1.01 Summary

- A. This section provides specifications for sealing cracks in asphalt paving, consisting of furnishing transportation, labor, materials, and equipment to fill all cracks ¼-inch wide and larger in existing asphalt pavement surfaces prior to application of slurry seal and elsewhere whenever so specified in the contract document or as directed by the Engineer.

1.02 References

- A. Work shall be in conformance with the requirements of Caltrans Standard Specification, 2018, City of Folsom Standard Construction Specifications, and the requirements set forth herein.
- B. State of California Department of Transportation Standard Specifications, latest edition (Caltrans Standard Specifications):
1. Section 37 - Bituminous Seals.
 2. Section 39 - Asphalt Concrete.
 3. Section 88 - Engineering Fabrics.
 4. Section 92 - Asphalts.
 5. Section 93 - Liquid Asphalts.
 6. Section 94 - Asphaltic Emulsions.
- C. Caltrans Standard Test Methods:
1. Calif Test 202 - Sieve Analysis of Fine and Coarse Aggregates.
 2. Calif Test 304 - Preparation of Bituminous Mixtures for Testing.
 3. Calif Test 362 - Determining Asphalt Content in Bituminous Mixtures by Vacuum Extraction.
 4. Calif Test 375 - Determining the In-Place Density and Relative Compaction of AC Pavement.
 5. Calif Test 379 - Determining Asphalt Content in Bituminous Mixtures (Troxler Nuclear Gauge Model 3241).
- D. ASTM International (ASTM):
1. D 1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft. lbf/ft³)(2,700 kN-m/m³).
 2. D 1561 - Standard Practice for Preparation of Bituminous Mixture Test Specimens by Means of California Kneading Compactor.

1.03 Submittals

- A. Contractor shall submit product data showing that all paving materials conform to the requirements of this section, Caltrans Standard Specifications and applicable requirements set forth in the City of Folsom Standard Construction Specifications.
- B. Submittals shall be in accordance with Specification Section 01300 - Submittals.
- C. Contractor shall submit the following information for review and approval by the Engineer:
1. Mix Design;

2. Shop Drawings;
3. Product Data of proposed Materials:
 - a. Asphalt
 - b. Asphalt Aggregate
 - c. Pavement Reinforcing Fabric
4. Contractor shall submit copies of Quality Control testing laboratory reports verifying that the aggregate material conforms to the specified gradations or characteristics.
5. Certificates of Compliance and Competence by the Contractor performing the work.

D. Delivery & Storage

1. Asphalt pavement delivery:
 - a. Transport the mixture from the mixing plant to the point of use in vehicles having tight bodies previously cleaned of all foreign materials.
 - b. Treat bodies as necessary to prevent material from sticking to the bodies.
 - c. Cover each load with canvas or other suitable material of sufficient size and thickness to protect the asphalt mixture from the weather.

E. Project Conditions

1. Environmental requirements:
 - a. Asphalt concrete:
 - 1) Place asphalt concrete only when surface is dry, when atmospheric temperature in the shade is 40 degrees Fahrenheit and rising, or above 50 degrees Fahrenheit if falling.
 - 2) Do not place asphalt concrete when weather is foggy or rainy nor when base on which material is to be placed is in wet or frozen conditions or when, in the opinion of the Engineer, weather conditions will prevent proper handling, finishing, compaction of the mixtures.

PART 2 - PRODUCTS

2.01 Crack Sealant

- A. The modified asphalt crack sealant shall be a mixture of paving asphalt and ground rubber or ground rubber and polymer. The modified asphalt crack sealant shall be a hot applied mixture intended for use as a street pavement preservation sealant against debris and moisture infiltration. Materials shall consist of paving asphalt and vulcanized ground rubber. Use of polymer modifiers is at Contractor's option.
- B. The gradation of the ground rubber shall be such that 100 percent will pass a No.8 sieve.
- C. The modified asphalt crack sealant shall conform to the following requirements:

<u>ASTM Test</u>	<u>Designation</u>	<u>Requirements</u>
Softening point	ASTM D-36	180° F minimum
Cone Penetration @77°F	ASTM D-5329	30 dmm minimum
Resilience @77°F	ASTM D-5329	40% minimum
Flow	ASTM D-5329	3mm minimum

- D. The modified asphalt crack sealant material shall be furnished premixed in containers with an inside liner of polyethylene. Packaged material shall not exceed 66 pounds in weight.
- E. The modified asphalt crack sealant material shall be capable of being melted and applied to cracks at temperatures below 400°F. When heated, it shall readily penetrate cracks 1/4-inch wide or wider.

PART 3 - EXECUTION

3.01 Preparation

- A. All cracks shall be routed to a nominal width of 1/2-inch and a nominal depth of 3/4-inch. Cracks to be filled and adjacent asphalt concrete surfacing shall be cleaned and shall be free of dirt, vegetation, debris, and loose sealant. Cleaning shall be done by air blasting. Old sealant which protrudes above the asphalt concrete surfacing shall be completely removed.

****END OF SECTION****

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SECTION 02610
WATER MAINS, SERVICE LINE AND APPURTENANCES

PART 1 - GENERAL

1.01 Summary

A. This Section includes:

1. Ductile iron pipe, joints, fittings, and pipe lining and coating
2. Gate Valves
3. Butterfly Valves
4. Ball Valves
5. Water Service and Appurtenances, from water main to private system
6. Couplings
7. PVC C-900 Harness Restraints
8. Tracer Wire
9. Valve boxes
10. Fire Hydrants

B. All potable water system materials must be NSF-61.

1.02 References

A. Specifications of the Water Mains, Service Lines and Appurtenances shall conform with City of Folsom Standard Construction Specifications, Standard Detail Drawings and Design Standards.

B. This section references the following documents. They are a part of this section as specified and modified. In case of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

1. American Water Works Association (AWWA)
2. American Society of Mechanical Engineers (ASME)
3. National Fire Protection Association (NFPA)
4. American Society for Testing and Materials (ASTM)

1.03 Submittals

A. The Contractor shall submit the following in accordance with Section 01300-Submittals:

1. Shop Drawings

- 1) Layouts and Schematics: After USA notification and verification of field conditions and utility locations, Contractor shall submit detailed installation drawings to the Engineer of all piping and connected equipment for water main tie-ins, water main connections, service and hydrant laterals. The drawings shall include all pipes, fittings, valves, and other appurtenances.

2. Shutdowns and Connections

- 1) Contractor shall submit to the Engineer a list and schematics of all required water system connections and shutdowns for the project.

- 2) For all shutdowns, see special provisions.
- 3) For hot-tap connection, provide a plan for construction, including a description of the tapping equipment proposed, including provisions for pressure monitoring, and flushing during the cutting process.
3. Compliance
 - 1) Submit data and affidavits to show that each water system component conforms to the specification requirements.
 - 2) Submit certified test reports as required by these specifications.
 - a) Ductile Iron Pipe Certification that such length of pipe has been tested physically for ductility and has satisfactorily passed such tests.
 - 3) Disinfection Schedule and Procedures including:
 - a) Disinfection schedule, including number and type of services and length of disruption of service.
 - b) Procedures to be followed, including list of equipment to be used and disinfecting agent to be used.
4. Manuals
 - 1) The Contractor shall furnish manufacturer's installation and operation manuals, bulletins, and spare parts lists for all operating components of the water system project, including:
 - 2) All valves
5. Materials
 - 1) Submittals shall be approved before the installation of the materials.

1.04 Potholing and Utility Locating Trench (Checking on Utility Locations)

- A. The types, locations, sizes and/or depths of existing underground utilities as shown on the contract drawings were obtained from sources of varying reliability. The Contractor is cautioned that only actual excavation will reveal the types, extent, sizes, locations and depths of underground utilities. A reasonable effort has been made to locate and delineate all known underground utilities. However, the City can assume no responsibility for the completeness or accuracy of its delineation of such underground utilities nor for the existence of other buried objects or utilities which may be encountered but not shown on these drawings.
- B. Perform where indicated on the Plans and elsewhere as required to confirm existing utility locations and connection points.
- C. Contractor shall use jackhammering, sawcutting and vactor truck in locating existing utilities via potholing. When excavating within 24-inches of the outside diameter of a utility, hand expose and protect the facility prior to using power equipment. All utilities must be protected in place. The Contractor shall be responsible for replacing any utilities damaged during construction.
- D. The Contractor shall contact the Underground Service Alert (U.S.A.) five working days in advance of performing any excavation work by calling the toll-free number 1-800-227-2600. The Contractor shall submit utility pothole plan for approval to the City and the Engineer at the pre-construction meeting or fifteen (15) working days prior to commencing work, whichever is earlier. The Pothole plan shall include the following:
 1. It shall be the responsibility of the Contractor to determine the exact location of all utilities and their service connections.

2. All potholing or other procedures for verifying utility location shall be performed by the Contractor to prepare for excavation at least 5 working days in advance of scheduled excavation.
 3. The Contractor shall ascertain the exact locations of underground utilities whose presence is indicated on the Drawings, the locations of their service laterals work and of service laterals or appurtenances of any other underground utilities, which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage such utilities or interfere with their service.
 4. Pothole plan shall show minimum of existing utility, size, and location of pothole.
 5. The Contractor shall also contact all utility owners not registered with USA but known to have utilities in the project area to field locate underground utilities at least 4 days prior to excavation.
 6. Contractor shall meet additional requirements for potholing existing utilities as specified in this Contract Documents.
- E. After utilities have been marked and before excavation begins, the location and depth of utilities in the area of construction shall be potholed by the Contractor. The Contractor is responsible to locate all utilities necessary to complete this project. Potholing will be accomplished using non-destructive methods (e.g. hand labor or vacuum excavation). Hand excavation shall be accomplished in 6-inch lifts with shovels, pry bars or similar tools. Excavation with a pickaxe or other similar tools shall not be allowed. Contractor shall submit potholing results to the City and receive favorable review prior to construction. No existing utility services shall be interrupted by this project.
- F. Contractor shall pothole (at minimum) all existing utility crossings and utilities within 5-feet parallel to either side of the proposed alignment. Contractor shall pothole additional potential utilities of concern (beyond the minimum) as needed to support unobstructed construction of water pipeline and appurtenances. Contractor shall review results and identify any potential conflicts with improvements shown in the Contract Documents. Contractor shall submit pothole results for review by the Engineer and receive acceptance of submittal prior to commencing work in vicinity of potholing submittal.
- G. Location of utility shall be surveyed by the contractor. Surveyor shall use coordinate system and elevations presented in plans.

1.05 Warranty

- A. Provide warranty on all valves as indicated in the City of Folsom Standard Construction Specifications

PART 2 - PRODUCTS

2.01 Ductile Iron Pipe

- A. Pipe design, materials, and manufacture shall comply with the following documents:

Item	Document
Thickness Design	ANSI/AWWA C150/A21.50
Water or Other Liquid	ANSI/AWWA C151/A21.51
Rubber Gaskets	ANSI/AWWA C111/A21.11

Item	Document
Threaded Flange	ANSI/AWWA C115/A21.15
Fittings	ANSI/AWWA C110/A21.10 or ANSI/AWWA C153/A21.53
Polyethylene Encasement	ANSI/AWWA C105/A21.5
Ductile Iron Pressure Pipe	ASTM A377

B. Ductile Iron Pipe shall be AWWA C151

1. Pressure Class

- 1) 4-inch to 12-inch: Pressure Class 350
- 2) Above 12-inch: Pressure Class 250

2. All Ductile Iron pipe shall be fully restrained w/ thrust blocks.

C. Gaskets

1. General: Gaskets shall conform to ANSI/AWWA C110/A21.10, C115/A21.15 and C153/A21.53 and shall have 1/8-inch thickness.

- 1) Gaskets shall be made of Styrene Butadine (SBR) material.
- 2) All gaskets shall be NSF-61 approved material.

2. Mechanical or Push-On Joint Gaskets: Mechanical joint, solid ring type gasket to conform to ANSI/AWWA C111.

3. Flange Gaskets: Full face type gasket to conform to ANSI/AWWA C111.

4. Flange 6-inch Service Gaskets: Ring type gasket to conform to ANSI/AWWA C111 are acceptable on 6-inch diameter pipe because full-faced gaskets and bolt pattern are not readily available.

D. Flange Assemblies

1. Flange bolts shall be low-carbon steel in conformance with ASTM A307, grade B. Stainless steel hardware shall be used in submerged and buried applications.

E. Joints

1. Push-on and Mechanical Joints: The plain ends of push-on pipe and mechanical joint pipe shall be marked with paint to show the required depth of penetration for making the joint.

2. Mechanically Restrained Joints: Mechanically restrained joints shall be designed to prevent separation of the joint by the pipe's internal thrust after installation. The design shall permit disassembling of the joint for repair and maintenance. Restraints shall be Field Lok 350 Gaskets (4 – 24 inch diameter), TR Flex, Fast-Grip Gaskets (4-24 inch), Megalug 1100 Series (3-48 inch), Megalug Series 1700, or approved equal.

3. Sleeve-Type Couplings (DIP to DIP):

- 1) Unless otherwise specified, couplings shall be ductile iron or fabricated steel construction, fusion bonded epoxy coated. Standard couplings shall be PowerSeal 3501, Victaulic Depend-O-Lok or equal. Flanged coupling adapters shall be restrained type Romac Industries RFCA, Victaulic or equal. Insulated couplings shall be fabricated steel, PowerSeal 3539, Smith-Blair 416, or equal.

F. Fittings

1. AWWA C110 or C153, thickness, lining, and coating to match pipe
 2. Ends shall be flanged, mechanical joint, as shown in the Drawings.
- G. Restrained Flange Adapter
1. Per City of Folsom Standard Construction Specifications.
- H. Restraints
1. Fittings shall be restrained with EBAA Iron 1100, series Mega lug mechanical joint restraint, or Sigma.
 2. The ductile iron joints shall be restrained with EBAA Iron 1700, series bell harness, or Sigma.
- I. Polyethylene Encasement
1. Double wrap polyethylene encasement shall be used on all buried ductile iron pipe and fittings. Installation of polyethylene shall be as specified in ANSI/AWWA C105/A21.5, Section 5-4.2.1, DIPRA's "Polyethylene Encasement" brochure, and these specifications. Pipe, fittings, valves and couplings shall be wrapped. Fittings that require concrete backing shall be wrapped prior to placing the concrete.
 2. The polyethylene encasement seams and overlaps shall be wrapped and held in place by means of a 2-inch wide plastic backed adhesive tape. The tape shall be Polyken No. 900 (polyethylene), Scotchwrap No. 50 (polyvinyl), or equal. The tape shall be such that the adhesive shall bond securely to both metal surfaces and polyethylene film.
- J. Lining
1. Unless otherwise shown or specified, lining shall be cement mortar lining conforming to ANSI/AWWA C104/A21.4.
- K. Coating
1. Buried Service: Coating and mortar lining seal shall be asphaltic coating per ANSI/AWWA C151/A21.51 for pipe and ANSI/AWWA C110/A21.10 for fittings.
 2. NSF-61 approve lining and coating.
 3. All flange assembly hardware shall be coated with bitumastic.

2.02 Gate Valves

- A. Provide gate valve for water main isolation for pipelines 8-inch in diameter and smaller.
- B. Manufacturer/ Model: American Series 2500 RW NRS, Mueller A – 2361 Gate Valve, M&H Valve Style 4067, American AVK Series 65 Resilient Wedge, CLOW Resilient Wedge, or approved equal.
- C. Gate valves shall be of the ductile iron-body, bronze-mounted, resilient-seated solid-wedge type or resilient-seated and shall comply with AWWA C500 and AWWA C509 or AWWA C515, including applicable hydrostatic testing.
- D. Gate valves shall be UL Listed and FM Approved at 250 psig.
- E. Gate valves shall be certified to NSF/ANSI 61.
- F. Gate valve end connections shall be flanged. End flanges shall be integral with the gate valve body and be faced and drilled in accordance with ANSI B16.1 for 125-pound flanges.
- G. Provide wrench nut and valve box for all buried gate valves.
- H. Materials of construction shall be as follows:

<u>Components</u>	<u>Material</u>
Body	Ductile Iron
Wedge	Ductile Iron, rubber encapsulated
Mounting	Bronze
Stem	Bronze, AWWA C500, Section 3.12
Seat rings	Bronze, Grade A, AWWA C500, Section 3.8
Coating	Fusion Bonded Epoxy per AWWA C550

2.03 Butterfly Valves

- A. Provide butterfly valve for water main isolation for pipelines 10-inch in diameter and larger.
- B. Manufacturer/ Model: Clow Series 4500, Pratt Groundhog, M & H, Mueller Linesal or approved equal.
- C. Valves shall be rubber seated, tight closing type. Butterfly valves and all accessories, including operators, shall meet the requirements of AWWA C504, except as otherwise specified. Valve bodies shall be short- or long-body flanged type, lug type with drilled and tapped bolt holes, or mechanical joint-end type, as shown or specified. Wafer body type valves without lugs are not acceptable.
- D. Provide gear operator, wrench nut and valve box on all buried butterfly valves.
- E. Butterfly valve pressure classes shall be not less than Class 150B, shall exceed the test pressure for the pipeline in which the valve is installed, or shall be as specified, whichever is greater.
- F. Valves shall be constructed of materials resistant to corrosion for the required service. Valve exterior shall be epoxy coated per AWWA C550. Valve materials shall be as specified below or as required for the service:

Body	Cast Iron	ASTM A126 Class B
Shafts	Stainless Steel	Type 316 ASTM A240/A276
Discs	Stainless Steel	A743 Grade CF-8M
Mating Seat Surface	Stainless Steel	A296 Grade CF-8 or CF-8M A276 or A479, Type 316 A436 Type 1
Seats	EPDM	

- G. If stub shafts are furnished, the shafts shall extend a minimum of 1-1/2 diameters into the discs and the clearance between the shaft and the discs shall not exceed the following:

<u>Shaft Diameter, inches</u>	<u>Maximum Radial Clearance, inches</u>
1/2 to 1-1/2	0.002
2 to 4	0.0025

2.04 Ball Valves

- A. Manufacturer/ Model: Flow Tek NSF 61, or approved equal.
- B. Valves shall be full port.
- C. Install valve sideways so handle pulls up to shutoff.
- D. Valves shall have manual operators with lever or handwheel. Ball valves up to 1-1/2 inches in size shall have bronze or forged brass 2- or 3-piece bodies with ends threaded and shall be designed for a pressure rating of not less than 300 psi. Valves 2-inch to 4-inch in size shall have bronze forged brass or steel 2-or 3-piece bodies with flanged ends and shall be designed for a pressure rating of 250 psi. The balls shall be fabricated of solid brass, chrome plated bronze, or Type 316 stainless steel, with full openings. The valve stems shall be of the blow-out proof design, and fabricated of bronze or Type 316 stainless steel and shall include reinforced Teflon seals.

2.05 Water Service and Appurtenances, from Water Main to Private System

- A. Water service assembly shall include pipe, fittings, corporation stops, curb stops, and meter boxes conforming to City of Folsom Standard Drawings. Saddle tap to existing asbestos cement pipe and steel piping shall not be used.
- B. Connections to existing mains shall be by the hot-tap method.

- 1. Tapping sleeve materials of construction shall be constructed of the following material:

<u>Components</u>	<u>Material</u>
Body	Stainless Steel, 18-8 Type 304, 10 gauge
Bands	Type 304 Stainless Steel.
Bolts	Stainless Steel, 18-8 Type 304
Branch Outlet	Type 302 Stainless Steel
Gasket	Virgin Styrene-Butadiene Rubber (SBR)

- 2. The sleeve shall be designed for proper strength, support and rigidity for the valve, drilling machine operation and load forces, the neck outlet material shall be a minimum of Schedule 10 Stainless Steel pipe sized to accept full size cutter.
 - 3. Service outlets shall be 1" IP.
 - 4. Lugs shall be drop-in bolt design Ductile Iron per ASTM A536 with epoxy coating have a pass-through bolt design.
 - 5. Armors shall be heavy gauge type 304 stainless steel and mold bonded into the gasket to ensure uniform compression against pipe.
 - 6. Full circumferential gasket shall be molded. The gasket shall have a gridded surface, be a full 1/4" thick with 304 stainless steel bridge plates molded flush into the gasket and have a raised hydromechanical outlet seal to seal against line surges and water hammer.
 - 7. Sleeve length shall be minimum 15-inches.
 - 8. Tapping sleeve shall be repair clamp with optional tap manufacturer by The Ford Meter Box Company or equal.

- C. Corporation Stop

- 1. Large style tee handle corp stop only, A.Y. McDonald Model 741004BQ (MNPTxQ CTA) or approved equal.

- D. Water service piping between the corporation stop and meter shall be ADS PolyFlex PE4710 or equal encased in sleeve per plan details.
1. ADS potable water service tubing shall meet the requirements of ASTM D2737, AWWA C901 and NSF Standards 14 and 61.
 2. Pipe dimensions shall meet Copper Tubing Size (CTS) standards.
 3. Tubing material shall be high-density polyethylene conforming to the minimum requirements of cell classification 445574E as defined and described in ASTM D3350. The resin shall have a material designation code of PE4710 by the Plastic Pipe Institute.
 4. The active chlorine content of disinfecting solutions shall not exceed 12%. All disinfecting solution must be flushed from all lines within the system. Industry accepted procedures, like ANSI/AWWA C651 Disinfecting Water Mains, should be followed for both new and repaired potable water lines.
- E. Water service piping between the meter and private system connection shall be Schedule 80 PVC per ASTM D1785.
1. Fittings and Joints shall be socket type per ASTM D2467
 2. Solvent weld cement for socket type connections: ASTM D2564.

2.06 Couplings

- A. Couplings shall be ANSI/NSF Standard 61, Annex G and ANSI/NSF 372 Certified.
- B. Coupling shall meet or exceed the ANSI/AWWA C-219 Standard as applicable.
- C. Coupling materials of construction shall be constructed of the following material:

<u>Components</u>	<u>Material</u>
Sleeve	Ductile Iron Per ASTM A536 65-45-12
Gaskets	SBR per ASTM D2000 (NBR per ASTM D2000 for Flange if applicable).
Bolts	5/8" Corrosion resistant, high strength low alloy oval neck track head bolts per ASTM A242/ANSI 21.11/AWWA C111 and heavy hex nuts per A563 or equal.
Coating	Fusion applied epoxy coating per ANSI/AWWA C-213

- D. DIP to ACP
1. Couplings shall be of the optimum range type to fit Ductile Iron, Asbestos Cement within a nominal size without modification. Coupling sleeve shall be minimum 10" in length
 2. Working Pressure: Fittings shall be rated for 250 PSI working pressure.
 3. Couplings shall be JCM 242, Smith Blair 413 or equal.
- E. DIP to PVC
1. Couplings shall be of the optimum to fit plain end PVC and fully restrained.
 2. Coupling materials of construction shall be constructed of the following material:

3. Working Pressure: Fittings shall be rated for minimum working pressure of existing PVC pipeline or 235 PSI whichever is greater.
4. Couplings shall be RFCA-PVC or equal.

F. DIP to Steel

1. Couplings shall be of the optimum to fit plain end Steel and fully restrained.
2. Working Pressure: Fittings shall be rated for minimum working pressure of 250 PSI.
3. Couplings shall be Romac RFCA, Smith Blair 911 or equal.

2.07 PVC C-900 Harness Restraints

- A. The restraint shall be manufactured of ductile iron conforming to ASTM A536. The restraint devices shall be coated with MEGA-BOND.
- B. The restraint shall have a two to one safety factor.
- C. Harness restrain shall be EBAA Series 1900 or equal.

2.08 Tracer Wire

- A. Tracer Wire shall be per City Standard Drawing WR-12 Locating Wire for Water Mains
- B. Tracer wire shall be #10 insulated solid strand copper wire and included for piping as indicated herein.

2.09 Valve boxes

- A. Valves boxes shall be per City Standard Drawing WR-07 Water Valve Riser and Box.
- B. Each valve shall be equipped with a valve box, complete with cover. Boxes shall be extension type with a slide type adjustment. The word "WATER" shall be cast on the cover. The boxes shall be adapted without full extension to the depth of cover required over the pipe at the valve location. Christy #G-5 traffic valve box shall be used in streets and sidewalks. Valve boxes and valve box lids shall be of matching brand, type and model.
- C. Sleeves or tubes for all valve and valve box identifications shall be six inch (6") PVC, Schedule 40, one piece, and shall rise to six inches (6") below street, sidewalk or finish grade.

2.10 Meters and Meter Boxes

- A. Meters shall be provided by the City of Folsom to the Contractor for installation per City Standard Drawing WR-01 Metered Water Service 1-inch Thru 2-inch.
- B. Meter manufacturer and model number shall be: Zenner 1-inch PD meter, Item Code: PPD07CF-EPPB-NIC.
- C. For 1" residential meters, box and lid shall be Oldcastle B1017-51GHP steel checker plate lid with probe hole, H/20 loading rated, 4" x 8" reading lid and silver in color or approved equal.

2.11 Fire Hydrants

- A. All fittings on fire hydrant assembly (excluding tee at main) shall be per City Standard Drawing WR-08 "Fire Hydrant".
- B. Hydrant shall be manufactured in accordance with AWWA Standard C-503. Hydrant head shall be made of ductile iron, meeting ASTM A536 Grade 65-45-12 Class B specifications. It shall be capable of withstanding a hydrostatic test pressure of 4 (four) times the working water pressure without stressing the material beyond its yield point per Section 4.6.3.2 of AWWA C-503. The

working parts shall be engineered to function as a unit and to give trouble-free service over 200 pounds working pressure and tested to 400 pounds hydrostatic pressure.

- C. Hydrants shall be wet-barrel with independently valved ports, with one four and one-half inch (4-1/2") outlet and two (2) two and one-half inch (2-1/2") outlets. Hydrants shall have the proper color-coded caps to conform to NFPA Standard 291. Nylon Hydrant Caps shall have Permanent Color Coding - permanent color pigments are added to the plastic resin for through color. A choice of color code is determined by hydrant flow.
- D. Hydrant caps are to be enhanced with the addition of adhesive reflective trim of same cap color for improved nighttime visibility. Caps shall be securely chained to the hydrant barrel and furnished with an inner gasket.
- E. All hydrants shall be permanently marked to identify the model number of the hydrant, the manufacturer, and the year in which the hydrant was manufactured.
- F. Hose and pumper nozzle threads shall be in conformance with the standard for fire hose connections, NFPA 1963, unless otherwise specified.
- G. Standard nut size of valve/stem and protector caps shall be of pentagonal shape and furnished with a nut of one and one-eighth inch (1 1/8") measured from point to flat of the pentagon.
- H. Hydrant installation shall include "Break-off" spool and "Break-off" bolts.
- I. Exterior of hydrants shall receive a primer coat and furnished with a high gloss "Safety Yellow" industrial enamel finish coat.
- J. Size of Hydrant: 6-inch, flanged
- K. Acceptable Model
 - 1. Residential and Commercial Applications
 - 1) Jones J-4060, Clow Model No. 960, or equal

PART 3 - EXECUTION

3.01 Ductile Iron Pipe

- A. Piping runs shown on the drawings shall be followed as closely as possible. Proposed deviations shall be submitted in accordance with Section 01300-Submittals.
- B. Pipe shall be installed in accordance with AWWA C600. Cuts on DIP pipe shall be coated with an acceptable bituminous material. Cut ends on lined pipes shall be coated with Manufacturer's Joint Compound in accordance with the manufacturer's recommendations.

3.02 Valves

A. General:

- 1. Valves shall be installed in accordance with the manufacturer's instructions.
- 2. Valves shall be independently supported to prevent stress on pipe.

B. Access:

- 1. Valves shall be installed to provide easy access for operation, removal and maintenance and to prevent interferences between the valve operators and structural members or other obstructions.

3.03 Meter Installation

- A. Water meter installation and testing shall be in accordance with AWWA M6.
- B. Lay length for a 1-inch water meter shall be 10 ¾-inches.

3.04 PVC Pipe

1. Installation shall conform to the requirements of ASTM D2855 and F402: Solvent welding joining procedure
2. The interior of the pipe shall be cleaned of all foreign matter before installing.
3. The pipe and accessories shall be inspected for defects prior to lowering into the trench. Any defective, damaged or unsound pipe shall be repaired or replaced.
4. Pipe shall be square cut with fine tooth saw or other cutter or knife designed for use with plastic pipe.
5. After cutting, the end of the pipe shall be beveled using a beveling tool, portable type sander or abrasive disc. Remove burrs by smoothing edges with a knife, file, or sandpaper.
6. Pipe shall be jointed in compliance with manufacturer's printed instructions.
7. All pressure pipe shall be suitably restrained by use of thrust blocks, where allowed, or other means as approved by the Engineer.
8. Solvent Weld Joint Type Pipe
 - 1) Test fit dry pipe and fittings before applying cement. Pipe should enter socket without forcing at least one-third but not more than two-thirds the depth of socket. Fittings that are looser or tighter shall not be used.
 - 2) Thoroughly clean and dry the pipe end and socket of fittings prior to application of solvent.
 - 3) Before applying cement, apply primer evenly to outside surface and end of pipe and inside surface of socket.
 - 4) Apply cement evenly to outside surface and end of pipe and inside surface of socket. Avoid excess application of cement but insure complete coverage of all bonding surfaces.
 - 5) Mark depth of socket on pipe to guide application of cement and insure full insertion of pipe.
 - 6) Insert pipe in socket, twisting pipe or fitting approximately 1/2 turn as pipe is being seated in socket. Make sure pipe is fully seated providing a bond between end of pipe and shoulder of socket.
 - 7) Immediately wipe excess cement from pipe leaving no more than a 1/8 inch fillet at fitting end. Hold assembled joint in place for approximately 15 seconds and allow to set for 30 minutes before moving. Avoid rough handling for 48 hours. Longer periods may be required in cold or wet weather.

3.05 Insulating Sections

- A. Where a metallic nonferrous pipe or appurtenance is connected to ferrous pipe or appurtenance, an insulating section of rubber or plastic pipe shall be provided. Each insulating section shall have a length of 2 to 4 inches.

3.06 Restrained Joints

- A. Provide restrained joints as indicated or as required to develop full joint restraint to withstand all working and test pressures. Joints encased in concrete below structures need not be restrained type providing Contractor can show that the concrete encasement will provide the necessary restraint for the piping system.

3.07 Fire Hydrants

- A. Installed and Inspected and per City of Folsom Standard Construction Specification.
- B. All existing hydrants must always remain in service during construction.
- C. Only after new hydrants are in service can the existing hydrants be removed, and laterals abandoned.

3.08 Disinfection and Testing

- A. See Specification Section 01757.

****END OF SECTION****

SECTION 02775 SIDEWALKS, DRIVEWAYS AND CURBS

PART 1 - GENERAL

1.01 SUMMARY

- A. Section Includes: Replace concrete curbs, curbs and gutters, gutters, and sidewalks as required to install water infrastructure as specified herein.
- B. Repairs to concrete curbs, gutters, sidewalks, driveways, and other concrete surfaces shall be made by removing and replacing the entire portions between joints or scores, and not merely by refinishing the damaged part, except as follows:
 - 1. Curb and gutter shall be replaced between saw cuts so that the remaining or new curb and gutter will not be less than 4 feet in length;
 - 2. The entire width of sidewalk shall be replaced between saw cuts for a length of not less than 4 feet providing the remaining sidewalk shall not be less than 4 feet in length; and
 - 3. Driveways shall be replaced as directed by the Engineer, either completely or partially by saw cutting in the middle of the driveway.

1.02 REFERENCE SPECIFICATIONS

- A. Wherever the words "Standard Specifications" are referred to, the reference is to the State of California, Department of Transportation, Standard Specifications dated 2010.
- B. City of Folsom Standard Construction Specifications and standard details
 - 1. Curb and Gutter, Standard Detail RD-01, type to match existing.

1.03 SUBMITTALS

- A. Submit in accordance with Section 01300.
- B. Submit concrete mix design
- C. Submit certificate of compliance indicating that the concrete complies with the specifications as Product submittals.
- D. Color matching data. Submit photo of existing concrete along with photo of sample concrete.

PART 2 - PRODUCTS

2.01 CONCRETE

- A. Comply with the Standards Specifications, Paragraph 73 1.01.
 - 1. Concrete shall be Type II Portland Cement Concrete, Class "A" or Class "B" at the Contractor's option

2.02 AGGREGATE BASE MATERIAL

- A. The 6-inch thickness of aggregate base material required as base for curb and gutter. The aggregate base shall be compacted to a relative compaction of not less than 95%.

2.03 CONCRETE CURING COMPOUNDS

- A. Use white membrane curing compound for curing concrete which conforms to AASHTO M148, Type 1 clear, or Type 2 white per FDOT Section 925.

2.04 PREMOLDED JOINT FILLER

- A. Use fiber joint filler which conforms to ASTM D1751. Use filler of the thickness, as specified herein, or as directed by the ENGINEER.

2.05 JOINT SEALANT

- A. Use hot-poured type joint sealant which conforms to ASTM D1190.

2.06 STEEL HOOK BOLTS

- A. Use hook bolts which conform to ASTM A706, or for Grade 60 of ASTM A615, A616, or A617. Use 5/8-inch diameter hook bolts self tapping.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Comply with the City of Folsom Standard Specifications dated January 28, 2014.
- B. Comply with the Standard Specifications, Section 73, Paragraphs 1.02 through 4.04, inclusive.
- C. Unless shown otherwise on the Drawings, replace existing curbs, curbs and gutters, gutters and sidewalks in kind.
- D. Existing curb, gutters, and sidewalks shall be neatly saw cut prior to the placement of new curb, gutter and sidewalks.
- E. When placing new concrete next to the existing concrete, Contractor shall match the color of the existing concrete. The color additive and amount may vary, and shall be approved by the Engineer prior to placing the new concrete. Without prior approval, new concrete that does not match the color of the existing concrete shall be removed and replaced at Contractor's expense.
- F. Install 5/8 inch diameter self tapping hook bolts, in the existing concrete pavement prior to placing concrete for the removed driveway, curb and gutter section. Placement shall be at 2-foot separation, 4-inch minimum embedment for epoxy anchors into existing concrete.
- G. Adjust structures such as valve boxes, manhole frames and covers, and electrical vaults to grade after the curb and gutter or sidewalk has been constructed for a reasonable distance on all sides of the structure. Complete the concrete work after the structure is adjusted.
- H. Subgrade preparation shall be in conformance to SS Section 73-1.02
- I. Curing
 - 1. Sidewalks, driveways, curb and gutter shall be sprayed uniformly with a white pigmented or clear curing compound. The material, method, and rate of application shall conform to Section 90-7.01B of the State Specifications.

3.02 TESTING

- A. Test concrete per City of Folsom Standards.

**** END OF SECTION ****

SECTION 02800 TRAFFIC CONTROL

PART 1 - GENERAL

1.01 Description

- A. The Contractor shall furnish all labor, materials, equipment, tools, and services necessary to provide access to the motoring and pedestrian public; and adequately safeguard the workers and public from construction hazards with a minimum of inconvenience.
- B. Work includes but is not limited to the following:
 - 1. Work described in the City of Folsom Standard Construction Specifications Sections.
 - 2. Preparation of Traffic Control Plans and obtaining approval of Traffic Control Plans from the City of Folsom Community Development and Public Works Department.
 - 3. Masking and restoring permanent signs and striping.
 - 4. Erections and removal of temporary construction signs.
 - 5. Installation and removal of temporary traffic control devices, including barriers, barricades, changeable message boards.
 - 6. Coordinating work with all agencies having jurisdiction.
- C. Nothing in these specifications shall be construed as relieving the Contractor from its responsibility as provided in General Provisions Section 10.06, PUBLIC SAFETY AND TRAFFIC CONTROL and Section 2.9, STREET CLOSURES, of the current version of the City of Folsom Standard Construction Specifications and Section 7-1.03, PUBLIC CONVENIENCE, and Section 7-1.04, PUBLIC SAFETY, of the State Standard Specifications.

1.02 Reference Standard

- A. The Contractor shall comply with guidelines excluding payment sections of the latest editions of the following reference standards:
 - 1. Sacramento County Standard Construction Specifications, Section 12-3, Public Safety and Traffic Control, Section 12-4, Traffic Control Plans, and Section 6, Legal Relations and Responsibilities, Public convenience and Safety.
 - 2. California Manual of Uniform Traffic Control Devices.
 - 3. Caltrans Standard Specifications, May 2018.
 - 4. Caltrans Standard Plans, May 2018.
 - 5. CAL/OSHA, State of California Construction Safety Orders.
 - a. Section 1599, Traffic Control for Public Streets and Highways.
 - b. Section 1599, Flaggers
 - 6. OSHA, Code of Federal Regulations.
 - a. Title 19, Part 1926, Construction Safety Health Regulations
 - b. Title 29, Part 1910, Occupational Safety and Health Standards
- B. In case of conflict between the above reference standards and the specifications contained herein, these specifications shall take precedence and be used in lieu of such conflicting portions.

1.03 Submittals

- A. The Contractor shall provide submittals in accordance with Section 01300, SUBMITTALS.
- B. The Contractor shall at minimum submit the following:
 - 1. Traffic Control Plans shall conform to Standard Specification Section 12-4.02, TRAFFIC CONTROL PLANS (TCP), and Section 6-10, PERMITS, AND LICENSES, AND CERTIFICATIONS, and be submitted for review and approval at least twenty-one (21) calendar days prior to work.
 - 2. Traffic Control Plans shall contain, but not be limited to, location, placement, duration, monitoring schedule and movement of all traffic control devices and bypass piping including, but not limited to, signs, signals, pedestrian and vehicle ramps, barricades, k-rails, and lighting.
- C. The Contractor shall submit traffic control plans for each phase of work within a City right-of-way or easements along with an Encroachment Permit. The Contractor will allow for a 15-day review period.
- D. The Contractor shall submit a Traffic Control Plan in conformance with the City's Standard Construction Specification. The Contractor's attention is further directed to the requirements set forth in Articles 6 and 10 of the General Provisions
- E. The plan shall include project site specific traffic control provisions for vehicular, pedestrian, and bicyclist access. Additionally, the plan shall address traffic signal operation for any work performed within 200-feet of a signalized intersection.

1.04 Quality Assurance

- A. Traffic Control Plans shall be prepared by a California licensed Civil or Traffic Engineer. The Traffic Engineer who prepared the Traffic Control Plans shall be available at any time during the life of the contract to modify the Traffic Control Plans if and as required by the agency having jurisdiction.
- B. No changes or deviations from the approved Traffic Control Plans shall be made, except temporary changes in emergency situations, with prior approval of the Traffic Engineer, the Resident Engineer, and all agencies having jurisdiction.
- C. Immediately notify the Traffic Engineer, the Resident Engineer, and the agencies having jurisdiction of occurrences that necessitate modification of the approved Traffic Control Plans.

1.05 Maintenance of Traffic, Public Safety, and Convenience

- A. Contractor's attention is directed to Article 10 of the City's Standard Construction Specifications.
- B. At locations where existing vehicle detection loops are removed or damaged due to the project, new vehicle detection loops shall be installed and operable within 48 hours of their removal or them being damaged. If the contractor fails to install vehicle detection for longer than 48 hours, the Contractor shall pay the City of Folsom a sum of **Five Hundred Dollars (\$500)** as damages and not as a penalty for each movement of each intersection that is not properly detecting vehicles.
- C. The Contractor shall be responsible for maintaining local property access and access to public cross streets within the limits of this Contract.
- D. The Contractor shall be responsible for the safety of traffic within the project limits and on the approaches to the project.
- E. The Contractor shall provide a Traffic Control Plan for all aspects where the work is on or adjacent to city streets. If the Engineer determines that the contractor has failed to perform the work

required by the Traffic Control Plan, the Contractor shall pay the City of Folsom a sum of **Five Hundred Dollars (\$500.00)** as damages and not as a penalty for each occurrence per calendar day the contractor continues not to perform the work required by the Traffic Control Plan.

- F. Construction operations shall be conducted in such a manner as to cause as little inconvenience as possible to abutting property. Access to businesses adjacent to the project shall be maintained during the times these businesses are open. If a business has more than one (1) access point, the contractor will be allowed to temporarily restrict access as long as one (1) access point is maintained. If a business has only one (1) access point, the contractor shall schedule his work so as not to block access during normal business hours.
- G. Public traffic shall be allowed to pass through the work area at all times
- H. At the completion of each working day, all existing lanes of traffic shall be maintained open to traffic. Provisions must be made to the uninterrupted passage of emergency vehicles through the project limits at all times, regardless of the controlled traffic conditions existing at that time.
- I. Spillage resulting from hauling operations along or across any public traveled way shall be removed immediately by the Contractor at own expense.

1.06 Traffic Control

- A. Nothing herein shall be construed to entitle the Contractor to the exclusive use of any public street, alleyway, or parking area during the performance of the work hereunder, and the Contractor shall conduct its operations so as not to interfere unnecessarily with the authorized work of utility companies or other agencies in such streets, alleyways, or parking areas.
- B. The Contractor shall post "NO PARKING" signs seventy-two (72) hours in advance of construction activities if on-street parking is allowed within the project boundary. The signs shall cite the State of California's Vehicle Code and be attached to A-Frame road barricades. Each A-frame barricade shall be equipped with a typed letter informing residents of the type of work, the closure days and closure times and parking restrictions. The City of Folsom will be responsible for the removal of any vehicles that ignore the "NO PARKING" notification.
- C. The Contractor shall provide, operate, and maintain a minimum of two (2) Portable Changeable Message Signs (PCMS) during the length of the project. The signs shall be posted a minimum of seventy-two (72) hours prior to the beginning of the traffic impacts. PCMS's shall comply with State Specification 12-3.32. Additional signs may be required to meet the approved Traffic Control Plan and shall be provided at no additional cost to the City.
- D. The Contractor shall be responsible for maintaining local property access and public access to cross streets within the limits of this Contract. The Contractor shall provide the uninterrupted passage of emergency vehicles through the project limits at all times, regardless of the controlled traffic condition existing at that time.
- E. Lane closures, if made, shall not be allowed without proper advance warning devices, signing and flagging control in conformance with the City's Standard Construction Specifications and these Special Provisions. The Contractor shall submit a written lane closure request to the Engineer at least three (3) business days prior to lane closure. **The Contractor shall not close any arterial roadway lane to traffic during the peak traffic hours of 7:00 a.m. to 8:30 a.m. and 3:30 p.m. to 6:30 p.m. of each working day.** In the event work obstructs pedestrians' access to bike lanes and pedestrian ways, the Contractor shall provide an alternative, safe route for the public. The methods of providing the alternate access route shall be designated on the Traffic Control Plan. No streets or lane closures of any duration (temporary or permanent) shall occur without first obtaining permission of the Engineer and agency (or agencies) having jurisdiction.
- F. Where excavation is being performed, one lane in each direction shall be kept open to traffic at all times unless otherwise provided or shown. Toe boards shall be provided to retain excavated

material if required by the Engineer or the agency having jurisdiction over the street or highway. Fire hydrants on or adjacent to the work shall be kept accessible to firefighting equipment at all times. Temporary provisions shall be made by the Contractor to assure the use of sidewalks and the proper functioning of all gutters, storm sewer inlets and other drainage facilities.

- G. For the protection of traffic in public or private streets and ways, the Contractor shall provide, place and maintain all necessary barricades, traffic cones, warning signs, lights and other safety devices in accordance with requirements of the agency having jurisdiction or the California Manual of Uniform Traffic Control Devices whichever is more strict.
- H. Contractor shall take all necessary precautions for the protection of the work and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be turned on from sunset until sunrise. The Contractor shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdiction.
- I. No work will be allowed in public right-of-way until the Contractor obtains written approval of the proposed Traffic Control Plans from agencies having jurisdiction.

1.07 Street Closure Required Notification

- A. When street closure is required or permitted for the construction of facilities on or under the street, the Contractor shall notify in writing, the occupants of all homes and businesses with access to that street of the proposed closure at least ten (10) Working Days prior to road closures and at least three (3) Working Days prior to disruption of ingress and egress.
- B. The notice provided to the residences or businesses shall include, at a minimum, schedule of closures and/or parking restrictions with estimated closure and/or parking restriction times, clure and/or parking restriction location, alternate route or detour, and name and twenty-four (24) hour phone number of a contact person employed by the Contractor.
- C. The Contractor shall be prepared to make access available at any time during the day to emergency type vehicles or pre-arrange alternative locations for non-emergency vehicles and operations. At a minimum the following agencies must be notified.
 - 1. Fire Department
 - 2. Police Department
 - 3. Sheriff Department
 - 4. County of Sacramento Department of Transportation
 - 5. Sacramento Regional Transit
 - 6. Emergency ambulance companies
 - 7. Folsom Cordova Unified School District
 - 8. Waste Management and Recycling
- D. These requirements are in addition to those of the City of Folsom General Provisions, Article 10.
- E. Unless otherwise specifically approved by the Engineer all street closures and/or parking restrictions shall be adequately restored to allow all marked lanes of traffic to be open on all major streets in each direction during the peak traffic hours of 7:00 a.m. to 8:00 a.m. and 3:30 p.m. to 6:00 p.m.
- F. During the first Friday after Thanksgiving and the last twenty-four (24) Calendar Days of December, the Contractor shall not close any traffic lanes on a major street except for an

emergency and when the Contractor submits a written request two (2) Working Days in advance, and the Contractor receives written permission from the Engineer.

- G. If, for an emergency, the Contractor is required to close a lane on a major street during peak traffic hours or during the last twenty-four (24) of December, the Contractor shall immediately notify the City Construction Inspection office.

PART 2 - PRODUCTS

2.01 Traffic Control Devices

- A. All traffic control devices shall conform to the provisions in the California Manual of Traffic Control Devices and the agency having jurisdiction.
- B. Included, but not limited to, are flag units, construction signs, channelizing devices, barricades, delineators, and lighting devices.
- C. A high level warning device is required for use on major streets at the direction of the Engineering, when a lane is closed or work encroaches in a lane of traffic or when barricades are placed in a moving lane of traffic. A single barricade shall not be placed alone in the traveled way.
- D. Use of flashing arrow signs is required on major (four or more lanes) streets for lane closures during hours of darkness and for all lane closures lasting more than two (2) hours.
- E. All signs which are to convey their messages during darkness shall be reflectorized or illuminated.
- F. No signs or supports shall bear any commercial advertising.

PART 3 - EXECUTION

3.01 Access to Adjacent Properties

- A. Provide and maintain access to adjacent properties at all times. The Contractor shall notify homeowners/occupants along the proposed construction route.

3.02 Street or Permanent Lane Closure

- A. If closure of any street is required during construction, a formal application for a street closure shall be made to the authority having jurisdiction at least thirty (30) calendar days prior to the required street or permanent lane closure for approval and to determine necessary sign and detour requirements.

3.03 Traffic Coordination with other Contractors

- A. The Contractor shall coordinate the traffic routing work with that of other forces working in the same or adjacent areas.

3.04 Construction Parking Control

- A. Curb parking shall be removed in accordance with the Traffic Control Plan. Removal of curb parking shall be minimized.
- B. The Contractor shall make arrangements directly with local authorities to keep the working area clear of parked vehicles.
- C. The Contractor may prohibit stopping in parking lanes where and when necessary in order to gain access to the work to provide the required traffic lanes in city streets and parking areas.

- D. The Contractor shall coordinate with the agency having jurisdiction and Sacramento County Sheriff for the location of "No Stopping" and "No Parking" signs.
- E. At least one (1) week in advance of construction, the Contractor shall furnish and place, where approved by the Sacramento County Sheriff and the Resident Engineer, portable "TOW AWAY – NO STOPPING" signs. The dates and times of parking removal shall be posted on the signs.
- F. The Contractor shall notify the policing agency having jurisdiction of all parking violators who require tow away from construction areas.
- G. Construction equipment not actively engaged in the work and employee vehicles shall not be parked in the vicinity of the work in such a manner as to further restrict or obstruct traffic flow. Vehicles and equipment in continuous or frequent use may be operated or parked in the same traffic lane as the work obstruction.

3.05 Construction Signage

- A. All construction area signs shall conform to Section 10.06(F), Construction Signs, of the City of Folsom General Provisions.
- B. Sign spacing shall conform to the California Manual of Traffic Control Devices.
- C. Signs normally shall be installed 14 calendar days before work is to commence and must be removed immediately after work is complete. If at any time a sign is not required, it shall be covered or removed.
- D. The Contractor shall be responsible for the placement of advisory signs to inform the public of any street closure, detour, or construction affecting traffic at least 7 days before the closure or other significant disruption of normal traffic flow.
- E. Existing roadside signs conflicting with the construction area signs shall be either removed and reset upon completion of work or securely covered.

3.06 Illumination

- A. Provide sufficient visibility on a 24-hour basis to approaching traffic whenever a street is closed partially or completely. Ensure that sufficient illumination is provided by means of portable flashing beacons, floodlights, or other similar devices. Mount all lighting fixtures in a manner which precludes glare to approaching traffic.
- B. Arrow boards or other traffic control devices and lighting which will operate outside of the normal working hours shall be battery-operated. The use of gas-fired generators during nonworking hours will not be allowed.

3.07 Flagging

- A. Flaggers shall be required:
 - 1. When workers or equipment intermittently block a traffic lane
 - 2. When trucks or equipment enter or leave the work site from an adjacent traffic lane.
 - 3. Where Plans or permits allow the use of one lane for two directions of traffic.
 - 4. Wherever the safety of the public and/or workers determine there is a need.
- B. Flagging shall be carried out in accordance with California Manual of Uniform Traffic Control Devices. All flagging costs shall be considered as included in pay items for traffic control.

3.08 Pedestrian Safety

- A. The Contractor shall maintain safe and adequate pedestrian zones and public transportation stops as well as provide pedestrian crossings at intervals not to exceed 300 feet within the work zone.
- B. When the construction area crosses a crosswalk, the crosswalk shall be barricaded and signed accordingly.

3.09 Traffic Handling at Specified Locations

- A. The Contractor shall maintain the full visibility and function of all school safety signing and striping within the work area. Additional temporary safety striping and signage shall be installed if deemed necessary by the agency having jurisdiction.

3.10 Vehicular and Pedestrian Ramps

- A. The Contractor shall provide and maintain ramps as shown on Plans or required by the Resident Engineer. Pedestrian ramps shall meet Americans with Disabilities Act requirements.

3.11 Barricading Open Trenches

- A. Any excavation permitted by the City to be left open shall be barricaded with Type II or Type III barricades with flashers. Signs stating "OPEN TRENCH" shall be posted when requested by the City. All open excavated areas shall be barricaded with at least two (2) Type III barricades at the end of the excavation that faces oncoming traffic.
- B. Any excavation within four feet (4') of the traveled way, not protected by K-rail or a similar traffic control barrier approved by the City, shall be backfilled at the end of the work shift or plated in accordance with Section 10.06(G) "Temporary Bridging of Excavations and Trenches" of the City of Folsom General Provisions.

**** END OF SECTION ****

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SECTION 02895
SURVEY MONUMENT PERPETUATION AND REPLACEMENT

PART 1 - GENERAL

1.01 Section Includes

- A. Survey Monument Perpetuation includes any monuments shown on the plans and/or found within the Project Limits subject to disturbance or destruction.
- B. Survey Monument Replacement including re-establishing/re-setting any survey monuments that are damaged or destroyed as a result of the Contractor's operation.

1.02 References

- A. Specifications of the Survey Monument Perpetuation and Replacement shall conform with City of Folsom Standard Construction Specifications, Standard Detail Drawings and Design Standards.
 - 1. New or replacement monuments shall be installed or constructed in accordance with City of Folsom Standard Detail Drawing RD-23.

1.03 Requirements

- A. Survey monumentation, markers and/or benchmarks (monuments) exist throughout the Project area.
- B. The Contractor shall be responsible for protecting and perpetuating monuments that may be affected by construction.
- C. The Contractor shall be responsible to arrange and pay for all surveys for the Project, including monuments.
- D. The Contractor shall arrange for a diligent, thorough search for survey monuments
 - 1. The search for survey monuments shall be performed by and under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying in accordance with Business and Professions Code Section 8771.
 - 2. The search for survey monuments shall occur prior to the beginning of construction work that could disturb or destroy a survey monument.
 - 3. Any monuments found shall be referenced and reset, if damaged or disturbed by the Work, by or under the direction of a California Licensed Land Surveyor or a California Registered Civil Engineer authorized to practice land surveying in accordance with Business and Professions Code Section 8771.
- E. A corner record or record of survey, as appropriate, shall be filed by the licensed land surveyor or civil engineer. Such points shall be referenced for use in replacement of monuments that are disturbed or removed during construction.

1.04 Measurement and Payment

- A. Measurement and Payment terms are provided in Section 01150 – Definition of Bid Items found elsewhere in these Specifications.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

**** END OF SECTION ****

SECTION 13100 CATHODIC PROTECTION

PART 1 - GENERAL

1.01 Description

- A. Cathodic protection shall conform to the provisions of the City of Folsom Standard Construction Specifications.
- B. Cathodic protection shall be furnished and installed and shall comply in all respects with the requirements of the latest City of Folsom Standard Construction Specifications for cathodic protection and corrosion control, these Specifications, and as directed by the City Engineer.
- C. The Contractor shall furnish all materials, install all equipment and provide all labor necessary to complete the work shown on the drawings and or listed below and all other work and miscellaneous items not specifically mentioned but reasonably inferred, including all accessories and appurtenances required for a complete system. The intent of this specification is to provide for a complete, functional cathodic protection system for the pipeline appurtenances, valves and ductile iron fittings required for the Project.
- D. Work included in this section consists of the components of the cathodic protection system, including anodes, cables, test stations and any other work necessary to complete the installation. A partial list of work included is as follows:
 - 1. Cathodic protection of all buried, ductile iron pipe, cement mortar lined and coated steel pipe, fittings, valves, risers and appurtenances associated with the referenced non-potable water pipelines.
 - 2. Encasement of all buried ductile iron pipe, fittings, valves, risers and appurtenances associated with the referenced water pipelines in polyethylene.
 - 3. Cathodic protection of all buried, galvanized steel risers or copper water risers.
 - 4. Encasement of all buried galvanized steel or any copper water small diameter risers in polyethylene.
 - 5. Bonding of buried, non-welded ferrous metal pipe joints.
 - 6. Trenching, drilling, and other excavation.
 - 7. Installation of cables, test stations, insulating joints and coatings.
 - 8. Anodes shall not be installed as part of this contract.
 - 9. Backfill and compaction of backfill.
 - 10. Provide shop drawings, reports, permits, and obtain Engineer's approval where required.
 - 11. Correction of all deficiencies.
 - 12. Cleanup and restoration of surface.
 - 13. Work shall include the provision of all materials, equipment, and apparatus not specifically mentioned herein or noted on the plans, but which are obviously necessary to complete the work.

1.02 Code Requirements

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety Orders of the Industrial Accident Commission; and all other applicable State, County, or City codes and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to any of these regulations and codes. Where larger size or better grade materials than those required by these regulations and codes are specified, the specifications and drawings shall have precedence.

1.03 References

- A. ASTM - American Society for Testing and Materials
- B. IEEE - Institute of Electrical and Electronic Engineers
- C. NEMA - National Electrical Manufacturers' Association
- D. NACE - National Association of Corrosion Engineers
- E. OSHA - Occupational Safety and Health Administration

1.04 Quality Assurance

A. General

- 14. All work shall be performed to the satisfaction of the Engineer.

B. Materials

- 15. The contractor shall use only new, highest quality cathodic protection components, and standard products from a manufacturer regularly engaged in the production of such material or equipment. The Contractor shall not substitute for the specified materials unless approved by the Engineer.

C. Testing

- 16. Cathodic protection components shall be subject to testing to ensure proper installation and operation. Electrical continuity of the pipelines, proper operation of anodes, test leads and all other cathodic protection components shall be tested by the Contractor in order to ensure proper installation and operation. Contractor shall submit the results of its testing to the City prior to paving. The Contractor shall be responsible for correction of all deficiencies identified by the testing and all costs incurred for retesting prior to final acceptance.

D. Compaction

- 17. Compaction of backfill for anodes and trenches shall match the existing conditions and shall be approved by the Engineer.

1.05 Requirements

- A. All buried metallic pipes, fittings and appurtenances associated with the non-potable water pipelines shall be encased in 8-mil polyethylene per AWWA C-105. All buried galvanized steel or copper water risers shall be encased in 6-mil polyethylene sleeve in accordance with AWWA C-105.
- B. Galvanic cathodic protection shall be installed on all buried metallic pipe, valves, fittings, risers and appurtenances.

- C. All rubber gaskets, mechanical joints and flexible couplings shall be bonded along the entire buried length of ductile iron pipe.
- D. All buried insulating joints on the ductile iron pipe shall be coated with a wax tape coating system.

1.06 Delivery, Storage, and Handling

- A. Deliver cathodic protection materials to the Site in original, sealed containers.
- B. Replace all anodes with damaged lead wire.

1.07 Material Submittals

Prior to commencing work, the Contractor shall submit for approval by the City Engineer copies of the following items in accordance with submittal procedures: A complete list of cathodic protection equipment and material, including name and manufacturer, catalog number, size, finish and any other pertinent data necessary for proper identification and to determine conformance with specifications. These items include but are not limited to:

- A. Anodes
- B. Cable
- C. Terminal Box, Shunt, Wire Termination Material & Procedure, Wire Identification.
- D. Traffic Valve Box
- E. Cable Splicing Materials
- F. Exothermic Weld Equipment and Supplies
- G. Pin Brazing Equipment and Supplies
- H. Coating of Cable-to-Pipe Connection
- I. Cable Warning Tape
- J. Cable Identification Tags
- K. Conduit and Fittings
- L. Bitumastic Coating

1.08 Interference and Exact Locations

The Contractor shall coordinate and properly relate this work to the site and to the work of all trades. The general locations of the facilities are shown on the drawings. However, the Contractor shall visit the premises and be thoroughly familiarized with all details of the work and working conditions, verify existing conditions in the field, determine the exact locations of existing pipelines and structures and advise the Engineer of any discrepancy that may prevent or hinder the specified work from being completed. The Contractor shall be solely responsible for location and marking underground structures so as to avoid damage during construction.

PART 2 - PRODUCTS

All materials shall conform to the requirements set forth herein or as designated on the drawings, unless otherwise specified. All materials must be new, free from defects, and shall be of the best commercial quality for the purpose specified. The Contractor shall furnish all necessary items and accessories not shown on the drawings or specified herein, but which are required to fully carry out the specified intent of the work, without additional cost to the City.

2.01 Sacrificial Magnesium Anodes

A. The anodes shall be high potential magnesium anodes with composition and dimensions as indicated below. Each anode shall be cast with a steel core and the core shall protrude from one end and shall be of sufficient length to permit attachment of a lead wire.

B. Each anode shall conform to the following chemical composition and dimensions:

1. Element Content (Wt %)

Aluminum	0.010%
Manganese	0.50 to 1.30 %
Iron	0.03% Max.
Nickel	0.001% Max.
Copper	0.02% Max.
Total Other Impurities	0.05 each or 3 % Max Total
Magnesium	Remainder of Balance

2. Bare anode dimensions:

Nominal Wt. Bare (lbs)	Height (in.)	Width (in.)	Length (in.)
5	3	3	7.5
9	3	3	13.5
17	4	4	17
32	5	5	21

C. Anode Core Strap: Galvanized steel, with one end of anode recessed to provide access to the rod for connection of the lead wire.

D. Lead Wire/Cable: No. 10 AWG, Type High Molecular Weight Polyethylene (HMWPE), color black, silver brazed to the rod, making a mechanically secure connection

E. Soldered Connection and Core: Seal entirely with electrical potting compound.

F. Magnesium Anode Packaging: Prepackaged in a cloth bag containing low resistivity backfill consisting of 75% hydrated gypsum, 20% bentonite, and 5% sodium sulfate.

2.02 Cable

A. All underground cables utilized for bonding cables shall be single conductor, stranded copper, Type CP, insulated for 600 volts with High Molecular Weight Polyethylene (HMWPE) in accordance with the requirements of ASTM D1248, Type 1, Class C, Category 5, Grades E-4 and E-5.

B. All wires/cables for galvanic anodes and test stations shall be Type HMWPE, stranded copper, sized as shown on the plans, and shall conform to Federal Specifications JC-30B.

C. Test Leads and Anode Leads: Extend 18 inches minimum above grade after connection to test station terminal board.

D. Cable Terminations: All cables that terminate in the terminal boxes shall have ring type connectors that are sized appropriately for the terminal bolts. The ring connectors shall be either a soldered ring type connection or a heavy duty, compression type crimp connection.

2.03 Components

- A. Terminal Box: High impact molded Lexan plastic, Model "T-3" as manufactured by Tinker & Rasor, or approved equal, with nickel plated brass hardware as indicated on Drawings.
- B. Traffic Valve Box: Brooks Type 1RT Traffic Box, or Christy G-5 Traffic Box or approved equal.
- C. Valve Box Covers: Cast iron, with legend "CP TEST" as indicated on Drawings.
- D. Anode metering shunts shall be 0.01 ohm, 6 amp capacity, with 1% accuracy, from the same manufacturer as the terminal box.
- E. Test Stations: Ground level test stations shall be Brooks, Type 1RT traffic box with a 12 pound cast iron lid as shown on the drawing. The cover shall be manufactured with "CP-TEST" markings for easy identification.

2.04 Cable Splicing Materials

- A. Wire Connectors: One-piece, tin-plated crimp-on lug connector or a three-piece copper split bolt connector as manufactured by Burndy Co., Thomas and Betts. No steel hardware is allowed.
- B. Insulation of Splices: Buried splices shall be sealed with an inner wrap of rubber splicing tape such as Scotch 130C or approved equal and an outer wrap of PVC tape such as Scotch 88 or approved equal.
- C. Rubber Coating: Coating the entire splice connection with two coats of 3M Scotchkote Electrical Coating.

2.05 Cable-To-Pipe Connections - Exothermic Welding

- A. Ductile Iron Pipe or Fittings
 - 1. Accomplish all cable connections to the ductile iron pipe or fittings utilizing an exothermic welding process.
 - 2. Weld Equipment Manufacturers: From one of the following manufacturers, or approved equal:
 - a. Erico Products, "Cadweld."
 - b. Continental Industries, Inc., "Thermoweld."
 - 3. Cable Connections to Pipe and Fittings: Manufacturer's standard exothermic weld kits, unless indicated otherwise on Drawings. Exothermic welds for the ductile iron fittings shall be made using the weld metal for cast iron pipe.
 - 4. Size all materials for welding in accordance with recommendations in manufacturers' literature.
 - 5. Use copper wire sleeves and individual components from one manufacturer when making welds.
 - 6. Cable-to-Pipe Coating Material: Coating material for cable-to-pipe connections shall be Handy Caps and Roybond 747 primer as manufactured by Royston products or Propoxy 20 epoxy putty as manufactured by the Hercules Chemical Company or approved equal.

2.06 Cable-To-Pipe Connections – Pin Brazing (For Flexible Expansion Joints)

- A. General: Pin brazing equipment based upon Electric-arc silver soldering using a specially designed portable Pin Brazing unit, a hollow brazing pin containing silver solder and flux shall be utilized for cable-to-structure connections. The unit may be battery powered or powered with a welding generator. Battery pack, pins with fuse wire, ceramic ferrules and cable lugs shall be in accordance with the manufacturer's recommendations for each wire size and pipe or fitting size and material.

Brazing materials and equipment shall be the product of a single manufacturer. All material and equipment utilized for brazing shall be from one manufacturer.

1. BAC - GMC Electrical, Ontario, CA.
2. Farwest Corrosion Control, Hayward, CA.

- B. Cable-to-Pipe Coating Material: Coating material for cable-to-pipe connections shall be Handicaps as manufactured by Royston products or Propoxy 20 epoxy putty as manufactured by the Hercules Chemical Company or approved equal.

2.07 Cable-To-Pipe Connections - Small Diameter Copper Risers

- A. Galvanized Steel Pipe or Copper Pipe All cable connections to the small diameter metallic service risers shall be accomplished utilizing brass ground clamps.

2.08 Cable Warning Tape

All buried test station and anode cables shall have plastic warning tape installed a minimum of 12 inches above the top of the cables for the entire buried length of the cables. The warning tape shall be 4 inches wide and shall be yellow with black lettering with the legend "CAUTION, CATHODIC PROTECTION CABLES BURIED BELOW" in 3 inch high lettering printed at a minimum of seven foot intervals along the entire buried length of the cable.

2.09 Cable Identification Tags

All cables in the terminal boxes shall be identified. The identification tags shall be white plastic "zip-tie" type straps with a plastic tab of sufficient size to allow the pipeline station to be written on the tab with a permanent felt tip marker.

2.10 Rigid PVC Conduit and Fittings

Rigid polyvinylchloride (PVC) conduit and fittings shall be Schedule 40, manufactured to NEMA TC-2 and WC-1094 specifications and shall be U.L. approved.

2.11 Bitumastic

Coating for all buried bolts, nuts and metallic washers of the ductile iron pipe and any copper insulating corporation stops shall be Bitumastic 300M coal tar mastic coating, as manufactured by Carboline or approved equal.

2.12 Polyethylene Sheets For Pipe Encasement

The polyethylene sheets used for encasement of the ductile iron pipe and fittings shall be minimum 8-mils thick in accordance with AWWA C-105. The polyethylene sleeves used for encasement of buried galvanized steel pipe or copper pipe shall be minimum 6-mils thick and shall be of sufficient diameter to slip over the pipe without getting damaged.

PART 3 - EXECUTION

3.01 General Requirements

All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the latest revision of the State of California, Department of Industrial Relations, Division of Industrial Safety, Electrical Orders; The National Electric Code, General Construction Safety Orders of the Industrial Accident

Commission; and all other applicable State, County, or City standards and regulations. Nothing in the drawings or specifications is to be construed to permit work not conforming to these regulations and codes. Where larger size or better grade materials than required by these regulations and codes are specified, the specifications and drawings shall have precedence.

3.02 Storage of Materials

All materials and equipment to be used in construction shall be stored in such a manner to be protected from detrimental effects from the elements. If warehouse storage cannot be provided, materials and equipment shall be stacked well above ground level and protected from the elements with plastic sheeting or other method as appropriate.

3.03 Joint Bonding

- A. At each anode installation site, bond all buried non-welded, rubber gasket joints, mechanical joints, and fusion-bonded epoxy coated flanges for continuity.
- B. Install joint bonds with a wire loop extended above the bonded joint. The overall length of the conductor shall permit sufficient flexibility of each fitting across the joint without transferring any tensile stress to the bond cable.
- C. Ensure proper connection of cables to fittings.
- D. Coat each fitting where the coating is damaged with a patch kit, as supplied by the pipe coating manufacturer, in accordance with the manufacturer's written instructions.

3.04 Exothermic Welds

- A. Install exothermic weld connections in accordance with the Drawings.
- B. Remove coating materials from the surface over an area just sufficient to make the connection.
- C. Clean steel surfaces to white metal by grinding or filing prior to welding the conductor. Resin impregnated grinding wheels are not permitted.
- D. Do not bury connections to the structures or piping until the Engineer has inspected the connections and given permission to backfill. Connections made in violation of this provision will be rejected.
- E. Test exothermic welds for adherence to the pipe and for electrical continuity between the pipe and wires.
- F. Use a 22 ounce hammer for testing adherence by striking a blow using a moderate amount of force to the weld. Take care to avoid hitting the wires.
- G. All defective welds shall be removed and replaced.
- H. All exposed surfaces of copper and steel shall be covered with a minimum thickness of 1/4-inch of insulating material as shown on the drawings or as follows. The exposed metal and surrounding surface shall be cleaned of contaminants and coated with Royston Roybond 747 primer. After the primer has dried, the Royston Handy Cap shall be applied.

3.05 Pin Brazing (For Flexible Expansion Joints)

Cable-to-pipe connections for buried ductile iron flexible expansion joints and any stainless steel pipe shall be installed in the manner shown on the Drawings utilizing a pin-brazing technique. Cut wire with a wire cutter to prevent deforming the wire ends. Do not deform the wire. Remove only enough insulation from the wire to allow the brazed connection to be made. The surface of the stainless steel structure shall be ground or filed to a bright, shiny, clean and dry surface before brazing the wire

connection. The wire is to be held at a 90 degree angle to the surface when brazing. Only one wire is to be attached with each braze. All wire to structure braze shall be a minimum of 6 inches apart. As soon as the braze has cooled, the brazed connection shall be tested for strength by striking a sharp blow with a two-pound hammer while pulling firmly on the wire. All unsound brazed connections are to be redone and retested. Assure that the area to be coated is thoroughly cleaned by wire brushing. All exposed surfaces of copper, steel and surrounding surface shall be cleaned of contaminants and covered with a minimum thickness of 1/4-inch of epoxy or Roybond 747 primer and Handy Cap as shown on the Drawings.

3.06 Cable-To-Small Diameter-Pipe Connections

Cable-to-pipe connections to the small diameter galvanized steel or copper pipes shall be made with a brass grounding clamp. The clamp shall be properly torqued to the pipe using hexagonal head brass bolts and a torque wrench.

3.07 Cables

- A. Inspect bottom of finished trenches to ensure they are free from stones, roots, other materials which might injure the insulation of the conductors.
- B. Lay wires in the ground straight, without kinks, with a minimum cover of 30 inches.
- C. Run cable in continuous length, free of joints or splices, unless otherwise specified or indicated on Drawings. Use care during installation to avoid punctures, cuts and similar damage to the insulation. Replace entire cable run where any damage to insulation occurs.
- D. Leave a minimum of 18 inches of slack for each conductor at each test station housing. Slack shall be that amount of cable which, when the cover is removed and the cable extended, protrudes beyond the opening of the box or enclosure.
- E. No bend shall have a radius of less than eight times the diameter of that cable.
- F. Strip insulation from the cable to make metal-to-metal connection to each binding post.

3.08 Sacrificial Magnesium Anodes

- A. Excavate a hole to a minimum of 3 inches larger than the package sacrificial anode diameter, 1 foot below the pipe and a minimum of 3 feet from the fitting.
- B. Excavate the lead cable trench to a minimum depth of 30 inches.
- C. Remove plastic or paper bags from the anode before lowering into the hole. The cloth bag is to remain around the anode.
- D. Exercise care to preclude damaging the cloth bag and lead wire insulation on the sacrificial anode. Do not lift or support anode by the lead cable.
- E. Center the packaged anode in the hole and backfill with native soil free of rocks and other foreign objects
- F. Flood the anode hole with 5 gallons of fresh water when the backfill reaches one foot above the anode.
- G. Installation of Anodes for Ductile Iron Fittings or Pipe: Anodes shall be installed in the trench horizontally or vertically after excavation to proper depth, equal to the bottom of the pipeline, a minimum of 3 feet from the fittings or pipelines. Spacing between anodes shall be 10 feet (typical) if multiple anodes are installed at a single test station location.

3.09 Anode Test Stations

Install anode test stations where indicated on Drawings. Provide a concrete collar where anode test stations are to be installed in native soil. Set collar level flush with top of curb or finish grade in paved areas and two (2) inches above grade in landscaped and unimproved areas. Provide a minimum of 18 inches of slack for each cable in each test station. Sufficient slack shall be provided to allow removal of the terminal box from the test station without disconnecting any of the cables.

3.10 Field Coating of Buried Flange Hardware

All buried nuts and bolts shall be coated with bitumastic prior to polyethylene encasement. After flange hardware is installed use wire brush, power brush or an abrasive cleaning pad to remove all loose material, dirt and grime from substrate to a minimum cleanliness of SSPC SP2. Apply Bitumastic coating liberally with a medium bristle brush to the extent that all surfaces are completely covered with no bare spots visually evident. Coat exposed surfaces of bolts, washers and nuts, giving special attention to the bottom-side surfaces. Follow the manufacturer's recommendations for drying times required before polyethylene encasement and backfill.

3.11 Polyethylene Encasement of Pipe and Fittings

The ductile iron pipes and fittings shall be encased in minimum 8-mils thick polyethylene in accordance with AWWA C-105. The buried galvanized steel piping or copper piping shall be encased in 6-mil thick polyethylene sleeving.

3.12 System Testing

After the Contractor has completed the installation of the cathodic protection system, the system will be energized, tested, and adjusted by the Contractor to assure conformance with the specifications, electrical isolation, pipe-to-soil potential measurements, anode current output, etc. Any and all deficiencies shall be corrected by the Contractor at its cost and retested prior to final acceptance. All retesting shall be at the Contractor's expense. Contractor shall submit the test results to the City Engineer for review and approval.

****END OF SECTION****

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