

**CITY OF PETALUMA
PETALUMA, CALIFORNIA**

CONTRACT DOCUMENTS FOR

**SRJC 12-INCH WATER MAIN AND
MARIA-LEGHORN RECYCLED WATER MAIN
EXTENSION PROJECTS
C67502123; C66501834**

(Notice Inviting Bids, Instructions to Bidders, Bid Forms, General Conditions,
Special Provisions, Technical Specifications, Construction Agreement,
Bond Forms, Project Drawings)

CITY PROJECT NO. C67502123; C66501834

CITY OF PETALUMA - SONOMA COUNTY - CALIFORNIA

Questions concerning interpretation of improvement plans, special provisions,
contract documents and bid items shall be directed to:

***Department of Public Works and Utilities
202 N. McDowell Boulevard
Petaluma, CA. 94954
Phone: (707) 778-4589 Fax: (707) 206-6034***

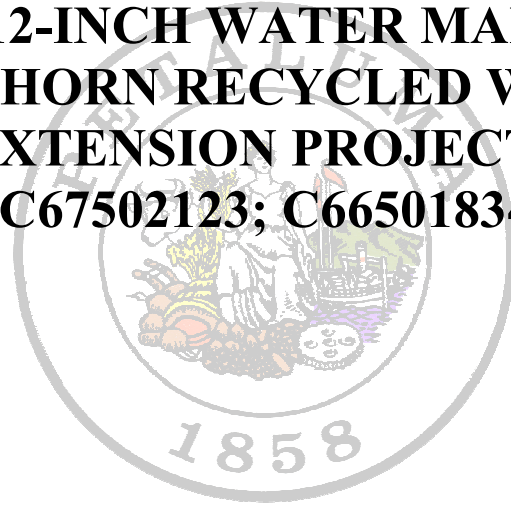
Attention: Dan Herrera

Office Hours: Monday thru Thursday - 8:00 to 5:00 p.m.
Friday – 8:00 to 4:00 p.m.

Bid Opening: June 10, 2021 at 2:00 p.m.

CITY OF PETALUMA
PETALUMA, CALIFORNIA

**SRJC 12-INCH WATER MAIN AND
MARIA-LEGHORN RECYCLED WATER MAIN
EXTENSION PROJECTS
C67502123; C66501834**



CITY OF PETALUMA - SONOMA COUNTY - CALIFORNIA

Prepared by:

A handwritten signature in black ink, appearing to read "Daniel A. Herrera", is written over a horizontal line.

Daniel A. Herrera, P.E. #C77596

May 27, 2021

Date Signed

City of Petaluma

Company/Firm Name



TABLE OF CONTENTS

SECTION	DESCRIPTION
	Notice Inviting Bids Instruction to Bidders
I.	BID FORMS (To Be Submitted With Bids)
	Bidder's Affidavit of Non-Collusion Bid Proposal Certificate (if Corporation/if Partnership/if Joint Venture) Proposal Bid Schedule List of Subcontractors List of Materials, Suppliers and Material Guarantee Questionnaire and Financial Assurance Statement Statement of Qualifications Bid Bond Site Visit Affidavit
II.	GENERAL CONDITIONS
	Article 1: Definitions Article 2: Preliminary Matters Article 3: Intent and Use of Contract Documents Article 4: Site of the Work Article 5: Bonds and Insurance Article 6: Contractor's Responsibilities Article 7: Other Work Article 8: City's Responsibilities Article 9: Engineer's Status During Construction Article 10: Changes in the Work Article 11: Change of Contract Price Article 12: Change of Contract Times Article 13: Inspections and Tests; Correction, Removal or Acceptance of Defective Work Article 14: Payments to Contractor and Completion Article 15: Suspension of Work and Termination Article 16: General Terms Article 17: California State Requirements
III.	SPECIAL PROVISIONS
	3-1 Description of Work 3-2 Order of Precedence of Contract Documents 3-3 Cooperation

III. SPECIAL PROVISIONS (Continued)

- 3-4 Obstructions
- 3-5 Order of Work
- 3-6 Project and Construction Area Signs
- 3-7 Maintaining Traffic
- 3-8 Traffic Control System for Lane Closure
- 3-9 Watering
- 3-10 Progress Schedule
- 3-11 Superintendence
- 3-12 Safety Requirements
- 3-13 Project Appearance
- 3-14 Responsibility for Damage
- 3-15 Guarantee of Work
- 3-16 Notice to Proceed, Beginning of Work, Contract Time, Time of Completion, and Liquidated Damages
- 3-17 Hours of Work
- 3-18 Record (“As-Built”) Drawings
- 3-19 Notice of Potential Claim
- 3-20 Payment for Materials on Hand
- 3-21 Access to Driveways
- 3-22 Archaeological Monitoring
- 3-23 Storm Water Management, and Sediment and Erosion Control
- 3-24 Item Increases and Decreases
- 3-25 Existing Water Valves, Monuments and Manholes
- 3-26 Wage Rates
- 3-27 Staging Area
- 3-28 Work Scheduling
- 3-29 Construction Management
- 3-30 Revegetation/Landscape Replacement
- 3-31 Construction Staking
- 3-32 Excavation Dewatering
- 3-33 Street Resurfacing
- 3-34 Noise Mitigation Measure-Sound Barrier

IV. TECHNICAL SPECIFICATIONS

Section Description

- 10 Utility Clearances
- 20 Dust Control
- 30 Mobilization/Demobilization
- 40 Clearing and Grubbing
- 50 Traffic Control
- 60 Storm Water Management and Erosion Control

IV. TECHNICAL SPECIFICATIONS (Continued)

70	Dewatering
80	Earthwork
180	Final Cleanup
190	Preservation of Property
220	Aggregate Base
310	Asphalt Concrete
400	Minor Concrete
510	Water Main
511	Water Services
512	Recycled Water Services
520	Recycled Water Main
811	Shoring and Bracing
825	Bore and Jack
825	Horizontal Directional Drilling

V. CONSTRUCTION AGREEMENT

Agreement
Faithful Performance Bond
Labor and Materials Bond
Maintenance Bond

VI. PROJECT PLANS

VII. APPENDICES

Appendix A – Select City Standards
Appendix B – As Built Drawings

NOTICE INVITING BIDS

1. **RECEIPT OF BIDS:** Sealed Bids will be received at the office of the City Clerk of the City of Petaluma located at 11 English Street, Room 4, Petaluma, California, 94952-2610, until 2:00 pm (enter time) on Thursday June 10, 2021, for the SRJC 12-Inch Water Main and Maria-Leghorn Recycled Water Main Extension Projects C67502123 and C6501834. Any Bids received after the specified time and date will not be considered. Fax and other electronically transmitted Bids will not be accepted.
2. **OPENING OF BIDS:** The Bids will be publicly opened and read at 2:00 PM (enter time) on Thursday June 10th, 2021 at the above-mentioned office of the CITY. The CITY reserves the right to postpone the date and time for opening of Bids at any time prior to the aforesaid date and time.
3. **COMPLETION OF WORK:** The WORK must be completed within 120 working days after the commencement date stated in the Notice to Proceed.
4. **DESCRIPTION OF WORK:** The WORK includes Installation of 12-inch PVC Water Main in open space, installation of 12-inch PVC Recycled Water Main, Jack and Bore of 18-inch Steel conduit, installation of fire hydrants and water services, connection to existing pressurized mains, and replacement of concrete curb&gutter, sidewalk, and asphalt paving.
5. **SITE OF WORK:** The site of the WORK is located: within open space behind the Santa Rosa Junior College Petaluma campus, within open space adjacent to Capri Creek between Sonoma Mountain Parkway and Maria Drive, and along Yarberry Drive and Tuxedo Court into City park sites.
6. **OBTAINING CONTRACT DOCUMENTS:** The Contract Documents are entitled "SRJC 12-Inch Water Main C67502123 and Maria-Leghorn Recycled Water Main Extension C66501834."

The Contract Documents may be obtained by 4:00 P.M., Monday through Thursday at the office of Public Work & Utilities, 202 North McDowell Boulevard, Petaluma, California 94954.

If you would like to receive the bid document via the CITY's website, at no cost, please go to:

- <https://cityofpetaluma.org/bid-opportunities-2/>
- Fill out the Plan Holder's form by clicking on the Plan Holder's form link
- Fill in all fields
- Click on the submit button at the end of the form

Submitting the Plan Holder's form on-line automatically puts you on the CITY's Bidders List and you will be notified of any Addendums or information pertaining to the bid by email.

If you would like to purchase bid documents, please call Phone No. 707-778-4585, Attention: Tiffany Avila, upon payment of \$25 (non-refundable) for each set of Contract Documents (including technical specification and accompanying reduced scale drawings). The scale of the reduced drawings is about one-half of the original scale. At the Bidder's request and expense, the Contract Documents may be sent by overnight mail.

Full-scale drawings are not available.

If full-scale drawings are available and desired, they may be purchased at reproduction cost from Digitech, 1340 Commerce St. STE K, Petaluma CA 94954, (707) 769-0410.

7. **BID SECURITY:** Each Bid shall be accompanied by a certified or cashier's check or Bid Bond executed by an admitted surety in the amount of 10% percent of the Total Bid Price payable to the City of Petaluma as a guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement. A Bid shall not be considered unless one of the forms of Bidder's security is enclosed with it. Upon acceptance of the Bid, if the Bidder refuses to or fails to promptly execute the Agreement the Bidder's security shall be forfeited to the CITY.
8. **CONTRACTOR'S LICENSE CLASSIFICATION:** In accordance with the provisions of California Public Contract Code Section 3300, the CITY has determined that the CONTRACTOR shall possess a valid Class A license at the time that the Contract is awarded. Failure to possess the specified license shall render the Bid as non-responsive and shall act as a bar to award of the Contract to any bidder not possessing said license at the time of award.
9. **PREFERENCE FOR MATERIAL:** Substitute products will be considered prior to award of the Contract in accordance with Section 3400 of the California Public Contract Code. The Bidder will submit data substantiating its request for a substitution of "an equal" item within 14 days following submission of its Bid. Substantiation date will conform to the requirements of the instructions for Proposed Substitutions of "or equal" items contained in the bid Forms. The ENGINEER will make a determination of approval or rejection of the proposed substitution prior to the award of the Contract. No request for substitution of "an equal" items will be considered by the ENGINEER after award of the Contract.
10. **REJECTION OF PROPOSALS:** The CITY reserves the right to reject all or any part of all bids submitted, waive informalities and irregularities, and will not, to the extent allowed by law, be bound to accept the lowest bid.
11. **BIDS TO REMAIN OPEN:** The Bidder shall guarantee the total bid price for a period of 90 calendar days from the date of bid opening.
12. **CALIFORNIA WAGE RATE REQUIREMENTS:** In accordance with the provisions of California Labor Code Sections 1770, 1773, 1773.1, and 1773.7 as amended, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in accordance with the standards set forth in Section 1773 for the locality in which the WORK is to be performed. A copy of said wage rates is on file at the office of the City Clerk. It shall be mandatory upon the CONTRACTOR to whom the WORK is awarded and upon any subcontractor under the CONTRACTOR to pay not less than said specified rates to all workers employed by them in the execution of the WORK.
13. **LABOR COMPLIANCE PURSUANT TO CALIFORNIA LABOR CODE §1771.1:** A contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirement of Section 4104 of the Public Contract Code or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided

the contractor is registered to perform public work pursuant to Section 1725.5 at the time contract is awarded.

14. **RETAINAGE FROM PAYMENTS:** The CONTRACTOR may elect to receive 100 percent of payments due under the Contract Documents from time to time, without retention of any portion of the payment by the CITY, by depositing securities of equivalent value with the CITY in accordance with the provisions of Section 22300 of the Public Contract Code. Alternatively, the CONTRACTOR may request, and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investments of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms as provided in Section 22300 of the Public Contract Code for securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow agent in administering the escrow account and all expenses of the CITY. These expenses and payment terms shall be determined by the CITY's Finance Director or his/her designee and the escrow agent. Upon satisfactory completion of the WORK, the CONTRACTOR shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the CITY, pursuant to the terms of Section 22300 of the Public Contract Code. Such securities, if deposited by the CONTRACTOR, shall be valued by the CITY, whose decision on valuation of the securities shall be final. Securities eligible for investment under this provision shall be limited to those listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.
15. **PAYMENT BOND:** Pursuant to and in accordance with California Civil Code Section 3247, a payment (labor and materials) bond must be filed if the expenditure for the WORK is in excess of Twenty-Five Thousand Dollars (\$25,000).
16. **PRE-BID CONFERENCE VISITS:** [At least on box below MUST be checked]

Check if no pre-bid conference/site is to be held: _____.

Mandatory pre-bid conference/site visit to be held: Prospective bidders are required to attend a mandatory pre-bid conference/site visit at _____ (*enter time*) on _____, at the _____, offices at _____. Prospective bidders that fail to attend the mandatory pre-bid conference/site visit will be ineligible to bid on the project. Following the conference at City offices, City staff and prospective bidders will meet at the project Site. Transportation to the project site will be the responsibility of prospective bidders. The purposes of the conference/site visit are to discuss the scope of the project and bidding requirements and to acquaint bidders with Site conditions.

No information communicated at the pre-bid conference/site visit may amend the project bidding requirements. Project bidding requirements may only be amended by addenda issued by authorized City officials. Following the pre-bid conference/site visit, prospective bidders may submit detailed technical questions in writing. If warranted, the City may respond to such questions by addenda.

Non-Mandatory pre-bid conference/site visit to be held: Prospective bidders are invited to attend a non-mandatory pre-bid conference/site visit at _____ (*enter time*) on _____.

_____, at the _____. Following the conference at City offices, City staff and prospective bidders will meet at the project Site. Transportation to the project site will be the responsibility of prospective bidders. The purposes of the conference/site visit are to discuss the scope of the project and bidding requirements, and to acquaint bidders with Site conditions.

No information communicated at the pre-bid conference/site visit may amend the project bidding requirements. Project bidding requirements may only be amended by addenda issued by authorized City officials. Following the pre-bid conference/site visit, prospective bidders may submit detailed technical questions in writing. If warranted, the City may respond to such questions by addenda.

17. **PROJECT ADMINISTRATION:** All communications relative to the WORK shall be directed to the ENGINEER prior to opening of the Bids.

NAME: Dan Herrera, P.E.
ADDRESS: Department of Public Works and Utilities
202 North McDowell Boulevard
CA 94954
PHONE: (707) 778-4589

18. **CITY'S RIGHTS RESERVED:** The CITY reserves the right to reject any or all bids, to waive any minor irregularity in a bid, and to make awards to the lowest responsive, responsible bidder as it may best serve the interest of the CITY.

CITY: Petaluma
BY: SPascoe
DATE: 5/19/21

END OF NOTICE INVITING BIDS

INSTRUCTIONS TO BIDDERS

1. **DEFINED TERMS.** Terms used in these Instructions to Bidders and the Notice Inviting Bids which are defined in the General Conditions have the meanings assigned to them in the General Conditions. The term “Bidder” means one who submits a Bid directly to CITY, as distinct from a sub-bidder, who submits a price or quote to a Bidder.
2. **LOCAL BUSINESS LICENSE.** All CONTRACTORS, including subcontractors, not already having a local business license for the work contemplated, will be required to secure the appropriate license before a Contract can be executed.
3. **INTERPRETATIONS AND ADDENDA.**
 - 3.1 All questions about the meaning or intent of the Contract Documents are to be directed to the ENGINEER. Additions, deletions, or revisions to the Contract Documents considered necessary by the ENGINEER in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by the ENGINEER as having received the Contract Documents. Questions received less than 14 days prior to the date of Bids may not be answered. Only answers to such questions issued by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
 - 3.2 Addenda may also be issued to make other additions, deletions, or revisions to the Contract Documents.
 - 3.3 Bidders shall make no special interpretation or inference of intent from differing formats in the Technical Specifications.
4. **BIDDER’S EXAMINATION OF CONTRACT DOCUMENTS AND SITE.**
 - 4.1 It is the responsibility of each Bidder before submitting a Bid:
 - A. To examine thoroughly the Contract Documents and other related data identified in the Bidding Documents (including “technical” data referred to below);
 - B. To visit the site to become familiar with local conditions that may affect cost, progress, or performance of the WORK;
 - C. To consider federal, state, and local Laws and Regulations that may affect cost, progress, or performance of the WORK;
 - D. To study and carefully correlate the Bidder’s observations with the Contract Documents; and

- E. To notify the ENGINEER of all conflicts, errors, ambiguities, or discrepancies in or between the Contract Documents and such other related data.
- 4.2 Reference is made to the Supplementary General Conditions for identification of:
- A. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - B. Those drawings of physical conditions in or relating to existing surface and subsurface conditions (except Underground Utilities) which are at or contiguous to the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - C. Those environmental reports or drawings relating to Asbestos, Hazardous Waste, PCBs, Petroleum, and/or Radioactive Materials identified at the site which have been utilized by the ENGINEER in the preparation of the Contract Documents.
 - D. The ENGINEER makes no representation as to the completeness of the reports or drawings referred to in Paragraphs 4.2A, 4.2B, and 4.2C. above or the accuracy of any data or information contained therein. The Bidder may rely upon the accuracy of the technical data contained in such reports and drawings. However, the Bidder may not rely upon any interpretation of such technical data, including any interpretation or extrapolation thereof, or any non-technical data, interpretations, and opinions contained therein.
- 4.3 Copies of reports and drawings referred to in Paragraph 4.2 will be made available by the CITY to any Bidder on request, if said reports and drawings are not bound herein. Those reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which the Bidder is entitled to rely, are incorporated herein by reference.
- 4.4 Information and data reflected in the Contract Documents with respect to Underground Utilities at or contiguous to the site are based upon information and data furnished to the ENGINEER by the owners of such Underground Utilities or others, and the CITY does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary General Conditions.
- 4.5 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, Underground Utilities, and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.2, 4.3, and 4.4 of the General Conditions.
- 4.6 Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface,

subsurface, and Underground Utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the WORK and which the Bidder deems necessary to determine its Bid for performing the WORK in accordance with the time, price, and other terms and conditions of the Contract Documents.

- 4.7 On request a minimum of 2 working days in advance, the ENGINEER will provide each Bidder access to the site to conduct such examinations, investigations, explorations, tests, and studies as each Bidder deems necessary for submission of a Bid. Location of any excavation or boring shall be subject to prior approval of ENGINEER and applicable agencies. Bidder shall fill all holes, restore all pavement to match existing structural section, and shall clean up and restore the site to its former condition upon completion of such explorations. ENGINEER reserves the right to require Bidder to execute an Access Agreement with the CITY prior to accessing the site.
- 4.8 The lands upon which the WORK is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by the CONTRACTOR in performing the WORK are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the CITY unless otherwise provided in the Contract Documents.
- 4.9 The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of this Paragraph 4 and the following:
 - A. That the Bid is premised upon performing the WORK required by the Contract Documents without exception and such means, methods, techniques, sequences, or procedures of construction (if any) as may be required by the Contract Documents;
 - B. That Bidder has given the ENGINEER written notice of all conflicts, errors, ambiguities, and discrepancies in the Contract Documents and the written resolution thereof by the ENGINEER is acceptable to the Bidder; and
 - C. That the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the WORK.
5. **BID FORMS.** The Bid shall be submitted on the Bid Forms provided by the City. All blanks on the Bid Forms shall be completed in ink. All names must be printed below the signatures. The Bid shall be submitted in a sealed envelope which shall be plainly marked in the upper left hand corner with the name and address of the Bidder and shall bear the words "BID FOR" followed by the title of the Contract Documents for the WORK, the name of the CITY, the address where Bids are to be delivered or mailed to, and the date and hour of opening of Bids.

- 5.2 The Bid must set forth the name and location of the place of business of each subcontractor who will perform work or labor or render service to the prime contractor in or about the construction of the WORK, or a subcontractor licensed by the State of California who, under subcontract to the prime contractor, specially fabricates and installs a portion of the WORK according to detailed Drawings contained in the plans and specifications, in an amount in excess of one-half of 1 percent of the prime contractor's total bid or, in the case of bids or offers for the construction of streets and highways, including bridges, in excess of one-half of 1 percent of the prime contractor's total bid or ten thousand dollars (\$10,000), whichever is greater.
6. CERTIFICATES.
- 6.1 Bids by corporations must be executed in the corporate name by the president, a vice-president, or other corporate officer. Such Bid shall be accompanied by the enclosed Certificate of Authority to sign, attested by the secretary or assistant secretary, and with the corporate seal affixed. The corporate address and state of incorporation must appear below the signature.
- 6.2 Bids by partnerships must be executed in the partnership name and be signed by a managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the partnership must appear below the signature.
- 6.3 Bids by joint venture must be executed in the joint venture name and be signed by a joint venture managing partner, accompanied by the enclosed Certificate of Authority to sign, and his/her title must appear under the signature and the official address of the joint venture must appear below the signature.
7. DISQUALIFICATION OF BIDDERS. More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the CITY believes that any Bidder is interested in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If the CITY believes that collusion exists among the Bidders, all Bids will be rejected. A party who has quoted prices to a bidder is not hereby disqualified from quoting prices to other Bidders, or from submitting a Bid directly for the WORK. If a Bidder is not registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 and Section 1771.1, then the Bid may be rejected as non-responsive.
8. QUANTITIES OF WORK. The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the WORK; the OWNER does not expressly or by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price item of the WORK by an amount up to and including 25 percent of any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Bid price.

9. **SUBSTITUTE OR “OR EQUAL” ITEMS.** Whenever materials or equipment are specified or described in the Contract Documents by using the name of a particular manufacturer and the name is followed by the words “or equal”, the Bidder may write the name of a substitute manufacturer (which the Bidder considers as an “or equal”) in the List of Proposed Substitutions in the Bid Forms. The ENGINEER will make a determination of approval or rejection of the proposed substitution prior to award of the Contract. No request for substitution of an “or equal” item will be considered by the ENGINEER after award of the Contract. The procedure for the submittal of substitute or “or equal” products is contained in the Bid Forms. The Bidder shall not be relieved of any obligations of the Contract Documents or be entitled to an adjustment in the Contract Price in the event any proposed substitution is not approved.
10. **COMPETENCY OF BIDDERS.** In selecting the lowest responsive, responsible Bidder, consideration will be given not only to the financial standing but also to the general competency of the Bidder for the performance of the WORK covered by the Bid. To this end, each Bid shall be supported by a statement of the Bidder’s experience as of recent date including: (a) all projects worked on by the Bidder over the past three (3) years including the contract amount for each project; (b) all complaints made against the Contractor’s license in the past ten (10) years; and (c) all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project.
11. **SUBMISSION OF BIDS.** The Bid shall be delivered by the time and to the place stipulated in the Notice Inviting Bids. It is the Bidder’s sole responsibility to see that its Bid is received in proper time and at the proper place.
12. **BID SECURITY, BONDS, AND INSURANCE.** Each Bid shall be accompanied by a certified or cashier’s check or approved Bid Bond in the amount stated in the Notice Inviting Bids. Said check or bond shall be made payable to the CITY and shall be given as a guarantee that the Bidder, if awarded the WORK, will enter into an Agreement with the CITY and will furnish the necessary insurance certificates, Payment Bond, and Performance Bond. In case of refusal or failure to enter into said Agreement, the check or Bid Bond, as the case may be, shall be forfeited to the CITY. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein. Bid Bonds shall comply with the requirements applicable to payment and performance bonds in the General Conditions.
- 12.1 **BIDDING CAPACITY.** Each Bid shall be accompanied by a list of the projects currently being worked on by Bidder, their size, contract price, scheduled completion date, location, and owner. Additionally, Bidder shall provide certified evidence of its current bonding capacity.
13. **DISCREPANCIES IN BIDS.** In the event there is more than one Bid item in a Bid Schedule, the Bidder shall furnish a price for all Bid Items in the Schedule, and failure to do so will render the Bid non-responsive and shall cause its rejection. In the event there are unit price Bid items in a Bidding schedule and the amount indicated for a unit price Bid item does not equal the product of the unit price and quantity, the unit price shall

govern and the amount will be corrected accordingly, and the BIDDER shall be bound by said correction. In the event there is more than one Bid item in a Bid Schedule and the total indicated for the Schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the Schedule will be corrected accordingly, and the BIDDER shall be bound by said correction.

14. **MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.** Unauthorized conditions, limitations, or provisos attached to the Bid shall render it informal and may cause its rejection as being non-responsive. The Bid forms shall be completed without interlineations, alterations, or erasures in the printed text. Alternative Bids will not be considered unless called for. Oral, telegraphic, or telephonic Bids or modifications will not be considered.
15. **WITHDRAWAL OF BID.** The Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids prior to the scheduled closing time for receipt of Bids.
16. **BID PROTEST.** Any Bid protest must be submitted in writing to the City Manager before 5:00 p.m. on the fifth (5th) working day following Bid opening.
 - A. The initial protest document must contain a complete statement of the basis for the protest, and all supporting documentation.
 - B. The party filing the protest must have actually submitted a Bid for the WORK. A subcontractor of a party submitting a Bid for the WORK may not submit a Bid protest. A party may not rely on the Bid protest submitted by another Bidder, but must timely pursue its own protest.
 - C. The protest must refer to the specific portion of the bid document which forms the basis for the protest.
 - D. The protest must include the name, address and telephone number of the person representing the protesting party.
 - E. The party filing the protest must concurrently transmit a copy of the initial protest document and any attached documentation to all other parties with a direct financial interest which may be adversely affected by the outcome of the protest. Such parties shall include all other Bidders who appear to have a reasonable prospect of receiving an award depending upon the outcome of the protest.
 - F. The CITY will give the protested Bidder five (5) working days after the receipt of the protest to submit a written response. The responding Bidder shall transmit the response to the protesting Bidder concurrent with delivery to the CITY.

- G. The procedure and time limits set forth in this paragraph 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 shall constitute a waiver of any right to further pursue the Bid protest, including filing a Government Code Claim or legal proceedings. A Bidder may not rely on a protest submitted by another Bidder, but must timely pursue its own protest.
- H. If the CITY determines that a protest is frivolous, the protesting bidder may be determined to be non-responsible and that bidder may be determined to be ineligible for future contract awards.
17. **AWARD OF CONTRACT.** Award of the contract, if awarded, will be made to the lowest responsive, responsible Bidder whose Bid complies with the requirements of the Contract Documents. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule. In the event the WORK is contained in more than one Bid Schedule, the CITY may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative schedules will be awarded. The CITY may condition the award upon the Bidder's timely submission of all items required by the Contract Documents, including, but not limited to the executed Agreement, performance, labor and materials, and maintenance bonds, and required certificates of insurance and endorsements.
18. **RETURN OF BID SECURITY.** Within 14 days after award of the contract, the CITY will, if requested, return the Bid securities accompanying such Bids that are not being considered in making the award. All other Bid securities will be held until the Agreement has been finally executed. They will then be returned, if requested, to the respective Bidders whose Bids they accompany.
19. **EXECUTION OF AGREEMENT.** The Bidder to whom award is made shall execute a written Agreement with the CITY on the form of agreement provided, shall secure all insurance, and shall furnish all certificates and bonds required by the Contract Documents within five (5) working days after receipt of Notice of Award from the CITY. Failure or refusal to enter into an Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the CITY may award the Contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the CITY.
20. **LIQUIDATED DAMAGES.** Provisions for liquidated damages, if any, are set forth in the Agreement.

21. **WORKERS' COMPENSATION REQUIREMENT.** The Bidder should be aware that in accordance with Section 3700 of the California Labor Code it will, if awarded the Contract, be required to secure the payment of compensation to its employees and execute the Workers' Compensation Certification in the form contained in these Contract Documents.
22. **NON-COLLUSION AFFIDAVIT.** Bidders must execute the following affidavit and submit the same with his/her bid:
23. **MATERIALS SUPPLIERS LIST.** Bidders and their subcontractors must complete the List of Materials Suppliers and Material Guarantee form provided with the Bid Forms and must submit the completed form with the Bid.

END OF INSTRUCTIONS TO BIDDERS

SECTION I

BID FORMS

(TO BE SUBMITTED WITH BIDS)

BIDDER'S AFFIDAVIT OF NON-COLLUSION SUBMITTED WITH BID

_____, *[Contractor]* hereby declares that:

He or she is _____ *[title/position]* of _____, *[company name]* the party making the foregoing 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 induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, 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 or 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.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Dated: _____

Signature

Public Contract Code section 7106
Code of Civil Procedure section 2015.5

END OF BIDDER'S AFFIDAVIT OF NON-COLLUSION SUBMITTED WITH BID

PROPOSAL

To the City Council of the City of Petaluma:

The undersigned declares that he/she has carefully examined the location of the proposed work, that he/she has examined the plans and specifications, and read the accompanying instructions to bidders, and hereby proposes to furnish all materials and do all the work required to complete the said work in accordance with said plans, specifications, and special provisions for the unit or lump sum prices set forth in the attached Bid Schedule.

It is understood and agreed that the undersigned shall complete the work of the contract within the time provided for in the Contract Documents and Specifications governing said work.

If awarded the contract, the undersigned hereby agrees to sign said contract and to furnish the necessary bonds, insurance certificates and agreements within five (5) working days after receipt of Notice of Award of said contract from the City.

The undersigned has examined the location of the proposed work and is familiar with the plans, specifications and other contract documents and the local conditions at the place where the work is to be done.

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

Enclosed find bidder's bond, certified check, or cashier's check no. _____ of the _____ (Company) (Bank) for _____ Dollars (\$_____).

This project requires a Class A California State Contractor's License.

Contractor's License No. _____ License Class _____

Expiration Date of Contractor's License _____

This project requires registration with the California State Department of Industrial Relations.

Public Works Contractor Registration No. _____

Registration Date _____ Expiration Date _____

A bid submitted to a public agency by a contractor who is not licensed and not registered shall be considered non-responsive and shall be rejected by the public agency. The undersigned contractor declares that the contractor's license number, public work contractor registration number, and expiration dates stated herein are made under penalty of perjury under the laws of the State of California.

Contractor: _____

Signed by: _____

Title: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

Dated this _____ day of _____, 20__.

END OF PROPOSAL

Santa Rosa Junior College 12 – Inch Water Main Project C67502123
 Maria – Leghorn Recycled Water Main Extension Project C66501834

BID SCHEDULE A

<u>SANTA ROSA JUNIOR COLLEGE 12 INCH WATER MAIN – PROJECT A</u>					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Stormwater – Erosion Control	1	LS		
4	Potholing	1	LS		
5	12-Inch C900 PVC Water – Open space	1260	LF		
6	12-Inch Gate Valve - Water	2	EA		
7	6-Inch Blow Off Assembly	1	EA		
8	12-Inch Connections to Existing Water Main	1	LS		
9	12-Inch Connections to Trenchless Piping - Water	1	LS		
10	12-Inch Vertical Offset / Crossing-Water	3	EA		

Base Bid “Project A” \$ _____

BID SCHEDULE B

<u>MARIA – LEGHORN RECYCLED WATER MAIN EXTENSION – PROJECT B</u>					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	LS		
2	Traffic Control	1	LS		
3	Stormwater – Erosion Control	1	LS		
4	Potholing	1	LS		
5	12-Inch C900 PVC Recycled Water – Open space	1600	LF		
6	12-Inch C900 PVC Recycled Water - Roadway	75	LF		
7	12-Inch Connections to Existing RW Main	1	LS		
8	12-Inch Connections to Trenchless RW Piping	1	LS		
9	6-Inch C900 PVC Recycled Water– Roadway-	884	LF		
10	6-Inch C900 PVC Recycled Water – Open Space	78	LF		

Santa Rosa Junior College 12 – Inch Water Main Project C67502123
 Maria – Leghorn Recycled Water Main Extension Project C66501834

11	6-Inch Connections to Existing RW Main	1	LS		
12	Recycled Water Fire Hydrant Assembly	1	EA		
13	2-Inch Recycled Water Service	3	EA		
14	12-Inch Gate Valve – RW	3	EA		
15	12-Inch Vertical Offset / Crossing-RW	2	EA		
16	6-Inch Vertical Offset / Crossing-RW	5	EA		
17	Noise Mitigation Measures	1	LS		
18	Minor Concrete - Sidewalk	950	SF		
19	Minor Concrete – Curb and Gutter	20	LF		
20	4-Inch Conduit / Meter Box Under Sidewalk	1	LS		
21	Abandon Water Service	3	EA		

Base Bid “Project B” \$ _____

Total Base Bid “Project A + Project B” \$ _____

*Note: In case of error in extension of price into the total price column, the unit price will govern.

Total Amount of Bid (written in words) is: _____ _____ Dollars and _____ Cents. <p style="text-align: center;">In the event of discrepancy between words and figures, the words shall prevail.</p> <p style="text-align: center;">\$ _____ Figures</p>
--

BID ALTERNATE 2

<u>TRENCHLESS METHOD – DIRECTIONAL DRILLING</u>					
Item No.	Description	Estimated Quantity	Unit	Unit Price	Total Price
1	Mobilization	1	LS		
2	Capri Creek (SRJC) Directional Drill – 12-Inch HDPE	80	LF		
3	Capri Creek (SRJC) Directional Drill Excavations	1	LS		
4	Sonoma Mtn Pkwy Directional Drill – 12-Inch HDPE	130	LF		
5	Sonoma Mtn Pkwy Directional Drill – Excavations	1	LS		

Total Bid Alternate 2 \$ _____

*Note: In case of error in extension of price into the total price column, the unit price will govern.

Total Amount of Alternate Bid (written in words) is: _____ _____ Dollars and _____ Cents. In the event of discrepancy between words and figures, the words shall prevail. \$ _____ _____ Figures

Note: The award of contract shall be based on the lowest responsive and responsible bidder of the Total Base Bid (Project A + Project B)

The City reserves the right to choose any bid alternates to be awarded.

Address of Bidder

Signature of Bidder

City

Name of Bidder (Print)

Telephone Number of Bidder

Fax Number of Bidder

Contractor's License Number

License's Expiration Date

Addendum Acknowledgement

Addendum No. 1 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 2 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 3 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 4 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 5 Signature Acknowledging Receipt: _____ Date: _____

Addendum No. 6 Signature Acknowledging Receipt: _____ Date: _____

LIST OF SUBCONTRACTORS

In accordance with Section 4104 of the Public Contracting Code of the State of California, each bidder shall list below the name and location of place of business of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent of the total contract price or, in the cases of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of 1 percent of the prime contractor’s total bid or ten thousand dollars (\$10,000), whichever is greater. In each such instance, the nature and extent of the work to be performed shall be described.

If a prime contractor fails to specify a subcontractor or if a prime contractor specifies more than one subcontractor for the same portion of work to be performed under the contract in excess of one-half of one percent of the prime contractor’s total bid, the prime contractor agrees that he or she is fully qualified to perform that portion himself or herself, and that the prime contractor shall perform that portion himself or herself. The subcontracting of work for which no subcontractor was designated in the original bid and which is in excess of one-half of one percent of the total contract price, will be allowed only with the written consent of the City.

Name of Subcontractor	Address of Office, Mill, or Shop	Description of Work to be Performed (also show Bid Schedule Item Number)	Public Works Contractor Registration Number
--------------------------------------	---	---	--

LIST OF MATERIAL SUPPLIERS AND MATERIAL GUARANTEE

The bidder is required to name the make and supplier of the material items listed below to be furnished under these specifications. The bidder shall name a manufacturer for each item and the supplier of the item if the supplier is not the manufacturer. The naming of more than one supplier for a single item or naming a supplier followed by the words “or equal” will not be acceptable. Substitution of any listed supplier following submission of this form with the Bid shall only be permitted as authorized by the Engineer pursuant to Section 6.3 of the General Conditions.

Failure to complete this form and submit it with the bid proposal may cause the proposal to be rejected as being incomplete and not responsive to the solicitation.

Item	Supplier & Manufacturer	Address

MATERIAL GUARANTEE

In addition to completion of the list of material suppliers on the Material Suppliers form, the bidder may be required to furnish prior to award of contract, a complete statement of the origin, composition and manufacturer of any or all materials to be used in the construction of the work, together with samples, which samples may be subjected to test, provided for in these specifications or in the Special Provisions to determine their quality and fitness for the work.

END OF
LIST OF MATERIAL SUPPLIERS AND MATERIAL GUARANTEE

QUESTIONNAIRE AND FINANCIAL ASSURANCE STATEMENT

The following statements as to experience and financial qualifications of the Proposer are submitted in conjunction with the proposal as a part thereof, and the truthfulness and accuracy of the information is guaranteed by the Proposer.

The Proposer has been engaged in the contracting business under the present business for _____ years. Experience in work of a nature similar to that covered in the proposal extends over a period of _____ years.

The Proposer, as a contractor, has never failed to satisfactorily complete a contract awarded to contractor, except as follows:

List all claims and lawsuits presented or filed in the last five (5) years, regardless of the form, regarding any public works project:

The following contracts for work have been completed in the last three (3) years for the persons, firm or authority indicated and to whom reference is made:

<u>Year</u>	<u>Type of Work-Size, Length and Contract Amount</u>	<u>Location and For Whom Performed</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

The following complaints have been made against the Proposer's contractor's license within the past ten (10) years:

Date: _____ Nature of Complaint _____

Reference is hereby made to the following bank or banks as to the financial responsibility of the proposer:

NAME OF BANK	ADDRESS

Reference is hereby made to the following surety companies as to the financial responsibility and general reliability of the proposer:

NAME OF SURETY COMPANY:

I, the undersigned, declare under penalty of perjury under the laws of the State of California, that the foregoing is true and correct.

SIGNATURE OF PROPOSER

DATE

NAME OF PROPOSER

END OF
QUESTIONNAIRE AND FINANCIAL STATEMENT FORM

STATEMENT OF QUALIFICATIONS

The apparent low Bidder shall submit a Statement of Qualifications as specified herein as a submittal to the City within 24 hours of the bid opening.

- A. The following are minimum requirements for the Bidder to be found responsible to perform the Work. Bidder's compliance with the minimum qualification requirements will be measured by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work. If Bidder subcontracts portions of the Work, City, in its determination of whether the minimum qualification requirements have been met, will consider the qualifications of the Subcontractor's supervisory personnel.
 - 1. Five years experience as a continuously operating entity engaged in the performance of similar work.
 - 2. Experience on public works projects, with no history of default termination.
 - 3. Sufficient financial strength, stability and resources as measured by Bidder's equity, debt-to-assets ratio, and capability to finance the Work to be performed.

- B. Owner will notify Apparent Low Bidder in writing of any deficiencies found and will provide Bidder the opportunity to respond in writing with reasonable clarifications but will not allow any changes in the nature of Bidder as a business entity.

BID BOND

We, _____ as Principal, and _____ as Surety, jointly and severally, bind ourselves, our heirs, representatives, successors and assigns, as set forth herein, to the City of Petaluma (herein called "the Owner") for the payment of the penal sum of _____ Dollars (\$_____), lawful money of the United States, which is ten (10) percent of the total amount bid by bidder to the Owner. Principal has submitted the accompanying bid for the construction of the _____ project.

If the Principal is awarded the contract and enters into a written contract, in the form prescribed by the Owner, at the price designated by his bid, and files the bonds required by the Agreement with the Owner, and carries all insurance in type and amount which conforms to the contract documents and furnishes required certificates and endorsements thereof, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Forfeiture of this bond, or any deposit made in lieu thereof, shall not preclude the Owner from seeking all other remedies provided by law to cover losses sustained as a result of the Principal's failure to do any of the foregoing.

Principal and Surety agree that if the Owner is required to engage the services of an attorney in connection with the enforcement of this bond, each shall pay the Owner's reasonable attorney's fees, witness fees and other costs incurred with or without suit.

Executed on _____, _____.

PRINCIPAL

By _____
Signature

Title

Any claims under this bond may be addressed to:

(Name and address of Surety's agent for service of process in California, if different from above)

(Telephone number of Surety's agent in California)

(Attach Acknowledgment)

SURETY

By _____
(Attorney-in-Fact)

NOTICE:

No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

END OF BID BOND

**SITE VISIT AFFIDAVIT
TO BE EXECUTED
BY BIDDER, NOTARIZED AND SUBMITTED WITH BID**

(To Accompany Bid)

State of California)
) ss.
County of)

_____, **being first duly sworn**, deposes and says that he or
(Contractor's Authorized Representative)

she is

_____ of _____, the party making the foregoing
(Title of Representative) (Contractor's Name)

bid, has visited the Site of the Work as described in the Contract and has examined and familiarized themselves with the existing conditions, as well as all other conditions relating to the construction which will be performed. The submitting of a bid shall be considered an acknowledgement on the part of the Bidder of familiarity with conditions at the site of Work. The Bidder further acknowledges that the site examination has provided adequate and sufficient information related to existing conditions which may affect cost, progress or performance of the Work.

Signature Name of Bidder

SECTION II
GENERAL CONDITIONS

CITY OF PETALUMA - GENERAL CONDITIONS

TABLE OF CONTENTS

ARTICLE 1 - DEFINITIONS 1

 Addenda..... 1

 Agreement 1

 Application for Payment..... 1

 Asbestos..... 1

 Bid 1

 Bonds 1

 Change Order..... 1

 CITY 1

 Clarification 1

 Contract Documents 1

 Contract Price 2

 Contract Times 2

 CONTRACTOR 2

 Day 2

 Defective Work..... 2

 Drawings..... 2

 Effective Date of the Agreement 2

 ENGINEER 2

 Field Order..... 2

 Hazardous Waste 2

 Laws and Regulations; Laws or Regulations 2

 Lien or Mechanic’s Lien..... 2

 Milestone 3

 Notice of Award 3

 Notice of Completion 3

 Notice to Proceed..... 3

 Partial Utilization..... 3

 Petroleum..... 3

 Project..... 3

 Record Drawings 3

 Resident Project Representative 3

 Samples..... 3

 Shop Drawings 3

 Site..... 3

 Special Provisions 4

 Specifications 4

 Stop Notice 4

 Subcontractor..... 4

Supplementary General Conditions.....	4
Supplier.....	4
Utilities	4
WORK.....	4
Working day	4
ARTICLE 2 - PRELIMINARY MATTERS	4
2.1 DELIVERY OF BONDS AND INSURANCE CERTIFICATES.....	4
2.2 COPIES OF DOCUMENTS.....	5
2.3 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED	5
2.4 STARTING THE WORK.....	5
2.5 PRECONSTRUCTION CONFERENCE	5
ARTICLE 3 - INTENT AND USE OF CONTRACT DOCUMENTS	5
3.1 INTENT	5
3.2 REFERENCE TO STANDARDS.....	6
3.3 REVIEW OF CONTRACT DOCUMENTS.....	6
3.4 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS.....	7
3.5 AMENDING CONTRACT DOCUMENTS.....	7
3.6 REUSE OF DOCUMENTS	7
ARTICLE 4 - SITE OF THE WORK.....	8
4.1 AVAILABILITY OF LANDS.....	8
4.2 REPORTS OF PHYSICAL CONDITIONS	8
4.3 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES.....	9
4.4 DIFFERING SITE CONDITIONS	9
4.5 HAZARDOUS MATERIALS	10
4.6 REFERENCE POINTS.....	11
ARTICLE 5 - BONDS AND INSURANCE	11
5.1 BONDS	11
5.2 INSURANCE.....	12
ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES.....	15
6.1 COMMUNICATIONS.....	15
6.2 SUPERVISION AND SUPERINTENDENCE	15
6.3 LABOR, MATERIALS, AND EQUIPMENT.....	15
6.4 SCHEDULE.....	20
6.5 SUBSTITUTES OR "OR EQUAL" ITEMS	20
6.6 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS.....	20
6.7 PERMITS.....	20
6.8 PATENT FEES AND ROYALTIES	20
6.9 LAWS AND REGULATIONS.....	21
6.10 TAXES.....	21
6.11 USE OF PREMISES.....	21
6.12 SAFETY AND PROTECTION	22

6.13	EMERGENCIES.....	24
6.14	SUBMITTALS.....	24
6.15	CONTINUING THE WORK.....	27
6.16	CONTRACTOR’S GENERAL WARRANTY AND GUARANTEE	27
6.17	INDEMNIFICATION.....	29
6.18	CONTRACTOR’S DAILY REPORTS	31
6.19	CONTRACT DOCUMENTS AND RECORD DRAWINGS.....	31
6.20	CLEAN UP	32
6.21	STORM WATER POLLUTION PREVENTION	33
ARTICLE 7 - OTHER WORK.....		39
7.1	RELATED WORK AT SITE.....	39
7.2	COORDINATION	40
ARTICLE 8 - CITY’S RESPONSIBILITIES		40
8.1	COMMUNICATIONS.....	40
8.2	PAYMENTS	40
8.3	LANDS, EASEMENTS, AND SURVEYS	40
8.4	REPORTS AND DRAWINGS	40
8.5	CHANGE ORDERS	40
8.6	INSPECTIONS AND TESTS.....	40
8.7	SUSPENSION OF WORK	40
8.8	TERMINATION OF AGREEMENT	41
8.9	LIMITATION ON CITY’S RESPONSIBILITIES	41
8.10	UNDISCLOSED HAZARDOUS ENVIRONMENTAL CONDITIONS	41
ARTICLE 9 - ENGINEER’S STATUS DURING CONSTRUCTION		42
9.1	CITY’S REPRESENTATIVE	42
9.2	OBSERVATIONS ON THE SITE	42
9.3	PROJECT REPRESENTATION	42
9.4	CLARIFICATIONS.....	42
9.5	AUTHORIZED VARIATIONS IN WORK	42
9.6	REJECTING DEFECTIVE WORK	43
9.7	CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS.....	43
9.8	DECISIONS ON DISPUTES	43
9.9	LIMITATIONS ON ENGINEER’S RESPONSIBILITIES.....	43
ARTICLE 10 - CHANGES IN THE WORK		44
10.1	GENERAL	44
10.2	ALLOWABLE QUANTITY VARIATIONS.....	45
ARTICLE 11 - CHANGE OF CONTRACT PRICE.....		45
11.1	GENERAL	45
11.2	COSTS RELATING TO WEATHER	46
11.3	COST OF WORK (BASED ON TIME AND MATERIALS)	46
11.4	CONTRACTOR’S OVERHEAD AND PROFIT.....	50

11.5	EXCLUDED COSTS.....	50
11.6	CONTRACTOR’S EXTRA WORK REPORT	51
ARTICLE 12 - CHANGE OF CONTRACT TIMES		52
12.1	GENERAL	52
12.2	EXTENSIONS OF CONTRACT TIMES FOR DELAY DUE TO WEATHER. 53	
ARTICLE 13 - INSPECTIONS AND TESTS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK		53
13.1	NOTICE OF DEFECTIVE WORK.....	53
13.2	ACCESS TO WORK	53
13.3	INSPECTIONS AND TESTS.....	53
13.4	CITY MAY STOP THE WORK	55
13.5	CORRECTION OR REMOVAL OF DEFECTIVE WORK.....	55
13.6	ACCEPTANCE OF DEFECTIVE WORK	55
13.7	CITY MAY CORRECT DEFECTIVE WORK.....	56
13.8	CORRECTION PERIOD.....	56
ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION.....		57
14.1	SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN).....	57
14.2	UNIT PRICE BID SCHEDULE	57
14.3	APPLICATION FOR PROGRESS PAYMENT	57
14.4	CONTRACTOR’S WARRANTY OF TITLE.....	58
14.5	REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT	58
14.6	COMPLETION.....	60
14.7	PARTIAL UTILIZATION.....	61
14.8	FINAL APPLICATION FOR PAYMENT.....	61
14.9	FINAL PAYMENT AND ACCEPTANCE.....	61
ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION		63
15.1	SUSPENSION OF WORK BY CITY	63
15.2	TERMINATION OF AGREEMENT BY ENGINEER FOR DEFAULT.....	63
15.2	TERMINATION OF AGREEMENT BY CITY FOR CONVENIENCE	64
15.4	TERMINATION OF AGREEMENT BY CONTRACTOR.....	64
ARTICLE 16 - GENERAL TERMS		65
16.1	GIVING NOTICE.....	65
16.2	TITLE TO MATERIALS FOUND ON THE WORK.....	65
16.3	RIGHT TO AUDIT.....	65
16.4	SURVIVAL OF OBLIGATIONS.....	66
16.5	CONTROLLING LAW	66
16.6	SEVERABILITY	66
16.7	WAIVER.....	66
ARTICLE 17 - CALIFORNIA STATE REQUIREMENTS.....		67
17.1	STATE WAGE DETERMINATIONS	67

17.2	WORKERS' COMPENSATION.....	67
17.3	APPRENTICES ON PUBLIC WORKS.....	67
17.4	WORKING HOURS.....	68
17.5	CONTRACTOR NOT RESPONSIBLE FOR DAMAGE RESULTING FROM CERTAIN ACTS OF GOD.....	68
17.6	NOTICE OF COMPLETION.....	68
17.7	UNPAID CLAIMS.....	68
17.8	RETAINAGE FROM MONTHLY PAYMENTS.....	69
17.9	PUBLIC WORKS CONTRACTS; ASSIGNMENT TO AWARDING BODY...	69
17.10	PAYROLL RECORDS; RETENTION; INSPECTION, NONCOMPLIANCE PENALTIES; RULES AND REGULATIONS.....	70
17.11	CULTURAL RESOURCES.....	71
17.12	PROTECTION OF WORKERS IN TRENCH EXCAVATIONS.....	71
17.13	CONCRETE FORMS, FALSEWORK, AND SHORING.....	72
17.14	REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES.	72
17.15	CONTRACTOR LICENSE REQUIREMENTS.....	73
17.16	DIGGING TRENCHES OR EXCAVATIONS; NOTICE ON DISCOVERY OF HAZARDOUS WASTE OR OTHER UNUSUAL CONDITIONS; INVESTIGATIONS; CHANGE ORDERS' EFFECT ON CONTRACT.....	74
17.17	RETENTION PROCEEDS; WITHHOLDING; DISBURSEMENT.....	75
17.18	TIMELY PROGRESS PAYMENTS; INTEREST; PAYMENT REQUESTS	77
17.19	PREFERENCE FOR MATERIAL.....	77
17.20	RESOLUTION OF CONSTRUCTION CLAIMS.....	78

ARTICLE 1 - DEFINITIONS

Whenever used in these General Conditions or in the other Contract Documents, the following terms have the meanings indicated in this Article 1 which meanings are applicable to both the singular and plural thereof. If a word which is entirely in upper case in these definitions is found in lower case in the Contract Documents, then the lower case word will have its ordinary meaning.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract between the CITY and the CONTRACTOR covering the WORK to be performed; other documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form accepted by the ENGINEER which is to be used by the CONTRACTOR to request progress payments or final payment and which is to be accompanied by such supporting documentations as is required by the Contract Documents.

Asbestos - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

Bid - The offer or proposal of the bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - Bid, Performance, and Labor and Materials, and Maintenance Bonds and other instruments of security.

Change Order - A document recommended by the ENGINEER, which is signed by the CONTRACTOR and the CITY, and authorizes an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

CITY - The City of Petaluma.

Clarification - A document issued by the ENGINEER to the CONTRACTOR that clarifies the requirements(s) and/or design intent of the Contract Documents, which may not represent an addition, deletion, or revision in the WORK or an adjustment in the Contract Price or the Contract Times.

Contract Documents - The Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates, affidavits and other documentation), Agreement, Performance Bond, Labor and Materials Bond, Maintenance Bond, General Conditions, any Supplementary General

Conditions, Special Provisions, Specifications, Drawings, all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents. Shop Drawings are not Contract Documents.

Contract Price - The total monies payable by the CITY to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Times - The number or numbers of successive calendar days or dates stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture, or other legal entity with whom the CITY has executed the Agreement.

Day - A calendar day of 24 hours measured from midnight to the next midnight.

Defective Work - Work that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or work that has been damaged prior to the ENGINEER's recommendation of final payment.

Drawings - The drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are included and/or referred to in the Contract Documents. Shop Drawings are not Drawings as so defined.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

ENGINEER - The City Manager or his/her designee.

Field Order - A written order issued by the ENGINEER which may or may not involve a change in the WORK.

Hazardous Waste - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 U.S.C. Section 6906) as amended from time to time.

Laws and Regulations; Laws or Regulations - Any and all applicable laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

Lien or Mechanic's Lien - A form of security, an interest in real property, which is held to secure the payment of an obligation. When related to public works construction, Lien or Mechanic's Lien may be called Stop Notice.

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a separately identifiable part of the WORK or a period of time within which the separately identifiable part of the WORK should be performed prior to completion of all the WORK.

Notice of Award - The written notice by the CITY to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein within the time specified, the CITY will enter into an Agreement.

Notice of Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the CITY that the WORK is Complete and fixing the date of completion. After acceptance of the WORK by the CITY Council, the form is signed by the CITY and filed with the County Recorder. This filing starts the 30 day lien filing period on the WORK.

Notice to Proceed - The written notice issued by the CITY to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK for the purpose for which it is intended prior to completion of all the WORK.

Partial Utilization - Use by the CITY of a completed part of the WORK for the purpose for which it is intended prior to completion of all the WORK.

Petroleum - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

Project - The total construction project of which the WORK to be provided under the Contract Documents may be the whole, or as part as indicated elsewhere in the Contract Documents.

Record Drawings - Drawings generated by marking a set of Drawings to reflect all of the changes that have occurred during construction of the Project.

Resident Project Representative - The authorized representative of the ENGINEER who is assigned to the Site or any part thereof.

Samples - Physical examples of materials, equipment, or workmanship that are representative of some portion of the WORK and which establish the standards by which such portion of the WORK will be judged.

Shop Drawings - All drawings, diagrams, illustrations, schedules, and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR to illustrate some portion of WORK.

Site - Lands or other areas designated in the Contract Documents as being furnished by the CITY for the performance of the construction, storage, or access.

Special Provisions - Specific clauses setting forth conditions or requirements peculiar to the work and supplementary to the Standard Specifications.

Specifications - The directions, provisions and requirements set forth in the Standard Specifications as supplemental and modified by the special provisions.

Stop Notice - A legal remedy for subcontractors and suppliers who contribute to public works, but who are not paid for their work, which secures payment from construction funds possessed by the CITY. In some states, for public property, the Stop Notice remedy is designed to substitute for a mechanic's lien.

Subcontractor - An individual, partnership, corporation, joint-venture, or other legal entity having a direct contract with the CONTRACTOR or with any other subcontractor for the performance of a part of the WORK at the Site.

Supplementary General Conditions - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, distributor, materialman, or vendor having a direct contract with the CONTRACTOR or with any Subcontractor to furnish materials, equipment, or product to be incorporated in the WORK by the CONTRACTOR or any Subcontractor.

Utilities - All pipelines, conduits, ducts, cables, wires, tracks, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground or above the ground to furnish any of the following services or materials; water, sewage, sludge, drainage, fluids, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic control, or other control systems.

WORK - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. WORK is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

Working day - Any day except Saturdays, Sundays and CITY holidays.

ARTICLE 2 – PRELIMINARY MATTERS

2.1 DELIVERY OF BONDS AND INSURANCE CERTIFICATES

- A. When the CONTRACTOR delivers the signed Agreement to the CITY, the CONTRACTOR shall also deliver to the CITY such Bonds and insurance policies and certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.

2.2 COPIES OF DOCUMENTS

- A. The CITY will furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.

2.3 COMMENCEMENT OF CONTRACT TIMES; NOTICE TO PROCEED

- A. The Contract Times will start to run on the commencement date stated in the Notice to Proceed.

2.4 STARTING THE WORK

- A. The CONTRACTOR shall begin to perform the WORK on the commencement date stated in the Notice to Proceed, but no work shall be done at the Site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall review the Contract Documents in accordance with Paragraph 3.3.

2.5 PRECONSTRUCTION CONFERENCE

- A. The CONTRACTOR is required to attend a preconstruction conference. This conference will be attended by the CITY, ENGINEER, and others as appropriate in order to discuss the WORK.
- B. The CONTRACTOR's initial schedule submittals for shop drawings, obtaining permits, and Plan of Operation and CPM Schedule will be reviewed and finalized. At a minimum, the CONTRACTOR's representatives shall include its project manager, project superintendent and schedule expert. If the submittals are not finalized at the end of the meeting, additional meetings will be held so that the submittals can be finalized prior to the submittal of the first Application for Payment. No Application for Payment will be processed prior to receiving acceptable initial submittals from the CONTRACTOR.

ARTICLE 3 – INTENT AND USE OF CONTRACT DOCUMENTS

3.1 INTENT

- A. The Contract Documents comprise the entire agreement between the CITY and the CONTRACTOR concerning the WORK. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the State of California .
- B. It is the intent of the Contract Documents to describe the WORK, functionally complete, to be constructed in accordance with the Contract Documents. Any

labor, documentation, services, materials, or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be provided whether or not called for specifically.

- C. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials, or equipment such words or phrases shall be interpreted in accordance with that meaning unless a definition has been provided in Article 1 of the General Conditions.

3.2 REFERENCE TO STANDARDS

- A. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual or code shall be effective to change the duties and responsibilities of the CITY or the CONTRACTOR or any of their consultants, agents or employees, from those set forth in the CONTRACT Documents, nor shall it be effective to assign to CITY any duty or authority to direct the performance of the WORK or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.3 REVIEW OF CONTRACT DOCUMENTS

- A. If, during the performance of the WORK, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the WORK or of any such standard, specification, manual, or code, or of any instruction of any Supplier, CONTRACTOR shall report it to ENGINEER in writing at once, and CONTRACTOR shall not proceed with the work affected thereby (except in an emergency as authorized by Paragraph 6.13 until a Clarification, Field Order, or Change Order to the Contract Documents has been issued.

3.4 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

A. Unless otherwise noted herein, conflicts or inconsistencies between parts of the Contract will be resolved by the ENGINEER with a Change Order or an Addendum, if required. Addenda and Change Orders bearing the most recent date shall prevail over Addenda or Change Orders bearing earlier dates. Any reference to addenda-changed specifications or drawings shall be considered to have been changed accordingly. In resolving conflicts resulting from errors or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:

1. Change Orders/Addenda (most recent in time take precedence)
2. Agreement and Bond Forms
3. Referenced Standard Specifications
4. Special Provisions
5. Drawings
6. General Conditions
7. Instructions to Bidders
8. Contractor's Bid (Bid Form)
9. Notice Inviting Bids
10. Supplementary General Conditions (if any)
11. Permits from other agencies as may be required by law

B. With reference to the Drawings the order of precedence is as follows:

1. Figures govern over scaled dimensions
2. Detail drawings govern over general drawings
3. Addenda/Change Order drawings govern over any other drawings
4. Drawings govern over standard drawings

3.5 AMENDING CONTRACT DOCUMENTS

A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the WORK or to modify the terms and conditions thereof by a Change Order (pursuant to Article 10).

3.6 REUSE OF DOCUMENTS

A. Neither the CONTRACTOR, nor any Subcontractor or Supplier, nor any other person or organization performing any of the WORK under a contract with the CITY shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents used on the WORK, and they shall not reuse any of them on the extensions of the Project or any other project without written consent of CITY.

ARTICLE 4 – SITE OF THE WORK

4.1 AVAILABILITY OF LANDS

- A. The CITY will furnish, as indicated in the Contract Documents, the lands upon which the WORK is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the CITY, unless otherwise provided in the Contract Documents. Nothing contained in the Contract Documents shall be interpreted as giving the CONTRACTOR exclusive occupancy of the lands or rights-of-way provided. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment; provided, that the CONTRACTOR shall not enter upon nor use any property not under the control of the CITY until a written temporary construction easement agreement has been executed by the CONTRACTOR and the property owner, and a copy of said easement furnished to the ENGINEER prior to said use; and the CITY will not be liable for any claims or damages resulting from the CONTRACTOR's trespass on or use of any such properties. The CONTRACTOR shall provide the CITY with a signed release from the property owner confirming that the lands have been satisfactorily restored upon completion of the WORK.

4.2 REPORTS OF PHYSICAL CONDITIONS

- A. **Subsurface Explorations:** Reference is made to any Supplementary General Conditions for identification of those reports of explorations and tests of subsurface conditions at the Site that have been utilized by the ENGINEER in the preparation of the Contract Documents.
- B. **Existing Structures:** Reference is made to any Supplementary General Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except underground Utilities referred to in Paragraph 4.3 herein) which are at or contiguous to the Site that have been utilized in the preparation of the Contract Documents.
- C. The CITY makes no representation as to the completeness of the reports or drawings referred to in Paragraph 4.2 A or B above or the accuracy of any data or information contained therein. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports and drawings. However, the CONTRACTOR may not rely upon any interpretation of such technical data, including any interpolation or extrapolation thereof, or any non-technical data, interpretations, and opinions contained therein.

4.3 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

- A. **Indicated:** The information and data indicated in the Contract Documents with respect to existing underground Utilities at or contiguous to the Site are based on information and data furnished to the CITY or the ENGINEER by the owners of such underground Utilities or by others. Unless it is expressly provided in any Supplementary General Conditions the CITY will not be responsible for the accuracy or completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of all of which are deemed to have been included in the Contract Price.
- B. **Not Indicated:** If an underground Utility is uncovered or revealed at or contiguous to the Site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall identify the owner of such underground Utility and give written notice thereof to that owner and shall notify the ENGINEER.

4.4 DIFFERING SITE CONDITIONS

- A. The CONTRACTOR shall notify the ENGINEER, in writing, of the following unforeseen conditions, hereinafter called differing Site conditions, promptly upon their discovery (but in no event later than 14 days after their discovery) and before they are disturbed:
 - 1. Subsurface or latent physical conditions at the Site of the WORK differing materially from those indicated, described, or delineated in the Contract Documents, including those reports discussed in Paragraph 4.2, 4.3, and 4.5.
- B. The ENGINEER will review the pertinent conditions, determine the necessity of obtaining additional explorations or tests with respect thereto.
- C. If the ENGINEER concludes that because of newly discovered conditions a change in the Contract Documents is required, a Change Order will be issued as provided in Article 10 to reflect and document the consequences of the difference.
- D. In each such case, an increase or decrease in the Contract Price or an extension or shortening the Contract Times, or any combination thereof, will be allowable to the extent that they are attributable to any such difference. If the ENGINEER and the CONTRACTOR are unable to agree as to the amount or length thereof, a claim may be made therefor as provided in Articles 11 and 12.

- E. The CONTRACTOR's failure to give notice of differing Site conditions within 14 days of their discovery and before they are disturbed shall constitute a waiver of all claims in connection therewith, whether direct or consequential in nature.

4.5 HAZARDOUS MATERIALS

- A. CITY shall be responsible for any Asbestos, Hazardous Waste, Petroleum, or Radioactive Material uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the WORK and which may present a substantial danger to persons or property exposed thereto in connection with the WORK at the Site. CITY will not be responsible for any such material brought to the Site by CONTRACTOR, Subcontractors, Suppliers, or anyone else for whom CONTRACTOR is responsible.
 - 1. Upon discovery of any Asbestos, Hazardous Waste, Petroleum, or Radioactive Material, the CONTRACTOR shall immediately stop all work in any area affected thereby (except in an emergency as required by Paragraph 6.13) and notify ENGINEER (and therefore confirm such notice in writing). CONTRACTOR shall not be required to resume any work in any such affected area until after CITY has obtained any required permits related thereto and delivered to CONTRACTOR special written notice. Such written notice will specify that such condition and any affected area is or has been rendered safe for the resumption of the work or specify any special conditions under which the work may be resumed safely. If ENGINEER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of adjustment, if any, in Contract Price or Contract Times as a result of such work stoppage or such special conditions under which work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided in Articles 11 and 12.
 - 2. If, after receipt of such special written notice, CONTRACTOR does not agree to resume such WORK based on a reasonable belief it is unsafe, or does not agree to resume such WORK under special conditions, ENGINEER may order such portion of the WORK that is in connection with such hazardous condition or in such affected area to be deleted from the WORK. If ENGINEER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the WORK then either party may make a claim therefor as provided in Articles 11 and 12. CITY may have such deleted portion of the WORK performed by CITY's own forces or others in accordance with Article 7.
- B. The provisions of Paragraphs 4.2, 4.3, and 4.4 are not intended to apply to Asbestos, Petroleum, Hazardous Waste, or Radioactive Material uncovered or revealed at the Site.

4.6 REFERENCE POINTS

- A. The ENGINEER will provide the location and elevation of one bench mark, near or on the Site of the WORK, for use by the CONTRACTOR for alignment and elevation control. Unless otherwise specified in any Supplementary General Conditions, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.
- B. The CONTRACTOR shall preserve or replace any and all bench marks, section corners, witness corners, stakes, and other survey marks, and in case of their removal or destruction by any party, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by surveyor licensed under the applicable state codes governing land surveyors.

ARTICLE 5 – BONDS AND INSURANCE

5.1 BONDS

- A. The CONTRACTOR shall furnish Performance and Labor and Materials Bonds, each in the amount of one hundred percent (100%) of the contract price, as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date of completion, except as otherwise provided by Law or Regulation or by the Contract Documents. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions.
- B. The CONTRACTOR shall guarantee the WORK to be free of defects in material and workmanship for a period of one (1) year following the CITY's acceptance of the WORK. The CONTRACTOR shall agree to make, at the CONTRACTOR's own expense, any repairs or replacements made necessary by defects in material or workmanship which become evident within the one-year guarantee period. The CONTRACTOR's guarantee against defects required by this provision shall be secured by a Maintenance Bond, in the amount of ten percent (10%) of the contract price, which shall be delivered by the CONTRACTOR to the CITY prior to acceptance of the WORK. The Maintenance Bond shall remain in force for one (1) year from the date of acceptance of the contracted WORK. The CONTRACTOR shall make all repairs and replacements within the time required during the guarantee period upon receipt of written order from the ENGINEER. If the CONTRACTOR fails to make the repairs and replacements within the required time, the CITY may do the work and the CONTRACTOR and the CONTRACTOR's surety for the Maintenance Bond shall be liable to the CITY for the cost. The expiration of the Maintenance Bond during the one-year guarantee period does not operate to waive or void the one-year guarantee, as set forth herein and in paragraph 6.16 of these General Conditions.

- C. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of “Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies” as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent’s authority to act.
- D. If the surety on any Bond furnished by the CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the CITY.
- E. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of California to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.

5.2 INSURANCE

Contractor and any subcontractor shall not commence work under this Agreement until Contractor shall have obtained all insurance required under this paragraph and such insurance shall have been approved by the City Attorney as to form and carrier and the City Manager as to sufficiency, nor shall Contractor allow any contractor or subcontractor to commence work on this contract or subcontract until all similar insurance required of the contractor and/or subcontractor shall have been so obtained and approved. All requirements herein provided shall appear either in the body of the insurance policies or as endorsements and shall specifically bind the insurance carrier.

CONTRACTOR shall procure and maintain for the duration of the contract all necessary insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, the Contractor’s agents, representatives, employees or subcontractors.

A. Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage.
2. Insurance Services Office form number CA covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. [Optional] Such other insurance coverages and limits as may be required by the CITY as follows: _____.

B. Minimum Limits of Insurance

CONTRACTOR shall maintain limits no less than:

1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate liability is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: Bodily Injury by Accident - \$1,000,000 each accident
Bodily Injury by Disease - \$1,000,000 policy limit
Bodily Injury by Disease - \$1,000,000 each employee

C. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the CITY. At the option of the CITY, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the CITY, its officers, officials, employees, and volunteers; or the CONTRACTOR shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

D. Other Insurance Provisions

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions:

1. The CITY, its officers, officials, employees, agents and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the CONTRACTOR; products and completed operations of the CONTRACTOR; premises owned, occupied or used by the CONTRACTOR; or automobiles owned, leased, hired or borrowed by the CONTRACTOR. The coverage shall contain no special limitations on the scope of protection afforded to the CITY, its officers, officials, employees, agents or volunteers.
2. For any claims related to this project, the CONTRACTOR's insurance coverage shall be primary insurance as respects the CITY, its officers, officials, employees, agents and volunteers. 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.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the CITY, its officers, officials, employees, agents or volunteers.
4. 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.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the CITY.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. Verification of Coverage

CONTRACTOR shall furnish the CITY with original endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the CITY. All endorsements are to be received and

approved by the CITY before work commences. As an alternative to the CITY's forms, the CONTRACTOR's insurer may provide complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications.

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.1 COMMUNICATIONS

- A. Written communications with the CITY shall be only through or as directed by the ENGINEER.

6.2 SUPERVISION AND SUPERINTENDENCE

- A. The CONTRACTOR shall supervise, inspect, and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the WORK in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and all safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.
- B. The CONTRACTOR shall designate in writing and keep on the Site at all times during the performance of the WORK a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the ENGINEER. The superintendent will be the CONTRACTOR's representative at the Site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR.
- C. The CONTRACTOR's superintendent shall be present at the Site at all times while work is in progress and shall be available by phone for emergencies 24 hours per day, 7 days per week. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the Site.

6.3 LABOR, MATERIALS, AND EQUIPMENT

- A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and any required temporary works. The CONTRACTOR shall at all times maintain good discipline and order at the Site. Except in connection with the safety or protection of persons or the WORK or property at the Site or adjacent thereto, and except as otherwise indicated in the

Contract Documents, all work at the Site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any federally observed holiday without the CITY's written consent. The CONTRACTOR shall apply for this consent through the ENGINEER in writing a minimum of 24 hours in advance.

- B. Except as otherwise provided in this Paragraph, the CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of 8 hours in any one calendar day or hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing. Additional compensation will be paid to the CONTRACTOR for overtime work only in the event extra work is ordered by the ENGINEER and the Change Order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.
- C. All increased costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed solely for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The CITY has the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.
- D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, lubricants, power, light, heat, telephone, water, sanitary facilities, and all other facilities, consumables, and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.
- E. All materials and equipment incorporated into the WORK shall be of specified quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the CITY. If required by the ENGINEER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the source, kind and quality of materials and equipment. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the CITY or any of its consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9 C.
- F. The work, unless otherwise permitted or approved by the ENGINEER, shall be completed with the incorporated use of equipment, materials, and/or products where such are specified. Substitutions and equal alternatives will be permitted as

provided in this article; however, neither the request for substitution nor the offer of alternatives shall in any way by their submittal obligate the CITY to assent to any request or offer. Failure of the CONTRACTOR awarded the work to either submit requests for substitutions or to offer alternatives within the required times provided in this General Condition will be considered as evidence that the work shall be accomplished with trade-named equipment, materials, and/or products as identified in the Specifications and/or the Drawings.

- G. Unless otherwise provided elsewhere in the Contract, all equipment, materials, and/or products incorporated into the work shall be new and, where not specified, shall be of the highest quality of the respective kinds for the intended use, and all workmanship shall meet or exceed applicable construction industry standards and practices. If equipment, materials, and/or products are designated by listing named manufacturers of particular equipment, materials, and/or products followed by the words "or equal," then the CONTRACTOR may furnish the named equipment, materials, and/or products or any equal equipment, materials, and/or products. The first-named manufacturer of particular equipment, materials, and/or products is the basis for the design shown on the Project Drawings. A subsequently named manufacturer or particular equipment, materials, and/or products has been determined to be an acceptable substitution but may require modifications in the Project's design and its ultimate construction to accommodate its use. If such subsequently named items are selected by the CONTRACTOR for incorporation into the work, the CONTRACTOR shall assume all costs required for modifications to the equipment, materials, and/or products, and Project design and construction as may be required for said items' use. Substitutions for an unnamed "equal" item of material shall be permitted upon compliance of the procedures set forth in Paragraph I of this article. If a CONTRACTOR makes use of an unnamed "equal" product as a substitute for a specifically named material or product, the CONTRACTOR shall assume all costs required to make the necessary revisions or modifications to accommodate the use of said unnamed product.
- H. Before beginning the work and within thirty-five (35) calendar days after award of the Contract, the CONTRACTOR shall submit a List of Materials to the ENGINEER for review. The List shall include all items of equipment, materials, and/or products to be incorporated into the work and the names of suppliers with whom purchase orders have been placed. The names on the List shall be arranged in the same order as in the specifications, and shall contain sufficient data to identify precisely the items of equipment, materials, and/or products the CONTRACTOR proposes to furnish. The List shall include Specifications or Drawing references. Once the submission is determined to be acceptable to the ENGINEER, it shall be returned to the CONTRACTOR.
- I. Substitution for those equipment, materials, and/or products specified shall only be permitted when the proposed unnamed "equal" product or material to be furnished is both equal in quality and utility and after the CONTRACTOR has

complied with the following provisions: (1) All substitutions shall be reviewed by the ENGINEER. (2) The ENGINEER must approve such substitution in writing prior to its incorporation into the work. (3) Unless otherwise authorized in writing by the CITY, the CONTRACTOR shall, within thirty-five (35) calendar days of award and prior to placing any purchase orders, but at least thirty (30) calendar days before it requires approval of any such alternative item, submit to the CITY sufficient data, drawings, samples, literature, or other detailed information as will demonstrate to the ENGINEER that the proposed substitute is equal in quality and utility to the equipment, materials and/or products specified.

1. Within thirty (30) calendar days following receipt of all requested information from the CONTRACTOR, the ENGINEER will determine whether the proposed alternative is equal in quality and utility and meets the requirements of the Contract and will inform the CONTRACTOR in writing of such determination. The burden of substantiating the quality and utility of alternatives shall be upon the CONTRACTOR, and the CONTRACTOR shall furnish all necessary information requested and required by the ENGINEER. The ENGINEER will be the sole judge as to the quality and utility of alternative equipment, materials, and/or products, and the ENGINEER's decision shall be final. An acceptance by the ENGINEER of a substitution shall not relieve the CONTRACTOR from complying with the requirements of the Drawings and Specifications. Acceptance by the ENGINEER shall not relieve the CONTRACTOR from full responsibility for the efficiency, sufficiency, and quality and performance of the substitute equipment, materials, and/or products, in the same manner and degree as the equipment, materials, and/or products specified by name.
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 CITY of any other proposed substitutions.
3. In determining whether a proposed product is equal in quality and utility, the ENGINEER is not restricted to such basic issues as performance and durability, but may consider any other issues that the ENGINEER, in the discretion of the ENGINEER, deems appropriate. Said issues may, but are not required to include, nor are they limited to, such additional factors as comparable performance, reliability, efficiency of operation, ease of operation, adaptability, ease of maintenance, capital costs, life-cycle costs, operational characteristics, costs of training personnel, maintenance history, warranties, problems created by the resulting overall warranty system, availability of qualified service, availability of parts, the history of any supplier and compatibility with existing facilities.

4. No one factor or group of factors, including such issues as savings on capital costs, shall be determinative of whether the proposed product or material is equal in quality and utility. The decision of the ENGINEER shall be based on those factors deemed by the ENGINEER to be relevant and any data, drawings, samples, literature, or other detailed information furnished by the CONTRACTOR with respect to the proposed substitution. Each decision as to whether a product or material is equal in quality and utility shall be made by the ENGINEER on a case-by-case basis.
5. The CONTRACTOR shall be responsible for any and all costs, including consultant costs, incurred by the CITY with respect to the proposed substitution that exceed the costs inherent in the normal and reasonable review of drawings and other standard data, information, and documents concerning any proposed substitution. The CONTRACTOR shall be responsible for this cost, regardless of whether or not the substitution is approved by the ENGINEER.
- J. Unless otherwise provided in the Contract, the title and interest in the right to the use of all water, and the title to all soil, stone, gravel, sand, minerals, timber, and all other materials developed or obtained within the Project limits from operations by the CONTRACTOR or any of its subcontractors, of any of their representatives or employees, and the right to use or dispose of the same are hereby expressly reserved in the CITY; and neither the CONTRACTOR nor any of its subcontractors, nor any of their representatives or employees, shall have any right, title, or interest in or to any part thereof.
- K. All material used under the Contract after it has been attached or affixed to the work or soil and after partial payment has been made therefore shall become the property of the CITY.
- L. In the event that any Indian relics or items possessing archaeological or historical value are discovered by the CONTRACTOR or any of its subcontractors or any of their representatives or employees, the CONTRACTOR shall immediately notify the ENGINEER and await the ENGINEER's decision before proceeding with any work. The CONTRACTOR shall have no property right in such relics and items.
- M. The CONTRACTOR shall be satisfied as to the quantity of acceptable materials or products which may be produced or obtained at local sources, and the CITY will not assume any responsibility as to the quantities or quality of acceptable materials or products available.
- N. The CONTRACTOR, with the permission of the ENGINEER, may use in the proposed construction such stone, gravel, sand, or other material suitable in the opinion of the ENGINEER as may be found in excavation.

- O. Existing equipment, materials, and/or products to be salvaged shall remain the property of the CITY. Salvage to be reinstalled in the work shall be refurbished as required before reinstallation. Other work to be salvaged shall be carefully removed and handled in such a manner as to avoid damage and shall be delivered to storage at a location designated by the ENGINEER.

6.4 SCHEDULE

- A. The CONTRACTOR shall comply with the schedule requirements in the Special Provisions or as otherwise provided in the Contract Documents.

6.5 SUBSTITUTES OR “OR EQUAL” ITEMS

- A. The CONTRACTOR shall submit proposed substitutes or “or equal” items in accordance with the Bidding Requirements. No request for substitution of an “or equal” item will be considered by the ENGINEER after award of the Contract, except as provided in Paragraph 6.3I herein.

6.6 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- A. The CONTRACTOR shall be responsible to the CITY for the acts and omissions of its Subcontractors, Suppliers, and their employees to the same extent as CONTRACTOR is responsible for the acts and omissions of its own employees. Nothing contained in this Paragraph shall create any contractual relationship between any Subcontractor and the CITY nor relieve the CONTRACTOR of any liability or obligation under the Contract Documents. The CONTRACTOR shall include these General Conditions and the Supplementary General Conditions as part of all its subcontract and supply agreements.

6.7 PERMITS

- A. Unless otherwise provided in any Supplementary General Conditions, the CONTRACTOR shall obtain and pay for all construction permits and licenses from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements shall not be made the basis for claims for additional compensation by CONTRACTOR. When necessary, the CITY will assist the CONTRACTOR, in obtaining such permits and licenses. The CONTRACTOR shall pay all charges of utility owners for inspection or connections to the WORK.

6.8 PATENT FEES AND ROYALTIES

- A. The CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the WORK or the incorporation in the WORK of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design,

process, product, or device is specified in the Contract Documents for use in the performance of the WORK and if to the actual knowledge of the ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed by the ENGINEER in the Contract Documents. The CONTRACTOR's indemnification obligation under this Paragraph 6.8 A. for all claims and liabilities arising out of any infringement of patent rights or copyrights incident to the use in the performance of the WORK or resulting from the incorporation in the WORK of any invention, design, process, product or device not specified in the Contract Documents shall be in accordance with Paragraph 6.16 of these General Conditions.

6.9 LAWS AND REGULATIONS

- A. The CONTRACTOR shall observe and comply with all Laws and Regulations which in any manner affect those engaged or employed on the WORK, the materials used in the WORK, or the conduct of the WORK including, but not limited to, all applicable safety Laws and Regulations. If any discrepancy or inconsistency should be discovered between the Contract Documents and any such Laws or Regulations, the CONTRACTOR shall report the same in writing to the ENGINEER. Any particular Law or Regulation specified or referred to elsewhere in the Contract Documents shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of federal, state, and local laws and regulations. The CONTRACTOR's indemnification obligations for all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by CONTRACTOR or by its employees, Subcontractors or Suppliers shall be in accordance with Paragraph 6.16 of these General Conditions.

6.10 TAXES

- A. The CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by the CONTRACTOR in accordance with the laws and regulations of the place of the Project which are applicable during the performance of the WORK.

6.11 USE OF PREMISES

- A. The CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site, the land and areas identified in and permitted by the Contract Documents, and the other land and areas permitted by Laws and Regulations, rights-of-way, permits, and easements. The CONTRACTOR shall assume full liability and responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the WORK. Should any claim be made against the CITY by any such owner or occupant because of the performance of the WORK, the CONTRACTOR shall

promptly attempt to settle with such other party by agreement or otherwise resolve the claim through litigation at the CONTRACTOR's sole liability expense. The CONTRACTOR's indemnification obligations for all claims and liability, arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such owner or occupant against the CITY, its consultants, subconsultants, and the officers, directors, employees and agents of each and any of them to the extent caused by or based upon the CONTRACTOR's performance of the WORK shall be in accordance with Paragraph 6.16 of these General Conditions.

6.12 SAFETY AND PROTECTION

- A. The CONTRACTOR shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR shall be responsible for the direction and control of the work assigned and for assuring that all workers on the project understand the hazards of the work involved and the safe work procedures required for each job. The CONTRACTOR shall assure that its subcontractors of all tiers shall, without expense to the CITY, comply with this safety responsibility. No work shall proceed until each worker and subcontractor understands the scope of the work and all safety rules and work procedures to be followed. The CONTRACTOR shall not allow a new employee or new subcontractor to begin work on CITY projects without a full and proper safety orientation. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage to prevent damage, injury or loss to:
1. All persons at the Site and other persons and organizations who may be affected thereby;
 2. All the WORK and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. Other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of the performance of the WORK.
- B. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property or to the protection of persons or property from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may effect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property. CONTRACTOR'S duties and responsibilities for safety and for protection of the WORK shall continue until such time as all the

WORK is completed and ENGINEER has issued a notice to the CONTRACTOR in accordance with Paragraph 14.7 B. that the WORK is acceptable.

- C. The CONTRACTOR shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.
- D. Materials that contain hazardous substances or mixtures may be required on the WORK. A Material Safety Data Sheet shall be made available at the Site by the CONTRACTOR for every hazardous product used.
- E. Material usage shall strictly conform to OSHA safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.
- F. The CONTRACTOR shall be responsible for the exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.
- G. The CONTRACTOR shall notify the ENGINEER if it considers a specified product or its intended use to be unsafe. This notification must be given to the ENGINEER prior to the product being ordered, or if provided by some other party, prior to the product being incorporated in the WORK.
- H. Before starting work, the CONTRACTOR shall submit a written safety program to the CITY. The objective of the safety program shall be accident prevention. Such program shall include, but not be limited to, the following:
 - 1. An organization chart and accompanying narrative which describes the responsibility for employee and public safety of those individuals who control each phase of operations and set forth in writing the policies and procedures to be followed by all personnel. The chart shall also show the CONTRACTOR's internal lines of communication (including subcontractors) for the program.
 - 2. A specific program for communication between the CONTRACTOR and CITY on safety matters. The CONTRACTOR shall also designate one person with whom official contact can be made by the CITY on safety matters.
 - 3. Evidence that the CONTRACTOR has become thoroughly familiar with the potential hazards of the work and applicable federal and state regulations.

4. Specific safety procedures and guidelines for conduct of the Work.
5. The CITY's review, comment upon, and/or acceptance of the CONTRACTOR's safety program and/or plan does not in any way negate the responsibilities of the CONTRACTOR for safety or place any responsibility upon the CITY for such safety. Such review comment and/or acceptance shall not be construed as limiting in any manner the CONTRACTOR's obligation to undertake any action which may be necessary or required to establish and maintain safe working conditions at the site.

6.13 EMERGENCIES

- A. In emergencies affecting the safety or protection of persons or the WORK or property at the Site or adjacent thereto, CONTRACTOR, without special instruction or authorization from ENGINEER, is obligated to immediately act to prevent threatened damage, injury, or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the WORK or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Change Order will be issued to document the consequences of such action.

6.14 SUBMITTALS

- A. After checking and verifying all field measurements and after complying with applicable procedures specified in the Special Provisions, the CONTRACTOR shall submit to the ENGINEER for review all Shop Drawings and details of all structural and reinforcing steel, equipment, electrical controls, structural fabrications, pipe, pipe joints, special pipe sections, and other appurtenances in accordance with the accepted schedule of Shop Drawing submittals specified in the Special Provisions or as otherwise provided in the Contract Documents.
- B. The ENGINEER'S review will be only to determine if the items covered by the submittals will, after installation or incorporation in the WORK, generally conform to the Contract Documents and with the design concept of the completed Project. The ENGINEER's favorable review shall be obtained before any such items are manufactured or used in the work. The favorable review of Drawings by the ENGINEER shall apply in general design only and shall in no way relieve the CONTRACTOR from responsibility for errors or omissions contained therein. Favorable review by the ENGINEER shall not relieve the CONTRACTOR of its obligation to meet safety requirements and all other requirements of law. The ENGINEER will start reviewing the CONTRACTOR's submittals only after the

Notice to Proceed is issued by the CITY with the exception of some unusual long lead items which may require submittals prior to issuing the Notice to Proceed.

- C. The CONTRACTOR shall also submit to the ENGINEER for review all Samples in accordance with the accepted schedule of Sample submittals specified in the Special Provisions or as otherwise provided in the Contract Documents.
- D. Before submittal of each Shop Drawing or Sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the WORK and the Contract Documents. The CONTRACTOR shall provide submittals in accordance with the requirements of the Special Provisions or as otherwise provided in the Contract Documents.
- E. Shop-drawing submittal and coordination are the responsibility of the prime contractor; this responsibility shall not be delegated in whole or in part to subcontractors or suppliers. Any designation of work "by others," shown on Shop Drawings, shall mean that the work will be the responsibility of the CONTRACTOR rather than the subcontractor or supplier who has prepared the Shop Drawings.

Submittals shall be prepared in such form that data can be identified with the applicable Specification paragraph. The data shall demonstrate clearly compliance with the Drawings and Specifications and shall relate to the specific equipment to be furnished. Where manufacturer's standard drawings are employed, they shall be marked clearly to show what portions of the data are applicable to this Project.

- F. Review of shop-drawing submittals by the ENGINEER has as its primary objective the completion for the CITY of a Project in full conformance with the Drawings and Specifications, unmarred by field corrections, and within the time provided. In addition to this primary objective, shop-drawing review as a secondary objective will assist the CONTRACTOR in its procurement of equipment that will meet all requirements of the Drawings and Specifications, will fit the structures detailed on the Drawings, will be complete with respect to piping, electrical, and control connections, will have the proper functional characteristics, and will become an integral part of a complete operating facility. Acceptance of Shop Drawings and submittals does not constitute a change order to the Contract requirements.
- G. Where the CONTRACTOR is required by these Specifications to make submittals, they shall be submitted to the ENGINEER with a letter of transmittal and in sufficient number of copies to allow a distribution of at least one (1) copy to all parties needing a copy to carry out the provisions of the Specifications, including three (3) copies to be retained by the ENGINEER. The ENGINEER

shall determine the appropriate number of such copies required at the time of the preconstruction conference.

H. Within twenty-five (25) calendar days of receipt by the ENGINEER of each of the CONTRACTOR's submissions and all appurtenant data required for their review, the appropriate number of copies will be returned to the CONTRACTOR with one of the following notations:

1. Resubmittal not required; correction, if any, noted.
2. Correct and resubmit; corrections noted.

Returned copies of Drawings marked with Notation "1" authorize the CONTRACTOR to proceed with the operations covered by such returned copies, provided that such operations be subject to the comments, if any, shown on such returned copies. Returned copies of Drawings marked with Notation "2" shall be corrected, as necessary and required, and shall be submitted in the same manner as before.

I. When submittals are favorably reviewed, the ENGINEER will retain three (3) copies and will return all other copies to the CONTRACTOR. When submittals are not favorably reviewed, the ENGINEER will retain only two (2) copies and will return all others to the CONTRACTOR. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submission to the ENGINEER at least by the second submission of data. The CITY reserves the right to deduct monies from payments due the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the second submission.

J. Favorable review by the ENGINEER will not constitute acceptance by the ENGINEER of any responsibility for the accuracy, coordination, and completeness of the Shop Drawings or the items of equipment represented on the Drawings. Accuracy, coordination, and completeness of Shop Drawings shall be the sole responsibility of the CONTRACTOR, including responsibility to back check comments, corrections, and modifications from the ENGINEER's review before fabrication. Supplemental, specific requirements for Shop Drawings and details are contained in the applicable technical sections of these Specifications.

K. Copies of schedules and Shop Drawings submitted to the ENGINEER for review shall be such as to provide three (3) copies for the ENGINEER's files, and such additional copies as the CONTRACTOR may desire for its own office files and/or for distribution by it to subcontractors or vendors. Exceptions will be noted in specific sections of Specifications. All Shop Drawings and supporting data, catalogs, and schedules shall be submitted as the instruments of the CONTRACTOR, who shall be responsible for their accuracy and completeness. These submittals may be prepared by the CONTRACTOR, subcontractors, or suppliers, but the CONTRACTOR shall ascertain that submittals meet all of the

requirements of the Contract, while conforming to structural, space, and access conditions at the point of installation. The CONTRACTOR shall check all submittals before submitting them to the ENGINEER.

- L. The ENGINEER shall check and review schedules, drawings, etc., submitted by the CONTRACTOR only for general design conformance with the concept of the Project and compliance with the Contract. Shop Drawings shall not be used to order products' fabrication or delivery for construction or installation unless submitted to and favorably reviewed by the ENGINEER. Acceptance by the ENGINEER of any drawings, method of work, or any information regarding materials and equipment the CONTRACTOR proposes to furnish shall not relieve the CONTRACTOR of its responsibility for any errors therein and shall not be regarded as an assumption of risks or liability by the Design ENGINEER or the CITY, or any officer or employee thereof, and the CONTRACTOR shall have no recourse against the CITY under the Contract on account of the failure or partial failure or inefficiency or insufficiency of any plan or method of work or material and equipment so accepted. Such acceptance shall be considered to mean merely that the ENGINEER has no objection to the CONTRACTOR using, upon its own full responsibility, the plan or method of work proposed or furnishing the materials and equipment proposed.

6.15 CONTINUING THE WORK

- A. The CONTRACTOR shall carry on the WORK and adhere to the progress schedule during all disputes or disagreements with the CITY. No WORK shall be delayed or postponed pending resolution of any disputes or disagreements, except as the CONTRACTOR and the CITY may otherwise agree in writing.

6.16 CONTRACTOR'S GENERAL WARRANTY AND GUARANTEE

- A. CONTRACTOR warrants and guarantees that all WORK will be in accordance with the Contract Documents and will not be defective. The CONTRACTOR represents that the WORK performed pursuant to the Contract shall be of the quality specified or of the highest quality if no quality is specified, and shall conform to the Contract Documents. The CONTRACTOR warrants all equipment, material, products, and workmanship furnished and all work performed under the Contract against defects for a period of one (1) year after final acceptance regardless of whether the same were furnished or performed by the CONTRACTOR or by any of its subcontractors or suppliers of any tier.
- B. The CONTRACTOR shall make, at its own expense, all repairs and/or replacements necessitated by defects in the equipment, materials, and/or products and in the workmanship provided by the CONTRACTOR or any of its subcontractors that become evident within the warranty period.

- C. Upon receipt of written notice from the CITY of any breach of warranty during the applicable warranty period, the affected item shall be redesigned, repaired, or replaced by the CONTRACTOR and the CONTRACTOR shall perform such tests as the CITY may require to verify that such redesign, repair, and replacement comply with the requirements of the Contract. The CITY shall have the right to operate and use such equipment, materials, and/or products until they can, without damage to the CITY, be taken out of service for correction or replacement by the CONTRACTOR. As to the redesigned, repaired, or replaced work, the CONTRACTOR warrants such redesigned, repaired, or replaced work against defective design, equipment, materials, products, and workmanship for a period of one (1) year from and after the date of satisfactory completion of such redesigned, repaired, or replaced work. The CITY reserves the right to require that the CONTRACTOR performs such repair or replacement work.
- D. The CITY also reserves the right to make such repairs or replacements, if, within seven (7) calendar days after the mailing of a notice in writing to the CONTRACTOR and Surety, the CONTRACTOR shall neglect to make or undertake with due diligence the aforesaid repairs or replacements and that Surety within seven (7) calendar days after mailing of a notice in writing of such negligence of the CONTRACTOR shall neglect to make or undertake with due diligence the aforesaid repairs or replacements itself, provided, however, that in the case of an emergency where in the opinion of the CITY delay would cause hazard to health or serious loss or damage, repair may be made without notice being sent to the CONTRACTOR or Surety, and the CONTRACTOR shall pay the cost thereof.
- E. All costs including workforce and materials incidental to such redesign, repair, replacement, and testing, including the removal, replacement, and reinstallation of equipment necessary to gain access and all other costs incurred as the result of a breach of warranty shall be borne by the CONTRACTOR whether performed by the CITY or the CONTRACTOR.
- F. Nothing in this section shall be construed to limit, relieve, or release the CONTRACTOR, subcontractor's, and equipment, materials, and/or products suppliers, and other service providers' liability to the CITY for damages sustained as the result of latent defects in the workmanship, equipment, materials, and/or products done and/or furnished by the CONTRACTOR, its subcontractors, suppliers and/or other service providers.
- G. The Performance Bond shall extend for a period of one (1) year after acceptance of the Contract by the CITY and shall cover the CONTRACTOR's obligations resulting from the warranty requirements herein specified.
- H. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

1. Abuse, modification, or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors, or Suppliers, or other individual or entity for whom CONTRACTOR is responsible;
 2. Normal wear and tear under normal usage.
- I. CONTRACTOR's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of WORK that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents:
1. Observations by ENGINEER;
 2. Recommendation by ENGINEER or payment by CITY of any progress or final payment;
 3. The issuance of a Certificate of Completion by the CITY;
 4. Use or occupancy of the WORK or any part thereof by the CITY;
 5. Any acceptance by CITY or any failure to do so;
 6. Any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice or acceptability by ENGINEER pursuant to Paragraph 14.7 B.;
 7. Any inspection, test, or approval by others; or
 8. Any correction of Defective Work by CITY.

6.17 INDEMNIFICATION

- A. Contractor shall indemnify, defend with counsel acceptable to City, and hold harmless to the full extent permitted by law, City and its officers, officials, employees, agents and volunteers from and against any and all liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with Contractor's performance of the WORK or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the active negligence, sole negligence or willful misconduct of the City. Such indemnification by the CONTRACTOR shall include, but not be limited to, the following:
1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its subcontractors, employees, or

agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, or agents;

2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's, or Supplier's own employees, or agents engaged in the WORK resulting in actions brought by or on behalf of such employees against the CITY and/or the ENGINEER;
3. Liability or claims arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the CONTRACTOR, its subcontractors, employees, or agents;
4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement;
5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the CITY or any other parties by the CONTRACTOR, its subcontractors, employees, or agents;
6. Liability or claims arising directly or indirectly from the willful misconduct of the CONTRACTOR, its subcontractors, employees, or agents;
7. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the CONTRACTOR;
8. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents, and;
9. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the CITY, the ENGINEER, their consultants, subconsultants, and the officers, directors, employees and agents of each or any of them, to the extent caused by the CONTRACTOR's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous thereto or its performance of the WORK thereon.

- B. The CONTRACTOR shall reimburse the CITY for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said CITY in enforcing the provisions of this Paragraph.
- C. The indemnification obligation under this Article 11 shall not be limited in any way by any limitation on the amount or type of insurance carried by CONTRACTOR or by the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- D. Pursuant to California Public Contract Code Section 9201, City shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

6.18 CONTRACTOR'S DAILY REPORTS

- A. The CONTRACTOR shall complete a daily report indicating location worked, total manpower for each construction trade, major equipment on Site, each Subcontractor's manpower and equipment, weather conditions, and other related information involved in the performance of the WORK. These components will be decided by the ENGINEER.

6.19 CONTRACT DOCUMENTS AND RECORD DRAWINGS

- A. The CONTRACTOR shall keep on the work site a copy of the Contract Documents and shall at all times give the ENGINEER access thereto. Any drawings included in the Specifications shall be regarded as part thereto and of the Contract. Anything mentioned in these Specifications and not shown on the Project Drawings, or shown on the Project Drawings and not mentioned in these Specifications, shall be of like effect as though shown or mentioned in both. The ENGINEER will furnish from time to time such detail drawings, plans, profiles, and information as he may consider necessary for the CONTRACTOR's guidance. It shall be the duty of the CONTRACTOR to see that the provisions of the Contract Documents are complied with in detail irrespective of the inspection given the work during its progress by the ENGINEER. Any failure on the part of the CONTRACTOR to observe the requirements contained in the Contract Documents will be sufficient cause for the rejection of the work at any time before its acceptance.
- B. The CONTRACTOR shall maintain, at the jobsite, one record set of Drawings in good order and clearly marked to show any deviations which have been made from the Drawings, including concealed construction and utility features which are revealed during the course of construction. Marked prints shall be updated at least once each week and shall be available to the ENGINEER for review as to

currency prior to developing partial payment estimates. Upon completion of the work, the marked set of prints shall be delivered to the ENGINEER.

- C. In the case of those drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the Record Drawings shall be updated by indicating those portions which are superseded by change order drawings or final shop drawings, and by including appropriate reference information describing the change orders by number and the shop drawings by manufacturer, drawing, and revision numbers.
- D. Requests for partial payments will not be approved if the updated set of Drawings is not in good order or is not kept current. Request for final payment will not be approved until the complete and correct Record Drawings are delivered to the ENGINEER.

6.20 CLEAN UP

The CONTRACTOR shall, at all times, keep the premises, occupied by it in relation to this Contract, in a neat, clean, and safe condition and at all times provide reasonable access thereto. The CONTRACTOR shall, as a minimum, conduct daily inspections to verify that requirements of this Article are being met.

- A. During the progress of the WORK, the CONTRACTOR shall:
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of material.
 - 2. Provide adequate storage of all items awaiting removal from the jobsite, observing all requirements for fire protection and protection of the environment.
 - 3. Remove any accumulation of scrap, debris, waste material, and other items not required for construction of this work.
 - 4. Dispose of existing materials and equipment to be demolished and removed and all trash such as broken concrete, wood blocking, shipping containers, etc., resulting from the contract work off the premises occupied by the CONTRACTOR, including CITY property, at the CONTRACTOR's expense. CITY-leased dumpsters and other disposal containers on CITY's property, unless specifically provided by the CONTRACTOR, shall not be used by the CONTRACTOR.
 - 5. Maintain all excavation, embankments, haul roads, permanent access roads, Plant site, waste disposal areas, borrow areas, and all other work areas within contract work limits free from dust, as determined by the

ENGINEER. Industry-accepted methods of dust control suitable for the area involved, such as sprinkling, chemical treatment, light bituminous treatment, or similar methods, will be permitted. No separate payment will be made to the CONTRACTOR for dust control.

- B. If the CONTRACTOR fails to comply with any of the foregoing, the CITY will transmit written notification of noncompliance. If, within five (5) calendar days of the written notification, the CONTRACTOR fails to comply, cleanup may be undertaken by the CITY at the expense of the CONTRACTOR.
- C. Upon completion of any portion of any WORK, the CONTRACTOR shall promptly remove all of its equipment, temporary structures, and surplus construction and other materials not to be used at or near the same location during later stages of work. Upon completion of any WORK and before final inspection is made, the CONTRACTOR shall unless otherwise specifically directed by the ENGINEER:
 - 1. Remove from the job site all plant, buildings, tools, surplus materials, equipment, forms, rubbish, scrap, debris, and waste.
 - 2. Clean all paved areas on the site. Completely remove all resultant debris.
 - 3. Visually inspect all interior surfaces, and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint droppings, spots, stains, and dirt from finished surfaces. Use only approved cleaning materials and equipment.
 - 4. Restore any improved area used for the CONTRACTOR's work or material storage to its condition at the time the CONTRACTOR moved onto the site or to the satisfaction of the ENGINEER.
 - 5. Schedule final cleaning and improvement restoration to enable the CITY to accept a completely clean and restored project.

6.21 STORM WATER POLLUTION PREVENTION

A. General

- 1. Prevention - The CONTRACTOR shall prevent the pollution of storm drain systems and creeks on or near the construction project site(s) resulting from the construction operation. The CONTRACTOR shall keep pollution out of storm drains by reducing the possibility of accidental discharge of materials and wastes, by reducing erosion and sedimentation, and by any action as required. The CONTRACTOR shall train all employees and subcontractors on the storm water pollution prevention

requirements contained in these Specifications and ensure that all employees and subcontractors are aware of the consequences as described in subsection A.3. below. The CONTRACTOR shall include appropriate subcontract provisions to ensure that these requirements are met by all subcontractors.

2. Notification - If the CONTRACTOR causes or permits the spillage or overflow of any sewage, oil, or petroleum product, hazardous substance, contaminant, or waste that may result in the fluid or substance being discharged directly or indirectly into any storm drains, creeks, wetlands, or other manmade or natural waterways the CONTRACTOR shall notify the CITY as soon as possible to the extent notification can be provided without substantially impeding cleanup or other emergency measures. In no event shall such notification be later than one hour after knowledge of the occurrence.
3. Cleanup - Immediately upon gaining knowledge of such spillage, overflow, or discharge, the CONTRACTOR shall eliminate the cause of the spillage, overflow, or discharge and take action to minimize any damages. The CONTRACTOR shall also immediately implement a cleanup program. The cleanup, including sampling and testing required by regulatory agencies to determine the nature and level of contamination shall be performed and completed to the satisfaction of the various regulatory agencies involved and the CITY, at the expense of the CONTRACTOR. Any fines, penalties, and/or subsequent actions imposed upon the CITY and/or the CONTRACTOR by regulatory agencies related to the spillage, overflow, or discharge and any subsequent monitoring, testing, and reporting, as required by regulatory agencies, shall also be at the expense of the CONTRACTOR. The CONTRACTOR shall keep a stockpile of spill cleanup materials, such as rags or absorbents, readily accessible on site. The quantity of cleanup materials shall be appropriate in consideration of the risk of an occurrence of a spill, overflow or discharge.

B. Management of Nonhazardous Material and/or Waste

1. Designated Area - The CONTRACTOR shall propose designated areas of the project site, for approval by the ENGINEER, suitable for material delivery, storage, and waste collection that to the maximum extent practicable are near construction entrances and away from catch basins, gutters, drainage courses, and creeks.
2. Backfill or Excavated Material - The CONTRACTOR shall not allow backfill or excavated material to enter the storm drains or creeks. When rain is forecast within 24 hours or during wet weather, the

CONTRACTOR may be required to cover such material with a tarpaulin and to surround the material with sand bags.

3. Street Sweeping - At least once per week or more frequently as directed by the ENGINEER, the CONTRACTOR shall clean and sweep roadways and on-site paved areas of all materials attributed to or involved in the work. The CONTRACTOR shall not use water to flush down streets in place of street sweeping.
4. Disposal - At the end of each working day, the CONTRACTOR shall collect all scrap, debris, and waste material, and dispose of such materials properly. The materials may be stored in the CONTRACTOR's yard in stockpiles or placed in dumpsters. The CONTRACTOR shall inspect dumpsters for leaks and replace or repair dumpsters that leak. The CONTRACTOR shall not discharge water from cleaning dumpsters on site. The CONTRACTOR shall arrange for regular waste collection before dumpsters overflow.

C. Management of Hazardous Material and/or Waste

1. Storage - The CONTRACTOR shall label and store all hazardous materials, such as pesticides, paints, thinners, solvents, and fuels, and all hazardous wastes, such as waste oil and antifreeze in accordance with all applicable state and federal regulations. The CONTRACTOR shall store all hazardous materials and all hazardous wastes in accordance with secondary containment regulations. All such materials and wastes shall be covered, as needed, to avoid rainwater becoming polluted with hazardous constituents which could result in potential management of collected rain water as a hazardous waste. The CONTRACTOR shall keep an accurate, up-to-date inventory, including Material Safety Data Sheets (MSDSs), of hazardous materials and hazardous wastes stored on site.
2. Usage - When rain is forecast within 24 hours or during wet weather, the CONTRACTOR shall refrain from applying chemicals in outside areas. The CONTRACTOR shall follow material manufacturer's instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals. The CONTRACTOR shall post warning signs in areas treated with chemicals.
3. Disposal - The CONTRACTOR shall arrange for regular hazardous waste collection to comply with time limits on storage of hazardous wastes. The CONTRACTOR shall dispose of hazardous waste in accordance with all applicable local, state and federal regulations. The CONTRACTOR shall not wash any spilled material into streets, gutters, storm drains, or creeks and shall not bury spilled hazardous materials. The CONTRACTOR shall

report any hazardous materials spill to the CITY in accordance with Section A.2 above.

D. Vehicle/Equipment Cleaning, Maintenance, and Fueling

1. General - The CONTRACTOR shall inspect vehicles and equipment arriving on site for leaking fluids and shall promptly repair leaking vehicles and equipment. Drip pans shall be used to catch leaks until repairs are made.

The CONTRACTOR shall comply with federal, state, and city requirements for aboveground storage tanks.

2. Cleaning - The CONTRACTOR shall perform vehicle or equipment cleaning with water only in a designated, bermed area that will not allow rinse water to run off site into streets, gutters, storm drains, or creeks. Soaps, solvents, degreasers, steam-cleaning equipment, or equivalent methods shall not be allowed.
3. Maintenance and Fueling - The CONTRACTOR shall perform maintenance and fueling of vehicles or equipment in areas that will not allow run-on of storm water or runoff of spills to storm drains and provide for confined clean-up. Examples are working in bermed areas or utilizing drip pans. The CONTRACTOR shall not contaminate the soils or groundwater with such maintenance and fueling activities.

The CONTRACTOR shall use secondary containment, such as a drip pan, to catch leaks or spills any time that vehicle or equipment fluids are dispensed, changed, or poured, and shall clean up leaks and spills of vehicle or equipment fluids immediately and dispose of the waste and cleanup materials as hazardous waste, as described in Section C.3 above.

E. Dewatering Operations

1. Sediment Control - The CONTRACTOR shall route water through a control measure, such as a sediment trap, sediment basin, or Baker tank, to remove settleable solids prior to discharge to the storm drain system. Straw bales shall be placed in front of storm drain inlets as required. Filtration of the water following the control measure may be required on a case-by-case basis. Approval of the control measure shall be obtained in advance from the ENGINEER. If the ENGINEER determines that the dewatering operation would not generate an appreciable amount of settleable solids, the control measure requirement above may be waived.
2. Contaminated Groundwater - If the project is within an area of known groundwater contamination or if contamination is found, water from

dewatering operations shall be tested prior to discharge. If the water quality meets Regional Water Quality Control Board (RWQCB) standards, it may be discharged to a storm drain or creek. Otherwise, the water shall be hauled off site for proper disposal.

F. Paving or Oiling Operations

1. When rain is forecast within 24 hours or during wet weather, the ENGINEER may prevent the CONTRACTOR from paving or oiling the street. The ENGINEER may direct the CONTRACTOR to protect drainage courses by using control measures, such as earth dike, straw bale, and sand bag, to divert runoff or trap and filter sediment.
2. The CONTRACTOR shall prevent saw-cut slurry from entering catch basins and storm drains by limiting the area over which the slurry may spread.
3. The CONTRACTOR shall cover catch basins and manholes when paving or applying seal coat, tack coat, slurry seal, or fog seal.
4. The CONTRACTOR shall not sweep or wash down excess sand (placed as part of a sand seal or to absorb excess oil) into gutters, storm drains, or creeks. The CONTRACTOR shall either collect the sand and return it to the stockpile or dispose of it in a trash container.

G. Concrete, Grout, and Mortar Waste Management

1. Concrete Truck/Equipment Washout - The CONTRACTOR shall not wash out concrete trucks or equipment into streets, gutters, storm drains, or creeks. The CONTRACTOR shall perform washout of concrete trucks or equipment off site or in a designated area on site where the water will flow onto dirt or into a temporary pit in a dirt area. The CONTRACTOR shall let the water percolate into the soil and dispose of the hardened concrete in a trash container. If a suitable dirt area is not available, the CONTRACTOR shall collect the wash water and remove it off site.
2. Exposed Aggregate Concrete Wash Water - The CONTRACTOR shall avoid creating runoff by draining water from washing of exposed aggregate concrete to a dirt area. If a suitable dirt area is not available, the CONTRACTOR shall filter the wash water through straw bales or equivalent material before discharging to a storm drain. The CONTRACTOR shall collect sweepings from exposed aggregate concrete for disposal.

H. Paint Disposal and Clean-up

1. Disposal of Unused Paint - The CONTRACTOR shall carefully use, store and dispose of paint, solvents, chemicals, and waste materials in compliance with all applicable state and federal regulations. The CONTRACTOR shall not dispose of paint to sanitary sewer systems or storm drains. The CONTRACTOR shall utilize other recycling and disposal services as follows:
 - a. "Recycling Centers" and "Waste Disposals" as may be listed in the yellow pages.
 - b. Local household hazardous waste facility if appropriate.

The CONTRACTOR may dispose of small amounts of leftover latex (water-based) paint by applying the paint to the surface of an item to be discarded and allowing it to dry thoroughly, then disposing of it in a dumpster.

The CONTRACTOR shall store these materials and conduct cleaning of painting equipment and tools in a designated area that will not allow run-on of storm water or runoff of spills. The CONTRACTOR shall not allow wash water from cleaning of painting equipment and tools into streets, gutters, storm drains, or creeks.

2. Disposal of Paint Clean-up Waste - The CONTRACTOR shall remove as much excess paint as possible from brushes, rollers, and equipment before starting cleanup.
 - a. The CONTRACTOR shall not discharge cleaning wastes from oil-based paints, buckets, brushes or tools to the sanitary sewer system. The CONTRACTOR shall retain a certified waste hauler to recycle or to dispose of cleaning wastes from oil-based paints at the CONTRACTOR's expense.
 - b. The CONTRACTOR may discharge very small amounts of cleaning wastes from brushes, rollers, buckets, and tools contaminated with latex (water-based) paints to the sanitary sewer system provided they do not contain additives with pollutants of concern (e.g., mercury, tributyltin). Brushes, rollers, and tools containing latex paints may be washed over a sink with plenty of water. Buckets containing latex paints shall first be emptied into the original can or discarded as specified in paragraph 1 above. Should excessive amounts of paint or solvent be found in the wastewater discharged, the CONTRACTOR may be subject to

enforcement action by the CITY in accordance with the City Codes.

- c. The CONTRACTOR shall not discharge any of these paint clean-up wastes to storm drains, streets, gutters, or creeks.
 - d. Waste Disposal - The CONTRACTOR shall dispose of waste thinner, solvent, and sludge from cleaning of equipment and tools as hazardous waste, as described in Section C.3 above. The CONTRACTOR shall dispose of excess thinners, solvents, and oil- and water-based paint as hazardous waste.
- I. Contaminated Soil - If the project is within an area of known soil contamination or evidence of soil contamination is found, the CONTRACTOR shall comply with the requirements of all applicable local, state and federal regulations.

ARTICLE 7 – OTHER WORK

7.1 RELATED WORK AT SITE

- A. The CITY may perform other work related to the Project at the Site by the CITY's own forces, have other work performed by utility owners, or let other direct contracts for such other work. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work.
- B. The CONTRACTOR shall afford each person who is performing the other work (including the CITY's employees) proper and safe access to the Site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and shall properly coordinate the WORK with theirs. The CONTRACTOR shall do all cutting, fitting, and patching of the WORK that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will not only cut or alter their work with the written consent of the ENGINEER and the others whose work will be affected.
- C. If the proper execution or results of any part of the CONTRACTOR's work depends upon such other work by another, the CONTRACTOR shall inspect and report to the ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to report such delays, defects, or deficiencies will constitute an acceptance of the other work as fit and proper for integration with the CONTRACTOR's work except for latent or nonapparent defects and deficiencies in the other work.

7.2 COORDINATION

- A. If the CITY contracts with others for the performance of other work at the Site, CITY will have sole authority and responsibility in respect of such coordination, unless otherwise provided in the Supplementary General Conditions.

ARTICLE 8 – CITY’S RESPONSIBILITIES

8.1 COMMUNICATIONS

- A. Except as may be otherwise provided in these General Conditions or the Supplementary General Conditions, the CITY will issue all its communications to the CONTRACTOR through the ENGINEER.

8.2 PAYMENTS

- A. The CITY will make payments to the CONTRACTOR as provided in Article 14.

8.3 LANDS, EASEMENTS, AND SURVEYS

- A. The CITY’s duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.1 and 4.6.

8.4 REPORTS AND DRAWINGS

- A. The CITY will identify and make available to the CONTRACTOR copies of reports of physical conditions at the Site and drawings of existing structures which have been utilized in preparing the Contract Documents as set forth in Paragraph 4.2.

8.5 CHANGE ORDERS

- A. The CITY will execute Change Orders as indicated in Article 10.

8.6 INSPECTIONS AND TESTS

- A. The CITY’S responsibility for inspections and tests is set forth in Paragraph 13.3.

8.7 SUSPENSION OF WORK

- A. The CITY’s right to stop work or suspend work is set forth in Paragraphs 13.4 and 15.1.

8.8 TERMINATION OF AGREEMENT

- A. The CITY's right to terminate services of the CONTRACTOR is set forth in Paragraphs 15.2 and 15.3.

8.9 LIMITATION ON CITY'S RESPONSIBILITIES

- A. The CITY shall not supervise, direct or have control or authority over, nor be responsible for CONTRACTOR's means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the WORK. CITY will not be responsible for CONTRACTOR's failure to perform or furnish the WORK in accordance with the Contract Documents.

8.10 UNDISCLOSED HAZARDOUS ENVIRONMENTAL CONDITIONS

- A. CITY's responsibility in respect to an undisclosed hazardous environmental condition is set forth in Paragraph 4.5.

ARTICLE 9 – ENGINEER’S STATUS DURING CONSTRUCTION

9.1 CITY’S REPRESENTATIVE

- A. The ENGINEER will be the CITY’S representative during the construction period. The ENGINEER shall decide any and all questions which may arise as to the quality or acceptability of materials furnished and work performed, and as to the manner of performance and rate of progress of the work; all questions which arise as to the interpretation of the plans and specifications, the proposal and the contract documents therefor; all questions as to the acceptable fulfillment of the contract on the part of the CONTRACTOR; and all questions as to claim and compensation.

9.2 OBSERVATIONS ON THE SITE

- A. The ENGINEER will make observations on the Site during construction to monitor the progress and quality of the WORK and to determine, in general, if the WORK is proceeding in accordance with the Contract Documents. The ENGINEER will not be required to make exhaustive or continuous inspections to check the quality or quantity of the WORK.

9.3 PROJECT REPRESENTATION

- A. The ENGINEER may furnish a Resident Project Representative to assist in observing the performance of the WORK. The duties, responsibilities, and limitations of authority of any such Resident Project Representative will be as provided in the Supplementary General Conditions.

9.4 CLARIFICATIONS

- A. The ENGINEER will issue with reasonable promptness such written Clarifications of the requirements of the Contract Documents as the ENGINEER may determine necessary, which shall be consistent with or reasonably inferable from the overall intent of the Contract Documents.

9.5 AUTHORIZED VARIATIONS IN WORK

- A. The ENGINEER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the Contract Times. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Times, the CONTRACTOR may make a claim therefor as provided in Article 11 or 12.

9.6 REJECTING DEFECTIVE WORK

- A. The ENGINEER will have authority to reject Defective Work and will also have authority to require special inspection or testing of the WORK as provided in Article 13.

9.7 CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS

- A. In accordance with the procedures set forth in the General Requirements, the ENGINEER will review all CONTRACTOR submittals.
- B. The ENGINEER's responsibilities for Change Orders are set forth in Articles 10, 11, and 12.
- C. The ENGINEER's responsibilities for Applications for payment are set forth in Article 14.

9.8 DECISIONS ON DISPUTES

- A. The ENGINEER will be the initial interpreter of the requirements of the Contract Documents and of the acceptability of the WORK thereunder. Claims, disputes, and other matters relating to the acceptability of the WORK and interpretation of the requirements of the Contract Document pertaining to the performance of the work shall be determined by the ENGINEER. Any claims in respect to changes in the Contract Price or Contract Times shall be resolved in accordance with the requirements set forth in Articles 10, 11, and 12.

9.9 LIMITATIONS ON ENGINEER'S RESPONSIBILITIES

- A. Neither the ENGINEER's authority to act under this Article 9 or other provisions of the Contract Documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any Supplier, any surety for any of them, or any other person or organization performing any of the WORK.
- B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory," or adjectives of like effect or import are used to describe a requirement, direction, review, or direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority

to supervise or direct the performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9 C.

- C. The ENGINEER will not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations applicable to the performance of the WORK. The ENGINEER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, Supplier, or any other person or organization performing any of the WORK.

ARTICLE 10 – CHANGES IN THE WORK

10.1 GENERAL

- A. Without invalidating the Agreement and without notice to any surety, the CITY may at any time or from time to time, order additions, deletions, or revisions in the WORK. Such additions, deletions or revisions will be authorized by a Change Order or Field Order. Upon receipt of any such document, CONTRACTOR shall promptly proceed to implement the additions, deletions, or revisions in the WORK in accordance with the applicable conditions of the Contract Documents.
- B. The CONTRACTOR shall not be entitled to an increase in the contract Price nor an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented by Change Order, except in the case of an emergency and except in the case of uncovering work as provided in Paragraph 13.3.F and G.
- C. The CITY and the CONTRACTOR shall execute appropriate Change Orders covering:
 - 1. Changes in the WORK which are ordered by the CITY pursuant to Paragraph 10.1 A.;
 - 2. Changes required because of acceptance of Defective Work under Paragraph 13.6; and
 - 3. Changes in the Contract Price or Contract Times which are agreed to by the parties under Articles 11 and/or 12, respectively.
- D. If notice of any change in the WORK is required to be given to a surety, the giving of any such notice shall be the CONTRACTOR's responsibility. If the change in the WORK affects the Contract Price, the CITY may require an

adjustment to the amount of any applicable Bond and the amount of each applicable Bond shall be adjusted accordingly.

- E. If the CITY and CONTRACTOR agree as to the extent, if any, of an increase in the Contract Price or an extension or shortening of the Contract Times that should be allowed as a result of a Field Order, the CONTRACTOR shall proceed so as to minimize the impact on and delays to the WORK pending the issuance of a Change Order.
- F. If the CITY and the CONTRACTOR are unable to agree as to the extent, if any, of an increase in the Contract Price or an extension or shortening of the Contract Times that should be allowed as a result of a Field Order, the ENGINEER can direct the CONTRACTOR to proceed on the basis of time and materials so as to minimize the impact on and delays to the WORK, and the CONTRACTOR may make a claim as provided in Articles 11 and 12.

10.2 ALLOWABLE QUANTITY VARIATIONS

- A. In the event of an increase or decrease in the quantity of any bid item under a unit price contract, the total amount of work actually done or materials or equipment furnished will be paid for according to the unit price established for such work under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Price may be made for changes which result in an increase or decrease in excess of 25 percent of the estimated quantity of any unit price bid item of the WORK.
- B. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is named in the Contract Documents to cover such eliminated work, the price of the eliminated work shall be agreed upon by the CITY and the CONTRACTOR by Change Order.

ARTICLE 11 – CHANGE OF CONTRACT PRICE

11.1 GENERAL

- A. The Contract Price constitutes the total compensation payable to the CONTRACTOR FOR PERFORMING THE work. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR to complete the WORK shall be at its expense without change in the Contract Price.
- B. The Contract Price may only be changed by a Change Order. The value of any work covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:

1. Where the work involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
 2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.4; or
 3. On the basis of the cost of work (determined as provided in Paragraph 11.3) plus the CONTRACTOR's overhead and profit (determined as provided in Paragraph 11.4).
- C. Any claim for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 10 days) after the start of the event giving rise to the claim and shall state the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within 60 days after the start of such event (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of such event. All claims for adjustment in the Contract Price will be determined by the ENGINEER. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph 11.1 C.

11.2 COSTS RELATING TO WEATHER

- A. The CONTRACTOR shall have no claims against the CITY for damages for any injury to work, materials, or equipment, resulting from the action of the elements. If, however, in the opinion of the ENGINEER, the CONTRACTOR has made all reasonable efforts to protect the materials, equipment, and work, the CONTRACTOR may be granted a reasonable extension of Contract Times to make proper repairs, renewals, and replacements of the work, materials, or equipment.

11.3 COST OF WORK (BASED ON TIME AND MATERIALS)

- A. **General:** The term "cost of work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the CITY, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in Paragraph 11.5.
- B. **Labor:** The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is

done, plus employer payments of payroll taxes, workers compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from federal, state or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers will be paid only when such costs are not included in the invoice for equipment rental. The labor costs for foremen shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Nondirect labor costs including superintendence shall be considered part of the markup set out in Paragraph 11.4.

C. **Materials:** Materials must be specifically authorized by the ENGINEER. The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the Site in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:

1. All trade discounts and rebaters shall accrue to the CITY, and the CONTRACTOR shall make provisions so that they may be obtained;
2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the ENGINEER. Except for actual costs incurred in the handling of such materials, markup will not be allowed;
3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the Site, whichever price is lower; and
4. If in the opinion of the ENGINEER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the Site less trade discount. The CITY reserves the right to furnish materials for the extra work and no claim will be allowed by the CONTRACTOR for costs and profit on such materials.

D. **Equipment:** The CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the current California Department of Transportation publication entitled "Labor Surcharge and Equipment Rental Rates." Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment will be the rate resulting in the least total cost to the CITY for the total period of use. If it is deemed necessary by the CONTRACTOR to use equipment not listed in the above-

referenced publication, an equitable rental rate for the equipment will be established by the ENGINEER. The CONTRACTOR may furnish cost data which might assist the ENGINEER in the establishment of the rental rate. Payment for equipment shall be subject to the following:

1. All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used;
2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the ENGINEER, in duplicate, a description of the equipment and its identifying number;
3. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer;
4. Individual pieces of equipment or tools having a replacement value of \$500 or less, whether or not consumed by use, will be considered to be small tools and no payment will be made therefore.

E. **Equipment Rental Time:** The rental time to be paid for equipment on the Site will be the time the equipment is in productive operation on the extra work being performed and, in addition, will include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the Site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the Site of the extra work on other than the extra work. Rental time will not be allowed while equipment is inoperative due to breakdowns. The rental time of equipment on the work Site will be computed subject to the following:

1. When hourly rates are listed, any part of an hour less than 30 minutes of operation will be considered to be half-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation;
2. When daily rates are listed, any part of a day less than 4 hours operation will be considered to be half-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and

materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Paragraphs 3, 4, and 5, following;

3. Payment for the equipment will be made in accordance with the provisions in Paragraph 11.3 D., herein;
4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already on the Site, or in the absence of such labor, established by collective bargaining agreements for the type of workmen and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein accordance with the provisions of Paragraph 11.3 B., herein, which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages; and
5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11.4, herein.

F. **Special Services:** Special work or services are defined as that work characterized by extraordinary complexity, sophistication, innovation, or a combination of the foregoing attributes which are unique to the construction industry. The ENGINEER will make estimates for payment for special services and may consider the following:

1. When the ENGINEER and the CONTRACTOR, determine that a special service or work is required which cannot be performed by the forces of the CONTRACTOR or those of any of its Subcontractors, the special service or work may be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the ENGINEER, invoices for special services or work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs;
2. When the CONTRACTOR is required to perform work necessitating special fabrication or matching process in a fabrication or a machine shop facility away from the Site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as a special service and accordingly, the invoices for the work may be accepted without detailed itemization; and
3. All invoices for special services will be adjusted by deducting all trade discounts. In lieu of the allowances for overhead and profit specified in

Paragraph 11.4, herein, an allowance of 15 percent will be added to invoices for special services.

- G. **Sureties;** All work performed hereunder shall be subject to all provisions of the Contract Documents and the CONTRACTOR's sureties shall be bound with reference thereto as under the original Agreement. Copies of all amendments to Bonds or supplemental Bonds shall be submitted to the CITY for review prior to the performance of any work hereunder.

11.4 CONTRACTOR'S OVERHEAD AND PROFIT

- A. Extra work ordered on the basis of time and materials will be paid for at the actual necessary cost as determined by the ENGINEER, plus allowances for overhead and profit. No additional mark-ups and/or surcharges will be added to the cost. The allowance for overhead and profit will include full compensation for superintendence, taxes, field office expense, extended overhead, home office overhead, and all other items of expense or cost not included in the cost of labor, materials, or equipment provided for under Paragraph 11.3. The allowance for overhead and profit will be made in accordance with the following schedule:

Overhead and Profit Allowance

Labor 20 percent
Materials 15 percent
Equipment... 15 percent

To the sum of the costs and markups provided for in this Article, an additional 2 percent of the sum will be added as compensation for Bonds and insurance.

- B. It is understood that labor, materials, and equipment for extra work may be furnished by the CONTRACTOR or by the Subcontractor on behalf of the CONTRACTOR. When all or any part of the extra work is performed by a Subcontractor, the allowance specified herein will be applied to the labor, materials, and equipment costs of the Subcontractor, to which the CONTRACTOR may add 5 percent of the Subcontractor's total cost for the extra work. Regardless of the number of hierarchical tiers of Subcontractors, the 5 percent increase above the Subcontractor's total cost which includes the allowances for overhead and profit specified herein may be applied one time only.

11.5 EXCLUDED COSTS

- A. The term "cost of the work" shall not include any of the following:
 - 1. Payroll costs and other compensation of CONTRACTOR's officers, executives, proprietors, partners, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and

contracting agents, expeditors, timekeepers, clerks, and other personnel employed by CONTRACTOR whether at the Site or in CONTRACTOR's principal or a branch office for general administration of the WORK all of which are to be considered administrative costs covered by the CONTRACTOR's allowance for overhead and profit;

2. Non-direct labor costs, including superintendence, shall be considered part of the markup for overhead and profit, and no additional payment will be allowed for such;
3. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the Site;
4. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the WORK and charges against CONTRACTOR for delinquent payments;
5. Cost of premiums for all Bonds and for all insurance whether or no CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except as provided by Paragraph 11.4 above);
6. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective Work, disposal of materials or equipment wrongly supplied, and making good any damages to property; and
7. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in Paragraph 11.4.

11.6 CONTRACTOR'S EXTRA WORK REPORT

- A. In order to be paid for extra work, the CONTRACTOR must submit a daily extra work report on the form furnished by the ENGINEER. The form must be completely filled out based on the provisions of Paragraphs 11.3 through 11.5 and signed by the CONTRACTOR and ENGINEER at the end of each work day. Failure to complete the form and obtain appropriate signatures by the next working day after the extra work of the previous day was completed will result in CONTRACTOR's costs for extra work being disallowed.

ARTICLE 12 – CHANGE OF CONTRACT TIMES

12.1 GENERAL

- A. The Contract Times may only be changed by a Change Order. Any claim for an extension of the Contract Times shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 10 days) after the start of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within 30 days after the start of such event (unless the ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR is entitled as a result of said event. All claims for adjustment in the Contract Times will be determined by the ENGINEER. No claim for an adjustment in the Contract Times will be valid if not submitted in accordance with the requirements of this Paragraph 12.1 A. An increase in Contract Times does not mean that the CONTRACTOR is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.
- B. All time limits stated in the Contract Documents are of the essence of the Agreement.
- C. When CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the WORK due to such delay, if a claim is made therefor as provided in Paragraph 12.1.A. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by CITY; acts or neglect of those performing other work as contemplated by Article 7; and fires, floods, epidemics, abnormal weather conditions, or acts of God. Delays attributable to and within the control of any Subcontractor or Supplier shall be deemed to be delays within the control of the CONTRACTOR.
- D. In no event will CITY be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for any increase in the Contract Price or other damages arising out of or resulting from the following:
1. Delays caused by or within the control of CONTRACTOR; or
 2. Delays beyond the control of both CITY and CONTRACTOR including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God, or acts or neglect by those performing other work as contemplated by Article 7.

12.2 EXTENSIONS OF CONTRACT TIMES FOR DELAY DUE TO WEATHER

- A. The CONTRACTOR's construction schedule shall anticipate delay due to unusually severe weather. The number of days of anticipated delay is set forth in the Supplementary General Conditions.
- B. Contract Times may be extended by the ENGINEER because of delays in excess of the anticipated delay. The CONTRACTOR shall, within 10 days of the beginning of any such delay, notify the ENGINEER in writing and request an extension of Contract Times. The ENGINEER will ascertain the facts and the extent of the delay and extend the Contract Times when, in its judgment, the findings of the fact justify such an extension.

ARTICLE 13 – INSPECTIONS AND TESTS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

13.1 NOTICE OF DEFECTIVE WORK

- A. Prompt notice of Defective Work known to the ENGINEER will be given to the CONTRACTOR. All Defective Work, whether or not in place, may be rejected, corrected, or accepted as provided in this Article 13. Defective Work may be rejected even if approved by prior inspection.

13.2 ACCESS TO WORK

- A. ENGINEER and other representatives and personnel of CITY, independent testing laboratories, and governmental agencies with jurisdictional interests shall have access to the WORK at reasonable times for their observation, inspecting, and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's Site safety procedures and programs so that they may comply therewith as applicable.

13.3 INSPECTIONS AND TESTS

- A. The CONTRACTOR shall give the ENGINEER not less than 24 hours notice of readiness of the WORK for all required inspections, tests, or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. The CITY shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. For inspection, tests, or approvals covered by Paragraphs 13.3C. and 13.3D. below;

2. That costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.3G. shall be paid as provided in said Paragraph 13.3G.; and
 3. As otherwise provided in the Contract Documents.
- C. If Laws and Regulations of any public body having jurisdiction require any WORK (or any part thereof) to be inspected, tested, or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals; pay all costs in connection therewith; and furnish the ENGINEER the required certificates of inspection or approval.
- D. The CONTRACTOR shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the ENGINEER's acceptance of materials or equipment to be incorporated in the WORK or acceptance of materials, mix designs, or equipment submitted for approval prior to the CONTRACTOR's purchase thereof for incorporation in the WORK. Such inspections, tests, or approvals shall be performed by organizations acceptable to the ENGINEER.
- E. The ENGINEER will make, or have made, such inspections and tests as the ENGINEER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in any Supplementary General Conditions, the cost of such inspection and testing will be borne by the CITY. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the ENGINEER, as well as the cost of subsequent reinspection and retesting. Neither observations by the ENGINEER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.
- F. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the ENGINEER not less than 24 hours notice of the CONTRACTOR's intention to perform such test or to cover the same and the ENGINEER has not acted with reasonable promptness in response to such notice.
- G. If any WORK is covered contrary to the written request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER's observation and recovered at the CONTRACTOR's expense.

- H. If the ENGINEER considers it necessary or advisable that covered WORK be observed by the ENGINEER or inspected or tested by others, the CONTRACTOR, at the ENGINEER's request shall uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such work is Defective Work, the CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to, fees and charges of engineers, architects, attorneys, and other professionals. However, if such work is not found to be Defective Work, the CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.
- I. No acceptance of equipment, materials, or work shall be construed to result from such inspections by the ENGINEER. Any inspections or tests or waivers thereof shall not relieve the CONTRACTOR of its responsibility for meeting the requirement of the Contract.

13.4 CITY MAY STOP THE WORK

- A. If Defective Work is identified, the ENGINEER may order the CONTRACTOR to stop performance of the WORK, or any portion thereof, until the cause for such order has been eliminated; however, this right of the ENGINEER to stop the WORK shall not give rise to any duty on the part of the ENGINEER to exercise this right for the benefit of the CONTRACTOR or any other party.

13.5 CORRECTION OR REMOVAL OF DEFECTIVE WORK

- A. If required by the ENGINEER, the CONTRACTOR shall promptly either correct all Defective Work, whether or not fabricated, installed, or completed, or, if the work has been rejected by the ENGINEER, remove it from the Site and replace it with non-defective WORK. The CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such correction or removal, including but not limited to fees and charges of engineers, architects, attorneys, and other professionals made necessary thereby.

13.6 ACCEPTANCE OF DEFECTIVE WORK

- A. If, instead of requiring correction or removal and replacement of Defective Work, the CITY prefers to accept the Defective Work, the CITY may do so. The CONTRACTOR shall bear all direct, indirect, and consequential costs attributable to the CITY's evaluation of and determination to accept such Defective Work. If

any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the CITY shall be entitled to an appropriate decrease in the Contract Price.

13.7 CITY MAY CORRECT DEFECTIVE WORK

- A. If the CONTRACTOR fails within a reasonable time after written notice from the ENGINEER to correct Defective Work, or to remove and replace Defective Work as required by the ENGINEER in accordance with Paragraph 13.5A., or if the CONTRACTOR fails to perform the WORK in accordance with the Contract Documents, or if the CONTRACTOR fails to comply with any other provision of the Contract Documents, the CITY may, after seven days written notice to the CONTRACTOR, correct and remedy any such deficiency.
- B. In exercising the rights and remedies under this paragraph, the CITY shall proceed with corrective and remedial action. In connection with such corrective and remedial action, the CITY may exclude the CONTRACTOR from all or part of the Site, take possession of all or part of the WORK, and suspend the CONTRACTOR's services related thereto and incorporate in the WORK all materials and equipment for which the CITY has paid the CONTRACTOR whether stored at the Site or elsewhere. The CONTRACTOR shall provide the CITY and its ENGINEER, access to the Site to enable CITY to exercise the rights and remedies under this paragraph.
- C. All direct, indirect, and consequential cost and damages incurred by the CITY in exercising the rights and remedies under this paragraph will be charged against the CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK; and the CITY shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, the CITY may make a claim therefor as provided in Article 11. Such claim will include, but not be limited to, all costs of repair or replacement of work of others, destroyed or damaged by correction, removal, or replacement of CONTRACTOR's Defective Work and all direct, indirect, and consequential damages associated therewith.
- D. The CONTRACTOR shall not be allowed an extension of Contract Times (or Milestones) because of any delay in the performance of the WORK attributable to the exercise by CITY of CITY's rights and remedies under this paragraph.

13.8 CORRECTION PERIOD

- A. The correction period for Defective Work shall be the longer of:
 - 1. One year after the date of final acceptance;

2. Such time as may be prescribed by Laws and Regulations;
 3. Such time as specified by the terms of any applicable special guarantee required by the Contract Documents; or
 4. Such time as specified by any specific provision of the Contract Documents.
- B. If, during the correction period as defined in Paragraph 13.8A above, any work is found to be Defective Work, the CITY shall have the same remedies as set forth in Paragraphs 13.5, 13.6, and 3.7 above.
- C. Where Defective Work (and damage to other work resulting therefrom) has been corrected, removed, or replaced under this paragraph, the correction period hereunder with respect to such work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN)

- A. The schedule of values or lump sum price breakdown established as provided in the General Requirements shall serve as the basis for progress payments and shall be incorporated into a form of “Application for Payment acceptable to the ENGINEER.

14.2 UNIT PRICE BID SCHEDULE

- A. Progress payments on account of unit price work will be based on the number of units completed.

14.3 APPLICATION FOR PROGRESS PAYMENT

- A. Unless otherwise prescribed by law, on the 25th of each month, the CONTRACTOR shall submit to the ENGINEER for review, the Application for Payment filled out and signed by the CONTRACTOR covering the WORK completed as of the Application for Payment and accompanied by such supporting documentation as is required by the Contract Documents.
- B. The Application for Payment shall identify, as a subtotal, the amount of the CONTRACTOR total earnings to date; plus the value of materials stored at the Site which have not yet been incorporated in the WORK; and less a deductive adjustment for materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for materials stored at the Site, but not yet incorporated in the WORK.

- C. The net payment due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the amount of retainage specified in the Supplementary General Conditions and the total amount of all previous payments made to the CONTRACTOR.
- D. The value of materials stored at the Site shall be an amount equal to the specified percent of the value of such materials as set forth in any Supplementary General Conditions. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the Site or at another location agreed to in writing; provided, each such individual item has a value of more than \$5,000 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that the CONTRACTOR 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 the CITY's interest therein, all of which will be satisfactory to the CITY.
- E. A ten percent (10%) retention of payment amount shall be held by the CITY from the amount of each Application for Payment.
- F. **OPTIONAL:** Partial payments for mobilization/demobilization costs shall be as follows:
 - 1. Thirty-five percent (35%) of the amount bid for mobilization/demobilization or 1.75 percent of the original Contract Price, whichever is less, shall be paid in each of the first two progress payments.
 - 2. The balance of the amount bid for mobilization/demobilization shall be paid upon completion of all WORK on the project.

14.4 CONTRACTOR'S WARRANTY OF TITLE

- A. The CONTRACTOR warrants and guarantees that title to all WORK, materials, and equipment covered by an Application for Payment, whether incorporated in the WORK or not, will pass to the CITY no later than the time of payment, free and clear of all Liens.

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. The ENGINEER will, within 7 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the application to the CITY, or return the application to the CONTRACTOR indicating in writing the ENGINEER'S REASONS FOR REFUSING TO RECOMMEND PAYMENT. In the latter case, the CONTRACTOR may make

the necessary corrections and resubmit the application. If the ENGINEER still disagrees with a portion of the application, it will submit the application recommending the undisputed portion of the application to the CITY for payment and provide reasons for recommending non-payment of the disputed amount. Thirty days after presentation of the Application for Payment with the ENGINEER'S recommendation, the amount recommended will (subject to the provisions of Paragraph 14.5B.) become due and when due will be paid by the CITY to the CONTRACTOR.

- B. The ENGINEER, in its discretion, may refuse to recommend the whole or any part of any payment. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect CITY from loss because:
1. The work is Defective Work or the completed WORK has been damaged requiring correction or replacement.
 2. The Contract Price has been reduced by written amendment or Change Order.
 3. The CITY has been required to correct Defective Work or complete WORK in accordance with Paragraph 13.7.
 4. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.1 through 15.4 inclusive.
 5. Third party claims filed or reasonable evidence indicating probable filing of such claims; or
 6. Failure of the Contractor to make payments properly to subcontractors or for labor, materials, or equipment; or
 7. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum; or
 8. Failure of the Contractor to submit an acceptable construction schedule or failure to update the schedule; or
 9. Damage to the City or another contractor; or
 10. Reasonable evidence that the work will not be completed within the time provided for in the Contract; or

11. Contractor's failure or inability to obtain or maintain insurance coverage and bonds as required by the Contract throughout the course of the job; or
 12. Persistent failure to carry out the work in accordance with the Contract; or
 13. Failure to deliver copies of certified payrolls, as specified in Section 17.11, General Conditions.
 14. In addition, the City may deduct from any such payments due the Contractor any amounts the City may be currently or in the future authorized to retain pursuant to federal, state, or local laws or regulations, any amounts due the City from the Contractor, and any other amounts which the City is otherwise authorized to retain as specified in Special Provisions.
- C. The CITY may refuse to make payment of the full amount recommended by the ENGINEER because:
1. Claims have been made against CITY on account of CONTRACTOR's performance or furnishing of the WORK.
 2. Liens have been filed in connection with the WORK, except where CONTRACTOR has delivered a specific Bond satisfactory to CITY to secure the satisfaction and discharge of such Liens.
 3. There are other items entitling CITY to set-off against the amount recommended, or
 4. CITY has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.5B. through 14.5C and 15.1 through 15.4 inclusive.

The CITY must give the CONTRACTOR immediate written notice stating the reasons for such action and promptly pay the CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by CITY and CONTRACTOR, when CONTRACTOR corrects to CITY's satisfaction the reasons for such action.

14.6 COMPLETION

- A. When the CONTRACTOR considers the WORK ready for its intended use, the CONTRACTOR shall notify the ENGINEER in writing that the WORK is complete. The CONTRACTOR shall attach to this request a list of all work items that remain to be completed and a request that the ENGINEER prepare a Notice of Completion. Within a reasonable time thereafter, the CONTRACTOR, and the ENGINEER shall make an inspection of the WORK to determine the status of completion. If the ENGINEER considers the WORK complete, the ENGINEER

will prepare and execute and deliver for City Council approval and recordation the Notice of Completion signed by the ENGINEER and CONTRACTOR, which shall fix the date of completion.

14.7 PARTIAL UTILIZATION

- A. The CITY shall have the right to utilize or place into service any item of equipment or other usable portion of the WORK prior to completion of the WORK. Whenever the CITY plans to exercise said right, the CONTRACTOR will be notified in writing by the ENGINEER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.
- B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of Partial Utilization, the CITY will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.
- C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the CITY prior to completion of the WORK.

14.8 FINAL APPLICATION FOR PAYMENT

- A. After the CONTRACTOR has completed all of the remaining work items referred to in Paragraph 14.6 and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, marked-up record documents (as provided in the General Requirements), and other documents, all as required by the Contract Documents, and after the ENGINEER has indicated that the WORK is acceptable, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the CITY) of all Liens arising out of or filed in connection with the WORK.

14.9 FINAL PAYMENT AND ACCEPTANCE

- A. If, on the basis of the ENGINEER's observation of the WORK during construction and final inspection, and the ENGINEER's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, the ENGINEER is satisfied that the WORK has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the ENGINEER will, within 14 days after receipt

of the final Application for Payment, indicate in writing the ENGINEER's recommendation of payment and present the application to the CITY for payment.

- B. After acceptance of the WORK by the City Council, the CITY will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract Documents, including the following items:
1. Liquidated damages, as applicable;
 2. Amounts withheld by CITY under Paragraph 14.5B. and C. which have not been released; and
 3. In accordance with Section 17.6, one-and-one-half times the value of outstanding items of correction work or punch list items yet uncompleted or uncorrected, as applicable. All such work shall be completed or corrected to the satisfaction of the ENGINEER as required by the Contract Documents, otherwise the CONTRACTOR does hereby waive any and all claims to all monies withheld by the CITY to cover the value of all such uncompleted or uncorrected items.
- C. Prior to final payment by the CITY, the CONTRACTOR must provide the CITY a fully-executed Conditional Waiver and Release Upon Final Payment in accordance with California Civil Code Section 3262.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.1 SUSPENSION OF WORK BY CITY

- A. The CITY may, at any time and without cause, suspend the WORK or any portion thereof for a period of not more than 90 days by notice in writing to the CONTRACTOR. The CONTRACTOR shall resume the WORK on receipt of a notice of resumption of work. The CONTRACTOR will be allowed an increase in the Contract Price or an extension of the Contract Time, or both directly attributable to any suspension if the CONTRACTOR makes an approval claim therefor as provided in Articles 11 and 12.

15.2 TERMINATION OF AGREEMENT BY ENGINEER FOR DEFAULT

- A. In the event of default by the CONTRACTOR, the ENGINEER may give seven days written notice to the CONTRACTOR and the CONTRACTOR's surety of CITY's intent to terminate the Agreement and provide the CONTRACTOR an opportunity to remedy the conditions constituting the default within a specified period of time. It will be considered a default by the CONTRACTOR whenever CONTRACTOR shall:
1. Declare bankruptcy, become insolvent, or assign its assets for the benefit of its creditors;
 2. Disregard or violate the Laws or Regulations of any public body having jurisdiction;
 3. Fail to provide materials or workmanship meeting the requirements of the Contract Documents;
 4. Disregard or violate provisions of the Contract Documents or ENGINEER's instructions;
 5. Fail to prosecute the WORK according to the approved progress schedule;
 6. Fail to provide a qualified superintendent, competent workmen, or materials or equipment meeting the requirements of the Contract Documents;
 7. Disregard the authority of the ENGINEER; or
 8. Assign or subcontract any part of the work without the ENGINEER's consent.
- B. If the CONTRACTOR fails to remedy the conditions constituting default within the time allowed, the ENGINEER may then issue the notice of termination.

- C. In the event the Agreement is terminated in accordance with Paragraph 15.2A., herein, the CITY may take possession of the WORK and may complete the WORK by whatever method or means the CITY may select. The cost of completing the WORK will be deducted from the balance which would have been due the CONTRACTOR had the Agreement not been terminated and the WORK completed in accordance with the Contract Documents. If such cost exceeds the balance which would have been due, the CONTRACTOR shall pay the excess amount to the CITY. If such cost is less than the balance which would have been due, the CONTRACTOR shall not have claim to the difference.

15.3 TERMINATION OF AGREEMENT BY CITY FOR CONVENIENCE

- A. Upon seven days' written notice to the CONTRACTOR, the CITY may, without cause and without prejudice to any other right or remedy of the CITY, elect to terminate the Agreement. In such case, the CONTRACTOR shall be paid (without duplication of any items):
 - 1. For completed and acceptable WORK executed in accordance with the Contract Documents, prior to the effective date of termination, including fair and reasonable sums for overhead and profit of such WORK;
 - 2. For expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted WORK, plus fair and reasonable sums or overhead and profit on such expenses;
 - 3. For all reasonable claims, costs, losses, and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers, and others; and
 - 4. For reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.4 TERMINATION OF AGREEMENT BY CONTRACTOR

- A. The CONTRACTOR may terminate the Agreement upon 14 days written notice to the ENGINEER whenever:
 - 1. The WORK has been suspended under the provisions of Paragraph 15.1, herein, for more than 90 consecutive days through no fault or negligence of the CONTRACTOR, and notice to resume work or to terminate the

Agreement has not been received from the ENGINEER within this time period; or

2. The CITY should fail to pay the CONTRACTOR any monies due him in accordance with the terms of the Contract Documents and within 60 days after presentation to the ENGINEER by the CONTRACTOR of a request therefor, unless within said 14-day period the CITY shall have remedied the condition upon which the payment delay was based.
- B. In the event of such termination, the CONTRACTOR shall have no claims against the CITY except for those claims specifically enumerated in Paragraph 15.3, herein, and as determined in accordance with the requirements of said paragraph.

ARTICLE 16 – GENERAL TERMS

16.1 GIVING NOTICE

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.2 TITLE TO MATERIALS FOUND ON THE WORK

- A. The CITY reserves the right to retain title to all soils, stone, sand, gravel, and other materials developed and obtained from excavations and other operations connected with the WORK. Unless otherwise specified in the Contract Documents, neither the CONTRACTOR nor any Subcontractor shall have any right, title, or interest in or to any such materials. The CONTRACTOR will be permitted to use in the WORK, without charge, any such materials which meet the requirements of the Contract Documents.

16.3 RIGHT TO AUDIT

- A. If the CONTRACTOR submits a claim to the ENGINEER for additional compensation, the CITY shall have the right, as a condition to considering the claim, and as a basis for evaluation of the claim, and until the claim has been settled, to audit the CONTRACTOR's books to the extent they are relevant. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discovery and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the claim has been submitted. The right to audit shall include the right to inspect the CONTRACTOR's plant or such parts thereof, as may be or have been engaged in the performance of the WORK. The CONTRACTOR further agrees that the right to audit encompasses

all subcontracts and is binding upon Subcontractors. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the CITY deems desirable during the CONTRACTOR's normal business hours at the office of the CONTRACTOR. The CONTRACTOR shall make available to the ENGINEER for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the ENGINEER.

16.4 SURVIVAL OF OBLIGATIONS

- A. All representations, indemnifications, warranties, and guaranties made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the WORK or termination or completion of the Agreement.

16.5 CONTROLLING LAW

- A. This Agreement is to be governed by the law of the state in which the Project is located.

16.6 SEVERABILITY

- A. If any term or provision of this Agreement is declared invalid or unenforceable by any court of lawful jurisdiction, the remaining terms and provisions of the Agreement shall not be affected thereby and shall remain in full force and effect.

16.7 WAIVER

- A. The waiver by the CITY of any breach or violation of any term, covenant or condition of this Agreement or of any provision, ordinance, or law shall not be deemed to be a waiver of any other term, covenant, condition, ordinance, or law or of any subsequent breach or violation of the same or of any other term, covenant, condition, ordinance, or law. The subsequent payment of any monies or fee by the CITY which may become due hereunder shall not be deemed to be a waiver of any preceding breach or violation by CONTRACTOR or any term, covenant, condition of this Agreement or of any applicable law or ordinance.

ARTICLE 17 – CALIFORNIA STATE REQUIREMENTS

17.1 STATE WAGE DETERMINATIONS

- A. As required by Section 1770 and following, of the California Labor Code, the CONTRACTOR shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing rate of per diem wages available file at the office of the City Clerk, which copies shall be made available to any interested party on request. The CONTRACTOR shall post a copy of such determination at each job site.
- B. In accordance with Section 1775 of the California Labor Code, the CONTRACTOR shall, as a penalty to the CITY, forfeit not more than **\$200.00** for each calendar day or portion thereof, for each worker paid less than the prevailing rates as determined by the Director for the work or craft in which the worker is employed for any public work done under the contract by him or her or by any subcontractor under him or her.

17.2 WORKERS' COMPENSATION

- A. In accordance with the provisions of Section 3700 of the California Labor Code, the CONTRACTOR shall secure the payment of compensation to its employees.
- B. Prior to beginning work under the Contract, the CONTRACTOR shall sign and file with the ENGINEER the following certification:

“I am aware of the provisions of Section 3700 of the Labor Code, which require every employer to be insured against liability for workers’ compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the WORK of this Contract.”
- C. Notwithstanding the foregoing provisions, before the Contract is executed on behalf of the CITY, a bidder to whom a contract has been awarded shall furnish satisfactory evidence that it has secured in the manner required and provided by law the payment of workers’ compensation.

17.3 APPRENTICES ON PUBLIC WORKS

- A. The CONTRACTOR shall comply with all applicable provisions of Section 1777.5 of the California Labor Code relating to employment of apprentices on public works.

17.4 WORKING HOURS

- A. The CONTRACTOR shall comply with all applicable provisions of Section 1810 to 1815, inclusive, of the California Labor Code relating to working hours. The CONTRACTOR shall, as a penalty to the CITY, forfeit \$25.00 for each worker employed in the execution of the Contract by the CONTRACTOR or by any subcontractor for each calendar day during which such worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week, unless such worker receives compensation for all hours worked in excess of 8 hours at not less than 1-1/2 times the basic rate of pay.

17.5 CONTRACTOR NOT RESPONSIBLE FOR DAMAGE RESULTING FROM CERTAIN ACTS OF GOD

- A. As provided in Section 7105 of the California Public Contract Code, the CONTRACTOR shall not be responsible for the cost of repairing or restoring damage to the WORK which damage is determined to have been proximately caused by an act of God, in excess of 5 percent of the contracted amount, provided, that the WORK damaged was built in accordance with accepted and applicable building standards and the plans and specifications of the CITY. The CONTRACTOR shall obtain insurance to indemnify the CITY for any damage to the WORK caused by an act of God if the insurance premium is a separate bid item in the bidding schedule for the WORK. For purposes of this Section, the term "acts of God" shall include only the following occurrences or conditions and effects: earthquakes in excess of a magnitude of 3.5 on the Richter Scale and tidal waves.

17.6 NOTICE OF COMPLETION

- A. In accordance with the Sections 3086 and 3093 of the California Civil Code, within 10 days after date of acceptance of the WORK BY THE City Council the ENGINEER will file, in the County Recorder's office, a Notice of Completion of the WORK.

17.7 UNPAID CLAIMS

- A. If, at any time prior to the expiration of the period for service of a stop notice, there is served upon the CITY a stop notice as provided in Sections 3179 and 3210 of the California Civil Code, the CITY shall, until the discharge thereof, withhold from the monies under its control so much of said monies due or to become due to the CONTRACTOR under this Contract as shall be sufficient to answer the claim stated in such stop notice and to provide for the reasonable cost of any litigation thereunder; provided, that if the ENGINEER shall, in its discretion, permit CONTRACTOR to file with the ENGINEER the bond referred to in Section 3196 of the Civil Code of the State of California, said monies shall not thereafter be withheld on account of such stop notice.

17.8 RETAINAGE FROM MONTHLY PAYMENTS

- A. Pursuant to Section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the CITY to insure performance under the Contract. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the CITY or with a state or federally chartered bank in California as to the escrow agent, who shall return such securities to the CONTRACTOR upon satisfactory completion of the Contract.
- B. Alternatively, the CONTRACTOR may request and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investment of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms provided in Section 22300 of the Public Contract Code securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow agent in administering the escrow account and all expenses of the CITY. These expenses and payment terms shall be determined by the CITY's Finance Director or his/her designee and the escrow agent. 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, pursuant to the terms of Section 22300 of the Public Contract Code. The CONTRACTOR shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to insure the performance of the CONTRACTOR.
- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.

17.9 PUBLIC WORKS CONTRACTS; ASSIGNMENT TO AWARDING BODY

- A. In accordance with Section 7103.5 of the California Public Contract Code, the CONTRACTOR and Subcontractors shall conform to the following requirements. In entering into a public works contract or a subcontract to supply goods, services, or materials pursuant to a public works contract, the CONTRACTOR or subcontractor offers and agrees to assign to the CITY 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. 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.

17.10 PAYROLL RECORDS; RETENTION; INSPECTION; NONCOMPLIANCE PENALTIES; RULES AND REGULATIONS

- A. In accordance with Section 1776 of the California Labor Code the CONTRACTOR and each Subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by him or her in connection with the public work. Each payroll record shall contain or be verified by a written declaration that it is made under penalty of perjury, stating both of the following:
1. The information contained in the payroll record is true and correct.
 2. The employer has complied with the requirements of Sections 1771, 1811, and 1815 for any work performed by his or her employees on the public works project.
- B. The payroll records shall be certified and shall be available for inspection at all reasonable hours at the principal office of the CONTRACTOR on the following basis:
1. A certified copy of an employee's payroll record shall be made available for inspection or furnished to the employee or his or her authorized representative on request as well as submitted electronically online to the Department of Industrial Relations Labor Commissioner: <https://apps.dir.ca.gov/ecpr/DAS/AltLogin>.
 2. A certified copy of all payroll records shall be made available for inspection or furnished upon request to a representative of the body awarding the contract, the Division of Labor Standards Enforcement, and the Division of Apprenticeship Standards of the Department of Industrial Relations.
 3. A certified copy of all payroll records shall be made available upon request by the public for inspection or copies thereof made; provided, however, that a request by the public shall be made through either the body awarding the contract, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement. If the requested payroll records have not been provided the requesting party shall, prior to being provided the records, reimburse the costs of preparation by the

CONTRACTOR, Subcontractors, and the entity through which the request was made. The public shall not be given access to the records at the principal office of the CONTRACTOR.

- C. The certified payroll records shall be on forms provided by the Division of Labor Standards Enforcement or shall contain the same information as the forms provided by the division.
- D. Any copy of records made available for inspection as copies and furnished upon request to the public or any public agency by the awarding body, the Division of Apprenticeship Standards, or the Division of Labor Standards Enforcement shall be marked or obliterated in such a manner as to prevent disclosure of an individual's name, address, and social security number. The name and address of the CONTRACTOR awarded the contract or performing the contract shall not be marked or obliterated.
- E. The CONTRACTOR shall inform the ENGINEER of the location of the records including the street address, city and county, and shall, within 5 working days, provide a notice of change of location and address.
- F. The CONTRACTOR shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects the CONTRACTOR must comply with this Section. In the event that the CONTRACTOR fails to comply within the 10-day period, he or she shall, as a penalty to the state or political subdivision on whose behalf the contract is made or awarded, forfeit twenty-five dollars (\$25.00) for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, these penalties shall be withheld from progress payments then due. A contractor is not subject to a penalty assessment pursuant to this section due to the failure of a subcontractor to comply with this section.

17.11 CULTURAL RESOURCES

- A. The CONTRACTOR's attention is directed to the provisions of the Clean Water Grant Program Bulletin 76A which augments the National Historic Preservation Act of 1966 (16 U.S.C. 470) as specified under Section 01560 - Temporary Environmental Controls, of the General Requirements.

17.12 PROTECTION OF WORKERS IN TRENCH EXCAVATIONS

- A. As required by Section 6705 of the California Labor Code and in addition thereto, whenever work under the Contract involves the excavation of any trench or trenches 5 feet or more in depth, the CONTRACTOR shall submit for acceptance by the ENGINEER, to whom authority to accept has been delegated, in advance of excavation, a detailed plan showing the design of shoring, bracing, sloping, or

other provisions to be made for worker protection from the hazard of caving ground during the excavation, of such trench or trenches. If such plan varies from the shoring system standards established by the Construction Safety Orders of the Division of Occupational Safety and Health, the plan shall be prepared by a registered civil or structural engineer employed by the CONTRACTOR, and all costs therefore shall be included in the price named in the Contract for completion of the WORK as set forth in the Contract Documents. Nothing in this Section shall be deemed to allow the use of a shoring, sloping, or other 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 officers, agents, representatives, or employees.

- B. Excavation shall not start until the CONTRACTOR has obtained a permit from the California Division of Industrial Safety and has posted it at the site.

17.13 CONCRETE FORMS, FALSEWORK, AND SHORING

- A. The CONTRACTOR shall comply fully with the requirements of Section 1717 of the Construction Safety Orders, State of California, Department of Industrial Relations, regarding the design of concrete forms, falsework and shoring, and the inspection of same prior to placement of concrete. Where the said Section 1717 requires the services of a civil engineer registered in the State of California to approve design calculations and working drawings of the falsework or shoring system, or to inspect such system prior to placement of concrete, the CONTRACTOR shall employ a registered civil engineer for these purposes, and all costs therefore shall be included in the price named in the Contract for completion of the WORK as set forth in the Contract Documents.

17.14 REMOVAL, RELOCATION, OR PROTECTION OF EXISTING UTILITIES

- A. In accordance with the provisions with the provisions of Section 4215 of the California Government Code, the CITY shall assume the responsibility for the timely removal, relocation, or protection of existing main or trunkline utility facilities located on the site of any construction project that is a subject of the Contract, if such utilities are not identified by the CITY in the plans and specifications made a part of the invitation for bids. The CITY will compensate CONTRACTOR for the costs of locating, repairing damage not due to the failure of the CONTRACTOR to exercise reasonable care, and removing or relocating such utility facilities not indicated in the plans and specifications with reasonable accuracy, and for equipment on the project necessarily idled during such work.
- B. The CONTRACTOR shall not be assessed liquidated damages for delay in completion of the project, when such delay was caused by the failure of the public agency or the owner of the utility to provide for removal or relocation of such utility facilities.

- C. Nothing herein shall be deemed to require the public agency to indicate the presence of existing service laterals or appurtenances when the presence of such utilities on the site of the construction project can be inferred from the presence of other visible facilities, such as buildings, meter and junction boxes, on or adjacent to the site of construction; provided however, nothing herein shall relieve the public agency from identifying main or trunklines in the plans and specifications.
- D. If the CONTRACTOR while performing the Contract discovers utility facilities not identified by the public agency in the Contract Documents it shall immediately notify the public agency and utility in writing.
- E. The public utility, where they are the owner, shall have the sole discretion to perform such repairs or relocation work or permit the CONTRACTOR to do such repairs or relocation work at a reasonable price.

17.15 CONTRACTOR LICENSE REQUIREMENTS

- A. In accordance with Section 7028.15 of the California Business and Professions Code:
- B. It is a misdemeanor for any person to submit a bid to a public agency in order to engage in the business or act in the capacity of a contractor within this state without having a license therefor, except in any of the following cases:
 - 1. The person is particularly exempted from this chapter.
 - 2. The bid is submitted on a state project governed by Section 10164 of the Public Contract Code or any local agency project governed by Section 20103.5 of the Public Contract Code.
- C. If a person has previously been convicted of the offense described in this section, the court shall impose a fine of 20 percent of the price of the contract under which the unlicensed person performed contract work, or four thousand five hundred dollars (\$4,500), whichever is greater, or imprisonment in the county jail for not less than 10 days nor more than six months, or both.
- D. In the event the person performing the contracting work has agreed to furnish materials and labor on an hourly basis, “the price of the contract” for the purpose of this subdivision means the aggregate sum of the cost of materials and labor furnished and the cost of completing the work to be performed.
- E. This section shall not apply to a joint venture license, as required by Section 7029.1 of the California Business and Professions Code. However, at the time of making a bid as a joint venture, each person submitting the bid shall be subject to this section with respect to his or her individual licensure.

- F. This section shall not affect the right or ability of a licensed architect, land surveyor, or registered professional engineer to form joint ventures with licensed contractors to render services within the scope of their respective practices.
- G. Unless one of the foregoing exceptions applies, a bid submitted to a public agency by a contractor who is not licensed in accordance with this chapter shall be considered nonresponsive and shall be rejected by the public agency. Unless one of the foregoing exceptions applies, a local public agency shall, before awarding a contract or issuing a purchase order, verify that the contractor was properly licensed when the contractor submitted the bid. Notwithstanding any other provision of law, unless one of the foregoing exceptions applies, the registrar may issue a citation to any public officer or employee of a public entity who knowingly awards a contract or issues a purchase order to a contractor who is not licensed pursuant to this chapter. The amount of civil penalties, appeal, and finality of such citations shall be subject to Sections 7028.7 and 7028.13 inclusive of the California Business and Professions Code. Any contract awarded to, or any purchase order issued to, a contractor who is not licensed pursuant to this chapter is void.
- H. Any compliance or noncompliance with subdivision (G) of this paragraph shall not invalidate any contract or bid awarded by a public agency during which time that subdivision was in effect.
- I. A public employee or officer shall not be subject to a citation pursuant to this section if the public employee, officer, or employing agency made an inquiry to the board for the purposes of verifying the license status of any person or contractor and the board failed to respond to the inquiry within three business days. For the purposes of this section, a telephone response by the board shall be deemed sufficient.

17.16 DIGGING TRENCHES OR EXCAVATIONS; NOTICE ON DISCOVERY OF HAZARDOUS WASTE OR OTHER UNUSUAL CONDITIONS; INVESTIGATIONS; CHANGE ORDERS; EFFECT ON CONTRACT

- A. If this Contract involves digging trenches or other excavations that extend deeper than four feet below the surface, the following shall apply:
 - 1. The CONTRACTOR shall promptly, and before the following conditions are disturbed, notify the ENGINEER in writing, of any:
 - a. 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.

- b. Subsurface or latent physical conditions at the site differing from those indicated.
- c. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the contract.
- d. The ENGINEER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR'S cost of, or the time required for, performance of any part of the work shall issue a change order the procedures described in the Contract.
- e. In the event that a dispute arises between the ENGINEER and the CONTRACTOR whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the CONTRACTOR'S cost of, or time required for, performance of any part of the work, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the Contract, but shall proceed with all work to be performed under the Contract. The CONTRACTOR shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

17.17 RETENTION PROCEEDS; WITHHOLDING; DISBURSEMENT

- A. In accordance with Section 7107 of the Public Contract Code with respects to all contracts entered into on or after January 1, 1993 relating to the construction of any public work of improvement the following shall apply:
 - 1. The retention proceeds withheld from any payment by the CITY from the original CONTRACTOR, or by the original CONTRACTOR from any subcontractor, shall be subject to this paragraph 17.18.
 - 2. Within 60 days after the date of completion of the WORK, including any punch-list WORK, the retention withheld by the CITY shall be released. In the event of a dispute between the ENGINEER and the original CONTRACTOR, the CITY may withhold from the final payment an amount not to exceed 150 percent of the disputed amount. For the purposes of this paragraph, "completion" means any of the following:
 - a. The occupation, beneficial use, and enjoyment of a work of improvement, excluding any operation only for testing, startup, or

commissioning, by the CITY, accompanied by cessation of labor on the work of improvement.

- b. The acceptance by the City Council of the work of improvement.
 - c. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 100 days or more, due to factors beyond the control of the CONTRACTOR.
 - d. After the commencement of a work of improvement, a cessation of labor on the work of improvement for a continuous period of 30 days or more, if the ENGINEER files for record a notice of cessation or a notice of completion.
3. Subject to subparagraph 17.18 A.4, within 10 days from the time that all or any portion of the retention proceeds are received by the original CONTRACTOR, the original CONTRACTOR shall pay each of its subcontractors from whom retention has been withheld, each subcontractor's share of the retention received. However, if a retention payment received by the original CONTRACTOR is specifically designated for a particular subcontractor, payment of the retention shall be made to the designated subcontractor, if the payment is consistent with the terms of the subcontract.
 4. The original CONTRACTOR may withhold from a subcontractor its portion of the retention proceeds if a bona fide dispute exists between the subcontractor and the original CONTRACTOR. The amount withheld from the retention payment shall not exceed 150 percent of the estimated value of the disputed amount.
 5. In the event that retention payments are not made within the time periods required by this paragraph 17.18, the CITY or original CONTRACTOR shall be subject to a charge of 2 percent per month on the improperly withheld amount, in lieu of any interest otherwise due. Additionally, in any action for the collection of funds wrongfully withheld, the prevailing party shall be entitled to attorney's fees and costs.
 6. Any attempted waiver of the provisions of this section shall be void as against the public policy of this state.

17.18 TIMELY PROGRESS PAYMENTS; INTEREST; PAYMENT REQUESTS

- A. If the CITY fails to make any progress payment within 30 days after receipt of an undisputed and properly submitted payment request from the CONTRACTOR, the CITY shall pay interest to the CONTRACTOR equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the Code of Civil Procedure.
- B. Upon receipt of a payment request, the ENGINEER shall act in accordance with both of the following:
 - 1. Each payment request shall be reviewed by the ENGINEER as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request.
 - 2. Any payment request determined not to be a proper payment request suitable for payment shall be returned to the CONTRACTOR as soon as practicable, but not later than seven days, after receipt. A request returned pursuant to this paragraph shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.
- C. The number of days available to the CITY to make a payment without incurring interest pursuant to this paragraph shall be reduced by the number of days by which the CITY exceeds the seven-day requirement set forth above.
- D. For purposes of this paragraph:
 - 1. A “progress payment” includes all payments due the CONTRACTOR, except that portion of the final payment designated by the contract as retention earnings.
 - 2. A payment request shall be considered properly executed if funds are available for payment of the payment request, and payments is not delayed due to an audit inquiry by the financial officer of the CITY.

17.19 PREFERENCE FOR MATERIAL

- A. In accordance with Section 3400 of the California Public Contract Code, the CONTRACTOR will be provided a period prior to award of the contract for submission of data substantiating a request for a substitution of “as equal” item.

17.20 RESOLUTION OF CONSTRUCTION CLAIMS

- A. In accordance with Section 20104 et Seq. of the California Public Contract Code. This paragraph applies to all claims of \$375,000 or less which arise between the CONTRACTOR and the CITY under this Contract for:
1. A time extension;
 2. Payment of money or damages arising from work done by or on behalf of, the CONTRACTOR pursuant to this CONTRACT and payment of which is not otherwise expressly provided for or the CONTRACTOR is not otherwise entitled to; or
 3. An amount the payment of which is disputed by the ENGINEER.
- B. For any claim set out in Paragraphs A.1, 2, or 3 above, the following requirements apply:
1. The claim shall be in writing and include the documents necessary to substantiate the claim and be accompanied by the following certification:

“CONTRACT PROVISION REQUIRING PERSONAL CERTIFICATION OF ALL CLAIMS:

I, _____, BEING THE _____ (MUST BE AN OFFICER) OF _____ (GENERAL CONTRACTOR), DECLARE UNDER PENALTY OF PERJURY UNDER THE LAWS OF THE STATE OF CALIFORNIA, AND DO PERSONALLY CERTIFY AND ATTEST THAT: I HAVE THOROUGHLY REVIEWED THE ATTACHED CLAIM FOR ADDITIONAL COMPENSATION AND/OR EXTENSION OF TIME, AND KNOW ITS CONTENTS, AND SAID CLAIM IS MADE IN GOOD FAITH; THE SUPPORTING DATA IS TRUTHFUL AND ACCURATE; THAT THE AMOUNT REQUESTED ACCURATELY REFLECTS THE CONTRACT ADJUSTMENT FOR WHICH THE CONTRACTOR BELIEVES THE CITY IS LIABLE; AND, FURTHER THAT I AM FAMILIAR WITH CALIFORNIA PENAL CODE SECTION 12650, ET SEQ. PERTAINING TO FALSE CLAIMS, AND FURTHER KNOW AND UNDERSTAND THAT SUBMISSION OR CERTIFICATION OF A FALSE CLAIM MAY LEAD TO FINES, IMPRISONMENT AND/OR OTHER SEVERE LEGAL CONSEQUENCES.”

Claims must be filed on or before the date of final payment. Nothing herein is intended to extend the time limit or supersede notice requirements otherwise provided by Contract for the filing of claims.

The claim must include an actual cost documentation, including hours of work performed, equipment operation costs, and labor and overhead costs, which should be established at a standard percentage. Any overhead costs listed when paid, shall provide full and complete payment for any and all overhead, including jobsite overhead, home office overhead, as well as additional costs arising from disruption, resequencing or acceleration. A notice of POTENTIAL CLAIM shall be submitted in advance of the performance of any work, regardless of type, in which the CONTRACTOR may claim an additional cost. CONTRACTOR shall provide prompt notification of any disagreement in quantities of work performed along with a detailed accounting by means of a schedule update demonstrating any delays incurred.

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

If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the ENGINEER and the CONTRACTOR.

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

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

If additional information is thereafter required, it shall be requested and provided upon mutual agreement of the ENGINEER and the CONTRACTOR.

The ENGINEER's written response to the claim, as further documented, shall be submitted to CONTRACTOR within 30 days after receipt of the further documentation, or within a period of time no greater than that taken by the CONTRACTOR in producing the additional information or requested documentation, whichever is greater.

4. If the CONTRACTOR disputes the ENGINEER's written response, or the ENGINEER fails to respond within the time prescribed, the CONTRACTOR may notify the ENGINEER, in writing, either within 15 days of receipt of the ENGINEER's response or within 15 days of the ENGINEER's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the ENGINEER shall schedule a meet and confer conference within 30 days for settlement of the dispute.
5. Following the meet and confer conference, if the claim or any portion remains in dispute, the CONTRACTOR may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time CONTRACTOR submits its written claim pursuant to subdivision (a) until the time the claim is denied as a result of the meet and confer process, including any period of time utilized by the meet and confer process.

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

1. Within 60 days, but no earlier than 30 days, following the filing or responsive pleadings, the court shall submit the matter to nonbinding mediation unless waived by mutual stipulation of both parties. The mediation process shall provide for the selection within 15 days by both parties of a disinterested third person as mediator, shall be commenced within 30 days of the submittal, and shall be concluded within 15 days from the commencement of the mediation unless a time requirement is extended upon a good cause showing to the court or by stipulation of both parties. If the parties fail to select a mediator within the 15-day period, any party may petition the court to appoint the mediator.
2. If the matter remains in dispute, the case shall be submitted to judicial arbitration pursuant to Chapter 2.5 (commencing with Section 1141.10) of Title 3 of Part 3 of the Code of Civil Procedure, notwithstanding Section 1141.11 of that code. The Civil Discovery Act of 1986 (Article 3 (commencing with Section 2016) of Chapter 3 of Title 3 of Part 4 of the Code of Civil Procedure) shall apply to any proceeding brought under this subdivision consistent with the rules pertaining to judicial arbitration.

Notwithstanding any other provision of law, upon stipulation of the parties, arbitrators appointed for purposes of Article 1.5 of Chapter 1 of Part 3 of Division 2 of the California Public Contract Code shall be experienced in construction law, and, upon stipulation of the parties, mediators and arbitrators shall be paid necessary and reasonable hourly rates of pay not to exceed their customary rate, and such fees and expenses shall be paid equally by the parties, except in the case of arbitration where the arbitrator, for good cause, determines a different division. In no event shall these fees or expenses be paid by state or county funds.

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

3. The CITY shall not fail to pay money as to any portion of a claim which is undisputed except as otherwise provided in this Contract.
4. In any suit filed under Section 20104.4 of the California Public Contract Code, the CITY shall pay interest at the legal rate on any arbitration award or judgment. The interest shall begin to accrue on the date the suit is filed in a court of law.

END OF GENERAL CONDITIONS

file name:

SECTION III
SPECIAL PROVISIONS

SECTION III.

SPECIAL PROVISIONS

- 3-1. DESCRIPTION OF WORK – Installation of 12-inch C900 PVC Water Main in open space, installation of 6-inch and 12-inch C900 and C905 PVC Recycled Water Mains, Jack and Bore of 18-inch Steel conduit and/or directional drilling of 12-inch HDPE piping, installation of fire hydrant and water services, connection to existing pressurized mains, and replacement of concrete curb & gutter, sidewalk, and asphalt paving.
- 3-2. ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS – If the CONTRACTOR discovers any errors, omissions, discrepancies, or conflicts in the Contract, he/she shall immediately inform the ENGINEER in writing. The ENGINEER will promptly resolve such matters by issuing addenda or change orders. Failure to delay or to act on the part of the ENGINEER shall not constitute a waiver of any right afforded the CITY or the ENGINEER by the Contract or constitute an implied approval. Any work affected by such discoveries that is performed by the CONTRACTOR prior to authorization by the CITY shall be at the CONTRACTOR’S risk.

Unless otherwise noted below, conflicts or inconsistencies between parts of the Contract will be resolved by the ENGINEER with a change order or an addendum, if required. Addenda and change orders bearing the most recent date shall prevail over addenda or change orders bearing earlier dates. Any reference to addenda-changed specifications or drawings shall be considered to have been changed accordingly.

In resolving conflicts, errors, or discrepancies, the order of precedence shall be as follows:

- 1) Change Orders/Addenda (most recent in time takes precedence)
- 2) Agreement and Bond Forms
- 3) Special Provisions
- 4) Technical Specifications
- 5) Standard Specifications (Current Caltrans Standard Specifications)
- 6) Drawings
- 7) General Conditions
- 8) Instructions to Bidders
- 9) CONTRACTOR’S Bid (Bid Form)
- 10) Notice Inviting Bids
- 11) Permits from other agencies as may be required by law.

- 3-3. COOPERATION - Attention is directed to Sections 5-1.20, "Coordination with Other Entities", and 5-1.36D, "Nonhighway Facilities", of the Standard Specifications and these special provisions.

The CONTRACTOR shall not adjust gas, electric, television cable, telephone, and Sonoma County structures. The CONTRACTOR will notify each agency who will be in turn adjust their own structures at least seven (7) working days prior to covering/burying these facilities at no cost to the CITY. Failure to do so shall result in the CONTRACTOR being liable for the utility agencies' claims.

- 3-4. OBSTRUCTIONS - Attention is directed to Sections 5-1.36D, "Non-highway Facilities", and 15, "Existing Facilities", of the Standard Specifications and these special provisions.

The CONTRACTOR's attention is directed to the existence of certain underground facilities that may require special precautions be taken by the CONTRACTOR to protect the health, safety and welfare of workmen and of the public. Facilities requiring special precautions include, but are not limited to: conductors of petroleum products, oxygen, chlorine and toxic or flammable gases; natural gas in pipelines greater than 6 inches in diameter or pipelines operating at pressures greater than 60 psi (gage); underground electric supply system conductors or cables either directly buried or in duct or conduit which do not have concentric neutral conductors or other effectively grounded metal shields or sheaths; and underground electrical conductors with potential to ground of more than 300 volts.

The CONTRACTOR shall notify the ENGINEER and the appropriate regional notification center for operators of subsurface installations at least 5 working days prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure. Regional notification centers include but are not limited to the following:

Underground Service Alert
Northern California (USA)
Telephone: 811

If the CONTRACTOR's certain operation is delayed, in the opinion of the ENGINEER, by the discovery of an underground utility not indicated on the plans or not marked by USA, the CONTRACTOR shall be paid a fair and reasonable compensation for the actual loss. Actual loss shall be understood to include no items of expense other than idle time of equipment exclusively used in such operation and necessary payments for idle time of labor exclusively required for such operation only, determined as follows:

- 1) Compensation for idle equipment shall be applied at the reduced Caltrans' Equipment Rental Rates where the right of way delay factor for each classification of equipment shall be applied to such equipment rental rate. No markup shall be applied for overhead or profit.
- 2) Compensation for idle time of labor shall be actual wages paid to the workers. No markup shall be added for overhead and profit.

- 3) The time for which such compensation will be paid will not exceed eight (8) hours for each incident.
 - 4) The CONTRACTOR shall be granted an extension of time for the delay.
 - 5) No monetary compensation will be allowed for delays due to utilities indicated on the plans or marked by USA.
- 3-5. ORDER OF WORK – The CONTRACTOR shall submit a work plan to the City for review and shall identify proposed order of work to maximize efficiency of construction, minimize impact to the community and maintain safety.
- 3-6. PROJECT AND CONSTRUCTION AREA SIGNS – Project sign and construction area signs shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, “Construction Area Traffic Control Devices”, of the Standard Specifications.

Two (2) project signs with a minimum dimension of 3’X4’X3/4” plywood bolted to an A-frame barricade shall be furnished, installed and moved from site to site by the Contractor. Letters and numbers shall be black on a white background. The sign information shall be as shown below:

CITY OF PETALUMA (4” LETTERS)

PROJECT: SRJC 12-INCH WATER MAIN AND MARIA-LEGHORN RECYCLED WATER MAIN EXTENSION

FUNDING: CITY FUNDS (3” LETTERS)

PROJECT MANAGER: DAN HERRERA (3” LETERS)

PHONE: 707-776-3589

The signs shall be approved prior to fabrication and posted as directed by the Engineer.

Construction area signs will be installed prior to start of construction and maintained in place for the duration of the project by the CONTRACTOR. When installed, the signs shall not extend beyond the street curb alignment into the travel way. Signs shall be repaired or replaced at no cost to the City of Petaluma, if damaged or stolen. The CONTRACTOR shall remove the signs and posts at the completion of the project and with prior approval of the ENGINEER.

All costs involved in purchasing and installing construction area and project signs shall be considered as included in the Lump Sum price paid for Traffic Control System.

- 3-7. MAINTAINING TRAFFIC – Attention is directed to Sections 7-1.03, “Public Convenience”, 7-1.04, “Public Safety”, and 12, “Temporary Traffic Control”, of the

Standard Specifications and the City of Petaluma Traffic Control Design and Construction Standards Series 700. Nothing in these special provisions shall be construed as relieving the CONTRACTOR from his/her responsibility as provided in said Section 7-1.04.

The Contractor will minimize disruption to all traffic (vehicular, transit, bicycle, and pedestrians) during the allowed work window. During construction, bicyclists will either share the road with vehicular traffic in a signed detour or be provided separate access. In addition, pedestrian access will be maintained at all times during construction. The Contractor shall provide temporary pedestrian curb ramps and clearly mark the temporary crosswalks. The pedestrian path shall be clear of any debris and meet ADA requirements. Driveway access to schools, residents, and businesses will also be maintained at all times.

Lane closures shall conform to the provisions in the section of these special provisions entitled, "Traffic Control System for Lane Closure".

At least five (5) working days prior to beginning of each phase of construction (e.g., piping installation, paving, pavement repair, concrete construction, etc.), the CONTRACTOR shall:

- A. Notify all adjacent residents, businesses, City of Petaluma Police and Fire, Green Waste Recovery (residential refuse service company), Waste Management Company (industrial refuse service company), and Petaluma Transit by written notices detailing the type, limits, date and the hours of work. Details of the notice shall be submitted to the ENGINEER for review and approval at least five (5) days prior to delivering these notices.
- B. Where required, post streets with temporary "No Parking/Tow Away" signs at 100-foot intervals at least 72 hours in advance. These signs shall be furnished by the CONTRACTOR and shall state the date; day of week and hour parking is prohibited.

Illuminated traffic cones when used during the hours of darkness shall be affixed or covered with reflective cone sleeves as specified in Section 12-3.10, "Traffic Cones", of the Standard Specifications.

Full compensation for temporary delineation shall be considered as included in the prices paid for the contract in terms of work which obliterated the existing delineation and no separate payment will be made therefore.

When working in or blocking any intersection, the CONTRACTOR shall provide flag persons to direct traffic at that intersection. This is in addition to other required flag persons.

Personal vehicles of the CONTRACTOR's employees shall not be parked on the traveled way, including any section closed to public traffic. The CONTRACTOR, at all times,

shall provide flag person(s) to direct delivery trucks and CONTRACTOR's vehicles entering or leaving the public traffic.

The CONTRACTOR shall notify the City of Petaluma of his/her intent to begin work at least 5 days before work is begun. The CONTRACTOR shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles.

Whenever vehicles or equipment are parked on the shoulder within 6 feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than 25 feet past the last vehicle or piece of equipment. A minimum of 9 cones or portable delineators shall be used for the taper. A C23 (Road Work Ahead) or C24 (Shoulder Work Ahead) sign shall be mounted on a telescoping flag tree with flags. The flag tree shall be placed where directed by the ENGINEER.

A minimum of one (paved) reversible traffic lane, not less than 10 feet wide, shall be open for use by public traffic in with minimal delays, flaggers, adequate traffic control, and signing. ***Flashing arrow boards shall be required for any lane closures.***

Day work: No work and/or preparation of work shall be performed between 5:00 p.m. and 7:00 a.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Night work: No work and/or preparation of work shall be performed between 5:00 a.m. and 10:00 p.m. unless approved by the ENGINEER in writing, except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or specified elsewhere in the special provisions.

Except as otherwise provided, the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, after 4:00 p.m. on Fridays, on designated legal holidays, during the holiday shutdown period (in applicable areas), and when construction operations are not actively in progress.

Designated legal holidays and the holiday shutdown period are outlined in “Hours of Work” of these Special Provisions.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the CONTRACTOR if in the opinion of the ENGINEER public traffic will be better served and the work expedited. Such deviations shall not be adopted until the ENGINEER has indicated his/her written approval. All other modifications will be made by contract change order.

Ten (10) working days prior to commencing construction which will affect existing traffic, the contractor shall submit for review by the Engineer, a Traffic Control Plan on

11"x17" or 22"x34" sheet(s) of paper which contains only information specially related to work zone traffic control. If the Contractor proposes to use the latest edition of California Department of Transportation Manual of Traffic Controls for Construction and Maintenance of Work Zones in lieu of a traffic control plan, in specific work operations, he/she shall submit in writing for consideration which Typical Application Diagram will be used for each work operation. No work shall commence on Public / County / State right of way until a traffic control plan is approved and implemented.

In addition to the traffic control plan, the Contractor shall submit a haul route for approval by the Engineer. The route must minimize traffic on residential streets that are not part of the project. Temporary staging of construction materials shall not occur on streets or areas that are not within the immediate limits of the project.

The Traffic Control Plan shall contain a title block which contains the contractor's name, address, phone number, project superintendent's name, contract name, dates and hours traffic control will be in effect, and a space for review acknowledgement by the City.

The content of the Traffic Control Plan shall include, but not limited to, the following:

- A. Show location and limits of the work zone for each phase or specific operation of construction if requiring different traffic control.
- B. Give dimensions of lanes affected by traffic control that will be open to traffic.
- C. Indicate signing with MUTCD designation, cone placement (including spacing), changeable message signs, flashing arrow boards, pavement markings, and other methods of delineation and reference to appropriate standards and sign designations.
- D. Dimension location of signs and cone tapers.
- E. Location of any and all flagmen, if applicable.
- F. Identify side streets and driveways affected by construction and show how they will be handled.
- G. Show how pedestrian and bicycle traffic will be handled through the construction site during all hours including edge grinding operation.
- H. Show locations of night time lighting if applicable.
- I. Modification to Traffic Signal operations in the vicinity of the project. Contractor shall be responsible for making arrangements with the City's Traffic Signal Technician at least 48 hours in advance before starting any work in or nearby a signalized intersection if any signal operations need to be modified.
- J. Separate Traffic Control Plans shall be prepared for each phase of a construction project and shall be submitted for City's review and approval.

No work except for installation of project identification signs will be allowed to commence prior to approval of the Traffic Control Plan.

Residents, businesses, delivery to businesses, and customer parking shall be notified in writing by the Contractor at least five (5) calendar days prior to any activity that will impact access to their property.

The City of Petaluma Traffic Control Design and Construction Standards (Series 700) shown elsewhere in these specifications are guidelines only. The CONTRACTOR is not relieved from his/her responsibility for submitting his/her own traffic control plan.

The CONTRACTOR's failure to comply with the requirements of this section will be sufficient cause for the ENGINEER to suspend work at no cost to the City.

All costs involved for completing all work described in this section shall be considered to be included in the contract price paid for Traffic Control System and no additional compensation shall be allowed therefore.

- 3-8. TRAFFIC CONTROL SYSTEM FOR LANE CLOSURE - A traffic control system shall consist of closing traffic lanes in accordance with the details shown on the plans, the City of Petaluma Traffic Control Design and Construction Standards Series 700, the provisions of Section 12, "Temporary Traffic Control", of the Standard Specifications, and the provisions under "Maintaining Traffic" elsewhere in these supplementary general conditions.

The provisions in this section will not relieve the CONTRACTOR from his/her responsibility to provide such additional devices or take such measures as may be necessary to comply with the provisions in Section 7-1.04, "Public Safety", of the Standard Specifications.

During the hours of darkness, as defined in Division 1, Section 280, of the Vehicle Code, portable signs shown on the plans to be illuminated shall be, at the option of the CONTRACTOR, either; illuminated signs in conformance with the provisions in Section 12-3.06B(3), "Portable Signs", of the Standard Specifications; or Reflexite vinyl microprism reflective sheeting signs; or 3M high intensity reflectorized sheeting on aluminum substrate signs or Seibulite Brand Ultralite Grade Series, encapsulated lens retroreflective sheeting signs; or equal.

Each vehicle used to place, maintain and remove components of a traffic control system on arterials and collectors shall be equipped with a Type II flashing arrow sign which shall be in operation when the vehicle is being used for placing, maintaining, or removing said components. The sign shall be controllable by the operator of the vehicle while the vehicle is in motion. The flashing arrow sign shown on the plans shall not be used on the vehicles which are doing the placing, maintaining and removing of components of a traffic control system, and shall be in place before a lane closure requiring its use is completed.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the CONTRACTOR shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

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

When traffic is shifted across the centerline, the CONTRACTOR shall provide W57 signs at 300-foot intervals and on both sides of intersections to direct traffic in proper lanes. Flashing arrow boards shall be required for any lane closures on any streets.

The adjustment provisions in Section 4-1.05, "Changes and Extra Work", of the Standard Specifications, shall not apply to the item of traffic control system. Adjustments in compensation for traffic control system will be made only for increased or decreased traffic control system required by changes ordered by the ENGINEER and will be made on the basis of the cost of the increased or decreased traffic control necessary. Such adjustment will be made on a force account basis as provided in Section 9-1.04, "Force Account", of the Standard Specifications for increased work, and estimated on the same basis in the case of decreased work.

Traffic control system required by work which is classed as extra work, as provided in Section 4-1.05 of the Standard Specifications, will be paid for as a part of said extra work.

The contract lump sum price paid for "Traffic Control System" shall include full compensation for furnishing all labor (including flagging costs), materials, signs, tools, equipment and incidentals, and for doing all the work involved in furnishing, placing, operating, maintaining, repairing, replacing, changing messages on a **TWO** changeable message signs as requested by the Engineer, moving and removing the components of the traffic control system as shown on the plans, as specified in the Standard Specifications and these Special Provisions, and as directed by the Engineer.

- 3-9. WATERING - Watering shall conform to the provisions in Section 17, "Watering", of the Standard Specifications except that full compensation for developing water supply shall be considered as included in the prices paid for various contract items for work involving the use of water and no separate payment will be made therefore. The application of water for dust control will not be considered as extra work under any circumstances. Water can be purchased from the City at current rates provided that the CONTRACTOR meters the water so used with a City furnished meter (a deposit will be required) and a CONTRACTOR furnished valve assembly.
- 3-10. PROGRESS SCHEDULE - The CONTRACTOR shall submit a schedule which includes all major tasks and milestones to the City of Petaluma, Public Works and Utilities Department for review **at least** ten (10) working days prior to start of work.

After beginning of work, updated schedules shall be submitted. No progress payments will be processed without accepted updated schedules.

Payment for the original schedule and updated, weekly schedules shall be considered to be included in the various items of work and no additional compensation will be allowed therefore.

- 3-11. SUPERINTENDENCE - The CONTRACTOR shall designate in writing and submit to the Project Engineer two (2) working days before starting work, an authorized representative who shall have the authority to represent and act for the CONTRACTOR for the duration of the contract. Any change in the designation shall require prior approval of the ENGINEER.

When the CONTRACTOR is comprised of two (2) or more persons, firms, partnerships or corporations functioning on a joint venture basis, said CONTRACTOR shall designate in writing before starting work, the name of one authorized representative who shall have the authority to represent and act for the CONTRACTOR.

Said authorized representative shall be present at the site of work at all times while work is actually in progress on the contract. When work is not in progress and during periods when work is suspended, arrangements acceptable to the ENGINEER shall be made for any emergency work, which may be required.

If work is in progress and the authorized representative is not on site, the City reserves the right to stop the work at no cost to the City.

Once the work begins, the Superintendent shall keep the ENGINEER informed of the CONTRACTOR's daily schedule. The ENGINEER shall have at least twenty-four (24) hour advance notice of all work, on a daily basis, including SUBCONTRACTOR's work. If the CONTRACTOR fails to notify the ENGINEER, the ENGINEER reserves the right to stop the work at no cost to the City.

In the case of urgency or emergency where the CONTRACTOR's authorized representative is not present on any particular part of the work and where the ENGINEER wishes to give notification or direction, it will be given to and be obeyed by the superintendent or foreperson who may have charge of the particular work or it will be given to and be obeyed by any worker in the area should the superintendent or foreperson not be immediately available.

All costs involved in superintendence shall be included in the contract prices paid for various items of work and no additional payment will be allowed therefore.

- 3-12. SAFETY REQUIREMENT - The CONTRACTOR shall comply with all CAL/OSHA safety requirements. It shall be the CONTRACTOR's sole responsibility for making sure these safety requirements are met and the CONTRACTOR shall fully assume all liabilities for any damages and/or injuries resulting from his or her failure to comply with the safety requirements. Failure on the City's part to stop unsafe practices shall, in no way, relieve the CONTRACTOR of his/her responsibility.

The CONTRACTOR shall first call City of Petaluma Emergency Center at 911, from a regular telephone, and (707) 762-2727 or from a cellular phone (707) 762-4545, if any gas lines or electrical power lines are broken or damaged.

- 3-13. PROJECT APPEARANCE – The CONTRACTOR shall maintain a neat appearance to the work area.

When practicable, debris developed during construction shall be disposed of concurrently with its removal. Stockpiling on the street shall not be allowed. The CONTRACTOR shall apply for a “stockpiling” permit from the City’s Community Development Department prior to stockpiling more than fifty (50) cubic yards of materials on private property. The CONTRACTOR shall solely be responsible for securing staging and/or stockpiling areas.

The CONTRACTOR shall provide dust control as often as required during the construction, and shall clean the roads/streets with street sweepers at least once a day at the end of each working day or more often if safety or appearance conditions warrant. Failure to maintain dust control, street cleaning and/or any required work specified in this section shall result in the City performing the work with other forces and back charge the CONTRACTOR for the costs.

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

- 3-14. RESPONSIBILITY FOR DAMAGE - The CONTRACTOR shall indemnify, hold harmless, release and defend the City of Petaluma, its officers, officials, employees and agents from and against any and all liabilities, claims, demands, losses, damages, expenses, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with the activities of the CONTRACTOR, his/her subcontractors, employees and agents, except such loss or damage which was caused by the sole negligence or willful misconduct of the CITY, its employees or agents. The CITY may retain so much of the money due the CONTRACTOR as shall be considered necessary, until disposition has been made of claims or suits for damages as aforesaid.

- 3-15. GUARANTEE OF WORK - Neither the final certificate of payment nor any provision in the contract nor partial or entire use of the improvements embraced in this contract by the City or the public shall constitute an acceptance of work not done in accordance with the contract or relieve the CONTRACTOR of liability in respect to any warranties or responsibility for faulty materials or workmanship. The CONTRACTOR’s attention is directed to Article 5, “Bonds and Insurance”, of the General Conditions.

- 3-16. NOTICE TO PROCEED, BEGINNING OF WORK, CONTRACT TIME, TIME OF COMPLETION, AND LIQUIDATED DAMAGES – Article 2.3, “Commencement of Contract Times; Notice to Proceed” of the General Conditions is amended to read:

The CONTRACTOR shall begin work within ten (10) working days from the date of Notice to Proceed (NTP) and shall diligently prosecute the same to completion before the

expiration of total allocated working days as specified in the Construction Agreement and/or Invitation to Bid, from the date of starting work. The CONTRACTOR shall complete all of the work directed by the ENGINEER in all parts and requirements within the time set forth. A working day is defined in these specifications.

The CONTRACTOR is on notice that it may take approximately eight (8) weeks from the bid opening to obtain the City Council's award of the contract, to process the construction agreement, and to issue the Notice to Proceed.

The CONTRACTOR shall pay to the City of Petaluma the sum of \$1,500 per day for each and every *calendar day's* delay in finishing the work in excess of the number of days prescribed above (and/or in excess of the number of days prescribed for any scheduled operations or works described in the Special Provisions).

A working day is defined as any day, except as follows:

- a. Saturdays, Sundays, and legal holidays
- b. Days on which the CONTRACTOR is prevented by inclement weather or conditions resulting immediately therefrom adverse to the current controlling operation or operations, as determined by the ENGINEER, from proceeding with at least 75 percent of the normal labor and equipment force engaged on that operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations.

Should the CONTRACTOR prepare to begin work at the regular starting time of any day on which inclement weather, or the conditions resulting from the weather, or the condition of the work, prevents the work from beginning at the usual starting time and the crew is dismissed as a result thereof and the CONTRACTOR does not proceed with at least 75 percent of the normal labor and equipment force engaged in the current controlling operation or operations for at least 60 percent of the total daily time being currently spent on the controlling operation or operations, the CONTRACTOR will not be charged for a working day whether or not conditions should change thereafter during that day and the major portion of the day could be considered to be suitable for those construction operations.

Determination that a day is a non-working day by reason of inclement weather or conditions resulting immediately therefrom shall be made by the ENGINEER. The CONTRACTOR will be allowed 10 days from the issuance of the weekly statement of working days in which to file a written protest setting forth in what respects the CONTRACTOR differs from the ENGINEER; otherwise, the decision of the ENGINEER shall be deemed to have been accepted by the CONTRACTOR as correct. The ENGINEER will furnish the CONTRACTOR a weekly statement showing the number of working days charged to the contract for the preceding week, the number of working days of time extensions being considered or approved, the number of working days originally specified for the completion of the contract, and the number of working days remaining to complete the contract and any time extensions thereof.

3-17. HOURS OF WORK

Weekdays – Weekdays (Monday through Friday) hours shall be from 7:00 a.m. to 5:00 p.m. for all required work except those hours approved by the City of Petaluma or specified in “Order of Work” Section of these special provisions. Work hours for County of Sonoma and Caltrans right of way shall be governed by their respective permit conditions.

Night Hours – Other than emergency work, there will be no night hours allowed on this project.

Liquidated Damages in the sum of Fifteen Hundred Dollars (\$1,500) per day will be assessed against the CONTRACTOR if he fails to comply with any of the daily conditions or operations such as maintaining erosion control facilities, job site/street cleanliness and daily cleanup and traffic control and flagging, as described in the General Conditions, these Special Provisions, and the Technical Specifications.

If the CONTRACTOR closes a street or sidewalk without prior notice and approval of the ENGINEER within 24 hours, the associated operation will be shutdown at the CONTRACTOR’s expense.

Holidays - Designated legal holidays are: January 1st, the third Monday in January, the third Monday in February, the last Monday in May, July 4th, the first Monday in September, the second Monday in October, November 11th, Thanksgiving Day, the day after Thanksgiving, December 24th and December 25th. When a designated legal holiday falls on a Sunday, the following Monday shall be a designated legal holiday. When November 11th falls on a Saturday, the preceding Friday shall be a designated legal holiday. The Contractor shall not work on the legal holidays unless approved in writing by the Engineer.

Holiday Shutdown - No work shall be allowed to be performed in the business district (defined by the map on the City of Petaluma web site at <http://cityofpetaluma.net/cdd/pdf/boundaries.pdf>) between Thanksgiving Day, the day after Thanksgiving, and December 25th thru January 3rd of the following year.

- 3-18. RECORD ("AS-BUILT") DRAWINGS – The CONTRACTOR shall furnish Record Drawings of the complete project and procure from the Director of Public Works a full sized set of Contract Drawings. Construction drawings shall be on the construction site at all times while the work is in progress. Drawings shall show approved substitutions, if any, of material including manufacturer's name and catalog number. The Drawings shall be to scale and all indications shall be neat and legible. All information noted on the CONTRACTOR's job-site print shall be transferred to the Record Drawings by CONTRACTOR and all indications shall be recorded in a neat, legible and orderly way. The Record Drawings shall be signed by the CONTRACTOR and turned over to the Director of Public Works before the final acceptance of the project. If the CONTRACTOR fails to provide the City with an acceptable “Record Drawings”, the City shall deduct \$2,000 from the amount due CONTRACTOR.

- 3-19. NOTICE OF POTENTIAL CLAIM - If for any reason the CONTRACTOR deems that additional compensation is due him/her for work or materials not clearly provided for in the contract, plans, or specifications or previously authorized extra work, a Notice of Potential Claim shall be made. The CONTRACTOR shall give the ENGINEER a written Notice of Potential Claim for such additional compensation before work begins on the items on which the claim is based. The notice shall set forth the reasons for which the CONTRACTOR believes additional compensation will or may be due and the nature of the costs involved. The CONTRACTOR shall afford the ENGINEER every opportunity and facility for keeping records of the actual cost of the work. The CONTRACTOR shall keep records of the disputed work in accordance with Contract General Conditions, Section 11.3, “Cost of Work (Based on Time and Materials).”

If such notification is not given or the ENGINEER is not afforded proper opportunity by the CONTRACTOR for keeping strict account of actual cost as required, then the CONTRACTOR hereby agrees to waive any claim for such additional compensation. Such notice by the CONTRACTOR and the fact that the ENGINEER has kept account of the cost of the work shall not in any way be construed as proving or substantiating the validity of the claim. When the work on which the claim for additional compensation is based has been completed, the CONTRACTOR shall, within 10 calendar days, submit his/her written claim to the ENGINEER who will present it to the City for consideration in accordance with local laws or ordinances. The CONTRACTOR is directed to Section 17.20 “Resolution of Construction Claims” of the General Conditions.

Any claim for overhead type expenses or costs, in addition to being certified as stated above, shall be supported by an audit report of an independent Certified Public Accountant. Any claim for overhead shall also be subject to audit by the City at its discretion.

Any costs or expenses incurred by the City in reviewing or auditing any claims that are not supported by the CONTRACTOR's cost accounting or other records shall be deemed to be damages incurred by the City within the meaning of the California False Claims Act.

Nothing in this subsection shall be construed as a waiver of the CONTRACTOR's right to dispute final payment based on differences in in-place quantity measurements or computations of unit priced pay items.

- 3-20. PAYMENT FOR MATERIALS ON HAND - At the discretion of the ENGINEER, partial payments may be made to the extent of the delivered cost of materials to be incorporated in the work, provided that such materials meet the requirements of the contract, plans, and specifications. Such delivered costs of stored or stockpile materials may be included in the next partial payment after the following conditions are met:
1. The material has been stored or stockpiled and protected at the sole expense of the CONTRACTOR at a location acceptable to the City and in a manner acceptable to the ENGINEER.

2. The CONTRACTOR has furnished the ENGINEER with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
3. The CONTRACTOR has furnished the ENGINEER with satisfactory evidence that the material and transportation costs have been paid.
4. The CONTRACTOR has furnished the City legal title (free of liens or encumbrances of any kind) to the material so stored or stockpiled.
5. The CONTRACTOR has furnished the City evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at anytime prior to use in the work.
6. The CONTRACTOR shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this subsection.

It is understood and agreed that the transfer of title and the City's payment for such stored or stockpiled materials shall in no way relieve the CONTRACTOR of his/her responsibility for furnishing and placing such materials in accordance with the requirements of the contract, plans, and specifications. In no case will the amount of partial payments for materials on hand exceed 70% of the contract price for the contract items in which the material is intended to be used.

- 3-21. ACCESS TO DRIVEWAYS – All accesses for local businesses and residents shall be maintained at all times. Temporary ramps will be required each night for access to driveways for residences and commercial access. The Contractor shall coordinate with each driveway user as needed.
- 3-22. ARCHAEOLOGICAL MONITORING – In the event that archaeological materials are found during construction, CONTRACTOR shall notify the ENGINEER immediately and shall temporarily cease work in the area until a determination or investigation of the site can be made by a qualified archaeologist. Archaeologist services shall be provided by the City at no cost to the CONTRACTOR.
- 3-23. STORM WATER MANAGEMENT, AND SEDIMENT AND EROSION CONTROL – CONTRACTOR shall prepare storm water management, and sediment and erosion control measures for implementation and shall maintain these measures during the construction period as required by the Regional Water Quality Control Board (RWQCB) permit.

If the area to be disturbed by construction activities is more than one acre, the CONTRACTOR shall be required to file a Notice of Intention (NOI), pay the fee, prepare the SWPPP, BMP, etc. as required by RWQCB permit.

Storm water management, and sediment and erosion control shall include, but not be limited to fiber rolls (sediment logs or wattles), straw bales, drain rock, check dams, silt fencing, siltation basins and as required for construction conditions. Measures shall be submitted to the ENGINEER for review seven (7) days prior to start of construction. The

CONTRACTOR shall be responsible for providing the measures that would comply with the RWQCB.

The CONTRACTOR shall also place drain rock bags around storm drain inlets/catch basins, and install drain rock check dams at 50-foot intervals within 100 feet upstream from the inlets/catch basins.

The CONTRACTOR shall comply with all Federal, State and local regulations and ordinances governing storm water pollution prevention.

If required, the CONTRACTOR shall file a Notice of Intent (NOI) with the RWQCB, and shall comply with the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction Activity requirements. The CONTRACTOR shall prepare and implement a Storm Water Pollution Plan (SWPPP). Resources used in developing the SWPPP shall include the “California Storm Water Best Management Practice Handbook for Construction Activity,” and the San Francisco Bay Regional Water Quality Control Board’s “Information on Erosion and Sediment Controls for Construction Projects.” The SWPPP shall be submitted for review and acceptance prior to start of work. The CONTRACTOR shall have an accepted and implemented SWPPP as part of Mobilization. The SWPPP shall, at a minimum, include Best Management Practices (BMPs), acceptable to the City, to address the following:

1. Housekeeping
2. Waste Containment and Control.
3. Minimizing Disturbed Areas.
4. Stabilize Disturbed Areas.
5. Protect Slopes and Channels.
6. Control Site Perimeter.
7. Control of Internal Erosion.
8. Disposal of Storm Water and Ground Water
9. Sediment Control.
10. Liquid Waste Management.
11. Concrete Waste Management.
12. Hazardous Waste Management.
13. Employee and SUBCONTRACTOR Training.

14. Vehicle and Equipment Fueling and Maintenance.
15. Spill Prevention and Control.
16. Contaminated Soil Management.
17. Sawcutting.
18. Paving and Asphalt Work.
19. Street Cleaning.

Employ and utilize environmental protection methods, obtain all necessary permits, and fully observe all local, state, and federal regulations.

All costs involved for completing all work described in this section shall be considered to be included in the contract price paid for Storm Water Management and Sedimentation/Erosion Control and no additional compensation shall be allowed therefore.

3-24. ITEM INCREASES AND DECREASES -

Increased or Decreased Quantities

Increases or decreases in the quantity of a contract item of work will be determined by comparing the total pay quantity of that item of work with the ENGINEER's Estimate therefor.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefore by 25 percent or less for increases and 25 percent or less for decreases, payment will be made for the quantity of work of the item performed at the contract unit price.

If the total pay quantity of any item of work required under the contract varies from the ENGINEER's Estimate therefor by more than 25 percent for increases and 25 percent for decreases, in the absence of an executed contract change order specifying the compensation to be paid, the compensation payable to the CONTRACTOR will be determined in accordance with the following sections.

Increases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract exceed the ENGINEER's Estimate therefore by more than 25 percent, the work in excess of 125 percent of the estimate and not covered by an executed contract change order specifying the compensation to be paid therefor will be paid for by adjusting the contract unit price based upon a force account analysis.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost which will be determined as hereinafter provided, of the total pay quantity of the item. If the costs applicable to the item of work include fixed costs, the fixed costs will be deemed to have been recovered by the CONTRACTOR by the payments made for 125 percent of the ENGINEER's Estimate of the quantity for the item, and in computing the actual unit cost, the fixed costs will be excluded. Subject to the above provisions, the actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis.

When the compensation payable for the number of units of an item of work performed in excess of 125 percent of the ENGINEER's Estimate is less than \$5,000 at the applicable contract unit price, the ENGINEER reserves the right to make no adjustment in the contract unit price if the ENGINEER so elects, except that an adjustment will be made if requested in writing by the CONTRACTOR.

Decreases of More Than 25 Percent

Should the total pay quantity of any item of work required under the contract be less than 25 percent of the ENGINEER's Estimate therefore, an adjustment in compensation pursuant to this Section will not be made unless the CONTRACTOR so requests in writing. If the CONTRACTOR so requests, the quantity of the item performed, unless covered by an executed contract change order specifying the compensation payable therefor, will be paid for by adjusting the contract unit price based upon a force account analysis. In no case shall the payment for that work be less than that which would be made at the contract unit price.

The adjustment of the contract unit price will be the difference between the contract unit price and the actual unit cost, which will be determined as hereinafter provided, of the total pay quantity of the item, including fixed costs. The actual unit cost will be determined by the ENGINEER in the same manner as if the work were to be paid for on a force account basis; or the adjustment will be as agreed to by the CONTRACTOR and the ENGINEER.

The payment for the total pay quantity of the item of work will in no case exceed the payment which would be made for the performance of 25 percent of the ENGINEER's Estimate of the quantity for the item at the original contract unit price.

- 3-25. EXISTING WATER VALVES, MONUMENTS AND MANHOLES – The City shall have access at all times to water valves, monuments, and manholes except immediately following a construction operation as noted below.

Prior to placement of paving, all manholes, monuments, and valves covered by paving, shall be clearly marked in white paint before the close of that work day. Throughout the construction process, the CITY shall have access to manholes, monuments, and valves within 48 hours of any operation affecting the manholes, monuments and valves.

A penalty of Fifty Dollars (\$50) per each valve, monument, and manhole that is not raised, or that the CITY is not provided easy access to, will be assessed against the contractor for each calendar day.

- 3-26. WAGE RATES - The General Prevailing Wage Determination Made by the Director of Industrial Relations Pursuant to California Labor Code Part 7, Chapter 1, Article 2, Sections 1770, 1773 and 1773.2. The CONTRACTOR can download this information from the web site: <http://www.dir.ca.gov/dlsr/PWD/>

The most current prevailing wage rates available at the time of bid opening shall be used.

- 3-27. STAGING AREA –It is the responsibility of the CONTRACT to obtain any permits, rights, or permission to stockpile any and all equipment and materials during construction. The cost for all items relating to the CONTRACTOR’S staging shall be included the mobilization/demobilization bid item price.
- 3-28. WORK SCHEDULING – All work within 1000 feet from any school must be completed outside of the school year. In general, the window for work near a school is late June to late August. It is the responsibility of the contractor to determine the calendar year for each school within the work limits, and ensure that no work within 1000 feet of each campus is performed during their school year.
- 3-29. CONSTRUCTION MANAGEMENT – The Contractor shall adhere to the following site management procedures:

- Excavations shall be guarded by readily visible barricades, rails, or other effective means to avoid access by the public.
- Contractor shall remove and clear away dry, combustible vegetation from construction sites in those areas that contain substantial fire risks and hazards.
- Vehicles shall not park in areas where exhaust systems contact combustible materials. Fire extinguishers shall be available on the construction site when working in high fire hazard areas to assist in quickly extinguishing any small fires. The Contractor shall have on site the phone number for the local fire department and shall have a phone available when working in high fire hazard areas.
- All potentially contaminated materials encountered during construction shall be evaluated in the context of applicable local, state, and federal regulations. All materials deemed to be hazardous shall be remediated and/or disposed of in accordance with the most recent edition of applicable federal, state, and local regulations, standards, laws, ordinances and codes.
- Construction byproducts and pollutants such as oil, cement, and wash water shall be prevented from discharging into streams and creeks, and shall be collected and transported back to a landfill authorized to accept hazardous wastes.
- No construction vehicles or equipment may be parked within the upland riparian corridor of any stream channel.
- Mobile equipment shall not be refueled or serviced within the riparian corridor.
- Construction material storage areas containing hazardous or potentially toxic materials shall be bermed to prevent the discharge of pollutants to runoff water. These materials shall be stored under cover.

- Construction equipment and vehicles shall be maintained to prevent contamination of soil from leaking hydraulic fluid, fuel, grease, and oil.
- The Contractor shall adhere to the City of Petaluma’s noise ordinance
- Newer equipment with improved noise muffling shall be used. Equipment items shall have the manufacturer’s recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational.

3-30. REVEGETATION/LANDSCAPE REPLACEMENT – All plants used for replacement of existing landscaping shall be from locally grown stock or from a nursery that has an approved monitoring program for the glassy winged sharpshooter. Contractor shall submit evidence of compliance with this requirement as part of the submittal process. All trees that have been removed during construction shall be replaced in kind.

The Contractor shall perform a survey to determine the types of plants, trees, and shrubs to be removed for construction. The Contractor shall conform to Section 80 Earthwork for removal and revegetation of the work area.

3-31. CONSTRUCTION STAKING - This work shall consist of furnishing and setting construction stakes and markers by the CONTRACTOR to establish the lines and grades required for the completion of the work as shown on the plans and as specified in the Standard Specifications and these special provisions

The existing surface elevations shown on the plan profile are approximate only. The CONTRACTOR shall be required to verify and rectify them, if needed, as part of the construction staking.

Construction staking shall be performed by the CONTRACTOR as necessary to control the work. Construction stakes and marks shall be furnished and set with accuracy adequate to assure that the completed work conforms to the lines, grades, and sections shown on the plans.

All computations necessary to establish the exact position of the work from control points shall be made by the CONTRACTOR.

Construction stakes shall be removed from the site of the work by the CONTRACTOR when no longer needed.

Full compensation for construction staking shall be considered as included in the prices paid for various items of work and no additional compensation will be allowed therefore LL the plans and as specified in the Standard Specifications and these special provisions

3-32. EXCAVATION DEWATERING – Due to the depth of the potential excavation pits for boring and/or directional drilling pits, dewatering of the pits may be required to facilitate construction activities. The contractor shall anticipate potential dewatering activities and include the cost in the various bid items of the project. The contractor may discharge groundwater to the city’s sewer system but is required to test and obtain a discharge permit from the city prior to doing so.

- 3-33. STREET RESURFACING – Both Maria Drive and Sonoma Mountain Parkway are on the City’s 5-year Moratorium list and are considered to be newly resurfaced streets. Pavement resurfacing shall conform to City Ordinance No. 2266 N.C.S. paving requirements. Any trenching or potholing within Maria Drive or Sonoma Mountain Parkway will be required to be resurfaced to minimum City Standards therein.
- 3-34. NOISE MITIGATION MEASURE - SOUND BARRIER – Sound attenuation measures will be required due to the proximity of the work area to dwellings, businesses and park areas. Sound attenuation measures shall include all work necessary to design, furnish, install, maintain and remove a temporary sound attenuation barrier (“sound barrier”), and conduct a full-scale sound test. The sound attenuation barrier shall be installed at the location shown on the plans. The sound barrier procurement and installation shall be paid at the bid price for “Noise Mitigation Measures”

SECTION IV
TECHNICAL SPECIFICATIONS

SECTION 10 UTILITY CLEARANCES

10A. GENERAL

The work performed in connection with any existing facilities shall conform to the provisions in Section 15, "Existing Facilities" of the Standard Specifications and these Technical Specifications.

10B. SUBMITTALS

The Contractor shall notify the Engineer, in writing, immediately with all relevant information upon discovery of any conflict.

10C. MATERIALS

N/A

10D. CONSTRUCTION

All items noted in this Section shall take place prior to any other construction activities.

Any pothole information provided on the Project Plans shall be for reference use only and shall not be considered as accurate information for any other areas within the project limits.

Contractor shall investigate, confirm and/or determine the exact locations of existing utilities, and verify clearances between existing and proposed utilities at crossings and/or known potential conflicts. The Contractor shall determine elevations and alignments of existing utilities at connection points and parallel lines that may be in close proximity to any proposed excavation.

The Contractor shall determine elevations and alignments of existing sewer laterals, at the back of sidewalk, if a new proposed sewer main is at a higher elevation than the existing sewer main.

The Contractor shall provide all relevant information in writing to the Engineer immediately upon discovery of any conflict. Any delay in notification to the Engineer may delay direction and/or corrective action and a delay claim due to this reason shall not be considered by the City. The Contractor shall not proceed with any work that is in conflict until direction is provided by the Engineer and shall redirect crews to other contract work. All the information required to be obtained per this Section and any other information not noted but relative to the project shall be provided to the Engineer on a set of Plans when the investigative effort is complete.

10E. QUALITY CONTROL

N/A

10F. MEASUREMENT AND PAYMENT

Utility Clearances shall be paid for at the contract bid item price for **Potholing**. This cost shall include full compensation for furnishing all labor, materials, tools and equipment, and doing all the work involved in verifying utility clearances, including but not limited to: potholing to verify potential conflicts, grades and alignments of existing facilities to be connected to; excavation; backfill; notification; and coordination and redirection of crews to other contract work if required, as specified herein, and no additional allowance will be made therefor.

END OF SECTION

SECTION 20 DUST CONTROL

20A. GENERAL

Dust control shall conform to the provisions in Section 14, "Dust Control," of the Standard Specifications and these technical specifications.

20B. SUBMITTALS -Not used-

20C. MATERIALS -Not used-

20D. CONSTRUCTION

The following on-site mitigation measures shall be implemented for the duration of this project:

- All dust-producing work and unpaved construction sites shall require at a minimum watering in the late morning and at the end of the workday; the frequency of watering shall be increased if dust is mobilized by wind or traffic.
- Contractor shall maintain dust control to the satisfaction of the City Engineer, seven (7) days a week, 24 hours per day.
- The Engineer at his discretion may require sprinkling at any time or place.
- At the end of each work week, the Contractor shall sweep all streets in the work zone with a commercial grade street sweeping machine.

Water is available from the CITY at provided that the CONTRACTOR meters the water so used with a CITY furnished meter (a deposit will be required) and a CONTRACTOR furnished valve assembly. Cost may be adjusted at the time of construction.

20E. QUALITY CONTROL -Not used-

20F. MEASUREMENT AND PAYMENT

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

END OF SECTION

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SECTION 30
MOBILIZATION/DEMobilIZATION

30A. GENERAL

Mobilization shall consist of obtaining all required insurance, bonds, and permits; preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; preparation of a construction schedule; badging and training of flaggers, and other employees; and all other work which must be performed, or cost incurred prior to beginning work on the various contract items at the project site.

CONTRACTOR is solely responsible for location a proper staging area that will allow the work to be performed successfully.

30B. SUBMITTALS

Not required

30C. MATERIALS

N/A

30D. CONSTRUCTION

N/A

30E. QUALITY CONTROL

N/A

30F. MEASUREMENT AND PAYMENT

Mobilization/Demobilization will be paid for at the contract LUMP SUM (LS) price, which shall include full compensation for furnishing all labor, materials, tools and equipment, permits, and doing all work involved in mobilization, as specified herein, and no additional allowance will be made therefor.

Payment will be made in two installments: 80% in Progress Payment after substantial mobilization has been completed and 20% in the final Progress Payment after Demobilization.

END OF SECTION

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SECTION 40 CLEARING AND GRUBBING

40A. GENERAL

Provide all labor, materials, and equipment required to complete clearing and grubbing job items as shown on the Plans. This work includes, but is not limited to, installing straw wattles and silt fence, as shown on the CONTRACTOR's SWPPP, demolishing existing fence, hauling of debris, removal of vegetation (including small and large trees, including stumps, and blackberry brush) and other deleterious materials such as pieces of concrete under areas of restoration, paths and trails, and exposing and saw cutting any encountered buried pipe.

The CONTRACTOR shall provide a 14-day notice prior to clearing and grubbing to allow the CITY have a bird survey conducted. The CONTRACTOR shall strip the existing vegetation layer to a depth of two to three inches in the areas of work as shown on the Plans for grading and as directed by the CITY. Leveling the surface with imported, compacted fill is acceptable locally. Strippings shall not be reused as compacted engineered fill and shall be placed in areas to be landscaped.

Existing vegetation not required to be removed by the CONTRACTOR in order to perform the work shall be protected from heavy equipment. This will require installation of plastic construction barrier fencing in sensitive areas. The CONTRACTOR shall not operate equipment in the live stream. No excavation shall occur in the portion of the stream bed where water is present.

All improvements consisting of fencing, plantings or other improvements which are not planned to be removed as part of this work, but are injured, removed, or destroyed by reason of the CONTRACTOR'S operation shall be replaced in kind or restored to a condition as good as when the CONTRACTOR encountered the work, at the CONTRACTOR'S expense. If neighboring trees or shrubs are damaged or destroyed, the CONTRACTOR shall replant with approved replacements.

The CONTRACTOR shall dispose of all grubbed vegetation spoil and debris off-site at approved upland location provided by the CONTRACTOR. The burning of debris on the site shall not be permitted. The CONTRACTOR will be responsible for off-site disposal of concrete and other rubble.

Demolition, clearing and grubbing shall conform to the provisions in Section 4102.1, "Clearing and Grubbing and Concrete Removal", of the Street Construction Detail Specification No. 41 and these Technical Specifications. The work includes furnishing all labor, materials and equipment, performing all operations in connection with the demolition, clearing and grubbing work as indicated on the Plans and specified herein.

All materials resulting from demolition operations are to be disposed of at

CONTRACTOR'S expense. Project site shall be cleaned of all litter and demolition debris.

40B. SUBMITTALS

All materials required by the Contract Documents shall be submitted with the Suppliers name, address, telephone number, fax number, email address and the name of the responsive person at the supplier's site.

Submittals shall be provided to confirm that material to be used comply with information specified herein.

Native Seed Mix:

- (1) Prior to beginning of work, the contractor shall submit for review any materials used to revegetate the area for review by the Engineer at least one week prior to use of the material.

40C. MATERIALS

Hydroseeding shall be provided in unpaved areas and other locations which may be disturbed by the construction activities and as directed by the Engineer.

1. In Open Space locations where pipeline is to be installed, the Contractor shall place Native Seed Mix.
2. At the Tie-in locations and surrounding areas, the Contractor shall place Native Seed Mix.

Native seed Mix Shall be comprised of the following:

Seed	Pounds/Acre
California Brome (Bromus californica)	16
California Meadow Barley (Hordeum californicum)	12
Blue Wildrye (Elymus glaucus)	10
California Oat Grass (Danthonia californica)	10
Purple Needlegrass (Nasella pulchra)	10

40D. CONSTRUCTION

40D.1 TREE, SHRUBBERY, VEGETATION PROTECTION AND REMOVAL

The CONTRACTOR shall at all times protect trees, shrubbery, and other vegetation not designated for removal from injury or damage resulting from the CONTRACTOR'S operations. In areas where trees or shrubs may be damaged by construction equipment, the CONTRACTOR shall provide protective fencing, padding on tree trunks, and tieback branches, or take other necessary actions to prevent damage to the trees, shrubs, or other vegetation.

The CONTRACTOR shall mark all trees for removal for ENGINEER approval with 48 hour notice.

The CONTRACTOR shall cut and remove tree branches only where, in the opinion of the CITY, such cutting is necessary to effect construction. Pruning of trees for ease of access should be avoided unless absolutely necessary. Pruning should generally be limited to removal of dead or decaying branches, or to alleviate root damage. Pruning activities shall be coordinated with the CITY. Scars resulting from the removal of branches shall be treated with an approved tree sealant.

40D.2 ROOT PROTECTION

Heavy equipment shall be stored only within designated staging areas and not within the driplines of existing trees, nor within the creek area. For purposes of this section, "dripline" shall be defined as the area on the ground from the trunk of any tree to the point directly below the outermost tips of the branches of that tree. Appropriate staging areas are shown on the Plans. Whenever possible, excavation shall be on a radial line, diverging from the tree trunk. Construction materials shall be properly stored away from existing trees to avoid spillage or damage to trees. In addition, no signs, cables, ropes, or other item that could damage or girdle trees should be attached.

Topsoil spreading, spraying, or other surface disturbance should be avoided within the driplines of existing trees. No tree roots greater than 2 inches in diameter shall be cut and material shall be carefully removed from around the root system so as to avoid damage thereto. Any roots exposed as a result of construction activities shall be covered with wet burlap to avoid desiccation, and buried as soon as practicable.

40D.3 EXPOSURE TO HARMFUL SUBSTANCES

No storage or dumping of any substances that may be harmful to trees shall occur at any location on the Site. No oil, fuel, concrete, or any other harmful substance shall be allowed to flow across or within the drip line of existing trees, or near the creek.

40D.4 DAMAGE

All damage shall be immediately reported to the CITY. The CONTRACTOR shall repair all minor damage to existing trees and plants under the supervision and direction the County or County-designated restoration specialist.

Damage to trees and shrubs shall include, but will not be limited to:

- Bark damage to trees.
- Breakage of branches on trees or shrubs.
- Breaking or tearing of roots.
- Spilling toxic materials near the root zones.
- Spraying toxic materials on foliage.
- Fire damage to foliage and branches.
- Compaction of root areas under the drip line or damage by fill or storage of materials over the root zone.
- Foot or vehicular damage on low shrubs and ground cover.

The CONTRACTOR shall remove all plants permanently disfigured or killed, including roots, from the Site and replace each such tree or plant with one of equal value as established by the CITY or CITY-designated restoration specialist, who shall be the sole judge of the condition of any tree or plant. The CONTRACTOR shall provide watering and feeding, as directed by the restoration specialist.

40D.5 DISPOSAL

All materials resulting from clear and grub and demolition operations are to be disposed of at CONTRACTOR'S expense. All clean soil shall to be off hauled shall be disposed of at a site provided by the CITY.

40D.6 CLEAN UP

Project site shall be cleaned of all litter and demolition debris.

40D.7 SAWCUTTING, PIPE REMOVAL AND BACKFILL

removed from the site and disposed at a suitable approved facility. Removal shall include all traces of the abandoned line, manholes, and asphalt or concrete material associated with the 6" Sewer and 8" Water Line at the locations shown on the Plans. The trench shall be backfilled and graded with native materials during excavation and grading of the river terrace.

The CONTRACTOR shall perform all work in a proficient manner with due regard to employee and public safety. The CONTRACTOR shall comply with all rules, regulations, and standards of the Occupational Safety and Health Administration and U.S. Department of Labor in performance of construction, excavation, and demolition work. The CONTRACTOR shall solely be responsible for the safety of his personnel and equipment and shall so conduct his business to protect the welfare of all persons who may be on or near the site. All current Federal, State and local safety regulations shall be adhered to by the CONTRACTOR on the project site.

40E. MEASUREMENT AND PAYMENT

Payment for all excavation / roadway excavation / trench excavation / pipe embedment / trench backfill etc. which are not covered separately in a specific bid item will be included in various items of work and shall be full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools, and equipment, and doing all work involved, including any other items necessary for performing this work not specifically enumerated in the plans and specifications, and no additional allowance will be made therefor.

Payment for **Clearing and Grubbing** will be included in the various items of work and shall be full compensation for conforming to the provisions in this section, and shall include full compensation for all labor, materials, and equipment conforming to the provisions in this section, removing trees, trimming trees as shown on the plans/or as directed by the Engineer, planting replacement trees, and all other items not otherwise provided for, and no additional compensation will be allowed therefore.

Payment for **Earthwork** as part of boring and jacking or directional drilling operations will be included in those bid items as defined in the Earthwork Section 80 of these Technical Specifications..

END OF SECTION

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SECTION 50 TRAFFIC CONTROL

50A. GENERAL

Construction area traffic control devices shall be installed and maintained in accordance with the applicable sections of these Technical Specifications, the Standard Specifications, the current edition of the Manual On Uniform Traffic Control Devices (MUTCD), and applicable California supplements to the MUTCD, and as directed by the Engineer.

50B. SUBMITTALS

50B.1 TRAFFIC CONTROL PLAN

The CONTRACTOR shall submit to the ENGINEER for approval at least twenty-one (21) working days prior to start of work three (3) copies of the traffic control plan minimum 11-inch x 17-inch drawing, which shall represent actual conditions. Traffic Control Plans submittals will be reviewed by City of Petaluma, County of Sonoma and Caltrans. No lane closures will be allowed without a written approval from the agencies and/or the ENGINEER.

Plans deemed incomplete may be returned without review. The Traffic Control Plan shall contain a title block which contains the CONTRACTOR's name, address, phone number, project superintendent's name, dates and hours the traffic control will be in effect, along with a signature block for the CONTRACTOR, and for the Engineer.

The Traffic control plan shall include, but is not limited to the following:

- A. Show location and limits of the work zone for each phase or specific operation of construction if requiring different traffic control.
- B. Give dimensions of lanes affected by traffic control that will be open to traffic.
- C. Indicate signing with MUTCD designation, cone placement (with spacing), Portable changeable message signs (PCMS), flashing arrow boards, pavement markings, and other methods of delineation and reference to appropriate standards and sign designations.
- D. Dimension location of signs and cone tapers.
- E. Location of any and all flagmen, if applicable.
- F. Identify side streets and driveways affected by construction and show how they will be handled.
- G. Show how pedestrian/bicycle traffic will be handled through the construction site.
- H. Show locations of night time lighting if applicable.
- I. Modification to Traffic Signal operations in the vicinity of the project.
CONTRACTOR shall be responsible for making arrangements with the City's

Traffic Signal Technician at least 48 hours in advance before starting any work in or nearby a signalized intersection if any signal operations need to be modified.

- J. Separate Traffic Control Plans shall be prepared for each phase of a construction project and shall be submitted for City's review and approval.

Unless specifically approved in writing, all accesses for local businesses and residents shall be maintained at all times. Approval of the ENGINEER shall be required for any changes from the previously approved traffic control plans.

If at any time there is a deviation from the traffic control plan proposed, an additional submittal from the CONTRACTOR is required. Each additional submittal has a five (5) working day review time.

The CITY Standard Work Traffic Control Plans shown elsewhere in these specifications are guidelines only. The CONTRACTOR is not relieved from his/her responsibility for submitting his/her own traffic control plan.

At least five (5) working days prior to beginning of each phase of construction (i.e., utility installation, paving), the CONTRACTOR shall:

- A. Notify all adjacent residents, City of Petaluma Police and Fire Departments, Waste Management Company (refuse Service Company), Petaluma Transit, Caltrans, County of Sonoma, California Highway Police, Sonoma County Sheriff, Golden Gate Transit and Sonoma County Transit by written notices detailing the type, limits, date and the hours of work.
 - 1) Details of the notice shall be submitted to the ENGINEER for review and approval at least five (5) days prior to delivering these notices.
- B. Where required, post streets with temporary "No Parking/Tow Away" signs at 50-foot intervals at least seventy-two (72) hours in advance within residential areas, and not more than 24 hours in business areas. These signs shall be furnished by the CONTRACTOR and shall state the date; day of week and hour parking is prohibited.

Illuminated traffic cones when used during the hours of darkness shall be affixed or covered with reflective cone sleeves as specified in Section 12-3.10, "Traffic Cones", of the Standard Specifications, except the sleeves shall be seven (7) inches long.

When working in or blocking any intersection, the CONTRACTOR shall provide a flag person to direct traffic at that intersection. This flag person is in addition to other required flag persons. The CONTRACTOR, at all times, shall provide flag person(s) to direct delivery trucks and CONTRACTOR'S vehicles entering or leaving the public traffic.

When working in any intersection where traffic loops will have to be taken out of service, the CONTRACTOR shall provide temporary video cameras for the signals to detect oncoming traffic until traffic loops can be reinstalled.

A minimum of one (paved) traffic lane, not less than ten (10) feet wide, shall be open at all times for use by public traffic with adequate flag persons, traffic control, and signing.

Whenever vehicles or equipment are parked on the shoulder within six (6) feet of a traffic lane, the shoulder area shall be closed with fluorescent traffic cones or portable delineators placed on a taper in advance of the parked vehicles or equipment and along the edge of the pavement at 25-foot intervals to a point not less than twenty-five (25) feet past the last vehicle or piece of equipment. All cones, delineators and signs placement shall be shown on the traffic control and approved by the ENGINEER.

The CONTRACTOR shall notify the City of Petaluma, Public Works and Utilities Department of his/her intent to begin work at least five (5) days before work is begun. The CONTRACTOR shall cooperate with local authorities relative to handling traffic through the area and shall make his/her own arrangements relative to keeping the working area clear of parked vehicles.

Except as otherwise provided, the full width of the traveled way shall be open for use by public traffic on Saturdays, Sundays, after 5:00 p.m. on Fridays, and designated legal holidays; and when construction operations are not actively in progress. At the end of each working day, any open trench shall be duly steel plated.

CONTRACTOR shall not store any construction materials such as recycled water pipes, etc. on public streets / sidewalks.

Minor deviations from the requirements of this section concerning hours of work which do not significantly change the cost of the work may be permitted upon the written request of the CONTRACTOR if in the opinion of the ENGINEER public traffic will be better served and the work expedited. Such deviations shall not be adopted until the ENGINEER has indicated his/her written approval. All other modifications will be made by contract change order.

The CONTRACTOR'S failure to comply with the requirements of this section will be sufficient cause for the ENGINEER to suspend work at no costs to the CITY.

If any component in the traffic control system is displaced, or ceases to operate or function as specified, from any cause, during the progress of the work, the CONTRACTOR shall immediately repair said component to its original condition or replace said component and shall restore the component to its original location.

When lane closures are made for work periods only, at the end of each work period, all components of the traffic control system, except portable delineators placed along open trenches or excavation adjacent to the traveled way shall be removed from the traveled

way and shoulder. If the CONTRACTOR so elects, said components may be stored at selected central locations, approved by the ENGINEER, within the limits of the highway right-of-way.

Where pavement markers, traffic stripes and/or pavement markings are obliterated by any construction work activity, they shall be replaced by the CONTRACTOR. The entire pavement markings shall be replaced regardless how much area is obliterated by the construction and shall be determined by the ENGINEER. Traffic stripes and pavement markings shall be minimum 0.15 inch thick thermoplastic conforming to Caltrans Standard Specifications Section 84.

50C. MATERIALS

50C.1 CONSTRUCTION AREA SIGNS

Construction area signs and Three (3) portable changeable message signs (PCMS) shall be furnished, installed, maintained, and removed when no longer required in accordance with the provisions in Section 12, "Construction Area Traffic Control Devices", of the Standard Specifications.

Portable Changeable message signs (PCMS) will be installed at the work locations at least 7 days prior to start of construction and maintained in place for the duration of the work by the Contractor. PCMS shall be repaired, replaced and relocated (with in the Project area, as directed by the ENGINEER) at no cost to the City of Petaluma, if damaged or stolen. The Contractor shall remove the signs upon completion of work with prior approval of the Engineer.

Construction area signs will be installed prior to start of construction and maintained in place for the duration of the project by the CONTRACTOR. If damaged or stolen, signs shall be repaired or replaced at no cost to the City of Petaluma. With prior approval of the ENGINEER, the CONTRACTOR shall remove the signs and posts at the completion of the project.

50D. CONSTRUCTION

50D.1 HOURS

All work shall be performed between the hours of 7:00 a.m. and 5:00 p.m unless approved in writing by the Engineer. Lane closures, if required, will be requested by the CONTRACTOR to the respective local and state agency. The CONTRACTOR shall maintain vehicle access to businesses, homes, and other properties at all times while work is in progress.

No work and/or preparation of work shall be performed between 7:00 p.m. and 7:00 a.m. except work required under said Sections 7-1.03 and 7-1.04 of the Standard Specifications or as approved in writing by the Engineer.

50D.2 PEDESTRIAN / BICYCLE TRAFFIC CONTROL

The CONTRACTOR is directed to Chapter 6D and Part 9, Pedestrian and Worker Safety and Traffic Control of Bicycle Facilities, in the MUTCD and applicable California supplements, the improvement plans and these Technical Specifications.

Pedestrians shall be provided with a safe, convenient, and accessible path that at a minimum replicates the most desirable characteristics of the existing sidewalk, path, or footpath.

Bicycle traffic shall be detoured around the construction zones.

The CONTRACTOR shall construct and maintain temporary pedestrian pathways through the work zone that shall be in compliance with the requirements of the Americans with Disabilities Act (ADA), the MUTCD, and applicable California supplements.

Pedestrian routes shall not be impacted for the purposes of any non-construction activities such as parking of vehicles or equipment, or stock piling of materials. Pedestrians shall not be led into conflicts with work site vehicles, equipment or operations.

50E. QUALITY CONTROL

50F. MEASUREMENT AND PAYMENT

Traffic Control will be paid for at the contract LUMP SUM (LS) price, which shall include full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools and equipment, and doing all work involved in traffic control, including temporary relocation of regulatory signs, provide/ maintain / relocate Three (3) portable changeable message boards (PCMS), providing/placing/removal of trench plates, providing, as specified herein and / or shown in the approved traffic control plans, and no additional compensation will be made therefor.

Full compensation for pedestrian traffic control shall be considered as included in the contract lump sum price paid for traffic control and no additional allowance will be made therefor.

The cost of furnishing all flaggers, including transporting flaggers, to provide for passage of public traffic through the work under the provisions in Section 7-1.03, "Public Convenience", and Section 7-1.04, "Public Safety" of Standard Specifications 2010, shall be considered as included in the contract lump sum price paid for traffic control and no additional allowance will be made therefor.

END OF SECTION

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SECTION 60
STORMWATER MANAGEMENT AND EROSION CONTROL

60A. GENERAL

The CONTRACTOR shall prepare storm water management, sediment and erosion control measures for implementation and shall maintain these measures during the construction period.

The minimum storm water management, and sediment and erosion control for the project shall include, but not be limited use of Best Management Practices (BMPs) including fiber rolls (sediment logs or wattles), straw bales, drain rock, check dams, silt fencing, siltation basins and as required for construction conditions. Measures shall be submitted to the Engineer for review seven (7) days prior to start of construction. The CONTRACTOR shall be responsible for providing the measures that would comply with the Regional Water Quality Control Board (RWQCB) requirements.

The CONTRACTOR shall also place drain rock bags around storm drain inlets/catch basins, and install drain rock check dams at 50-foot intervals within 100 feet upstream from the inlets/catch basins.

The CONTRACTOR shall clean out all storm drains, slot drains, and inlets in the projects limits with vector trucks or equivalent prior to construction at the end of construction.

The CONTRACTOR shall comply with all Federal, State and local regulations and ordinances governing storm water pollution prevention.

If the area to be disturbed by construction activities is more than one acre, the CONTRACTOR shall be required to file a Notice of Intention (NOI), pay the fee, prepare the SWPPP, BMP, etc. as required by RWQCB permit. The amount of disturbed area is anticipated to be more than one acre.

If required, the CONTRACTOR shall file the Notice of Intent (NOI) with the RWQCB (electronically on SMARTS), prepare the SWPPP, pay the fee(s) and shall comply with the National Pollution Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Association with Construction Activity requirements, including but not limited to, preparation of the project sediment and receiving water risk level, prepare and implement a Storm Water Pollution Plan (SWPPP) and Rain Event Action Plans (REAP), on-site monitoring, etc. Resources used in developing the SWPPP shall include the "California Storm Water Best Management Practice Handbook for Construction Activity," and the San Francisco Bay Regional Water Quality Control Board's "Information on Erosion and Sediment Controls for Construction Projects." The SWPPP shall be submitted for review and acceptance prior to start of work. The CONTRACTOR shall have an accepted and implemented SWPPP as part of Mobilization. The SWPPP

shall, at a minimum, include Best Management Practices (BMPs), acceptable to the CITY, to address the following:

1. Housekeeping
2. Waste Containment and Control
3. Minimizing Disturbed Areas
4. Stabilize Disturbed Areas
5. Protect Slopes and Channels
6. Control Site Perimeter
7. Control of Internal Erosion
8. Disposal of Storm Water and Ground Water (refer to specification 02140 for additional and more specific dewatering requirements).
9. Sediment Control
10. Liquid Waste Management
11. Concrete Waste Management
12. Hazardous Waste Management
13. Employee and Subcontractor Training
14. Vehicle and Equipment Fueling and Maintenance
15. Spill Prevention and Control
16. Contaminated Soil Management
17. Sawcutting
18. Paving and Asphalt Work
19. Street Cleaning

Employ and utilize environmental protection methods, obtain all necessary permits, and fully observe all local, state, and federal regulations.

60B. SUBMITTALS

60C. MATERIAL

60D. CONSTRUCTION

60E. QUALITY CONTROL

60F. MEASUREMENT AND PAYMENT

Stormwater Management and Erosion Control shall be paid for at the contract LUMP SUM (LS) price, which shall include full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools, equipment, and any other work involved in Stormwater Management and Erosion Control including but not limited to evaluation of risk level, preparation of SWPPP, implementation and maintenance of all stormwater, sediment, and erosion control measures, following Best Management Practices, and all incidentals necessary to control stormwater pollution, sedimentation, and erosion, and no additional compensation will be made therefor.

END OF SECTION

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SECTION 70 DEWATERING

70A. GENERAL

The CONTRACTOR shall provide and maintain, at all times during construction, ample means and devices with which to promptly remove and properly dispose of all water from any source entering the excavations or other parts of the Work. Dewatering shall be accomplished by methods that will ensure a dry excavation and preserve the final lines and grades of the bottoms of excavations.

The CONTRACTOR shall provide all labor, materials, and equipment necessary to dewater trench excavations, in accordance with the requirements of the Contract Documents, to enable the pipes to be installed in excavations that are free from standing or flowing water that may be due to groundwater, surface water, storm water, precipitation, recycled water, or wastewater.

Standing water in excavations will not be allowed. The CONTRACTOR shall maintain a dry working area for excavations.

Dewatering shall conform to General Conditions Article 6.21.E “Dewatering Operations.”

70B. CONSTRUCTION

70B.1 SYSTEM DESIGN INSTALLATION AND OPERATION

The Contractor shall be responsible for the following:

- A. Planning, design, installation, and operation of temporary groundwater dewatering systems and temporary surface water control systems. Water control systems designed and installed by the Contractor shall adequately protect existing property, foundations and permanent structures.
- B. Determining means and methods for disposing of water removed by dewatering systems. If permit requirements specify water quality requirements that must be met before water can be disposed, provide the necessary treatment facilities to achieve the specified water quality limits.
- C. Conducting subsurface investigations, when additional information is needed for design of dewatering systems, to identify groundwater conditions and to provide parameters for design, installation, and operation of groundwater control systems.
- D. Obtaining, paying for, and complying with all necessary permits, including those required by California Department of Water Resources (DWR), and the

County Department of Public Health for dewatering wells and monitoring wells, those required by the California Regional Water Quality Control Board Order No. 5-00-175 for discharge of groundwater to stormwater facilities, and those required by the City of Petaluma for discharge to the local sewer system.

- E. Disposing of water in such a manner as to cause no injury or nuisance to public or private property, or be a menace to the public health. Dispose of the water in accordance with applicable regulatory agency requirements.
- F. Providing labor, material, equipment, techniques, and methods to lower, control, and handle groundwater in a manner compatible with construction methods and site conditions. Monitor effectiveness of the installed system and its effect on adjacent property.
- G. Removing all groundwater control systems upon completion of construction or when dewatering and control of surface or groundwater is no longer required. Remove and grout piezometers when groundwater control operations are complete.

70B. MEASUREMENT AND PAYMENT

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in lump sum price for “Excavation for Receiving and Bore Pits” and for the Stormwater Management and Erosion, and water installation and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 80 EARTHWORK

80A. GENERAL

The CONTRACTOR shall furnish all labor, materials, equipment, and incidentals necessary to perform all earthwork required for construction. Such earthwork shall include, but not be limited to the loosening, removing, loading, transporting, depositing, and compacting in its final location of all materials wet and dry, as required for the purposes of completing the Work specified in the Contract Documents. The Work shall also include, but not be limited to, clearing and grubbing the project area outside of the roadway in preparation for the construction furnishing, performance of plant survey to identify plant types and location prior to clearing and grubbing, phasing, and removing of shoring, dewatering, supporting of structures and utilities above and below the ground; all backfilling around structures and utilities and all backfilling of trenches and pits; the disposal of excess excavated materials; borrowing materials for fills; and all other incidental earthwork; all in accordance with the requirements of the Contract Documents.

Earthwork / Roadway excavation shall conform to the applicable provisions of Section 19 of the Caltrans Standard Specifications. Roadway excavation shall consist of excavation of the roadway prism within the limits for the subjected streets reconstruction and the roadway excavation and embankment construction, for the utility improvements, as shown on the plans, and disposal of excess material, as specified herein.

The Contractor shall revegetate all sites disturbed or scarred by construction activities. Revegetation of disturbed sites should occur prior to the start of the rainy season.

80A.1 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the requirements of the Building Code and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section; provided, that for Building Codes, the latest edition of the code, as adopted as of the date of award by the agency having jurisdiction, shall apply to the Work.

This Section contains references to the following documents. In case of a conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.

Specifications, Codes and Regulations:

1. California Department of Transportation Test Method Nos. 301 and 217
2. Caltrans Standard Specifications, Latest Edition
3. U.S. Army Corps of Engineers, Specification CW-002215
4. ASTM D422 – Particle Size Analysis of Soils and Aggregates

5. ASTM D1556 – In-Place Soil Density Test by Sand-Cone Method
6. ASTM D1557 – Moisture-Density Relationship of Soils
7. ASTM D2419 – Determination of Sand Equivalent Value
8. ASTM D2922 – In-Place Soil Density Test by Nuclear Density Gauge
9. ASTM D4318 – Plasticity Index of Soils
10. ASTM D4829 – Expansion Index of Soils

80B. SUBMITTALS

- A All materials required by the Contract Documents shall be submitted with the Suppliers name, address, telephone number, fax number, email address and the name of the responsive person at the supplier's site.

Submittals shall be provided to confirm that material to be used comply with information specified herein.

For backfill materials:

- (1) Submit a 20 lb. sample, grain size analysis and curve performed in accordance with ASTM D422 and compaction test results (ASTM D1557 Procedure C) for each proposed source of backfill for review by the Engineer at least one week prior to use of the material. The grain size analysis shall indicate that the backfill material conforms to the gradation requirements.
- (2) Controlled Density Fill Mix Design: Prior to beginning the work, the Contractor shall submit for review, controlled density fill mix designs which shall show the proportions and gradations of all materials proposed for each class and type of controlled density fill specified herein.

80C. MATERIALS

All materials to be used i.e. Class 2 Aggregate Base, Aggregate Base, Coarse Bedding material, Geotextile Fabric, Drain Rock etc. shall comply with the quality requirements of Standard Specifications Section 19 and other applicable specifications.

Controlled density fill shall be manufactured by, or approved equal: Shamrock Materials, Inc., Mix Design Number 1500.

Controlled density fill shall be hatched by a ready mixed concrete plant and mixed and delivered to the jobsite by means of transit mixing trucks.

No equipment or traffic shall be allowed on the controlled density fill until the surface of the controlled density fill will withstand the weight of equipment or traffic without displacement or damage. If necessary, to prevent displacement or damage, provide steel trench plates that span the trench or other means that prevent equipment or traffic contact with controlled density fill.

80D. CONSTRUCTION

The CONTRACTOR shall submit an excavation plan for review before any excavation commences. Excavations in areas of pedestrian or vehicular traffic shall be open the minimum time necessary.

80D.1 GENERAL

Except when specifically provided to the contrary, excavation shall include the removal of all materials of whatever nature encountered, including all obstructions of any nature that would interfere with the proper execution and completion of the Work. The removal of said materials shall conform to the lines and grades shown or ordered. Unless otherwise provided, the entire construction site shall be stripped of all vegetation and debris, and such material shall be removed from the site prior to performing any excavation or placing any fill.

Excavations shall be sloped or otherwise supported in a safe manner in accordance with applicable State safety requirements and the requirements of OSHA Safety and Health Standards for Construction (29CFR1926). All excavations shall be dewatered in accordance with Section 70- Dewatering, and shored in accordance with Section 811.

The constructed thickness of the aggregate base layer shall not be less than the design thickness minus 0.04' (1/2 inch). Aggregate base shall be Class 2, 3/4 inch maximum, and shall be firm and unyielding. The minimum sand equivalent shall be 31 for any individual test. The requirements to use recycled Class II Aggregate base shall only be approved by the ENGINEER.

80D.2 ROADWAY EXCAVATION

Roadway excavation shall be performed by sawcutting, grinding and excavating the subgrade for to the depth indicated on the plans or as directed by the Engineer.

Removal of existing bituminous pavement, base materials, and native materials will be paid for as roadway excavation and no additional allowance made therefor. The subgrade and exposed aggregate baserock shall be moisture conditioned to slightly over optimum moisture content and compacted to a minimum of 95 percent relative compaction (ASTM D1557).

Excess materials from the excavation shall become the property of the CONTRACTOR and shall be disposed of suitably. All costs incurred for at his expense.

80D.3 TRENCH EXCAVATION

- A. No more trench shall be opened in advance of pipe laying than is necessary to expedite the work. One block or 400 feet whichever is shorter, shall be the maximum length of open trench on any line under construction.
- B. Trenches shall be excavated to a width which will provide adequate working space and sidewall clearances for proper pipe installation, jointing, and embedment. Minimum trench width is shown on the contract drawings.
- C. The use of mechanical equipment will not be permitted in locations where operation would cause damage to trees, buildings, culverts, or other existing property, utilities, or structures above or below ground. In all such excavations, hand excavating methods shall be used.
- D. Whenever unsuitable or unstable soil conditions are encountered, trenches shall be excavated below grade and the trench bottom shall be brought to grade with suitable material. In such cases, adjustments will be made in the Contract Price in accordance with the provisions of the General Conditions.

80D.4 PIPE EMBEDMENT

Embedment materials both below and above the bottom of the pipe, classes of embedment to be used, and placement and compaction of embedment materials shall conform to the requirements indicated on the Contract Drawings.

Embedment materials shall be deposited and compacted in a manner which will not cause significant scratching or abrasion of the pipe coating or damage to the polyethylene protection. Embedment material shall be deposited and compacted uniformly and simultaneously on each side of the pipe to prevent lateral displacement.

80D.5 TRENCH BACKFILL

Initial bedding below pipe shall be compacted to at least ninety (90) percent relative compaction prior to laying pipes. Bedding around pipe to twelve (12) inches above top of pipe, shall be compacted to at least ninety (90) percent relative compaction prior to placement of backfill.

Compaction shall be 90 percent minimum below the top 30-inches from finished grade and 95 percent minimum from finished grade to 30-inches below the finished grade. Initial bedding shall be compacted to at least ninety (90) percent relative compaction prior to laying pipes.

CDF may be used as backfill only after twelve (12)-inch (minimum) of aggregate base, Class 2, has been properly placed over the pipe and meeting the previously stated bedding and backfill requirements. CDF shall not be used as pipe embedment.

Drain rock shall not be allowed in stable trenches unless approved by the ENGINEER.

80D.6 UNSTABLE TRENCH

The City standard detail for unstable trench shall be used if ground water and/or mud are encountered in the trenches as determined by the ENGINEER. All costs involved shall be considered to be included in the contract prices paid for the installation of the water services and no additional compensation will be allowed therefor.

80D.7 QUALITY ASSURANCE

All soils quality control testing will be done by a testing laboratory of the CITY's choice. The CONTRACTOR shall provide the ENGINEER at least 24 hours' notice in advance of required tests.

In case the tests of the fill or backfill show non-compliance with the required density, the CONTRACTOR shall accomplish such remedy as may be required to insure compliance. Subsequent testing to show compliance shall be by a testing laboratory selected by the CITY and shall be at the CONTRACTOR's expense.

All materials to be used shall be natural materials. The requirements to use recycled materials shall only be approved by the ENGINEER.

The CONTRACTOR shall provide safe access in the trench for the CITY's soil compaction testing technician or inspector. This shall include providing and properly installing safety equipment and temporary shoring to enable compaction testing at SEVERAL LEVELS in the trench. Should the CONTRACTOR have backfilled to an elevation above that required to be tested, then the backfill shall be excavated down to the necessary level for testing and provided at the CONTRACTOR's cost. Subsequent backfilling shall also be at the CONTRACTOR's cost.

All authorized observation and testing will be paid for by the CITY. Retesting due to failed tests will be performed at the CONTRACTOR's expense.

All spoils, including hazardous materials, shall be the responsibility of the CONTRACTOR. Refer to Section 85 of these technical specifications.

80E. MEASUREMENT AND PAYMENT

Capri Creek (SRIC) Jack and Bore – Boring and Receiving Pits, Sonoma Mtn Pkwy Jack and Bore – Boring and Receiving Pits, Capri Creek (SRJC) Directional Drill Excavations, Sonoma Mtn Pkwy Directional Drill – Excavations shall be paid for under the **Lump Sum (LS)** price. The lump sum prices paid for performing excavations as part of the bore and jack or directional drilling operations shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in design, staking, potholing and locating existing utilities, excavation of

earthwork, shoring and bracing of excavation pits, dewatering, treatment and/or disposal of dewatered liquid, backfill, disposal of excess materials, resurfacing and replanting, clean up, including any other work required for excavation for pits for bore and jack or directional drilling work not specifically enumerated on the plans or these Specifications and no additional allowance will be made therefor.

Payment for all other excavation such as trench excavation, pipe embedment, trench backfill etc. which are not covered separately in a specific bid item will be included in various items of work and shall be full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools, and equipment, and doing all work involved, including any other items necessary for performing this work not specifically enumerated in the plans and specifications, and no additional allowance will be made therefor.

END OF SECTION

**SECTION 180
FINAL CLEANUP**

180A. GENERAL

Before final inspection of the work, the Contractor shall clean the work and all ground occupied by him in connection with the work, of all rubbish, excess materials (including liquid asphalt), and equipment. The sidewalks and curbs shall be thoroughly swept clean of all dirt, dust and foreign material. All parts of the work shall be left in neat and presentable condition.

180B. SUBMITTALS

-Not Used-

180C. MATERIALS

-Not Used-

180D. CONSTRUCTION

-Not Used-

180E. QUALITY CONTROL

-Not Used-

180F. MEASUREMENT AND PAYMENT

Payment for cleaning of sidewalks and curbs, and clean up in general, shall be considered as included in the unit bid price for other contract items and no additional payment shall be made therefor.

END OF SECTION

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SECTION 190
PRESERVATION OF PROPERTY

190A. GENERAL

Attention is directed to the provisions in Section 5-1.36, "Property and Facility Preservation," of the Standard Specifications and these Special Provisions.

190B. SUBMITTALS

-Not Used-

190C. MATERIALS

-Not Used-

190D. CONSTRUCTION

Existing trees, shrubs, and other plants, that are not to be removed and are injured or damaged by reason of the Contractor's operations, shall be replaced by the Contractor in accordance with the requirements in Section 20-2.03B, "Replacement," of the Standard Specifications and in accordance with the requirements contained herein.

Roadside mailboxes shall be protected from injury or damage during construction.

190E. QUALITY CONTROL

-Not Used-

190F. MEASUREMENT AND PAYMENT

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

END OF SECTION

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**SECTION 220
AGGREGATE BASE**

220A. GENERAL

Aggregate base shall conform to Section 26, “Aggregate Bases,” of the Caltrans Standard Specifications, the City of Petaluma's Design and Construction Standards and Specifications, the plans, and these Technical Specifications.

220B. SUBMITTALS

Contractor shall submit to the City the typical gradation document of the specified aggregate base in the plans and/or these technical specifications.

220C. MATERIALS

Backfill material shall be Class 2 aggregate base three-quarter (3/4) inch maximum conforming to Section 26 of the Standard Specifications.

Controlled Density Fill (CDF) shall be mix design No. 1500 manufactured by Shamrock Materials Inc. or approved equal.

220D. CONSTRUCTION

220D.1 EARTHWORK

For water main projects, the contractor shall excavate to the depth of the existing water main to locate each water service connection and trench to the meter location.

For sewer main projects, the contractor shall excavate to the depth of the existing sewer main to locate each sewer lateral connection and shall trench to the back of curb.

220D.2 AGGREGATE BASE

The constructed thickness of the aggregate base layer shall not be less than the design thickness minus 0.04' (1/2 inch). Aggregate base shall be Class 2, 3/4 inch maximum, and shall be firm and unyielding. The minimum sand equivalent shall be 31 for any individual test. The requirements to use recycled Class II Aggregate base shall only be approved by the ENGINEER.

220D.3 TRENCH BACKFILL

Initial bedding, below pipe to twelve (12) inches above top of pipe, shall be compacted to at least ninety (90) percent relative compaction prior to laying pipes.

Compaction shall be 90 percent minimum below the top 30-inches from finished grade and 95 percent minimum from finished grade to 30-inches below the finished grade. Initial bedding shall be compacted to at least ninety (90) percent relative compaction prior to laying pipes.

CDF may be used as backfill only after nine (9)-inch (minimum) of aggregate base, Class 2, has been properly placed over the pipe and meeting the previously stated bedding and backfill requirements. CDF shall not be used as pipe embedment.

Drain rock shall not be allowed in stable trenches unless approved by the ENGINEER.

220D.4 UNSTABLE TRENCH

The City standard detail for unstable trench shall be used if ground water and/or mud are encountered in the trenches as determined by the ENGINEER. All costs involved shall be considered to be included in the contract prices paid for the installation of the water services and no additional compensation will be allowed therefor.

220E. QUALITY CONTROL

Aggregate must comply with the grading requirements as shown in Section 26 of the Standard Specifications

220F. MEASUREMENT AND PAYMENT

Full compensation for Aggregate Base shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

END OF SECTION

SECTION 310
ASPHALT CONCRETE

310A. GENERAL

All Asphalt concrete (AC) work shall be as specified in Section 39, “Asphalt Concrete”, of the Standard Specifications; these Technical Specifications; and the plans and typical sections.

310B. SUBMITTALS

The CONTRACTOR will be required to furnish the Engineer with a mix design for each type of asphalt concrete to be used on the project. The mix design shall include a list of material sources and a Certificate of Compliance signed by the material supplier or his representative indicating that the materials to be incorporated in the work fulfill the requirements of these specifications. This submission will be provided fifteen (15) calendar days or ten (10) working days prior to the start of work. If requested, the CONTRACTOR will also provide aggregate and binder samples or a plant produced mix sample for mix design verification.

310C. MATERIALS

310C.1 MIX TYPES

The asphalt concrete mix to be used will be as follows unless modified by the Engineer:

- A. Full Depth AC Plug: 3/4 inch Maximum, Type A, Medium – PG 64-16.
- B. Leveling Courses: 1/2 inch Maximum, Type A, Medium – PG 64-16.
- C. AC Overlay or AC Surface Courses: 1/2 inch Maximum, Type A, Medium – PG 64-16
- D. Jump Section: : 3/4 inch Maximum, Type A, Medium – PG 64-16.

310C.2 BINDER TYPES

The asphalt grade shall be PG 64-16 conforming to Section 92, “Asphalts”, of the Standard Specifications. The bitumen ratio shall not vary by more than 0.3% above or 0.3% below the value specified in the approved mix design.

310C.3 TACK COAT

Tack coat shall be utilized and shall be emulsified asphalt Grade RS-1h or SS-1h and shall conform to Section 94, “Asphaltic Emulsions”, of the Standard Specifications and section 4-302 “Tack Coat” of these Technical Specifications.

310C.4 CONTRACTOR SUPPLIED MIX DESIGNS

The mix designs shall be prepared by laboratories and personnel with current Caltrans certification. The asphalt concrete mixtures shall conform to all of the provisions of Section 39 of the Standard Specifications and to the following requirements:

- A. The asphalt concrete air void content shall be between 3% minimum and 3.5% maximum and the S-value shall be 37 or greater.
- B. Up to 10% recycled asphalt pavement may be incorporated into the mix.
- C. In no event shall there be less than two percent passing the No. 200 sieve.

As a minimum, the mix design shall indicate the percentage passing for each specified sieve, the percent of asphalt, the laboratory compacted unit weight, the theoretical unit weight (Rice Gravity), and the stability of the mix to be used for each asphalt concrete mixture to be incorporated on the project. The mix design, with allowable tolerance for a single test, shall be used for job control.

310C.5 DELIVERY TICKETS

Each delivery ticket shall include information on the material type, binder type, oil content, and the mix design number. Material delivered to the project without such annotations shall be subject to rejection. No payments shall be made without load tickets and the acceptance of those tickets by the Engineer at the end of the day of delivery.

310D. CONSTRUCTION

310D.1 PAVING

A. SURFACE PREPARATION

The work shall consist of preparing the existing street surfaces prior to the commencement of paving. Such work shall include, but not limited to, removing raised pavement markers, removing thermoplastic traffic markings and legends, controlling nuisance water, sweeping, watering, and removing loose and broken asphalt concrete pavement and foreign material as specified in the Standard Specifications and these Technical Specifications, and as directed by the Engineer.

Existing concrete or asphalt concrete shall be cut in a neat line along the lip of gutter and in locations as designated on the plans or as indicated by the Engineer to a minimum depth of 0.50 foot with a power driven saw before the concrete or asphalt concrete is removed.

The CONTRACTOR shall locate all surface facilities by triangulation measurement in advanced of paving operations.

B. PRIME COAT

No prime coat is required.

C. TACK COAT

Tack coat shall be applied to all existing asphalt concrete or Portland cement concrete surface (vertical and horizontal) to be paved over. The tack coat shall conform to the requirements in Section 39 of the Standard Specifications and Section 11-1.09 herein.

All vertical edges to be paved against shall be tack coated. These include, but are not limited to, curb faces, gutter lips, gutter pans, curb faces, swale edges, cross gutter edges, and asphalt concrete edges.

The rate of tack coat shall be 0.15 gal/sy (80% emulsified asphalt and 20% water) approximately. The application of tack coat shall be approved by the Engineer prior to placing the mix. Tack coat shall be applied prior to placing the subsequent layer unless placed in the same day.

D. COLD JOINTS

All cold joints, both longitudinal and transverse, shall be heated with a torch immediately prior to paving. Cold joints include previous passes placed more than three hours prior. All cold joints shall be tack coated.

E. ASPHALT CONCRETE FILLS

Digout areas to receive full-depth AC stabilization shall be completed prior to performing paving work.

F. LAYOUT

The CONTRACTOR shall layout and mark the location of the edges of the surface course paving passes. The layout shall be made at least 2 hours prior to paving. The layout shall be approved by the Engineer prior to paving.

In all cases where practical, each lane shall be paved in a single pass. In tapered transition areas, the shoulder areas shall be paved first, and then the through lane shall be hotlapped immediately after the shoulder paving.

For paving which incorporates new quarter-points or grade breaks due to keycuts or other conditions, the CONTRACTOR shall provide equipment capable of adjusting to the new surface profile at the appropriate locations. The profile adjustments shall be within twelve inches of the actual quarter-point or grade break.

The CONTRACTOR shall take sufficient measurements during laydown to assure that the full design asphalt concrete layer depth is provided at each quarter-point, grade break, or transition. Failure to provide the design depth at these areas shall result in rejection of the work. Correction of this rejected work will include milling out the new

asphalt concrete from the road edge to the centerline or nearest inside lane line and repaving. The minimum length of the milled and corrected area shall be fifty feet.

The minimum ambient temperature to begin paving shall be 55 degrees F and rising.

G. ROLLING, COMPACTION AND PAYMENT REDUCTION

In addition to the requirements of Subsection 39-3.03, "Spreading and Compacting Equipment," of the Standard Specifications, the number of rollers required for each paving operation shall be such that all rolling for density can be completed before the temperature of the asphalt concrete mixture drops below 240 degrees Fahrenheit.

Breakdown rolling shall commence when the asphalt concrete is placed. Rolling shall be accomplished with the drive wheel forward and with the advance and return passes in the same line.

The CONTRACTOR shall compact the asphalt concrete to meet the compaction requirements between 91-97% of maximum theoretical density as shown in subsection 39-2.03 "Acceptance Criteria" of the Standard Specifications 2010. The compaction shall be computed for each lot, with a maximum lot size of 500 tons. Each street segment of less than 500 tons shall be its own unique lot.

Core density/nuclear gauge shall be done per CTM 375, "Determining the In-Place Density and Relative Compaction of Asphalt concrete Pavement Using Nuclear Gages".

310E. QUALITY CONTROL

310E.1 TOLERANCES

The finished asphalt concrete surface shall be flush with, to 1/4 inch (0.020 feet or 6 mm) above, the gutter lips.

The average pavement thickness shall be equal to the specified thickness for the project.

For total pavement thicknesses of less than four inches, the minimum allowable thickness will be 1/4 inch less than that specified.

Core densities shall be taken at a rate of no less than one core per 500 tons of mix.

If compaction fails by nuclear methods, then core density/nuclear gauge correlation and/or core densities shall be used to establish compaction.

When core density is used to determine compaction, all cores shall be paid for by the CONTRACTOR.

Compaction failing to meet the above criteria shall be subject to the payment reductions as shown in (Standard Specifications 2010) subsection 39-2.03, "Acceptance Criteria."

The CONTRACTOR shall have hand-compaction equipment immediately available for compacting all areas inaccessible to rollers. Hand-compaction shall be performed concurrently with breakdown rolling. If for any reason hand-compaction falls behind breakdown rolling, further placement of asphalt concrete shall be suspended until hand-compaction is caught up. Hand-compaction includes vibratory plates and hand tampers. Hand torches shall be available for rework of areas which have cooled.

After compaction, the surface texture of all hand work areas shall match the surface texture of the machine placed mat. Any course or segregated areas shall be corrected immediately upon discovery. Failure to immediately address these areas shall cause suspension of asphalt concrete placement until the areas are satisfactorily addressed, unless otherwise allowed by the Engineer.

310E.2 SAMPLING

The Engineer may sample the asphalt concrete from truck beds at the plant, from the hopper of the spreading machine, or from the completed mat at the discretion of the Engineer. The CONTRACTOR shall facilitate the sampling process.

310F. MEASUREMENT AND PAYMENT

Pavement Restoration for shall be considered as included in the price for various contract items involved and no additional compensation will be made therefor. Pavement shall be restored per city standards and shall be at a minimum of 4-inches of AC extending a minimum of 3-feet past trench line.

Payment for Saw Cutting shall be considered as included in the price for the various contract items of work involved and no additional compensation will be made therefor.

Payment for Conforming to Existing shall be considered as included in the price for the various contract items of work involved and no additional compensation will be made therefor.

Payment for trench paving shall be considered as included in the price for the various contract items of work involved and no additional compensation will be made therefor

END OF SECTION

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SECTION 400 MINOR CONCRETE

400A. GENERAL

New Portland cement concrete facilities including curbs, curbs and gutters, sidewalks, ADA curb ramps, and roadways, pads, thrust blocks, concrete cap, and shallow utility backfill shall be constructed per the plans, Construction Standard 200 Series, and these specifications at the locations indicated on the plans or as directed by the Engineer.

The CONTRACTOR shall furnish all materials for concrete and grout work in accordance with the provisions of this Section and shall form, mix, place, cure, repair, finish, and do all other work as required to produce finished concrete and grout in accordance with the requirements of the Contract Documents.

400B. SUBMITTALS

Submittals shall be provided to confirm that material to be used comply with information specified herein. The CONTRACTOR shall furnish a concrete mix design to the Engineer at least ten working days prior to the start of the work.

Mix Designs: Prior to beginning the Work, the CONTRACTOR shall submit to the ENGINEER, for review, preliminary concrete mix designs which shall show the proportions and graduations of all materials proposed for each class and type of concrete specified. The mix designs shall be designed by an independent testing laboratory acceptable to the ENGINEER. All costs related to such mix design shall be borne by the CONTRACTOR. This Specification sets the minimum requirements for mix design that meets all requirements specified herein.

If deviations from the specifications are indicated, and therefore requested by the CONTRACTOR, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph. The remaining portions of the paragraph not underlined will signify compliance on the part of the CONTRACTOR with the specifications. The submittal shall be accompanied by a detailed, written justification for each deviation. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.

400C. MATERIALS

400C.1 GENERAL

Concrete shall conform to the provisions of Section 90 of the Standard Specifications and these special provisions.

Where new concrete is placed adjoining existing concrete, steel dowels (No. 4 x 20 inch) shall be installed at 24 inches o.c. into existing concrete with six-inch embedment. The dowels shall be epoxy grouted.

Concrete shall contain one (1) pound of lampblack per cubic yard of concrete to match existing concrete

General Concrete Facilities including curbs, gutters, and sidewalk and ADA curb ramps shall meet the following requirements:

- Compressive Strength: 3,000 psi @ 28 days
Polypropylene Fiber
Reinforcement: 1.5 lbs/cy (0.01% by volume), ¾ inch or 1-1/2 inch length
- Maximum Slump: 4 inches

Heavy Vehicular Facilities including valley gutters, driveways, and alley entrances and shallow utility backfill shall meet the following requirements:

- Compressive Strength: 2000 psi @ 3 days,
4000 psi @ 28 days
Polypropylene Fiber
Reinforcement: 3.0 lbs/cy (0.02% by volume), 1-1/2 inch minimum length
- Maximum Slump: 4 inches
- Steel Reinforcement: 60 ksi

Lean concrete shall have a minimum 28-day compressive strength of 2,000 psi, a maximum aggregate of ¾ inches, a minimum of 4 sacks of cement per cubic yard, and a maximum water to cement ratio of 0.60 by weight.

400C.2 FORMS

Concrete forms shall be metal, wood, plywood, or other approved material that will not adversely affect the concrete and will facilitate placement of concrete to

the shape, form, line, and grade indicated. Metal forms shall be an approved type that will accomplish such results.

Plywood for concrete formwork shall be new, waterproof, synthetic resin bonded, exterior type Douglas Fir or Southern Pine plywood manufactured especially for concrete formwork.

Lumber shall be Douglas Fir or Southern Pine, construction grade or better.

400C.3 REINFORCEMENT STEEL

Reinforcement steel shall be deformed bars conforming to ASTM A615 Grade 60 or ASTM A706. Welded wire fabric shall conform to latest edition of CRSI Manual of Standard Practice.

400C.4 CONCRETE

Cement: Portland Cement Type II conforming to ASTM C150.

Water: Clean and free from oil, acid, alkali, organic matter, or other deleterious substances and shall contain not more than 50 ppm chlorides as Cl no more than 50 ppm sulfates as SO_4^{-2} .

Aggregates:

Natural aggregates shall be free from deleterious coatings, conforming to ASTM C33, together with all referenced ASTM Standard Specifications, except as modified herein. Aggregates shall not be potentially reactive as defined in Appendix XI of ASTM C33. Aggregates shall be thoroughly and uniformly washed before use.

Fine aggregates shall conform to ASTM C33. Materials finer than the 200 sieve shall not exceed 4 percent. Use only clean, sharp, natural sand.

Coarse aggregate shall be: 1) natural gravels, 2) a combination of gravels and crushed gravels, 3) crushed stone, or 4) a combination of these materials containing no more than 15 percent flat or elongated particles (long dimension more than five times the short dimension). Materials finer than the 200 sieve shall not exceed 0.5 percent.

Ready-Mixed Concrete: Ready-mixed concrete shall conform to the requirements of ASTM C94.

400C.5 CURING COMPOUND

Liquid membrane-forming curing compound shall be clear or translucent, suitable for spray application and shall conform to ASTM C309, Type 1.

400C.6 EXPANSION JOINT FILLER

Expansion joint filler shall be ½-inch thick, preferred asphalt-impregnated, expansion joint material, conforming to ASTM D994.

400C.7 GROUTS

Epoxy Grout. Epoxy grout for bonding reinforcing bars to existing concrete structures shall be manufactured by, or approved equal:

- A. Adhesive Engineering, Concrete No. 1001
- B. Sika Chemical Corp., Sikastix 350, 370, or 390, as applicable

Ordinary Type Grout (Dry Pack). One part portland cement to 2 parts fine sand. Add sufficient water to form a damp formable consistency.

Non-Shrink Grout. Non-shrink grout shall be nonmetallic, nongas-liberating type, as manufactured by, or approved equal:

- A. Master Builders, Master Flow 713
- B. UPCO Company, UPCON, High Flow

Cement Grout. Cement grout shall be composed of one part cement, two parts sand, and the minimum amount of water necessary to obtain the desired consistency. Where needed to match the color of adjacent concrete, white portland cement shall be blended with regular cement as needed. The minimum compressive strength at 28 days shall be 4000 psi.

400C.8 BONDING AGENT

Bonding agent shall be manufactured by, or approved equal:

- A. W. R. Grace and Company, Cambridge, MA
- B. Sika Chemical Corp., Lyndhurst, NJ
- C. Adhesive Engineering Company, San Carlos, CA

Product shall be recommended by manufacturer as suitable to meet job requirements with regard to surface, pot life, set time, vertical or horizontal application, forming restrictions, etc. Furnish manufacturer's specific instructions for this job application, and obtain ENGINEER's approval prior to application.

400C.8 TRUNCATED DOMES

Prefabricated truncated dome panels shall be used. The panels shall be “**brick red**” (unless specified otherwise on the plans) and shall be cast-in-place (“wet set”) style at all locations. The CONTRACTOR shall submit for review the manufacturer’s information at least 14 days prior to placement of the panels for approval by the City.

400D. CONSTRUCTION

400D.1 EARTHWORK

Excavation, backfill and compaction shall be in accordance with Section 80, Earthwork.

400D.2 EXISTING CURB & GUTTER, SIDEWALK, AND ASPHALT REMOVAL

The CONTRACTOR shall only be permitted to remove concrete and/or asphalt on one side of the street at a time. The other side of the street may be removed only after the concrete and asphalt have been installed and opened to the public.

All concrete which is to be removed from curb and gutter areas shall be removed to the nearest construction joint or as directed by the Engineer.

All concrete which is to be removed from sidewalk areas shall be removed to the nearest transverse score mark across the full width of sidewalk or construction joint as directed by the Engineer.

Burying of broken concrete within the limits of the project will not be allowed.

Reinforcing steel may be encountered in portions of the concrete to be removed and no additional allowance will be made for the removal of such steel.

400D.3 SUBGRADE

After the subgrade is prepared, moisture conditioned, and compacted to 90% relative compaction at zero to three percent over optimum, the CONTRACTOR shall continuously maintain the subgrade in a uniform condition at the moisture content obtained during subgrade compaction until the concrete is placed.

400D.4 FORMING

Construct all form work in accordance with ACI 347. Before placing the concrete, the contact surfaces of forms shall be coated with a suitable non- staining form coating compound or shall be given two coats of nitrocellulose lacquer. All excess coating shall be removed by wiping with cloths.

400D.5 TOLERANCES

The maximum variation from design elevation shall not exceed +/- 0.02 feet. In some instances, particularly in critical drainage areas, tolerances may be reduced to zero. Concrete facilities shall be installed to maintain or provide positive drainage. Questions regarding applicable tolerances shall be directed to the Engineer forty-eight hours in advance of the work.

When shown on the drawings, the concrete shall be set at the design elevations. When existing facilities are to be removed and replaced, they shall conform to the existing elevations and grades. Generally, this will be at a straight line between the start and end points of the removal, unless otherwise noted on the plans.

400D.6 REINFORCEMENT

All reinforcement shall be provided as indicated together with all necessary ties, spacers, supports, and other devices necessary to install and secure the reinforcement properly. All reinforcement, when placed, shall be free from loose rust, scale, oil, grease, and other coatings and foreign substances that would reduce or destroy the bond.

400D.7 MIXING

Concrete mixing shall conform to ACI 304, current edition, and to the other requirements specified herein.

Concrete shall be discharged at the job within 1-1/2 hours after the water has been added to the cement and aggregates mixture. Concrete may be machine mixed at the job site or ready mixed at the CONTRACTOR's option, and shall conform to the following requirements:

1. Site Mixing: Concrete produced at the site shall be mixed in a batch mixer with a capacity of not less than 1/2 cy. The minimum mixing time for each batch (from the time when all solid materials and water are in the drum) shall be 1-1/2 minutes for mixers of 1 cy capacity or less; for mixers of larger capacity, the mixing time shall be increased 30 seconds for each additional 1/2 cy or fraction thereof. The mixer shall revolve at a uniform peripheral speed of about 200 rpm. The entire batch shall be discharged before the mixer is recharged.
2. Ready Mixed Concrete: All concrete constituents for ready mixed concrete shall be batched at the central plant. All central plant and rolling stock equipment and methods shall conform to the requirements of ASTM C94, as applicable.

400D.8 SCHEDULING

The CONTRACTOR shall schedule the work so that the replacement of sidewalks and curbs and gutters at driveways shall be completed within three (3) days of demolition operation start. The CONTRACTOR may use seven (7) sack mixes (Class D) with no more than one (1) percent calcium chloride to speed up the concrete set.

The CONTRACTOR shall notify the affected business owners or residents in writing at least forty-eight (48) hours prior to starting the work. All local business and residents shall be provided access at all times.

The CONTRACTOR shall schedule his operation so that all other concrete shall be poured within five (5) days after excavation or by the weekend, whichever is earlier. Failure to do so will result in a liquidated damage of \$500 per location per occurrence.

400D.9 PLACING

No concrete shall be placed after there is evidence of initial set. Concrete placement will not be permitted when weather conditions prevent proper placement and consolidation. Consolidation of concrete shall be with internal concrete vibrators supplemented by handspading, rodding, and tamping. Vibrating equipment shall be adequate to thoroughly compact the concrete. Concrete shall be compacted, screeded to grade, and prepared for the specified finish.

In general, adding water to the surface of the concrete to assist in finishing operations shall not be permitted.

Before final finishing is completed and before the concrete has taken its initial set, the edges shall be carefully finished with the radius shown on the plans or a radius to match the existing construction.

Concrete shall be thoroughly consolidated against and along the faces of all forms and adjacent concrete. After the forms are removed, excess concrete below the form surface shall be removed to be flush with the form face.

400D.10 CURING

Curing shall begin as soon as free water has disappeared from concrete surfaces after placing and finishing. Curing materials shall be applied and maintained so as to protect the concrete from moisture loss. Water used in curing shall be potable. Curing shall be accomplished by moist curing method. Unformed surfaces shall be covered with absorptive materials wetted before placing. Absorptive materials or forms used in curing shall be kept continually wet.

400D.11 CLEANUP AND BACKFILL

After the concrete is placed, cured, and the forms have been removed, the CONTRACTOR shall clean the site of all concrete and forming debris.

After curing has been completed and the forms have been removed from the driveway, sidewalk, or ADA curb ramp, the void between the new concrete and the existing parkway shall be filled with clean native material and the entire parkway left in a clean and orderly condition.

For concrete removed but not replaced, the resulting void after excavation shall be backfilled with clean native material or topsoil.

400E. QUALITY CONTROL

Without limiting the generality of other requirements of these Specifications, all work specified herein shall conform to or exceed the requirements of the Building Code and the applicable requirements of the following documents to the extent that the provisions of such documents are not in conflict with the requirements of this Section; provided, that for Building Codes, the latest edition of the code, as adopted as of the date of award by the agency having jurisdiction, shall apply to the Work.

ACI 304R Guide for Measuring, Mixing, Transporting and Placing Concrete

ACI 347R Guide to Formwork for Concrete

ASTM A 185 Steel Welded Wire, Fabric, Plain, for Concrete Reinforcement

ASTM A615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement

ASTM C33 Concrete Aggregates

400E.1 FIELD SAMPLING AND TESTS

The CONTRACTOR shall be responsible for the quality of the materials and workmanship of the placement of the concrete. Sampling, preparation of test specimens, and testing will be the ENGINEER's responsibility.

400E.2 SLUMP

Concrete consistency shall be determined by slump tests in accordance with ASTM C143. At least one test shall be made at the commencement of the concrete placement and at the time standard test cylinders are molded.

Tests will be performed by the ENGINEER.

400F. MEASUREMENT AND PAYMENT

Remove and Replace Curb and Gutter shall be paid for at the contract unit price per **Linear Foot (LF)**. Payment shall be full compensation for removing and placing PCC curb & gutter complete, in kind, in place, and shall include, but not limited to, demolition, saw cutting excavation for placement of aggregate base, subgrade preparation; furnish and place 6" thick aggregate base; dowels into existing concrete; reinforcing bars and wire mesh where required; furnish and place concrete; weakened plane, construction joints and scoring; protection from vandalism, removal and disposal of existing concrete, and all other work required to complete the work in place.

The actual quantity for this item of work may vary from the quantity listed on the bid schedule. Provisions for increased or decreased quantity elsewhere in the specifications shall not apply and no adjustments of the contract unit price shall be made therefor.

Remove and Replace Sidewalk shall be paid for at the contract unit price per **Square Foot (SF)**. Payment shall be full compensation for removing and placing PCC pathway complete, in place, and shall include, but not limited to, demolition, saw cutting excavation for placement of aggregate base, subgrade preparation; furnish and place 4" thick aggregate base; doweling into existing concrete; reinforcing bars and wire mesh where required; furnish and place concrete; weakened plane, construction joints and scoring; protection from vandalism, removal and disposal of existing sidewalks, and all other work required to complete the work in place.

This bid item does not include sidewalk work in conjunction with water service replacement. The actual quantity for this item of work may vary from the quantity listed on the bid schedule. Provisions for increased or decreased quantity elsewhere in the specifications shall not apply and no adjustments of the contract unit price shall be made therefor.

4-Inch Conduit/Meter Box Under Sidewalk shall be paid for at the contract unit price per **Lump Sum (LS)**. Payment shall be full compensation for removing and placing PCC pathway, 4-Inch PVC Conduit and Meter Box complete, in place, and shall include, but not limited to, demolition, saw cutting excavation for placement of aggregate base, subgrade preparation; furnish and install 4-inch PVC conduit, furnish and install B30 Meter Box, furnish and place 4" thick aggregate base; doweling into existing concrete; reinforcing bars and wire mesh where required; furnish and place concrete; weakened plane, construction joints and scoring; protection from vandalism, removal and disposal of existing sidewalks, and all other work required to complete the work in place.

Minor Concrete-Thrust Blocks, grout, concrete foundation pads, replacement sidewalk / curb and gutter damaged during construction etc. which are not covered separately in a specific bid item will be included in various items of work and shall be full compensation for conforming to the provisions in this section, furnishing all labor, materials, tools, and equipment, and doing all work involved, including any other items necessary for performing this work not specifically enumerated in the plans and specifications, and no additional allowance will be made therefor.

END OF SECTION

SECTION 510 WATER MAIN

510A. GENERAL

All water mains and related appurtenances shall conform to the City of Petaluma's Water System Design Guidelines and Construction Standards, the plans, and these Technical Specifications.

510B. SUBMITTALS

Submittals shall include, but not limited to the following;

- A. Manufacturer (submit one manufacturer)
- B. Material specification, including but not limited to AWWA, ASTM, UL etc. references
- C. Material sample (when required)

The Contractor shall site the contract section, water system design guidelines, and construction standard the submittal to be in compliance with.

510C. MATERIALS

Prior to use the contractor must notify the Engineer in writing of all materials to be permanently incorporated into the project in accordance with the contract documents.

Materials to be permanently incorporated into the project shall be verified and approved by the Engineer. Material approval may be by testing or specific evaluation of the product against the specifications, water system design guidelines and these technical specifications. Testing or evaluation to be performed prior to the materials being incorporated into the project and should be done prior to arriving at the project site.

All materials and articles incorporated into the permanent Work:

- A. Shall be new, unless the Special Provisions, Technical Specifications, project plans permit otherwise;
- B. Shall meet the requirements of the Contract Documents and be approved by the Engineer;
- C. May be inspected or tested at any time during their preparation and use; and
- D. Shall not be used in the Work if they become unfit after being previously approved.

Request for approval of substitute materials shall be the decision of the Engineer.

The Engineer shall have the final decision of material use/incorporation at any time throughout the project duration.

510C.1 WATER MAIN

The water main shall be of the following material unless otherwise shown in the plans.

- A) Poly Vinyl Chloride (PVC). PVC shall conform to AWWA C900 and C905. All PVC shall be DR 18 minimum.
- B) Ductile Iron Pipe conforming to AWWA C150 and C151
- C) Fitting three (3) inches and larger shall be cement lined ductile iron as specified in the City Water System Design and Construction Standards.
- D) All buried PVC Pipe shall be installed with conductive tracer attached to the top of the exterior of the pipe.
- E) Ductile iron pipe, when used, shall conform to AWWA C105, encased in 8-mil polyethylene tubing securely taped and extended/overlapped not less than one (1) foot each direction from the center of the joint.

510C.2 GATE VALVES

- A. Gate valves shall conform to the City Water System Design and Construction Standards and these Special Provisions, and shall be “AWWA approved” non-rising stem Clow Resilient Wedge Gate Valve, American Flow Control Series 2500 Resilient Wedge Gate Valve, or approved equal. All bolts, nuts and washers shall be Type 316 stainless steel. All internal and external surfaces of the valve body and bonnet shall have a fusion bonded epoxy coating. complying with ANSI/AWWA C550, applied electro- statically prior to assembly.
- B. All gate valves and couplings or mechanical joint bolts shall require corrosion protection. All bolts, nuts, washers and tiebacks shall be stainless steel type 316 conforming to ASTM A320. All fittings and valves shall be poly-bagged and taped with 10 mil minimum thick polyethylene.

510C.3 BUTTERFLY VALVES

- A. Butterfly valves shall be class 150B designed in accordance with AWWA C504 with flanged or mechanical joints bodies, two (2) inch AWWA operating nut, resilient seating system, ductile iron body, with 316 stainless steel shaft and disc, as seats which are vulcanized, bonded, or mechanically secured, or clamped to the body or disc. Valves shall be the stub or through shaft design and rated not less than 200 psi. Valves shall be travelling nut type and actuator shall have a

mechanical stop which will withstand an input torque of 450 ft-lbs against the stop without damage. Wafer type valves are not acceptable. Valves shall be Henry-Pratt, Dezurik Model BAW, or equal.

- B. All valves and couplings or mechanical joint bolts shall require corrosion protection. All bolts, nuts, washers and tiebacks shall be stainless steel type 316 conforming to ASTM A320. All fittings and valves shall be poly-bagged and taped with 10 mil minimum thick polyethylene.
- C. Butterfly valves shall be restrained accordingly by EBBA Megalug retainer glands or flanges, or approved equal.

510C.4 RESTRAINED COUPLING

- A. Restrained couplings are placed in pipelines to join plain ends of the same or dissimilar materials and provide axial restraint. Place restrained couplings as shown on the Contract Drawings.
- B. Manufacturer shall be EBAA Iron Inc. Series 3800 "MEGA-COUPLING" or approved equal. Install per manufacturer's instructions.
- C. All buried Pipe shall be installed with conductive tracer attached to the top of the exterior of the pipe

510C.5 MECHANICAL JOINT RESTRAINT

- A. Mechanical joints restraints shall be when connect pipe to a mechanical joints.
- B. Manufacturer shall be EBAA Iron Inc , or approved equal

510C.6 RESTRAINED JOINTS

- A. Restrained joints are placed in pipelines to restrain push on joints and ensure the pipeline will not separate at the joint during pressure spike and water hammer events. Place restrained joints as shown on the Contract Drawings.
- B. Manufacturer shall be EBAA Iron Inc., or approved equal

510C.7 FIRE HYDRANT

- A. Fire hydrants shall conform to City of Petaluma Standards.
- B. Fire hydrants shall have a "Breakable Flange Unit" manufactured by American AVK with breakable stainless steel bolts. The Breakable Flange shall be set so that it remains 2" above the concrete finished grade. The CONTRACTOR shall contact American AVK Co., 2155 Meridian Blvd., Minden, NY 89423 (Telephone: 775-552-1400) for information about the Breakable Flange Units.

510D. CONSTRUCTION

510D.1 POTHOLING

The locations of the existing underground utilities shown on the plans are approximate only. The CONTRACTOR shall verify the exact locations of those facilities in the field by potholing, probing, or other means, which will locate and identify the facility at the locations designated in field by the ENGINEER, at least seven (7) working days prior to the installation of pipeline main. No compensation for right-of-way delay other than time extension shall be given. Neither trench excavation nor pipe laying shall be performed until all potholing has been completed and the ENGINEER has reviewed the potholing information as a required submittal. Contractor may submit request to perform potholing with less than seven (7) days before installation work to commence. In the event that the City grants this request, no delay or idle time will be granted for any utilities not located or not marked during the work. In addition, the Contractor shall negotiate with the City for a reduction in price of the approved bid price for potholing.

510D.1 PIPE LAYING

Unless otherwise approved by the ENGINEER, the depth of the cover over the new water main from finished grade shall be as shown on the plans or a minimum of forty-two (42) inches. In case of vertical conflict between the proposed water main and existing or proposed utilities, sewer main/laterals, the proposed water main shall be installed/roped within the manufacturer's recommended maximum allowable deflection to clear the other utilities, and still maintain at least forty-two (42) inches cover. No additional payment for "over-excavation and backfill" will be made if the additional excavation does not exceed eighteen (18) inches.

Where the new water main crosses over a sewer main or sewer laterals with less than twelve (12) inch separation, the CONTRACTOR shall center a full length of ductile iron water pipe (without any joints in between) on the sewer main in accordance with the detail shown on CITY Standard Plan No 855.03. Where a new water main crosses under a sewer main or sewer lateral, the CONTRACTOR shall install a full length of ductile iron water pipe for water and remove and replace the sewer main or lateral with a ductile iron segment pipe. No additional compensation will be made for installation of ductile iron pipe for crossings. Water drops shall be per City Standards.

Transitions between pipes manufactured from different materials shall be as approved by the ENGINEER. Adapters between PVC and ductile iron pipe shall be ductile iron mechanical joint solid sleeve manufactured by Tyler Pipe, Power Seal, or approved equal. All bolts, nuts, and washers shall be stainless steel type 316.

The CONTRACTOR shall at all times have on hand sufficient pumping equipment and machinery in good working condition to pump ground water if encountered, or should any emergency arise caused by construction work. During pipe laying and concrete pouring and until the concrete has set hard, excavations shall be kept free of water. The detail of unstable trench shown on Standard Trench Details No. 852 shall be used if ground water and/or mud are encountered in the trench.

510D.2 TRENCH BACKFILL

Trench backfill and bedding materials and placement for all locations shall conform to the City of Petaluma's Water System Design and Construction Standards and as specified in these Special Provisions.

510D.3 TESTING AND CHLORINATION

Testing shall conform to City Water System Design and Construction Standards. No pipe installation will be accepted until the leakage in each section is nil and until the bacterial test passes.

All lines, mains, and branches shall be sterilized by chlorination in accordance with the water main and water services shall be tested concurrently. Chlorination of the pipe line may be done in conjunction with the hydrostatic test.

All costs involved in testing water mains and services including laboratory fees, all required appurtenances and temporary blow-off assemblies shall be included in the price paid for water main.

510D.4 TIE-INS

All water main tie-ins shall be made under the inspection of City Department of Public Works and Utilities personnel. The CONTRACTOR shall give the CITY a minimum of seventy-two (72) hour notice of a request for shutdown of the City water system in order to make connections, hot taps or abandonments to the main. Tie-in connection between the new water main and existing water main shall be according to the Plans and field conditions, and shall comply with the City Standard Guidelines and City Standard Details.

Water lines shall not be connected to the City's water system until lines have been pressure tested, chlorinated and approved by the City Department of Public Works and Utilities.

During the water main tie-in the interior of all appurtenances being installed shall be thoroughly swabbed with a strong HTH solution prior to installation. The CONTRACTOR shall exercise all necessary precautions to prevent the entrance of trench water or any other foreign material into the water main and shall conduct all operations in accordance with the most stringent AWWA sanitation practices.

Due to the city's aging water system it should be anticipated by the contractor that a complete shutdown of the city's water system of the location to be tied-in may not be possible. The contractor may experience a partially pressurized water system during the course of work to be performed. The contractor shall have sufficient pumping equipment in good working condition to minimize water accumulation in the trench. Dewatering of the trench will be necessary and any discharge to the city's sewer system will require a discharge permit from the city's wastewater treatment facility.

510D.5 SHUTDOWNS AND VALVE TURNING

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents and in no event will the CONTRACTOR be permitted to shut off water service to residents without the ENGINEER'S approval. No shutdown on weekends, holidays, Fridays and before 8:30 a.m. shall be allowed. "Door" notices are to be delivered to all customers to be affected by the shutdown by the CONTRACTOR a minimum of 4 days prior to Monday shutdowns. Forty-eight (48) hours prior to any planned discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

All shutdowns and valve turning operations shall be performed by City Department of Public Works and Utilities personnel only.

Before shutdown of water service and any connections made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

The CONTRACTOR shall consult with the ENGINEER regarding location, time, date and duration of any planned shutdown. A maximum of three (3) hours may be allowed with the ENGINEER'S approval. No shutdown on Monday or Friday shall be allowed. "Door" hanger notices are to be delivered by the CONTRACTOR to all customers to be affected by the planned shutdown a minimum of forty-eight (48) hours prior to the shutdown. Door hangers will be provided by the Department of Public Works and Utilities.

510D.6 BLOW-OFF

A water main blow-off shall be installed at the location as shown on the plans and will conform to the City Water System Design and Construction Standards the plans and these Special Provisions.

510D.7 TAPPING VALVES AND HOT TAPS

Tapping valves shall conform to the requirements of "Gate Valves" in of the City Water System Design Guidelines and Construction Standards except as modified in these Contract Documents. Inlet ends of the tapping valve shall be flanged with a raised machine projection on the flange that mates with the machined recess in the tapping sleeve outlet flange. Outlet ends of tapping valves shall have mechanical joint restrainers by EBBA's Series 1100 "MEGALUG" for ductile iron pipe or series 2000 PV for PVC/C-900 pipe, or equal (the CITY is not aware of any equal at this time). Tapping valves shall fit the new pipe being installed.

Tapping sleeves shall be constructed of all stainless steel with separate Type 316 stainless steel bolt sets as manufactured by JCM 432, Power Seal 3490, Ford FTSS stainless steel, or approved equal. Sleeves shall have "full face 1/8" thick" standard flange gaskets permanently bonded to flanges at factory.

All "Hot Taps" to existing water mains larger than two (2) inches shall be made by the City Department of Public Works and Utilities. The CONTRACTOR shall contact the City prior to scheduling a "Hot Tap". The CONTRACTOR shall, at his/her expense, furnish and install the tapping valves, sleeves and valve boxes.

The excavation area for tapping sleeve and valve shall conform to the requirements as described in the Water System Design and Construction Standards and these special provisions and at the location show on the plans. The existing pavement shall be saw cut and removed to at least six (6) inches outside each side line of the trench/excavation to permit proper keying in the restored pavement.

Between the hours of 4:30 p.m. and 8:00 a.m., the tapping pit shall be bridged in such a manner so as to safely accommodate vehicle traffic. Tapping pits shall not remain in excess of forty-eight (48) hours. In cases where the work is not completed within the forty-eight (48) hour time limit, the CONTRACTOR shall temporarily backfill or bridge the pit when work is not being done, place temporary paving, and open to traffic. All covered valve boxes shall be brought to grade within twenty-four (24) hours.

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents and in no event will the CONTRACTOR be permitted to shut off water service

to residents without the ENGINEER'S approval. Forty-eight (48) hours prior to any discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

Connection pits or connection trenches shall not remain un-backfilled in excess of forty-eight (48) hours. No excavated pit or trench shall remain open when work is not in progress at that site. It shall be either safely bridged and barricaded as approved by the ENGINEER, or backfilled (temporarily paved if in the "traveled way").

In case the work is not completed within the forty-eight (48) hour limit, the CONTRACTOR shall temporarily backfill or properly bridge the excavation when work is not being done, place temporary paving, and open to traffic. Temporary paving shall consist of a minimum of 1.5 inch thick hot mix hot mix asphalt and shall be regularly maintained by the CONTRACTOR.

510D.8 FIRE HYDRANT ASSEMBLY

Installation of fire hydrant assembly shall be at locations as shown on the project plans. Minor location adjustments may be necessary to avoid underground utilities as necessary.

The fire hydrant assembly shall include at minimum tee fitting and flanged gate valve, ductile iron pipe, bury, riser spool, breakable flange unit and fire hydrant. Installation shall be per these project contract documents.

Installation shall be per manufacturer's specifications and shall conform to city standard 857.

Fire hydrants shall be painted safety yellow color using Rust-Oleum High Performance V7400 System 340 VOC DTM Alkyd Enamel at the manufacturing plant and shall be Clow 865, American AVK2420, or equal. Commercial and residential fire hydrants shall conform to city standard 857.

New fire hydrants shall have a "Breakable Flange Unit" manufactured by American AVK with breakable stainless steel bolts. The Breakable Flange shall be set so that it remains 2" above the concrete finished grade. The CONTRACTOR shall contact American AVK Co., 2155 Meridian Blvd., Minden, NY 89423 (Telephone: 775-552-1400) for information about the Breakable Flange Units.

The requirements of leakage and bacterial testing for water services shall be the same as and in conjunction with water mains.

The interior of all appurtenances being installed shall be thoroughly swabbed with a strong HTH solution prior to installation. The CONTRACTOR shall exercise all necessary precautions to prevent the entrance of trench water or any other foreign material into the water main and shall conduct all operations in accordance with the most stringent AWWA sanitation practices.

A blue fire hydrant pavement marker of Stimsonite 88 or equal shall be installed in the street, marking the location of hydrant six (6) inches from the centerline on the hydrant side of the centerline. Immediately after application of the adhesive, pavement markers shall be placed in position and pressure applied until firm contact is made with the pavement

510D.9 ABANDON / REMOVE WATER MAIN

Abandonment and removal of the existing water lines shall not be done until the new lines are ready for use and all existing water services are transferred to the new main. The abandonment shall include abandoning the water main including placement of grout in mains larger than 4-inches, removal of all valve cans, lids and concrete rings along water main.

All valve boxes on the abandoned mains shall be removed and plugged with a minimum of three (3) inches of Type A hot mix asphalt over Class 2 aggregate base compacted to ninety-five (95%) percent relative compaction.

510E. QUALITY CONTROL

510F. MEASUREMENT AND PAYMENT

Potholing will be paid for at the **Lump Sum (LS)** contract unit price, which shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in potholing existing utilities in horizontal alignment conflict with the new water and sewer mains or service laterals. Including excavation, locating, coordination, restoration and reconstruction of pavement, landscaping and irrigation facilities; temporary trench paving; testing; and any other items necessary to pothole existing utilities when required by the work or shown on the plans, not specifically enumerated in the plans or these specifications, and no additional allowance will be made therefor. Contractor shall submit a record of all potholes completed.

12-Inch C900 PVC Water Main-Open Space will be paid for at the contract price per **Linear Foot (LF)**, which price shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all the water main and all fittings complete in

place, including surveying, staking, locating, saw-cutting, demolition of existing asphalt paving/concrete, excavation, disposal of debris, pipe and pipe laying, pipeline trench dewatering, furnishing and placing backfill, bedding, resurfacing to existing conditions, replanting, temporary and permanent asphalt trench paving, asphalt trench or concrete paving up to the finish grade, replacement of raised pavement markers in areas not overlaid or reconstructed, hydrostatic testing of the water main and appurtenances, chlorination of pipe line and appurtenances, purging water main prior to bacteria sampling, furnishing and installing of fittings, and reducers, cutting, handling, and disposal of asbestos cement pipe, thrust blocking and/or restrained joints, disposal of all chlorinated water by the Contractor, water main component reporting, construction water and all work involved in its obtainment, development and distribution, cleaning and flushing the water mains, and any other work required for constructing water mains not specifically enumerated on the plans or in these specifications and no additional allowance will be made therefore.

The linear footage of water pipe to be used in computing payment shall be determined by measuring the total length of pipe installed in its final position.

Full compensation for all pipe laying shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

Full compensation for thrust blocking and/or restrained joints shall be considered as included in the prices paid for various contract items and no additional allowance will be made therefore.

Full compensation for all staking, surveying, and locating shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefor.

Full compensation for all tees and blind flanges shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

Full compensation for hydrostatic testing of the water main and appurtenances shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

Full compensation for chlorination of pipe line, appurtenances, and purging water main prior to bacteria sampling shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

12-Inch Connections to Existing Water Main, and 12-Inch Connections to Trenchless Piping - Water will be paid for at the contract **Lump Sum (LS)** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all work involved, including saw-cutting, excavation, backfilling, installation of fittings, thrust blocks, installation and removal of temporary blow-offs, couplers, tees,

temporary restrained caps or plugs, horizontal and vertical adjustment of 45deg bends required to facilitate tie-in operations at specified locations shown on the plans. Cutting and capping portions of existing pipe as necessary as part of the tie-in. Coordination with City, 48-hour resident notification, resurfacing / trench paving, and any other work required for water main tie-ins not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

Work under water main connections to existing mains excludes that portion of pipe paid for as part of water main. Tie-In locations located in the drawings shall include a minimum of 10 feet of pipe to connect the newly installed water mains with the existing water main.

Full compensation for excavation, furnishing and placing backfill, asphalt surfacing/trench paving, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

Full compensation for thrust/anchor blocking and restrained joints shall be considered as included in the prices paid for various contract items and no additional allowance will be made therefore.

12-Inch Vertical Offset/Crossing- Water will be paid for at the contract **Each (EA)** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all work involved, including saw-cutting, excavation, backfilling, installation of fittings, thrust blocks, couplers, tees, temporary restrained caps or plugs, horizontal and vertical adjustment of 45deg bends, concrete cap over pipe at specified locations shown on the plans, resurfacing / trench paving, and any other work required for installing the water main over or under existing structures per city standards not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

Work under installing water main over structure excludes that portion of pipe paid for as part of water main. Water main over structure locations located in the drawings shall include a minimum of 5 feet of pipe from the vertical 45-degree DI elbow to connect to the newly installed water mains.

Full compensation for excavation, furnishing and placing backfill, asphalt surfacing/trench paving, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

12-Inch Gate Valve -Water will be paid for at the contract price **Each (EA)**, which price shall include full compensation for furnishing all labor, materials, tools, equipment, including saw-cutting, excavation, bedding, backfill, temporary and permanent asphalt trench paving, anchor block restraint, testing, and any other work required for providing and installing gate valves not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

END OF SECTION

SECTION 511 WATER SERVICES

511A. GENERAL

Water services and related appurtenances shall conform to the City Water System Design and Construction Standards, the plans and these special provisions.

511B. SUBMITTALS

Please provide submittals on the following materials:

- 1) Water service pipe
- 2) Water service saddle and fittings
- 3) Corporation stop
- 4) Ball Valves/Angle Meter Stops
- 5) Meter Boxes

511C. MATERIALS

Unless shown otherwise on the plans, water services shall be 1.5-inch or 2-inch in size, all services shall be SINGLE services and be polyethylene tubing (C.T.S. 200 psi minimum rating) with no intermediate joints/splicing except to split the service at the meter location.

Service saddles shall be “double strap” all brass and shall be James Jones J979 (for ductile iron or AC pipes), Ford 202B (for ductile or AC pipes), James Jones J-996 (for PVC pipes), Ford S-90 design B (for PVC pipes), or approved equal, with AWWA/CC threads.

Corporation stops shall have AWWA/CC thread inlets and shall be Ford “Pack Joint” FB1000, James Jones J3401, McDonald “Mac-Pak Compression” 4701B-22 or approved equal. Plastic insert stiffeners shall be installed inside the tubing at the connections with fittings. All taps shall be with an approved tapping machine. Angle meter ball valves shall have the inlets and outlets with the same nominal diameters as the water services tubing and meter. Angle meter ball valve to meter connection will be with 1.5”X3/4” or 2”X3/4” bushings at each meter. The final alignment of the new service shall be upright and vertical in alignment with the existing meter location to connect to existing customer service.

Meter boxes shall be B30 Concrete Christy Boxes with Concrete Lid for 1.5-inch service and B36 Concrete Christy Boxes with Concrete Lid for 2-inch service.

511D. CONSTRUCTION

DESCRIPTION OF WORK -- The work to be done consists, in general, of replacement of existing water services with new single water services, trench backfill and resurfacing of asphalt concrete and/or replacement of concrete surface, remove and replace sidewalk and/or curb and gutter, traffic control, and doing other work specified in these Technical Specifications and as shown on the plans.

511D.1 WATER SERVICES

Water services shall be installed by either open excavation, boring method or pulling new services through existing host pipes/tubes. If the CONTRACTOR elects to install water services by boring, he/she shall be required to pothole all existing underground facilities at his/her own expenses to determine if there are any conflicts. The cover for water services shall vary from the water main to three (3) feet at the gutter flow line. Water services shall have a constant slope between the main and the face of curb. All trench bedding and backfill material for water mainline and water services shall be as specified in these technical specifications.

The requirements of leakage and bacterial testing for water services shall be the same as and in conjunction with water mains.

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents and in no event will the CONTRACTOR be permitted to shut off water service to residents without the ENGINEER'S approval. Forty-eight (48) hours prior to any discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

Before any shutdown of water service and each service connection are made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

Existing services shall not be abandoned until replacement services are ready for use. The Contractor shall verify the location of the existing water service, either by potholing or excavation at the existing meter box. The existing service may be located at the water main, or connected to an existing fire service lateral. It is the responsibility of the Contractor to verify the location of the existing service prior to abandonment. A full

circle clamp shall be installed at the existing service as part of the abandonment procedures.

The CONTRACTOR shall excavate to locate each water service connection at the water main, disconnect and abandon existing water services from the water main, remove existing service saddles and corporation stops and replace them with new parts. The new water services shall use the same meter/residential connection location. The Contractor shall install a new meter box at the location while maintaining existing service if possible.

The existing water main pipe material varies from location. Pipe materials are known to be AC (asbestos concrete), C900, cast iron and steel.

The cover for water services at the face of curb shall be at least 32 inches below the gutter flow-line. Under mining or tunneling under the curb and gutter or sidewalk will not be allowed. If the CONTRACTOR elects to install the water services by boring, he/she shall be required to pothole all existing underground facilities to be crossed by the boring process prior to installation, to determine if there are any conflicts at his/her own expenses. The CONTRACTOR shall not be allowed to relocate existing water meters and/or to perform any re-plumbing on the customers' side of the water services unless these services are damaged by the CONTRACTOR'S operation and require repairs, and/or directed by the ENGINEER. If the contractor finds the customer side connection at the meter is leaking prior to any work being performed, the contractor shall contact the project engineer and project inspector before performing any work at the meter.

Number 12 THHN insulated copper wire shall be laid along the entire length and secured to the each new water service tubing and connected to the existing tracer wire at the water main, and shall be extended 12-inches beyond the angle meter ball valve. All wire connections shall be made with copper crimps wrapped with electrical tape.

Any sidewalks, curb and gutter, driveways or other items not intended to be remove or replaced as part of work to be done is damaged by the CONTRACTOR'S work shall be replaced to the nearest joints or score-line at Contractors expense. Sidewalks and driveways shall be constructed in accordance with City Standards. Three (3) 6-inch continuous 1/2-inch reinforcing steel bars shall be installed longitudinally in the sidewalks.

During the CONTRACTORS' operations to excavate to expose the water service at the water main, if an existing water service cannot be found in the excavation pit (the excavation pit is defined as 4'x4' area), the CONTRACTOR shall excavate two (2)

additional feet on both sides of the pit to locate the service at no additional costs. The excavation pit is defined as 4'x4' area.

Although no shutdown is wanted, a maximum to be 4 hours may be allowed with the ENGINEER'S approval. The ENGINEER will consider the customers' interests and inform the CONTRACTOR of his request for water shutdown. If requested by the ENGINEER temporary water services to certain properties shall be installed and maintained by the CONTRACTOR at the CONTRACTOR'S expense. No shutdown on weekends, holidays, Fridays or before 8:30 a.m. shall be allowed. "Door" notices are to be delivered to all customers to be affected by the shutdown by the CONTRACTOR a minimum of 4 days prior to Monday shutdowns and 48 hours prior to Tuesday-Thursday shutdowns. Door hangers will be provided by the City Public Works & Utilities Department. Due to the age of the existing water valves, the City does not guarantee that a water-tight shutdown will be achieved. Therefore, the CONTRACTOR shall prepare to perform trench dewatering, if required, at his/her own costs and no additional compensation shall be allowed. Any dewatering shall include best management practices (BMPs) to protect the City storm water system.

Before any shutdown of water service and each service connection are made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

Existing services shall not be abandoned until replacement services are ready for use.

511D.2 BLOW-OFF

Blow-offs shall conform to the City Water System Design and Construction Standards and these Technical Specifications. Unless shown otherwise on the plans, water services shall be 2-inch in size and shall be polyethylene tubing (C.T.S. 200 psi minimum rating) with no intermediate joints/splicing. Required taps shall be done "HOT" with an approved tapping machine. Service saddles shall be all brass double strap and shall be James Jones J979 (for ductile iron or AC pipes), Ford 202B (for ductile or AC pipes), James Jones J-996 (for PVC pipes), Ford S-90 design B (for PVC pipes), or equal, with CC threads. Corporation stops shall have AWWA/CC thread inlets and "Pack Joint" connections, and shall be Ford FB1000, James Jones J3401, McDonald 4701B-22 or Mueller P-25008. Plastic or stainless steel insert stiffeners shall be used for all compression fittings. The final alignment of the new blow-off tubing and ball valve shall be upright, vertical and centered in the box. The CONTRACTOR shall supply and install a new 24"X24" box with traffic rated lid at each blow-off at no additional expense to the city.

The CONTRACTOR shall excavate to locate each blow-off connection at the water main, disconnect and abandon existing blow-off from the water main, existing end-cap, tubing, fittings and valve, and replace them with new parts.

The 2” manual blow-off shall be installed complete in place at the location as shown on the plans unless otherwise directed by the ENGINEER and will conform to the City Water System Design and Construction Standards the plans and these Special Provisions and included as part of testing and chlorination as described in 70-B.10 TESTING AND CHLORINATION

511D.3 METER BOXES

All meter boxes and lids located in the streets or driveways, shall be Christy H-20 traffic loading type or equal. Christy B30/B36 boxes or equal shall be used. Meter boxes shall be set flush with the finished surface (sidewalk or curb in landscape areas) and Christy B24 or equal for 2” blow-offs. The CONTRACTOR shall pay for any water meters or meter boxes damaged or lost during construction. The CONTRACTOR shall take precautions to keep all contamination out of water lines and meters. Any damage to customer plumbing by the CONTRACTOR shall be repaired by the CONTRACTOR within two (2) hours. If the repair is not made within two (2) hours, the City will have the right to make the repair by either City crew or by another CONTRACTOR hired by City and deduct the costs from the payment due the CONTRACTOR.

The CONTRACTOR shall remove and replace all existing water meter boxes, as part of work to replace water services and blow-offs. The CONTRACTOR shall also place 3-inch thick bedding of ¾” drain rock under the boxes and adjust to finished surface, and replace any disturbed landscaping or existing facilities “in-kind”.

All costs involved shall be included in the prices paid for replacing water services. Any sidewalks, curb and gutter, driveways or other items not intended to be remove or replaced as part of work to be done is damaged by the CONTRACTOR’S work shall be replaced to the nearest joints or score-line and or replaced in-kind..

511D.4 TRENCH BACKFILL

Trench backfill and bedding materials and placement for all locations shall conform to the detail shown on the plans, the City of Petaluma's Water System Design and Construction Standards and Section 26 Aggregate Base as specified in these contract documents.

511D.5 TESTING AND CHLORINATION

Water services, once the newly installed water services are complete in place and ready for use, the CONTRACTOR shall flush the new service through the angle meter ball valve for a minimum of three (3) minutes prior to connecting the new service to each meter. Each service location flushed shall not be allowed to flow down the gutter without proper de-chlorination. Other methods of flushing may be accepted by the ENGINEER.

After the new service has been flushed and prior to backfill at the water main and water meter locations, the new service shall be left in place with the service saddle corporation stop in the open position and the angle meter ball valve in the closed position for ten (10) minutes, where after the ten (10) minutes each new water service will be inspected for leakage of the fittings.

511D.6 SHUT DOWN AND VALVE TURNING

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents and in no event will the CONTRACTOR be permitted to shut off water service to residents without the ENGINEER'S approval. No shutdown on weekends, holidays, Fridays or before 8:30 a.m. shall be allowed. "Door" notices are to be delivered to all customers to be affected by the shutdown by the CONTRACTOR a minimum of 4 days prior to Monday shutdowns. Forty-eight (48) hours prior to any planned discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

All shutdowns and valve turning operations shall be performed by City Public Works and Utilities Department personnel only.

Before shutdown of water service and any connections made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

The CONTRACTOR shall consult with the ENGINEER regarding location, time, date and duration of any planned shutdown. A maximum of three (3) hours may be allowed with the ENGINEER'S approval. No shutdown on Monday or Friday shall be allowed. "Door" hanger notices are to be delivered by the CONTRACTOR to all customers to be

affected by the planned shutdown a minimum of forty-eight (48) hours prior to the shutdown. Door hangers will be provided by the Public Works and Utilities Department.

511E. ABANDON WATER SERVICE

Abandonment and removal of the existing water service shall include removal of connection fittings including corp stop and tapping saddle, and installation of a full circle clamp around water main.

Abandonment and removal of the existing water service shall not be done until the new water service is complete and ready for use, including completion of flushing and leakage inspection, or as directed by the Engineer.

511F. MEASUREMENT AND PAYMENT

6-inch Blow Off Assembly will be paid for at the contract Each (EA) unit price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved, including: DUCTILE IRON pipe, flanged gate valve (on lateral), tee and other appurtenances, breakable flange unit, location marker, prefabricated box, valving, fittings, chlorination of pipe line and appurtenances, purging water main prior to bacteria sampling, and doing all the work involved in installation of the blow off assembly complete in place, as specified herein and per city standards, and other work necessary to install blow off assembly not specifically enumerated in the plans or specifications, and no additional allowance will be made therefor.

Full compensation for hydrostatic testing of the water main and appurtenances shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore

Abandon Water Service will be paid for at the contract price each (EA), which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved, including, asphalt / concrete /sidewalk saw-cutting, excavation, removal of base rock, removal existing saddles, installation of full circle clamp over existing mains, backfilling, asphalt/concrete surfacing, replacement of signage, pavement markers, street striping or any other traffic markings or control devices, replacing any disturbed landscaping or irrigation in kind and any other work required for constructing water services on new or

existing mains including those not specifically enumerated on the plans and specifications,
and no additional allowance will be made therefor

END OF SECTION

SECTION 512 RECYCLED WATER SERVICES

512A. GENERAL

Recycled Water services and related appurtenances shall conform to the City Water System Design and Construction Standards, the plans and these special provisions.

512B. SUBMITTALS

Please provide submittals on the following materials:

- 1) Recycled Water service pipe
- 2) Recycled Water service saddle and fittings
- 3) Corporation stop
- 4) Ball Valves/Angle meter stops
- 5) Meter Boxes
- 6) Gate Valves
- 7) Pressure Reducing Valves

512C. MATERIALS

2-inch Recycled Water Service - Unless shown otherwise on the plans, recycled water services shall be polyethylene tubing (C.T.S. 200 psi minimum rating) with no intermediate joints/splicing except to split the service at the meter location, purple in color.

Service saddles shall be “double strap” all brass and shall be James Jones J979 (for ductile iron or AC pipes), Ford 202B (for ductile or AC pipes), James Jones J-996 (for PVC pipes), Ford S-90 design B (for PVC pipes), or approved equal, with AWWA/CC threads.

Corporation stops shall have AWWA/CC thread inlets and shall be Ford “Pack Joint” FB1000, James Jones J3401, McDonald “Mac-Pak Compression” 4701B-22 or approved equal. Plastic insert stiffeners shall be installed inside the tubing at the connections with fittings. All taps shall be with an approved tapping machine. Angle meter ball valves shall have the inlets and outlets with the same nominal diameters as the water services tubing and meter. The final alignment of the new service shall be upright and vertical in alignment with the meter box location.

Meter boxes shall be N36 Concrete Christy Boxes with Concrete Lid, painted purple or with purple coating

3-inch/4-inch Service – Ductile Iron wrapped in purple or purple C900 PVC pipe (All pipe Class 200 or DR18) shall be used unless otherwise shown on the plans. All fittings shall be Ductile Iron or Brass unless otherwise noted on the plans.

All gate valves shall be Resilient Wedge Gate Valves manufactured by Mueller Inc. or approved equal.

Meter boxes shall be N48 Concrete Christy Boxes with Concrete Lid, painted purple or purple coating.

All Pressure Reducing Valves (PRVs) shall be WILKINGS Model 500CHLR, or approved equal.

512D. CONSTRUCTION

DESCRIPTION OF WORK -- The work to be done consists, in general, installation of new or replacement of existing recycled water services with new single recycled water services, trench backfill and resurfacing of asphalt concrete and/or replacement of concrete surface, remove and replace sidewalk and/or curb and gutter, traffic control, and doing other work specified in these Technical Specifications and as shown on the plans.

512D.1 RECYCLED WATER SERVICES

Recycled water services shall be installed by either open excavation or boring method. Pulling new services through existing host pipes/tubes shall not be allowed. If the CONTRACTOR elects to install water services by boring, he/she shall be required to pothole all existing underground facilities at his/her own expenses to determine if there are any conflicts. The cover for recycled water services shall vary from the recycled water main to three (3) feet at the gutter flow line. Recycled water services shall have a constant slope between the main and the face of curb. All trench bedding and backfill material for water mainline and water services shall be as specified in these Technical Specifications.

The requirements of leakage for recycled water services shall be the same as and in conjunction with water mains.

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to owners and in no event will the CONTRACTOR be permitted to shut off recycled water

service to owners without the ENGINEER'S approval. Forty-eight (48) hours prior to any discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

Existing services shall not be abandoned until replacement services are ready for use. The Contractor shall verify the location of the existing recycled water service, either by potholing or excavation at the existing meter box. The existing service may be located at the water main or connected to an existing recycled water fire service lateral. It is the responsibility of the Contractor to verify the location of the existing service prior to abandonment. A full circle clamp shall be installed at the existing service as part of the abandonment procedures. The full circle clamp shall be provided by the Contractor. Full circle, repair clamps shall be minimum 9-inch long Ford FS-1, Ford FS-2, PowerSeal 3412AS or 3121AS, Romac SS1, or Smith-Blair 261

The existing recycled water main pipe material varies from location. Pipe materials are known to be PVC, C900, and HDPE.

Number 12 THHN insulated copper wire shall be laid along the entire length and secured to the each new recycled water service tubing and connected to the existing tracer wire at the water main, and shall be extended 12-inches beyond the angle meter ball valve. All wire connections shall be made with copper crimps wrapped with electrical tape.

Any sidewalks, curb and gutter, driveways or other items not intended to be removed or replaced as part of work to be done is damaged by the CONTRACTOR'S work shall be replaced to the nearest joints or score-line at Contractors expense. Sidewalks and driveways shall be constructed in accordance with City Standards. Three (3) 6-inch continuous 1/2-inch reinforcing steel bars shall be installed longitudinally in the sidewalks.

During the CONTRACTORS' operations to excavate to expose the water service at the water main, if an existing water service cannot be found in the excavation pit (the excavation pit is defined as 4'x4' area), the CONTRACTOR shall excavate two (2) additional feet on both sides of the pit to locate the service at no additional costs. The excavation pit is defined as 4'x4' area.

512D.2 METER BOXES

All meter boxes and lids located in the streets or driveways, shall be Christy H-20 traffic loading type or equal. All meter boxes located with medians or landscape areas shall be concrete boxes with concrete lids. All meter box lids shall be purple in color. Christy N36 boxes or equal shall be used. Meter boxes shall be set flush with the finished surface (sidewalk or curb in landscape areas) and Christy N30 or equal for 6" blow-offs. The CONTRACTOR shall pay for any water meters or meter boxes damaged or lost during construction. The CONTRACTOR shall take precautions to keep all contamination out of water lines and meters. Any damage to customer plumbing by the CONTRACTOR shall be repaired by the CONTRACTOR within two (2) hours. If the repair is not made within two (2) hours, the City will have the right to make the repair by either City crew or by another CONTRACTOR hired by City and deduct the costs from the payment due the CONTRACTOR.

All costs involved shall be included in the prices paid for replacing recycled water services. Any sidewalks, curb and gutter, driveways or other items not intended to be removed or replaced as part of work to be done is damaged by the CONTRACTOR'S work shall be replaced to the nearest joints or score-line and or replaced in-kind. All concrete work in conjunction with installation of water service meter boxes shall be included in the bid price for water services.

512D.3 PRESSURE REDUCING VALVE

Pressure reducing valve shall be Watts ¾" LF25AUB-Z3 PRV, 300 PSI inlet and 20-75 PSI outlet.

The CONTRACTOR shall install PRV on the backside of the meters the locations shown on the plans and reconnect to the existing service.

512D.4 TRENCH BACKFILL

Trench backfill and bedding materials and placement for all locations shall conform to the detail shown on the plans, the City of Petaluma's Water System Design and Construction Standards and Section 26 Aggregate Base as specified in these contract documents.

512D.5 TESTING AND CHLORINATION

Recycled Water services, once the newly installed recycled water services are complete in place and ready for use, the CONTRACTOR shall flush the new service through the angle meter ball valve for a minimum of three (3) minutes prior to connecting the new service to each meter. Each service location flushed shall not be allowed to flow down the gutter without proper de-chlorination. Other methods of flushing may be accepted by the ENGINEER.

After the new service has been flushed and prior to backfill at the recycled water main and recycled water meter locations, the new service shall be left in place with the service saddle corporation stop in the open position and the angle meter ball valve in the closed position for ten (10) minutes, where after the ten (10) minutes each new water service will be inspected for leakage of the fittings.

512D.6 SHUT DOWN AND VALVE TURNING

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to owners and in no event will the CONTRACTOR be permitted to shut off recycled water service to owners without the ENGINEER'S approval. No shutdown on weekends, holidays, Fridays or before 8:30 a.m. shall be allowed.

All shutdowns and valve turning operations shall be performed by City Public Works and Utilities Department personnel only.

Before shutdown of recycled water service and any connections made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

The CONTRACTOR shall consult with the ENGINEER regarding location, time, date and duration of any planned shutdown. A maximum of three (3) hours may be allowed with the ENGINEER'S approval. No shutdown on Monday or Friday shall be allowed.

512E. ABANDON RECYCLED WATER SERVICE

Abandonment and removal of the existing recycled water service shall include removal of connection fittings and installing a full circle clamp over the main.

Abandonment and removal of the existing water service shall not be done until the new recycled water service is complete and ready for use, including completion of flushing and leakage inspection.

512F. MEASUREMENT AND PAYMENT

2-inch Recycled Water Service Installation will be paid for at the contract price each (EA), which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved, including, sawcutting, excavation, bedding, backfilling, recycled water service purple tubing and piping, installing and raising meter boxes to grade, installation of inlet and outlet meter valves and valve boxes, relocation or demolition of meter box, asphalt trench paving, concrete curb replacement, sidewalk replacement, wall replacement, pressure testing, chlorinating, on site tie-ins at back of meter box, meter transfer coordination, removing and disposing of old meter boxes, abandonment of existing service, placing circle clamp over existing water mains at existing water service, capping existing services, removing existing backflow preventers, removing and replacing curb, gutter, sidewalk, and driveways as required for the recycled water service, replacing any disturbed landscaping or irrigation in kind, removing and resetting landscape bricks or other surface material in planter strips, removing, preserving and resetting existing cobblestone curb and gutter, and any other work required for constructing water services on new main not specifically enumerated on the plans and specifications, and no additional allowance will be made therefor.

All concrete work, including sidewalk and curb & gutter replacement in conjunction with work for recycled water service shall be included in the bid price for (EA) recycled water service.

Trench Resurfacing shall be considered as included in the price for various contract items of work involved and no additional compensation will be made therefor.

END OF SECTION

SECTION 520 RECYCLED WATER MAIN

520A. GENERAL

All recycled water main and related appurtenances shall conform to the City of Petaluma's Water System Design and Construction Standards, the plans, and these Special Provisions.

520B. SUBMITTALS

The Contractor shall provide submittals on all pipe materials, gasket materials, fasteners, solvents, lubricants, adhesives, taps, fittings, and hydrants.

520C. MATERIALS

520C.1 RECYCLED WATER MAIN

- A. The CONTRACTOR shall verify and inspect all materials to be installed including; pipe, fittings, tubing, clamps etc. to ensure compliance with the City Department of Public Works and Utilities ENGINEER'S Approved List of materials, the plans and these Special Provisions.
- B. The recycled water main shall be Poly Vinyl Chloride (PVC) or Ductile Iron Pipe (DIP). PVC, shall conform to AWWA C900 and AWWA C905, and shall be purple in color. All PVC shall be DR 18 minimum. DIP shall conform to AWWA C150 and C151. When Ductile Iron pipe is used, shall conform to AWWA C105, encased in 8-mil polyethylene tubing securely taped and extended/overlapped not less than one (1) foot each direction from the center of the joint.
- C. Fittings three (3) inches and larger shall be cement lined ductile iron as specified in City Water System Design and Construction Standards except that ductile iron long sleeve manufactured by Tyler Pipe or equal shall be used as a coupling.
- D. All buried PVC Pipe shall be installed with conductive tracer attached to the top of the exterior of the pipe

520C.2 GATE VALVES

- A. Gate valves shall conform to the City Water System Design and Construction Standards and these Special Provisions, and shall be "AWWA approved" non-rising stem Clow Resilient Wedge Gate Valve, American Flow Control Series 2500 Resilient Wedge Gate Valve, or approved equal. All bolts, nuts and washers shall be Type 316 stainless steel. All internal and external surfaces of the valve body and bonnet shall have a fusion bonded epoxy coating, complying with ANSI/AWWA C550, applied electro- statically prior to assembly.

- B. All gate valves and couplings or mechanical joint bolts shall require corrosion protection. All bolts, nuts, washers and tiebacks shall be stainless steel type 316 conforming to ASTM A320. All fittings and valves shall be poly-bagged and taped with 10 mil minimum thick polyethylene.

520C.3 BUTTERFLY VALVES

- A. Butterfly valves shall be class 150B designed in accordance with AWWA C504 with flanged or mechanical joints bodies, two (2) inch AWWA operating nut, resilient seating system, ductile iron body, with 316 stainless steel shaft and disc, as seats which are vulcanized, bonded, or mechanically secured, or clamped to the body or disc. Valves shall be the stub or through shaft design and rated not less than 200 psi. Valves shall be travelling nut type and actuator shall have a mechanical stop which will withstand an input torque of 450 ft-lbs against the stop without damage. Wafer type valves are not acceptable. Valves shall be Henry-Pratt, Dezurik Model BAW, or equal.
- B. All valves and couplings or mechanical joint bolts shall require corrosion protection. All bolts, nuts, washers and tiebacks shall be stainless steel type 316 conforming to ASTM A320. All fittings and valves shall be poly-bagged and taped with 10 mil minimum thick polyethylene.
- C. Butterfly valves shall be restrained accordingly by EBBA Megalug retainer glands or flanges, or approved equal.

520C.4 RESTRAINED COUPLING

- A. Restrained couplings are placed in pipelines to join plain ends of the same or dissimilar materials and provide axial restraint. Place restrained couplings as shown on the Contract Drawings.
- B. Manufacturer shall be EBAA Iron Inc. Series 3800 “MEGA-COUPLING” or approved equal. Install per manufacturer’s instructions.
- C. All buried PVC Pipe shall be installed with conductive tracer attached to the top of the exterior of the pipe

520C.5 MECHANICAL JOINT RESTRAINT

- A. Mechanical joints restraints shall be when connect PVC to a mechanical joints.
- B. Manufacturer shall be EBAA Iron Inc. Series 2000PV MEGALUG, or approved equal

520C.6 RESTRAINED JOINTS

- A. Restrained joints are placed in pipelines to restrain push on joints and ensure the pipeline will not separate at the joint during pressure spike and water hammer events. Place restrained joints as shown on the Contract Drawings.
- B. Manufacturer shall be EBAA Iron Inc. Series 1900 or 2800, or approved equal

520C.7 6-INCH BLOW OFF ASSEMBLY

- A. Blow off Assemblies shall conform to City Standard 858.1 and all other City of Petaluma Water System Design Standards.
- B. Meter Boxes for Blow Off Assemblies shall be purple in color and shall have “Recycled Water” in printed on the concrete lid.

520C.8 AIR RELIEF VALVE (ARV)

- A. Air Relief Valve boxes shall be painted purple with “Recycled Water” printed on the box cover.

520D. CONSTRUCTION

520D.1 POTHOLING

The locations of the existing underground utilities shown on the plans are approximate only. The CONTRACTOR shall verify the exact locations of those facilities in the field by potholing, probing, or other means, which will locate and identify the facility at the locations designated in field by the ENGINEER, at least seven (7) working days prior to the installation of pipeline main. No compensation for right-of-way delay other than time extension shall be given. Neither trench excavation nor pipe laying shall be performed until all potholing has been completed and the ENGINEER has reviewed the potholing information as a required submittal. Contractor may submit request to perform potholing with less than seven (7) days before installation work to commence. In the event that the City grants this request, no delay or idle time will be granted for any utilities not located or not marked during the work. In addition, the Contractor shall negotiate with the City for a reduction in price of the approved bid price for potholing..

520D.2 PIPE LAYING

Unless otherwise approved by the ENGINEER, the depth of the cover over the new recycled water main from finished grade shall be as shown on the plans or a minimum of

forty-two (42) inches. In case of vertical conflict between the proposed recycled water main and existing or proposed utilities, sewer main/laterals, the proposed recycled water main shall be installed/roped within the manufacturer's recommended maximum allowable deflection to clear the other utilities, and still maintain at least forty-eight (48) inches cover. No additional payment for "over-excavation and backfill" will be made if the additional excavation does not exceed eighteen (18) inches.

Where the new recycled water main crosses over a sewer main or storm drain line with less than twelve (12) inch separation, the CONTRACTOR shall center a full length of ductile iron recycled water pipe (without any joints in between) on the sewer main in accordance with the detail shown on the city standards. Where a new recycled water main crosses under a sewer main or sewer lateral, the CONTRACTOR shall install a full length of ductile iron recycled water pipe for recycled water and remove and replace the sewer main or storm drain with a ductile iron segment pipe. No additional compensation will be made for installation of ductile iron pipe for crossings. Water drops shall be per City Standards.

Transitions between pipes manufactured from different materials shall be as approved by the ENGINEER. Adapters between PVC and ductile iron pipe shall be ductile iron mechanical joint solid sleeve manufactured by Tyler Pipe, Power Seal, or approved equal. All bolts, nuts, and washers shall be stainless steel type 316.

The CONTRACTOR shall at all times have on hand sufficient pumping equipment and machinery in good working condition to pump ground water if encountered, or should any emergency arise caused by construction work. During pipe laying and concrete pouring and until the concrete has set hard, excavations shall be kept free of water. The detail of unstable trench shown on Standard Trench Details No. 852 shall be used if ground water and/or mud are encountered in the trench.

520D.3 TIE-INS

All recycled water main tie-ins shall be made under the inspection of City Department of Public Works and Utilities Personnel. The CONTRACTOR shall give the CITY a minimum of seventy-two (72) hours' notice of a request for shutdown of the City recycled water system in order to make connections, hot taps or abandonments to the main. Tie-in connection between the new recycled water main and existing recycled water main shall be according to the Plans and field conditions, and shall comply with the City Detail Specification No. 11.

Recycled water lines shall not be connected to the City's recycled water system until lines have been pressure tested, chlorinated and approved by the City Department of Public Works and Utilities.

During the recycled water main tie-in the interior of all appurtenances being installed shall be thoroughly swabbed with a strong HTH solution prior to installation. The CONTRACTOR shall exercise all necessary precautions to prevent the entrance of trench water or any other foreign material into the water main and shall conduct all operations in accordance with the most stringent AWWA sanitation practices.

Tie-ins may require depressurizing/dewatering of the existing recycled water main. Depending on the size/slope/length of main, the removal process may take multiple days. The Contractor shall take into consideration all equipment, tools, labor, materials necessary to remove and safely dispose of any recycled water removed from the existing recycled water main to facilitate the tie-in connection. All costs involved with dewatering the existing pipe and all associated work with included in the bid item for "Tie-In".

The Contractor is responsible for all staking, surveying, and locating all pipelines. The Engineer shall approve of the pipeline alignment and location prior to any work being done to install the pipeline.

520D.4 TRENCH BACKFILL

Trench backfill and bedding materials and placement for all locations shall conform to the City of Petaluma's Water System Design and Construction Standards and as specified in these specifications.

520D.5 6-INCH BLOW OFF ASSEMBLY

The blow-off assembly shall adhere to the standards set forth in the Construction Drawings, and City of Petaluma standards.

The requirements of leakage and bacterial testing for water services shall be the same as and in conjunction with water mains.

A blue fire hydrant pavement marker of Stimsonite 88 or equal shall be installed in the street, marking the location of blow-off assembly six (6) inches from the centerline on the hydrant side of the centerline. Immediately after application of the adhesive, pavement markers shall be placed in position and pressure applied until firm contact is made with the pavement.

520D.6 TESTING AND CHLORINATION

Testing shall conform to City Water System Design and Construction Standards. No pipe installation will be accepted until the leakage in each section is nil and until the bacterial test passes.

All lines, mains, and branches shall be sterilized by chlorination in accordance with the recycled water main and water services shall be tested concurrently. Chlorination of the pipe line may be done in conjunction with the hydrostatic test.

All costs involved in testing recycled water mains and services including laboratory fees, all required appurtenances and temporary blow-off assemblies shall be included in the price paid for recycled water main.

520D.7 SHUTDOWNS AND VALVE TURNING

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents or businesses and in no event will the CONTRACTOR be permitted to shut off water service to residents without the ENGINEER'S approval. Forty-eight (48) hours prior to any planned discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

All shutdowns and valve turning operations shall be performed by City Department of Public Works and Utilities personnel only.

Before shutdown of water service and any connections made, the CONTRACTOR shall secure approval from the ENGINEER and show that all necessary labor, equipment, and materials (especially pipe and fittings, nuts, bolts, gaskets, etc.) are on the job site and ready for use.

The CONTRACTOR shall consult with the ENGINEER regarding location, time, date and duration of any planned shutdown. A maximum of three (3) hours may be allowed with the ENGINEER'S approval. No shutdown on Monday or Friday shall be allowed. "Door" hanger notices are to be delivered by the CONTRACTOR to all customers to be affected by the planned shutdown a minimum of forty-eight (48) hours prior to the shutdown. Door hangers will be provided by the Department of Public Works and Utilities.

520D.8 TEMPORARY BLOW-OFF

Temporary Blow-off valves will be installed at the various locations as required and directed by the ENGINEER for 12" pipe line and 6" lateral for testing and will conform to the City Water System Design and Construction Standards, plans and these Special Provisions.

520D.9 TAPPING VALVES AND HOT TAPS

Tapping valves shall conform to the requirements of "Gate Valves" in Section 8 of the City Water System Design and Construction Standards except as modified in these Special Provisions. Inlet ends of the tapping valve shall be flanged with a raised machine projection on the flange that mates with the machined recess in the tapping sleeve outlet flange. Outlet ends of tapping valves shall have mechanical joint restrainers by EBBA's Series 1100 "MEGALUG" for ductile iron pipe or series 2000 PV for PVC/C-900 pipe, or equal (the CITY is not aware of any equal at this time). Tapping valves shall fit the new pipe being installed.

Tapping sleeves shall be constructed of all stainless steel with separate Type 316 stainless steel bolt sets as manufactured by JCM 432, Power Seal 3490, Ford FTSS stainless steel, or approved equal. Sleeves shall have "full face 1/8" thick" standard flange gaskets permanently bonded to flanges at factory.

All "Hot Taps" to existing recycled water mains larger than two (2) inches shall be made by the City Department of Public Works and Utilities. The CONTRACTOR shall contact the City prior to scheduling a "Hot Tap". The CONTRACTOR shall, at his/her expense, furnish and install the tapping valves, sleeves and valve boxes.

The excavation area for tapping sleeve and valve shall conform to the requirements as described in the Water System Design and Construction Standards and these special provisions and at the location show on the plans. The existing pavement shall be saw cut and removed to at least six (6) inches outside each side line of the trench/excavation to permit proper keying in the restored pavement.

Between the hours of 4:30 p.m. and 8:00 a.m., the tapping pit shall be bridged in such a manner so as to safely accommodate vehicle traffic. Tapping pits shall not remain in excess of forty-eight (48) hours. In cases where the work is not completed within the forty-eight (48) hour time limit, the CONTRACTOR shall temporarily backfill or bridge the pit when work is not being done, place temporary paving, and open to traffic. All covered valve boxes shall be brought to grade within twenty-four (24) hours.

The CONTRACTOR shall perform all work so as to cause minimum inconvenience to residents and in no event will the CONTRACTOR be permitted to shut off water service to residents without the ENGINEER'S approval. Forty-eight (48) hours prior to any discontinuance of service due to performance of the work, the CONTRACTOR shall notify the residents to be so inconvenienced in writing. The CITY shall first approve the notice and hours of shutdown.

Connection pits or connection trenches shall not remain un-backfilled in excess of forty-eight (48) hours. No excavated pit or trench shall remain open when work is not in progress at that site. It shall either be safely bridged and barricaded as approved by the ENGINEER, or backfilled (temporarily paved if in the "traveled way").

In case the work is not completed within the forty-eight (48) hour limit, the CONTRACTOR shall temporarily backfill or properly bridge the excavation when work is not being done, place temporary paving, and open to traffic. Temporary paving shall consist of a minimum of 1.5 inch thick hot mix asphalt concrete and shall be regularly maintained by the CONTRACTOR.

520E. QUALITY CONTROL

The Contractor shall provide manufacturers certificates for all pipe materials and appurtenances.

520F. MEASUREMENT AND PAYMENT

Potholing will be paid for at the LUMP SUM (LS) contract unit price, which shall include full compensation for furnishing all labor, materials, tools and equipment and doing all the work involved in potholing existing utilities in horizontal alignment conflict with the new recycled water main or service laterals. Including excavation, locating, coordination, restoration and reconstruction of pavement landscaping and irrigation facilities; temporary trench paving; testing; and any other items necessary to pothole existing utilities when required by the work or shown on the plans, not specifically enumerated in the plans or these specifications, and no additional allowance will be made therefor.

12-inch C900 PVC Recycled Water – Open Space, 12-inch C900 PVC Recycled Water – Roadway, 6-inch C900 PVC Recycled Water – Open Space, 6-inch C900 PVC Recycled Water – Roadway, will be paid for at the contract price per LINEAR FOOT (LF), which shall include full compensation for conforming to the provisions of this section, furnishing all labor, materials, tools, equipment, and doing all work related to installing the recycled water main and all fittings complete in place, including surveying, staking, locating, sawcutting, demolition of existing asphalt paving / concrete , disposal of debris, excavation, pipe and pipe laying, pipeline trench dewatering, furnishing and placing backfill, bedding, asphalt trench or concrete paving up to the finish grade, final finished paving per city standards, replacement of raised pavement markers in areas not overlaid or reconstructed, hydrostatic testing of the recycled water main and appurtenances, chlorination of pipe line and appurtenances, purging recycled water main prior to bacteria sampling, furnishing and installing of fittings and reducers, cutting, handling, and disposal of existing pipe removed during installation, installation of thrust blocking and/or restrained joints, disposal of all chlorinated water by the CONTRACTOR, recycled water main component reporting, construction water and all work involved in its obtainment, development and distribution, cleaning and flushing the recycled water mains, and any other work required for constructing recycled water mains not specifically enumerated on the plans or in these specifications and no additional allowance will be made therefor.

The linear footage of recycled water pipe to be used in computing payment shall be determined by measuring the total length of pipe in its final installed position.

Full compensation for all pipe laying shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefor.

Full compensation for all staking, surveying, and locating shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefor.

Full compensation for all tees and blind flanges shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

Full compensation for hydrostatic testing of the recycled water main and appurtenances shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefor.

Full compensation for chlorination of pipe line, appurtenances, and purging recycled water main prior to bacteria sampling shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefor.

Full compensation for the disposal of all chlorinated water by the CONTRACTOR shall be considered as included in the prices paid for the various contract items of work and no additional compensation shall be allowed therefor.

12-inch Gate Valve -RW will be paid for at the contract price EACH (EA), which shall include full compensation for furnishing all labor, materials, tools, equipment, including excavation, bedding, backfill, valve cans, valve nut extensions, testing, and restraint, and any other work required for installing gate valves not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor. Gate valve shall conform to City Standards.

Full compensation for thrust/anchor blocking and restrained joints shall be considered as included in the prices paid for various contract items and no additional allowance will be made therefore.

12-Inch Vertical Offset/Crossing -RW, 6-Inch Vertical Offset/Crossing – RW, will be paid for at the contract EACH (EA) price, which price shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all work involved, including saw-cutting, excavation, backfilling, installation of fittings, thrust blocks, couplers, tees, temporary restrained caps or plugs, horizontal and vertical adjustment of 45deg bends, concrete cap over pipe at specified locations shown on the plans, resurfacing / trench paving, and any other work required for installing recycled water main drop/raise to clear existing utilities per city standards not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

Work under installing water main over structure excludes that portion of pipe paid for as part of recycled water main. Recycled water main over structure locations located in the drawings shall include a minimum of 2 feet of pipe from the vertical 45 degree DI elbow to connect to the newly installed recycled water mains.

Full compensation for excavation, furnishing and placing backfill, asphalt surfacing/ trench paving, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

The actual quantity for this item of work may vary from the quantity listed on the bid schedule. Provisions for increased or decreased quantity elsewhere in the specifications shall not apply and no adjustments of the contract unit price shall be made therefor.

Recycled Water Fire Hydrant Assembly will be paid for at the contract **Each (EA)** unit price, which price shall include full compensation for furnishing all labor, materials, tools, equipment and doing all work involved, including: DUCTILE IRON pipe, flanged gate valve (on lateral), tee and other appurtenances, breakable flange unit, location marker, concrete pad, and replacement of PCC curb, gutter or sidewalk, chlorination of pipe line and appurtenances, purging water main prior to bacteria sampling, and doing all the work involved in installation of the fire hydrant complete in place, as specified herein, and other work necessary to install fire hydrant not specifically enumerated in the plans or specifications, and no additional allowance will be made therefor.

Full compensation for all pipe laying, valve, tee, bury, thrust blocking, restrained joints spool, breakable flange unit and commercial fire hydrant, PCC curb, gutter or sidewalk, shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

Full compensation for hydrostatic testing of the water main and appurtenances shall be considered as included in the prices paid for the various contract items and no additional allowance will be made therefore.

12-Inch Connections to Existing RW Main, and 12-Inch Connections to Trenchless RW Piping, 6-Inch Connections to Existing RW Main , will be paid for at the contract **Lump Sum (LS)** price, which price shall include full compensation for furnishing all labor, materials, tools, equipment, and doing all work involved, including saw-cutting, excavation, backfilling, installation of fittings, thrust blocks, installation and removal of temporary blow-offs, couplers, tees, temporary restrained caps or plugs, horizontal and vertical adjustment of 45deg bends required to facilitate tie-in operations at specified locations shown on the plans. Cutting and capping portions of existing pipe as necessary as part of the tie-in. Coordination with City, 48-hour resident notification, resurfacing / trench paving, and any other work required for water main tie-ins not specifically enumerated in the plans or specifications, and no additional compensation will be made therefor.

Work under recycled water main connections to existing mains excludes that portion of pipe paid for as part of water main. Tie-In locations located in the drawings shall include a minimum of 10 feet of pipe to connect the newly installed recycled water mains with the existing recycled water main.

Full compensation for excavation, furnishing and placing backfill, asphalt surfacing/ trench paving, shall be considered as included in the prices paid for the various contract items of work and no additional allowance will be made therefor.

Full compensation for thrust/anchor blocking and restrained joints shall be considered as included in the prices paid for various contract items and no additional allowance will be made therefore.

END OF SECTION

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**SECTION 811
TRENCH SHORING AND BRACING**

811A. GENERAL

Trench shoring and bracing shall conform to the provisions in Section 7-1.02K(6), "Occupational Safety and Health Standards" of the Standard Specifications 2010, these Specifications, Cal-OSHA and the Division of Industrial Safety Orders.

811B. SUBMITTALS -Not used-

811C. MATERIALS -Not used-

811D. CONSTRUCTION

The CONTRACTOR shall obtain any necessary permits from the State of California, Division of Industrial Safety. The CONTRACTOR shall pay all costs in connection with said permits and proof of such permits shall be submitted to the ENGINEER prior to commencing trench work.

811D.1 GENERAL DESIGN REQUIREMENTS

- A. Design excavation support systems to meet requirements and standards of the Occupational Safety and Health Administration (OSHA).
- B. Design excavation support systems to meet the requirements of California Code of Regulations, Title 8 – Construction Safety Orders and California Labor Code Sections 6705 to 6707.
- C. Design structural steel members in accordance with the American Institute of Steel Construction (AISC) Manual of Steel Construction Allowable Stress Design and the Uniform Building Code.
- D. Excavation support systems for trench excavations and boring and receiving pit excavations shall be selected by the CONTRACTOR based on the soil conditions, depths of excavations, groundwater conditions, and other site conditions. No attempt has been made by ENGINEER to define acceptable trench shoring options.
- E. Design of excavation support system for boring and receiving pits shall be stamped and signed by a civil or structural engineer licensed in the State of California, and shall:
 - 1. Allow for construction of thrust blocks or reaction walls adequate to resist anticipated jacking forces with appropriate safety factor.
 - 2. Provide stable bottom (e.g. prevent bottom heave and/or piping/boiling)
 - 3. Allow for installation of trenchless equipment.

4. Allow for the removal of the shoring system that is in step with backfilling sequence and will not damage nearby utilities, structures, or pavements.

F. Allowable Deflection: No more than 1/2-inch at any point on the shoring system.

811D.2 GEOTECHNICAL INFORMATION

- A. CONTRACTOR shall make additional test borings and conduct other exploratory operations necessary for the design of excavation support systems.

If a moveable trench shield is used during excavation operations widen the trench width so that the shield is free to be lifted and then moved longitudinally without binding against the trench sidewalls.

811E. MEASUREMENT AND PAYMENT

Full compensation for conforming to the provisions in this section, not otherwise provided for, shall be considered as included in prices paid for the various contract items of work involved and no additional compensation will be allowed therefor.

Shoring and Bracing for excavation for boring and receiving pits shall be part of the Earthwork bid pricing in Section 80 of these specifications.

END OF SECTION

SECTION 822 BORE AND JACK

822-A. GENERAL

The CONTRACTOR shall furnish and install by bore and jack method an 18-inch steel casing at the location shown on the Drawings or as ordered by the ENGINEER. Bore and Jack tunneling equipment and methods should be compatible with the subsurface soil and groundwater conditions.

Boring and Jacking shall not take place when the creek has running water. The creek is considered a drainage conduit and should be dry during the summer months.

Bore and jack operations shall be performed by CONTRACTOR with a minimum of five (5) years' experience in bore and jack methods. Bore and jack operator shall have a minimum of five (5) years' experience as a bore and jack operator.

CONTRACTOR shall submit verification of experience, which consists of providing a contact name and telephone number for the last three (3) bore and jack projects performed. Provide resume for bore and jack operator demonstrating his bore and jack work experience.

All work covered by this specification section shall conform to the applicable federal and state codes and regulations. If there is a conflict between these specifications, federal and state regulations, and any agreements/permits, the more stringent requirements shall govern.

822-B. CONSTRUCTION

822-B.1 CASING MATERIAL

The diameter of casing pipe as shown on the drawings shall be the nominal outside diameter of the steel cylinder. Pipe shall be designed in accordance with ASTM A252 Grade 2.

The minimum required wall thickness shall be ¼" thick. If the jacking operation requires a heavier wall thickness, it shall be furnished by the CONTRACTOR under this item at no additional cost to the City. It is the responsibility of the Contractor to evaluate the required jacking forces and determine the appropriate piping thickness. Any buckling of the casing due to jacking forces shall be repaired at no additional cost to the City.

CONTRACTOR shall submit casing pipe layout shop drawings and calculations for pipe wall thickness based on jacking forces to be transmitted to the pipe. Calculations shall be completed by a professional engineer registered in the State of California.

822-B.2 CASING SPACERS

Casing spacers shall be Model A12G-2, as manufactured by Pipeline Seal and Insulator, Inc., Houston, TX, or approved equal. It shall be manufactured in a Registered ISO 9001:2000 Quality Management System facility. Casing spacers shall have a steel band and steel risers. The spacers shall be factory assembled prior to being coated with an anti-rust paint. The spacer shall have a flexible PVC liner.

The runners shall be high pressure molded from glass reinforced polyester. Polyethylene runners will not be accepted. Runners shall have a minimum length of eleven (11) inches. Runners shall be minimum two (2) inches wide. Runners shall be attached to the band or riser by minimum three-eighths (3/8) inch welded steel studs and lock nuts.

The spacer band shall be bolted together with cadmium plate studs, nuts and washers. Casing spacers shall have sufficient riser height to limit vertical movement of the carrier pipe in the casing.

Wooden skids will not be accepted.

822-B.3 GEOTECHNICAL INFORMATION

i) The following geotechnical information are available:

(1) None

ii) CONTRACTOR shall make additional test borings and conduct other exploratory operations necessary for the design of excavation support systems.

822-C. CASING END SEALS

Following the installation of the carrier pipe through the casing pipe, the casing pipe shall be sealed with Model "C" casing end seals as manufactured by Pipeline Seal and Insulator, Inc., Houston, TX, or approved equal.

Casing end seals shall have a minimum 1/8 inch thickness and shall be constructed of synthetic rubber. Two (2) minimum 1/2 inch wide stainless steel bands with minimum 0.02 inch thickness and clamps shall be provided for sealing the rubber to the carrier pipe and casing pipe.

CONTRACTOR shall submit product data and manufacturer installation instructions for casing spacers and end seals.

822-D. CARRIER PIPE

The carrier pipe shall be HDPE Pipe Conforming to AWWA C906 DR11 (200psi).

822-E. GROUT

Grout shall be Bentonite grout with max efflux of twenty (20) seconds or cellular grout.

822-F. JACKING AND BORING OF PIPE

CONTRACTOR shall submit boring schedule and information on boring equipment, piping/casing appurtenance, augers, and equipment to move spoils from the bore pit. This includes submitting layout drawings showing the general pipe jacking operation set-up, bore pit/receiving pit size and location, equipment location, thrust wall location, staging and storage area, and fence layout.

CONTRACTOR shall pothole utilities prior to designing and excavating for bore and jack in accordance with contract documents..

CONTRACTOR shall submit bore pit/receiving pit shoring design and drawings. The size and design of the jacking and boring pits shall be the responsibility of the CONTRACTOR.

CONTRACTOR shall submit thrust wall design calculations and details. Structural design calculations shall demonstrate that thrust wall can withstand thrust forces and shall be stamped by an engineer registered in the State of California. Submittal shall include method of monitoring and recording jacking forces and grade and alignment control system.

Prior to the start of the bore and jack operation, CONTRACTOR shall submit a safety plan in accordance with CAL-OSHA and a contingency plan should obstruction be encountered. Obstruction is defined as any non-native material larger than six (6) inches in maximum dimension that prevents the forward motion of the bore and jack.

Jacking and boring operation shall conform to tolerance indicated on the Drawings. Where not indicated, the casing shall be installed with 0.5 feet of target horizontally and 0.1 feet and vertically.

Spacers shall be spaced on the carrier pipe per manufacturer's instructions or at a minimum of three (3) spacers per joint of pipe. At a minimum, spacers shall be installed a maximum of two (2) feet from each bell and spigot and one spacer shall be installed at the center of each pipe joint.

Casing spacers shall be installed so that the centerline of the carrier pipe is located at the centerline of the casing pipe.

Carrier pipe shall be pushed carefully through steel casing so as not to damage pipe or polywrap.

Following the installation of the carrier pipe, seal ends of casing with casing end seals. Secure seals with stainless steel bands and clamps.

Fill void between steel casing and carrier pipe completely with grout. The CONTRACTOR shall fill the annular space without floating the carrier pipe.

When not ready to place the carrier pipe immediately following completion of the jacking or tunneling operation, protect the ends with temporary bulkheads.

Remove thrust wall upon completion of jacking and boring operations.

Backfill boring and jacking pits will be done per Section 80 Earthwork of these Technical Specifications.

822-G. CLEANING

Thoroughly clean casing prior to installation of carrier pipe. Pipe should be clear of all debris and sediment.

822-H. MEASUREMENT AND PAYMENT

Capri Creek (SRJC) Jack and Bore – 18-Inch Casing, 12-Inch HDPE , Sonoma Mtn Pkwy Jack and Bore – 18-Inch Steel Casing, 12-Inch HDPE shall be paid for on a LINEAR FOOT (LF) basis. The linear foot prices paid for installing the casing per contract plans shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in design, staking, potholing and locating existing utilities, settlement monitoring, excavating, dewatering, furnishing, cleaning and installing the casing, casing spacers, carrier pipe, fittings, transition coupling, backfill, grout, casing end seals complete in place, including any other work required for Bore and Jack installation not specifically enumerated on the plans or these Specifications and no additional allowance will be made therefor.

The water pipe (carrier pipe) shall be included with this bid item.

Design, installation, and removal of shoring and bracing for boring/receiving pits will be paid for under the lump sum price for Excavation for Receiving and Boring Pits as described in Section 80 Earthwork.

Excavation for receiving and boring pits will be paid for under the lump sum price for “Excavation for Receiving and Bore Pits” as described in Section 80 Earthwork.

Any dewatering required during bore and jack operations will be paid for under the lump sum price for “Excavation for Receiving and Bore Pits” as described in Section 70 Dewatering.

END OF SECTION

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SECTION 825 HORIZONTAL DIRECTIONAL DRILLING

825-A. GENERAL

825-A.1 SUMMARY

- i) These specifications apply to horizontal directional drilling (HDD) of high density polyethylene pipe (HDPE) for force mains, low pressure sewers, water mains, and recycled water mains from 1.25” through 24” diameter.
- ii) These specifications are intended to technically describe the nature of the materials, equipment and workmanship required for installing force mains, low pressure sewers, and water mains by HDD methods.
- iii) This specification is intended to cover all work necessary for the installation of the pipe as shown on the drawings and as specified herein by HDD methods.

825-A.2 REFERENCES

- i) ASTM F1962 - 11 Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings.
- ii) Plastics Pipe Institute – Guidelines for Use of Mini-Horizontal Directional Drilling for Placement of High Density Polyethylene Pipe TR-46 2009.

825-A.3 QUALIFICATIONS

- i) HDD Contractors shall have actively engaged in the installation of pipe using HDD methods for a minimum of three years, during which time the Contractor has completed at least 50,000 feet of HDD installations from 1.25" to 24" inches in diameter.

825-A.4 SUBMITTALS

- i) The Contractor shall submit documentation showing a minimum three years of HDD experience with at least 50,000 feet of guided boring installation of 1.25" to 24" diameter projects similar in the scope and value to the project specified in the contract documents. Information must include, but not be limited to the following.
 - 1. Date and duration of work.
 - 2. Location.
 - 3. Pipe information (i.e. length, diameter, depth of installation, pipe material, etc.).
 - 4. Project Owner information (i.e. name, address, telephone number, contact person, etc.).
 - 5. Contents handled by the pipeline (i.e. water, wastewater, conduit, gas, etc.).

- ii) The Contractor shall submit a list of field supervisory personnel and their experience with HDD operations. At least one of the field supervisors listed must be at the site and be responsible for all work at all times when HDD operations are in progress. HDD operations will be postponed until the resume(s) of the Contractor's field supervisory personal have been received.

- iii) Working drawings, written procedures, and information that demonstrates in detail the proposed method of operation. This submittal shall include, but not be limited to the following:
 - 1. Size, capacity and setup requirements of all equipment (including drill rig thrust/pullback and rotary torque capacity as well as the mud pump motor size).
 - 2. HDD guidance system type and information including the accuracy, range, and repeatability values for inclination, roll, and azimuth of the system.
 - 3. Type of cutting tool head.
 - 4. Method of monitoring and controlling line and grade.
 - 5. Arrangement of equipment.
 - 6. Location and sizes of drilling and receiving pits.
 - 7. Location of product pipe joining areas and staging areas.
 - 8. Method of dewatering.
 - 9. Method of removing spoils.
 - 10. Carrier pipe type and size.
 - 11. Method of joining carrier pipe.
 - 12. Method of installing tracer/detection wire.
 - 13. Method of abandonment of pilot holes.
 - 14. Carrier pipe end seals.
 - 15. Bentonite drilling fluid product information including the following:
 - a. Product information.
 - b. Material specifications.
 - c. Handling procedures.
 - d. Special precautions required.
 - e. Method of mixing and installation.
 - f. Identification of polymer enhancement material or special additives (if applicable).
 - g. Method of measuring and maintaining water and bentonite quality during bore progress.
 - h. MSDS sheet.

- iv) All drawings, catalog cuts and other descriptive data covering related items in the same system shall be submitted at the same time in order that their complete integrated applicability in the entire system may be adequately reviewed.

825-A.5 FIELD CONDITIONS

- i) HDD operations shall not interfere with, interrupt, or endanger the ground surface or the activities or items upon the surface.

- ii) HDD operations shall be confined to the area of work as shown on the project drawings.
- iii) The HDD Contractor shall comply with all local ordinances, codes, statutes, rules, and regulations including the Owner's Engineering standards and Occupational Safety and Health Administration requirements.
- iv) When rock stratum, boulders, underground obstructions, or other soil conditions that impede the progress of drilling operations are encountered, the Contractor will review the situation with the Owner. The Contractor shall determine the feasibility of continuing drilling operations and review this with the Owner should adjustments or switching to an alternative construction method determined to be necessary.
 - 1. Date and duration of work.
 - 2. Location.
 - 3. Pipe information (i.e. length, diameter, depth of installation, pipe material, etc.).
 - 4. Project Owner information (i.e. name, address, telephone number, contact person, etc.).
 - 5. Contents handled by the pipeline (i.e. water, wastewater, conduit, gas, etc.).

The CONTRACTOR shall furnish and install by bore and jack method an 18-inch steel casing at the location shown on the Drawings or as ordered by the ENGINEER. Bore and Jack tunneling equipment and methods should be compatible with the subsurface soil and groundwater conditions.

Boring and Jacking shall not take place when the creek has running water. The creek is considered a drainage conduit and should be dry during the summer months.

Bore and jack operations shall be performed by CONTRACTOR with a minimum of five (5) years' experience in bore and jack methods. Bore and jack operator shall have a minimum of five (5) years' experience as a bore and jack operator.

CONTRACTOR shall submit verification of experience, which consists of providing a contact name and telephone number for the last three (3) bore and jack projects performed. Provide resume for bore and jack operator demonstrating his bore and jack work experience.

All work covered by this specification section shall conform to the applicable federal and state codes and regulations. If there is a conflict between these specifications, federal and state regulations, and any agreements/permits, the more stringent requirements shall govern.

825-B. MATERIALS

825-B.1 PIPING MATERIALS

- i) Water and Recycled Water mains shall be HDPE DR 11 Conforming to AWWA C906.

825-B.2 DRILLING FLUID

- i) No drilling fluid shall be used that does not comply with environmental regulations.
- ii) Drilling fluids shall be a mixture of clean water and bentonite clay. The fluid shall be inert. The fluid should remain in the tunnel to insure the stability of the tunnel, reduce drag on the pulled pipe, and provide backfill within the annulus of the pipe and tunnel.
- iii) Disposal of excess drilling fluid and spoils shall be the responsibility of the Contractor and shall be conducted in compliance with all relevant regulations, right-of-way, workspace requirements, and permit agreements. Excess drilling fluid and spoils shall be disposed of at an approved location and shall be performed at no additional cost to the Owner. The Contractor is responsible for transporting all excess drilling fluid and spoils to the disposal site and for paying any disposal costs. Excess drilling fluid and spoils shall be transported in a manner that prevents accidental spillage onto roadways. Excess drilling fluid and spoils shall not be discharged into sanitary or storm drain systems, or waterways.
- iv) Drilling fluid returns caused by fracturing, formations, or any other means at locations other than the entry and exit points shall be minimized. The Contractor shall immediately clean up and dispose of any drilling fluid and spoils from return areas.
- v) The Contractor shall provide mobile spoils removal equipment capable of quickly removing spoils from entry and exit pits and from return areas. This equipment must be present during all HDD operations to fulfill the disposal requirements previously described.

825-C. CONSTRUCTION

825-C.1 PREPARATION

- i) Excavate access and exit pits as necessary to horizontally directional drill the proposed pipe alignment as shown on the project drawings.
- ii) The drilling procedures and equipment shall provide protection of workers particularly against electrical shock. As a minimum, grounding mats, grounded equipment, hot boots, hot gloves, safety glasses and hard hats shall be used by crewmembers.
- iii) The drilling equipment shall be equipped with an operational alarm system capable of detecting electrical current.

- iv) The Contractor is responsible for protecting all existing utilities. The Contractor shall call USA (811) a minimum of 3 working days before any work is to begin. Existing utilities within the path of the proposed horizontal directional bore shall be "pot holed" to determine depth.

825-C.2 HORIZONTAL DIRECTIONAL DRILLING OPERATIONS

i) Equipment

1. The drilling equipment must be capable of placing the pipe within the planned line and grade without inverse slopes.
2. The drilling equipment must meet the minimum thrust/pullback rating, minimum rotary torque rating, and the minimum mud flow pumping capacity to facilitate installation of the product pipe per the contract drawings.
3. The guidance system must have the capability of measuring inclination, roll, and azimuth. The guidance system must have an independent means to ensure the accuracy of The installation. The Contractor will demonstrate a viable method to eliminate accumulated error due to inclinometer (pitch or accelerometer). The guidance system shall be capable of generating a plot of the borehole survey for the purposes of an as-built drawing
4. The proposed equipment set up requirements, including but not limited to proposed access and exit pit locations, are at the sole determination of the Contractor. Such information shall be submitted along with other required information per the specifications.

825-C.3 PILOT HOLE BORING

- i) The entry angle and pilot hole and boring process shall maintain a curvature that does not exceed the allowable bending radius of the product pipe.
- ii) The pilot hole shall be drilled along the path shown on the plan and profile drawings to the following tolerances.
 - (1) Elevations: Plus or minus 6 inches
 - (2) Alignment: Plus or minus 6 inches
- iii) Alignment Adjustments and Restarts
 - (1) The Contractor shall follow the pipeline alignment as shown on the drawings within the specifications stated. If adjustments are required, the Contractor shall notify the Engineer for approval prior to making adjustments.
 - (2) In the event of difficulties at any time during boring operations requiring complete withdrawal from the tunnel, the Contractor may be allowed to withdraw and abandon the tunnel and begin a 2nd attempt at a location approved by the Engineer.

- (3) The number of access pits shall be kept to a minimum. The equipment must be capable of boring and installing the proposed diameter product pipe in a continuous runoff a minimum distance of 600 feet without intermediate pits.

825-C.4 INSTALLING PRODUCT PIPE

- i) After the pilot hole is completed, the Contractor shall install a swivel to the reamer and commence pullback operations. Should pre-reaming of the tunnel be necessary, it shall be performed at the option of the Contractor and at no additional cost to the City.
- ii) The reaming diameter shall not exceed 1.4 times the diameter of the product pipe being installed.
- iii) The product pipe being pulled into the tunnel shall be protected and supported so that it moves freely and is not damaged by stones and debris on the ground during installation.
- iv) Pullback forces shall not exceed the allowable pulling forces for the product pipe.
- v) The Contractor shall allow sufficient length of product pipe to extend past the termination point to allow connections to adjacent pipe sections or gate valves.
- vi) Pulled pipes will be allowed 24 hours of stabilization prior to making tie-ins.

825-D. INSPECTIONS

The Contractor will at all times provide and maintain instrumentation which will accurately perform the following functions

- i) Locate the pilot hole
- ii) Record coordinates references to the drilled entry point
- iii) Measure drilling fluid flow discharge rate and pressure
- iv) Measure pullback pressure

825-E. OBSTRUCTIONS

The Engineer must be notified immediately if any obstruction is encountered that stops the forward progress of the HDD operation. The Contractor must review the situation with the Engineer and Owner and determine the feasibility of continuing drilling operations or switching to an alternative construction method.

Dewatering of pits and excavations must meet the general provisions and specifications as set forth by the City standards. The type of dewatering method used by the Contractor must be approved by the City, prior to commencing with the dewatering activity.

825-F. MEASUREMENT AND PAYMENT

Capri Creek (SRJC) Directional Drill – 12-Inch HDPE; Sonoma Mtn Pkwy Directional Drill – 12-Inch HDPE shall be paid for on a **LINEAR FOOT (LF)** basis. The linear foot prices paid for installing the casing per contract plans shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all work involved in design, staking, potholing and locating existing utilities, settlement monitoring, excavating, dewatering, furnishing, cleaning and installing the product pipe, fittings, transition coupling, backfill, complete in place, including any other work required for Horizontal Directional Drilling installation not specifically enumerated on the plans or these Specifications and no additional allowance will be made therefor.

Design, installation, and removal of shoring and bracing for boring/receiving pits will be paid for under the lump sum price for Excavation for Receiving and Boring Pits as described in Section 80 Earthwork.

Excavation for receiving and boring pits will be paid for under the lump sum price for “Excavation for Receiving and Bore Pits” as described in Section 80 Earthwork.

Any dewatering required during directional drilling operations will be paid for under the lump sum price for “Excavation for Receiving and Bore Pits” as described in Section 70 Dewatering and Section 80 Earthwork.

END OF SECTION

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SECTION V

CONSTRUCTION AGREEMENT

CONSTRUCTION AGREEMENT

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

For multi-year contracts or contracts with multiple accounts:

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

FY _____ Fund _____ Cost Center _____ Object Code _____ Project # _____ Amount \$ _____

THIS AGREEMENT is dated as of the _____ day of _____ in the year 20____, by
(city use only)

and between CITY OF PETALUMA (hereinafter called "CITY") and _____ (hereinafter called "CONTRACTOR").

CITY and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete the WORK as specified or indicated in the CITY’S Contract Documents entitled _____.

ARTICLE 2. COMPLETION OF WORK

The WORK shall be completed to the satisfaction of CITY within _____ (_____) working days from the commencement date stated in the Notice to Proceed. In no event, however, shall the WORK to be performed under this contract be considered to be complete until all construction items called for on the drawings, and specifications have been completed and the contract price paid in full.

ARTICLE 3. LIQUIDATED DAMAGES

A. CITY and the CONTRACTOR recognize that time is of the essence of this Agreement and that the CITY will suffer financial loss if the WORK is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. It is hereby understood and agreed that it is and will be difficult and/or impossible to ascertain and determine the actual damage which the CITY will sustain in the event of and by reason of the CONTRACTOR’s failure to fully perform the WORK or to fully perform all of its contract obligations that have accrued by the time for completion as specified in Article 2 herein and/or as specified for completion of any scheduled operations or works described in the Special Provisions. It is, therefore, agreed in accordance with California Government Code Section 53069.85 that the CONTRACTOR will forfeit and pay to the CITY liquidated damages in the sum of _____ Dollars (\$_____) per day for each and every calendar day that expires after the time for completion specified in Article 2 herein and/or as specified for completion of any scheduled operations or works described in the Special Provisions except as

otherwise provided by extension of time pursuant to Article 12 of the General Conditions. It is further understood and agreed in accordance with California Government Code Section 53069.85 that the liquidated damages sum specified in this provision is not manifestly unreasonable under the circumstances existing at the time this contract was made, and that the CITY may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the CONTRACTOR.

- B. Liquidated damages will continue to accrue at the stated rate until final completion of the WORK. Accrued liquidated damages may be deducted by the CITY from amounts due or that become due to the CONTRACTOR for performance of the WORK. Liquidated damages may not be waived or reduced by CITY unless expressly waived or reduced in writing by the ENGINEER.

ARTICLE 4. PREVAILING WAGES

- A. Pursuant to California Labor Code Section 1771, CONTRACTOR and any subcontractor shall pay all workers employed in execution of the WORK in accordance with the general rate of per diem wages specified for each craft, classification, or type of worker needed to execute the WORK. Copies of the prevailing rates of per diem wages are on file at the City Clerk's office and shall be made available to any interested party on request.
- B. CONTRACTOR is required to pay all applicable penalties and back wages in the event of violation of prevailing wage law, and CONTRACTOR and any subcontractor shall fully comply with California Labor Code Section 1775, which is incorporated by this reference as though fully set forth herein.
- C. CONTRACTOR and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code Section 1776, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section. CONTRACTOR and any subcontractor shall maintain and make available for inspection payroll records as required by California Labor Code Section 1776, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section. In addition, CONTRACTOR and any subcontractor shall submit certified payroll records to the Labor Commissioner online: <http://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html>.
- D. CONTRACTOR and any subcontractor shall fully comply with California Labor Code Section 1777.5, concerning apprentices, which is incorporated by this reference as though fully set forth herein. CONTRACTOR is responsible for ensuring compliance with this section.
- E. In accordance with California Labor Code Section 1810, eight (8) hours of labor in performance of the WORK shall constitute a legal day's work under this Agreement. CONTRACTOR and any subcontractor shall pay workers overtime pay as required by California Labor Code Section 1815. CONTRACTOR and any subcontractor shall, as a penalty to the CITY, forfeit Twenty-Five Dollars (\$25) for each worker employed in the

execution of the contract by the respective contractor or subcontractor for each calendar day during which the worker is required or permitted to work more than 8 hours in any one calendar day and 40 hours in any one calendar week in violation so the provisions of Article 3 of Chapter 1 of Part 7, Division 2 of the California Labor Code, which is incorporated by this reference as though fully set forth herein.

ARTICLE 5. CONTRACT PRICE

- A. CITY shall pay CONTRACTOR for completion of the WORK the sum of _____ Dollars (\$_____), based on the bid price of same and in accordance with the Contract Documents.
- B. Notwithstanding any provisions herein, CONTRACTOR shall not be paid any compensation until such time as CONTRACTOR has on file with the City Finance Department a current W-9 form available from the IRS website (www.irs.gov) and has obtained a currently valid Petaluma business license pursuant to the Petaluma Municipal Code.
- C. In no case shall the total contract compensation exceed _____ Dollars (\$_____) without the prior written authorization by the City Manager. Further, no compensation for a section or work program component attached with a specific budget shall be exceeded without the prior written authorization of the City Manager.

ARTICLE 6. BONDS

- A. Before entering upon the performance of the WORK, the CONTRACTOR shall furnish Performance and Labor and Materials Bonds, each in the amount of one hundred percent (100%) of the contract price, as security for the faithful performance and payment of all the CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date of Completion, except as otherwise provided by Law or Regulation or by the Contract Documents. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions.
- B. The CONTRACTOR shall guarantee the WORK to be free of defects in material and workmanship for a period of one (1) year following the CITY's acceptance of the WORK. The CONTRACTOR shall agree to make, at the CONTRACTOR's own expense, any repairs or replacements made necessary by defects in material or workmanship which become evident within the one-year guarantee period. The CONTRACTOR's guarantee against defects required by this provision shall be secured by a Maintenance Bond, in the amount of ten percent (10%) of the contract price, which shall be delivered by the CONTRACTOR to the CITY prior to acceptance of the WORK. The Maintenance Bond shall remain in force for one (1) year from the date of acceptance of the contracted WORK. The CONTRACTOR shall make all repairs and replacements within the time required during the guarantee period upon receipt of written order from the ENGINEER. If the CONTRACTOR fails to make the repairs and replacements within the required time, the CITY may do the work and the CONTRACTOR and the

CONTRACTOR's surety for the Maintenance Bond shall be liable to the CITY for the cost. The expiration of the Maintenance Bond during the one-year guarantee period does not operate to waive or void the one-year guarantee, as set forth herein.

- C. The form of the Performance, Labor and Materials, and Maintenance Bonds are provided by the CITY as part of the Contract Documents. Only such bond forms provided by the CITY are acceptable and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- D. If the surety on any Bond furnished by the CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and surety, which must be acceptable to the CITY.
- E. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of California to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.

ARTICLE 7. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in the General Conditions.

ARTICLE 8. RETENTION

- A. Pursuant to Section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the CITY to ensure performance under the Contract. At the request and expense of the CONTRACTOR, securities equivalent to the amount withheld shall be deposited with the CITY or with a state or federally chartered bank in California as to the escrow agent, who shall return such securities to the CONTRACTOR upon satisfactory completion of the Contract.
- B. Alternatively, the CONTRACTOR may request and the CITY shall make payment of retentions earned directly to the escrow agent at the expense of the CONTRACTOR. At the expense of the CONTRACTOR, the CONTRACTOR may direct the investment of the payments into securities and the CONTRACTOR shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the CONTRACTOR. The CONTRACTOR shall be responsible for paying all fees for the expenses incurred by the escrow account and all expenses of the CITY. These expenses and payment terms shall be determined by the CITY's Finance Director or his/her designee and the escrow agent. 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, pursuant to the terms of this section. The CONTRACTOR shall pay to each subcontractor, not later than 20 days of receipt of the payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to ensure the performance of the CONTRACTOR.

- C. Securities eligible for investment under Section 22300 shall be limited to those listed in Section 16430 of the Government Code and to bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the CONTRACTOR and the CITY.

ARTICLE 9. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between the CITY and the CONTRACTOR concerning the WORK consist of this Agreement and the following attachments to this Agreement:

- Notice Inviting Bids
- Instructions to Bidders
- Bid Forms including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits
- Labor and Materials Bond
- Performance Bond
- Maintenance Bond
- General Conditions
- Supplementary General Conditions (if any)
- Specifications
- Special Provisions
- Drawings
- Federal Wage Rates dated _____ (if applicable)
- Form FHWA-1273 (if applicable)
- Addenda (if any)
- Change Orders which may be delivered or issued after Effective Date of the Agreement and are not attached hereto.

There are no Contract Documents other than those listed in this Article 9. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.5 of the General Conditions.

ARTICLE 10. INSURANCE

The applicable insurance requirements, as approved by the City's Risk Manager, are set forth in **Exhibit B**, attached hereto and incorporated by reference herein. *[City use: check one.]*

ARTICLE 11. INDEMNIFICATION

- A. CONTRACTOR shall indemnify, defend with counsel acceptable to CITY, and hold harmless to the full extent permitted by law, CITY and its officers, officials, employees, agents and volunteers from and against any and all alleged liability, loss, damage, claims, expenses and costs (including, without limitation, attorney fees and costs and fees of litigation) (collectively, "Liability") of every nature arising out of or in connection with CONTRACTOR's performance of the WORK or its failure to comply with any of its obligations contained in this Agreement, except such Liability caused by the active negligence, sole negligence or willful misconduct of the CITY. Such indemnification by the CONTRACTOR shall include, but not be limited to, the following:
1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its subcontractors, employees, or agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, or agents;
 2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's, or Supplier's own employees, or agents engaged in the WORK resulting in actions brought by or on behalf of such employees against the CITY and/or the ENGINEER;
 3. Liability or claims arising directly or indirectly from or based on the violation of any Laws or Regulations, whether by the CONTRACTOR, its subcontractors, employees, or agents;
 4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its subcontractors, employees, or agents in the performance of this Agreement of any copyrighted or uncopyrighted composition, secret process, patented or unpatented invention, article, or appliance, unless otherwise specified stipulated in this Agreement;
 5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the CITY or any other parties by the CONTRACTOR, its subcontractors, employees, or agents;
 6. Liability or claims arising directly or indirectly from the willful misconduct of the CONTRACTOR, its subcontractors, employees, or agents;
 7. Liability or claims arising directly or indirectly from any breach of the obligations assumed in this Agreement by the CONTRACTOR;
 8. Liability or claims arising directly or indirectly from, relating to, or resulting from a hazardous condition created by the CONTRACTOR, Subcontractors, Suppliers, or any of their employees or agents, and;
 9. Liability or claims arising directly, or indirectly, or consequentially out of any action, legal or equitable, brought against the CITY, the ENGINEER, their consultants, subconsultants, and the officers, directors, employees and agents of each or any of them, to the extent caused by the CONTRACTOR's use of any premises acquired by permits, rights of way, or easements, the Site, or any land or area contiguous thereto or its performance of the WORK thereon.

- B. The CONTRACTOR shall reimburse the CITY for all costs and expenses, (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court costs of appeal) incurred by said CITY in enforcing the provisions of this Paragraph.
- C. The indemnification obligation under this Article 11 shall be in addition to, and shall not be limited in any way by any limitation on the amount or type of insurance carried by CONTRACTOR or by the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts. The CONTRACTOR's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law.
- D. Pursuant to California Public Contract Code Section 9201, City shall timely notify Contractor of receipt of any third-party claim relating to this Agreement.

ARTICLE 12. DISCLAIMER AND INDEMNITY
CONCERNING LABOR CODE SECTION 6400

By executing this agreement the CONTRACTOR understands and agrees that with respect to the WORK, and notwithstanding any provision in this contract to the contrary, the CONTRACTOR, and/or its privities, including, without limitation, subcontractors, suppliers and other engaged by the CONTRACTOR in the performance of the WORK shall be "employers" for purposes of California Labor Code Section 6400 and related provisions of law, and that neither CITY nor its officials, officers, employees, agents, volunteers or consultants shall be "employers" pursuant to California Labor Code Section 6400 with respect to the performance of the WORK by the CONTRACTOR and/or its privities.

The CONTRACTOR shall take all responsibility for the WORK, shall bear all losses and damages directly or indirectly resulting to the CONTRACTOR, any subcontractors, the CITY, its officials, officers, employees, agents, volunteers and consultants, on account of the performance or character of the WORK, unforeseen difficulties, accidents, or occurrences of other causes predicated on active or passive negligence of the CONTRACTOR or of any subcontractor, including, without limitation, all losses, damages or penalties directly or indirectly resulting from exposure to hazards in performance of the WORK in violation of the California Labor Code. The CONTRACTOR shall indemnify, defend and hold harmless the CITY, its officials, officers, employees, agents, volunteers and consultants from and against any or all losses, liability, expense, claim costs (including costs of defense), suits, damages and penalties (including, without limitation, penalties pursuant to the California Labor Code) directly or indirectly resulting from exposure to hazards in performance of the WORK in violation of the California Labor Code, except such liability or costs caused by the active negligence, sole negligence or willful misconduct of the CITY.

ARTICLE 13. INDEPENDENT CONTRACTOR

It is understood and agreed that in the performance of this Agreement, CONTRACTOR (including its employees and agents) is acting in the capacity of an independent contractor, and not as an agent or employee of the CITY. CONTRACTOR has full control over the means and methods of performing said services and is solely responsible for its acts and omissions, including the acts and omissions of its employees and agents.

ARTICLE 14. SUBCONTRACTORS

CONTRACTOR must obtain the CITY’s prior written consent for subcontracting any WORK pursuant to this Agreement. Any such subcontractor shall comply, to the extent applicable, with the terms and conditions of this Agreement. Any agreement between CONTRACTOR and a subcontractor pursuant to this Agreement shall provide that the subcontractor procure and maintain insurance coverage as required herein and which shall name CITY as an additional insured.

ARTICLE 15. COMPLIANCE WITH LAWS/NON-DISCRIMINATION

CONTRACTOR shall comply with all applicable local, state and federal laws, regulations and ordinances in the performance of this Agreement. CONTRACTOR shall not discriminate in the provision of service or in the employment of persons engaged in the performance of this Agreement on account of race, color, national origin, ancestry, religion, gender, marital status, sexual orientation, age, physical or mental disability in violation of any applicable local, state or federal laws or regulations.

ARTICLE 16. NOTICES

All notices required or permitted by this Agreement, including notice of change of address, shall be in writing and given by personal delivery or sent postage prepaid and addressed to the parties intended to be notified, as set forth herein. Notice shall be deemed given as of the date of delivery in person or as of the date deposited in any post office or post office box regularly maintained by the United States Postal Service, unless otherwise stated herein. Notice shall be given as follows:

CITY: City Clerk
City of Petaluma
Post Office Box 61
Petaluma, California 94953
Telephone: (707) 778-4360

CONTRACTOR: _____
(Contact Name)

(Business Name)

(Address)

(City, State, Zip)

(Telephone)

(E-mail)

ARTICLE 17. GOVERNING LAW/VENUE

This Agreement shall be construed and its performance enforced under California law. Venue shall be in the Superior Court of the State of California in the County of Sonoma.

ARTICLE 18. NON-WAIVER

The CITY's failure to enforce any provision of this Agreement or the waiver of any provision in a particular instance shall not be construed as a general waiver of any part of such provision. The provision shall remain in full force and effect.

ARTICLE 19. THIRD PARTY BENEFICIARIES

The Parties do not intend, by any provision of this Agreement, to create in any third party any benefit or right owed by one party, under the terms and conditions of this Agreement, to the other party.

ARTICLE 20. ASSIGNMENT

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

CITY and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 21. SEVERABILITY

If any term or portion of this Agreement is held to be invalid, illegal, or otherwise enforceable by a court of competent jurisdiction, the remaining provisions of this Agreement shall continue in full force and effect.

IN WITNESS WHEREOF, CITY and CONTRACTOR have caused this Agreement to be executed the day and year first above written.

CITY

CONTRACTOR _____

City Manager

By _____
(CORPORATE SEAL)

ATTEST:

Attest: _____

City Clerk

Address for giving notices:

APPROVED AS TO FORM:

City Attorney

Agent for service of process:

License Number

Taxpayer I.D. Number

Petaluma Business Tax Certificate Number

file name:

END OF AGREEMENT

AGREEMENT CERTIFICATE
(if Corporation)

STATE OF CALIFORNIA)
) ss:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Board of Directors of the _____
_____ a
corporation existing under the laws of the State of _____, 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
Agreement dated _____, 20____, by and between
this Corporation and _____ and that his/her execution
thereof, attested by the Secretary of the Corporation, and with the Corporate Seal
affixed, 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

(SEAL)

AGREEMENT CERTIFICATE
(if Joint Venture)

STATE OF CALIFORNIA)
) ss:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Principals of the _____
_____ a
joint venture existing under the laws of the State of _____, 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 Agreement dated _____, 20____, by and between this Joint Venture
and _____ 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 this _____, day of
_____, 20____.

Managing Partner

(SEAL)

EXHIBIT B
INSURANCE REQUIREMENTS
FOR ALL AGREEMENTS

Contractor's performance of the Services under this Agreement shall not commence until Contractor shall have obtained all insurance required under this paragraph and such insurance shall have been approved by the City Attorney as to form and the Risk Manager as to carrier and sufficiency. All requirements herein provided shall appear either in the body of the insurance policies or as endorsements and shall specifically bind the insurance carrier.

Contractor shall procure and maintain for the duration of the contract all necessary insurance against claims now and in the future for injuries to persons or damages to property which may arise from or in connection with the performance of the Services by the Contractor, the Contractor's agents, representatives, employees and subcontractors.

A. Required Minimum Scope of Insurance

- Coverage shall be at least as broad as:
Insurance Services Office Commercial General Liability coverage:
 - a. Personal injury;
 - b. Contractual liability.
- Insurance Services Office form covering Automobile Liability (any auto).
- Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
- Professional Liability/Errors and Omissions
- Crime/Employee Blanket Fidelity Bond
- Property Insurance against all risks of loss to any tenant improvements or betterments.
- Pollution Liability Insurance
- Garage Liability
- Garagekeepers Insurance
- Technology Professional Liability Errors and Omissions Insurance (IT Consultant)/Cyber Liability
- Abuse or Molestation Liability Coverage

A.1 Required for All Contracts

- Policy Endorsements or Excerpts from the Policy Pursuant to Section D
- Copy of the Declarations and Policy Endorsements Page for the CGL Policy

B. Minimum Limits of Insurance

Consultant shall maintain limits no less than:

- General Liability: \$1,000,000 per occurrence for bodily injury, personal injury and property damage. If Commercial General Liability Insurance or other form with a general aggregate liability is used, either the general aggregate limit shall apply separately to this Agreement or the general aggregate limit shall be twice the required occurrence limit.
- Products/Completed Operations: \$1,000,000 per occurrence/aggregate.
- Automobile Liability: \$1,000,000 per accident for bodily injury and property damage.
- Employer's Liability: Bodily Injury by Accident - \$1,000,000 each accident.
Bodily Injury by Disease - \$1,000,000 policy limit.

Bodily Injury by Disease - \$1,000,000 each employee.

- Professional Liability/Errors and Omissions: \$1,000,000 per occurrence or claim. If the policy provides coverage on a claims-made basis, the retroactive date must be shown and must be before the date of the Agreement or the beginning of the contract work.
 - Crime/Employee Blanket Fidelity Bond - \$1,000,000: Contractor, at its own cost and expense, must maintain a Crime/Employee Blanket Fidelity Bond in the amount of \$1,000,000 per employee covering dishonesty, forgery, alteration, theft, disappearance, destruction (inside or outside).
 - All Risk Property Insurance: Full replacement cost.
 - Pollution legal liability with limits no less than \$1,000,000 per occurrence or claim and \$2,000,000 policy aggregate. If the policy provides coverage on a claims-made basis, the retroactive date must be shown and must be before the date of the Agreement or the beginning of the contract work.
 - Garage Liability: \$1,000,000 per occurrence.
 - Garagekeepers Insurance: \$1,000,000 per occurrence.
 - Technology Professional Liability Errors and Omissions Insurance appropriate to the Consultant's profession and work hereunder, with limits not less than \$1,000,000 per occurrence. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken by the Vendor in this agreement and shall include, but not be limited to, claims involving infringement of intellectual property, copyright, trademark, invasion of privacy violations, information theft, release of private information, extortion and network security. The policy shall provide coverage for breach response costs as well as regulatory fines and penalties as well as credit monitoring expenses with limits sufficient to respond to these obligations.
1. The Policy shall include, or be endorsed to include, **property damage liability coverage** for damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the City in the care, custody, or control of the Consultant. If not covered under the Consultant's liability policy, such "property" coverage of the City may be endorsed onto the Consultant's Cyber Liability as covered property as follows:
 2. **Cyber Liability coverage** in an amount sufficient to cover the full replacement value of damage to, alteration of, loss of, or destruction of electronic data and/or information "property" of the City that will be in the care, custody, or control of the Consultant.
 3. The Insurance obligations under this agreement shall be the greater of 1) all the Insurance coverage and limits carried by or available to the Consultant; or 2) the minimum Insurance requirements shown in this Agreement. Any insurance proceeds in excess of the specified limits and coverage required, which are applicable to a given loss, shall be available to the City. No representation is made that the minimum Insurance requirements of this Agreement are sufficient to cover the indemnity or other obligations of the Consultant under this agreement.
- Abuse or Molestation Liability Coverage: \$1,000,000 per occurrence; \$2,000,000 aggregate.

C. **Deductibles and Self-Insured Retentions**

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-

insured retentions as respects the City, its officers, officials, employees, and volunteers; or the Consultant shall procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses. Policies containing any self-insured retention (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named insured (Contractor) or the City.

City reserves the right to review any and all of the required insurance policies, declaration pages, and/or endorsements, but has no obligation to do so. City's failure to demand evidence of full compliance with the insurance requirements set forth in this Agreement or City's failure to identify any insurance deficiency shall not relieve Contractor from, nor be construed or deemed a waiver of, its obligation to maintain the required insurance at all times during the performance of this Agreement.

D. Other Insurance Provisions

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions:

1. **Additional Insured:** The City, its officers, officials, employees, agents and volunteers are to be covered as Additional Insureds as respects: liability arising out of activities performed by or on behalf of the Consultant; products and completed operations of the Consultant; premises owned, occupied or used by the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant. The coverage shall contain no special limitations on the scope of protection afforded to the City, its officers, officials, employees, agents or volunteers.
2. **Primary and Non-Contributory:** For any claims related to this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, agents or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the City, its officers, officials, employees, agents or volunteers.
4. The Consultant'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.
5. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.
6. **Waiver of Subrogation:** Consultant agrees to waive subrogation rights for commercial general liability, automobile liability and worker's compensation against City regardless of the applicability of any insurance proceeds, and to require all contractors, subcontractors or others involved in any way with the Services to do likewise.
7. It shall be a requirement under this Agreement that any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirement and/or limits shall be available to the additional insured. Furthermore, the requirement for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement, or (2) the broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured; whichever is greater.
8. The limits of insurance required in this Agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a

primary and non-contributory basis for the benefit of the City of Petaluma before the City of Petaluma's own insurance or self-insurance shall be called upon to protect it as a named insured.

E. Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII.

F. Verification of Coverage

NOTE: The City of Petaluma is now using an online insurance program, PINS Advantage. Once you have been awarded a contract with the City of Petaluma, you will receive an e-mail from PINS Advantage/City of Petaluma requesting that you forward the e-mail to your insurance agent(s). Consultant shall furnish the City with Certificate of Insurance along with Declarations and Endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that insurer to bind coverage on its behalf. All endorsements are to be received and approved by the City before the Services commence.

FAITHFUL PERFORMANCE BOND

WHEREAS, the City Council of the City of Petaluma, State of California, and _____ (hereinafter designated as "Principal") have entered into an agreement whereby Principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, 20____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, said Principal is required under the terms of said agreement to furnish a bond for the faithful performance of said agreement.

NOW, THEREFORE, WE, the Principal and _____, duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bound unto the City of Petaluma, hereinafter called "City," in the penal sum of _____ Dollars (\$____) lawful money of the United States, for payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors, and administrators, jointly and severally, firmly by these present. The conditions of this obligation are such that if the above-bound Principal, the Principal's 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 provisions in the said agreement and any alteration thereof made as therein provided, on his or their part, to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Petaluma, its officers, agents, employees, and volunteers, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

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

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of this agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise 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 agreement or to the work or to the specifications.

And the said Surety, for value received, hereby stipulates and agrees that upon termination of the Contract for cause, the Obligee reserves the right to refuse tender of the Principal by the Surety to complete the Contract work.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20_____.

PRINCIPAL

SURETY

By _____

By _____

Name and Title

Name and Title

Address

City State Zip

Phone Number

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF FAITHFUL PERFORMANCE BOND

LABOR AND MATERIALS BOND

WHEREAS, the City of Petaluma, State of California, and _____ (hereinafter designated as “Principal”) have entered into an agreement whereby the Principal agrees to install and complete certain designated public improvements, which said agreements, dated _____, 20____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, under the terms of said agreement Principal is required before entering upon the performance of the work, to file a good and sufficient payment bond with the City of Petaluma, to secure the claims to which reference is made in Title 15 (commencing with Section 3082) of Part 4 of Division 3 of the Civil Code of the State of California.

NOW, THEREFORE, said Principal and the undersigned, duly authorized to transact business under the laws of the State of California, as corporate surety, are held firmly bound unto the City of Petaluma, and all contractors, subcontractors, laborers, materialmen and other persons employed in the performance of the aforesaid agreement and referred to in the aforesaid Civil Code of the State of California, in the sum of _____ Dollars (\$ _____) for materials furnished or labor thereon of any kind, or for amounts due under the Unemployment Insurance Act with respect to such work or labor, that said surety will pay the same in an amount not exceeding the amount hereinabove set forth, and also in case suit is brought upon this bond, will pay, in addition to the face amount thereof, costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, to be awarded and fixed by the Court, and to be taxed as costs and to be included in the judgment therein rendered.

It is hereby expressly stipulated and agreed that this bond shall inure to the benefit of any and all persons, companies and corporations entitled to file claims under Title 15 (commencing with section 3082) of Part 4 of Division 3 of the Civil Code, so as to give a right of action to them or their assigns in any suit brought upon this bond.

Should the condition of this bond be fully performed, then this obligation shall become null and void, otherwise it shall be and remain in full force and effect.

THE SURETY hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said agreement or the specifications accompanying the same shall in any

manner affect its obligations on this bond, and it does hereby waive notice of any such change, extension, alteration or addition.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and surety above named, on _____, 20_____.

PRINCIPAL

SURETY

By _____

By _____

Name and Title

Name and Title

Address

City State Zip

Phone

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent's power of attorney attached. Also verify that Surety is an "Admitted Surety" (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk)..

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF LABOR AND MATERIALS BOND

MAINTENANCE BOND

WHEREAS, the City Council of the City of Petaluma (“City”) and _____, (hereinafter designated as “Principal”) have entered into an agreement whereby Principal agrees to install and complete certain designated public improvements, which said agreement, dated _____, 20_____, and identified as project _____, is hereby referred to and made a part hereof; and,

WHEREAS, said Principal is required under the terms of said contract to furnish a maintenance bond for the correction of any defects due to defective materials or workmanship in the work performed under said agreement.

NOW, THEREFORE, we the Principal and _____ as Surety, are held and firmly bound unto the City of Petaluma in the penal sum of _____ Dollars (\$_____), lawful money of the United States for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH that if, during a maintenance period of one (1) year from the date of acceptance of the contracted work, the Principal upon receiving written notice of a need for repairs which are directly attributable to defective materials or workmanship, shall diligently take the necessary steps to correct said defects within seven (7) days from the date of said notice, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

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

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of this agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise 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 agreement or to the work or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20____.

PRINCIPAL

SURETY

By_____

By_____

Name and Title

Name and Title

Address

City State Zip

Phone Number

###

NOTE: No substitution or revision to this bond form will be accepted. Be sure that all bonds submitted have a certified copy of the bonding agent’s power of attorney attached. Also verify that Surety is an “Admitted Surety” (i.e., qualified to do business in California), and attach proof of verification (website printout from the California Department of Insurance website (<http://www.insurance.ca.gov/docs/index.html>) or certificate from County Clerk).

APPROVED AS TO AMOUNT:

APPROVED AS TO FORM:

City Manager

City Attorney

END OF MAINTENANCE BOND

SECTION VI
PLANS

City of Petaluma, California

SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN

C67502123

MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION

C66501834



MAYOR

Teresa Barrett

COUNCIL MEMBERS

Brian Barnacle

DLynda Fischer

Mike Healy

Dave King

Kevin McDonnell

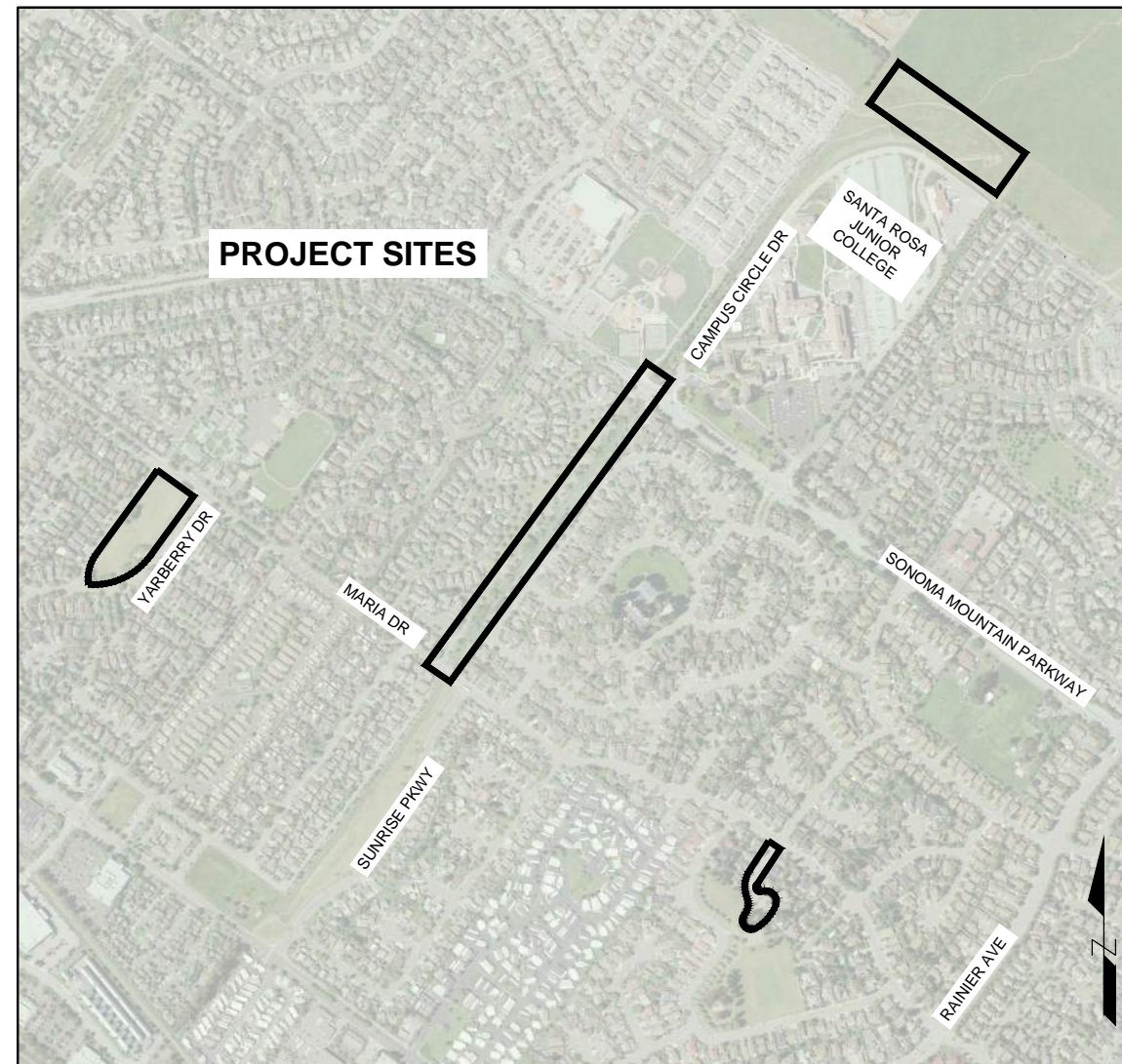
Dennis Pocekay

CITY MANAGER

Peggy Flynn

DIRECTOR OF PUBLIC WORKS & UTILITIES

Jason Beatty, P.E.



PROJECT SITES

LOCATION MAP

SCALE: N.T.S.

RECORD PLAN

I _____ HEREBY STATE THAT THESE RECORD PLAN CHANGES ARE COMPLETE FROM INFORMATION FURNISHED BY THE PROJECT CONTRACTOR, SOILS ENGINEER AND MY OFFICE. I HEREBY STATE THAT TO THE BEST OF MY KNOWLEDGE THE THE WORK WAS DONE IN ACCORDANCE WITH THE FINAL APPROVED PLANS. THE ENGINEER AND THE CITY WILL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH HAVE BEEN INCORPORATED INTO THIS DOCUMENT AS A RESULT. FIELD VERIFICATION OF CRITICAL FACTS AND DATA SHOULD BE MADE IF THESE DOCUMENTS ARE TO BE USED AS A BASIS FOR FUTURE WORK. ENGINEER'S SIGNATURE _____ DATE: _____

SHEET INDEX

- G1 COVER SHEET
- G2 ABBREVIATIONS, SYMBOLS, AND REVISIONS
- G3 SURVEY CONTROL AND GENERAL NOTES
- C1 SRJC PLAN AND PROFILE STA 1+00 TO STA 5+00
- C2 SRJC PLAN AND PROFILE STA 5+00 TO STA 10+00
- C3 SRJC PLAN AND PROFILE STA 10+00 TO STA 14+50
- C4 GLENBROOK PLAN STA 1+00 TO STA 11+05
- C5 GLENBROOK PLAN STA 11+05 TO STA 21+00
- C6 BOND PARK PLAN STA 1+00 TO STA 5+50
- C7 MEADOW VIEW PARK PLAN STA 1+00 TO STA 6+25
- D1 SECTION AND DETAILS

ALL PROJECT PLANS HAVE BEEN PREPARED AND REVIEWED TO COMPLY WITH CURRENT AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS AND/OR THE CALIFORNIA BUILDING STANDARDS CODE (CBCS).

THESE PROJECT PLANS CONTAIN ELEMENT(S) THAT ARE NOT "TECHNICALLY FEASIBLE" AND/OR CAN'T MEET THE APPLICABLE CBCS BECAUSE IT WOULD CREATE AN "UNREASONABLE HARDSHIP." PLEASE SEE THE WRITTEN ANALYSIS SUPPORTING THIS DETERMINATION FILED UNDER THE PROJECT FILE.

DESIGNED BY _____ DATE 5/26/2021

SIGNATURE _____

APPROVED BY: _____

GINA BENEDETTI - PETNIC P.E. C42778
ASSISTANT DIRECTOR, PUBLIC WORKS & UTILITIES

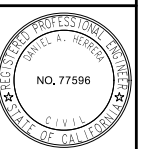
DESIGNED BY: _____ DATE 5/26/2021

DANIEL A. HERRERA P.E. C77596
SENIOR CIVIL ENGINEER

	SIGNATURE	DATE
CITY ENGINEER		
ENGINEERING MANAGER		
FIRE MARSHAL		
PARKS		
PLANNING		
POLICE		
OPERATIONS MANAGER		

DATE: MAY - 2021
DESIGNED BY: DH
DRAWN BY: MT
CHECKED BY: KC

PROJECT NO.
C67502123
C66501834



CITY OF PETALUMA
PUBLIC WORKS & UTILITIES
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PH. 707-778-4546 FAX. 707-778-4508

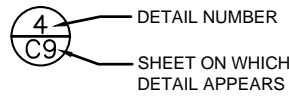


SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION

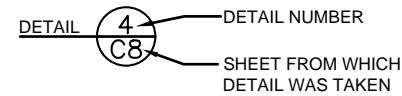
SHEET
G1
1 OF 11

DETAIL NUMBERING

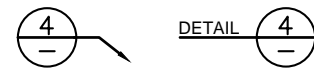
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DWG. WHERE DETAIL APPEARS:

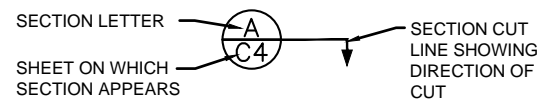


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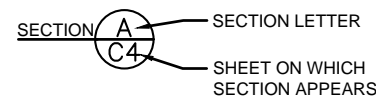


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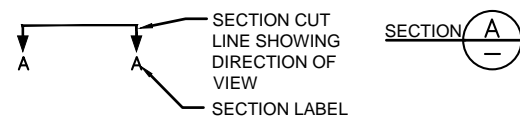
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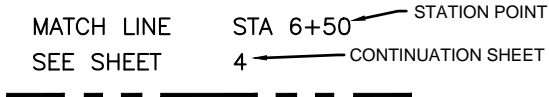
DWG. WHERE SECTION APPEARS:



IF SECTION APPEARS ON THE SAME DWG. IT IS TAKEN FROM:



MATCH LINE



ABBREVIATIONS

AB	AGGREGATE BASE	LG	LIP OF GUTTER
ABND	ABANDONED	MAX	MAXIMUM
AC	ASPHALTIC CONCRETE	MH	MANHOLE
ACP	ASBESTOS CEMENT PIPE	MIN	MINIMUM
APN	ASSESSOR PARCEL NUMBER	MON	MONUMENT
BF	BACKFLOW	N	NEW
CDF	CONTROL DENSITY FILL	OD	OUTSIDE DIAMTER
CI	CAST IRON	PCC	PORTLAND CEMENT CONCRETE
CIPP	CURED IN PLACE PIPE	PL	PLASTIC
CL	CENTERLINE	PVC	POLYVINYL CHLORIDE
CMP	CORRUGATED METAL PIPE	RC	RELATIVE COMPACTION
CO	CLEAN OUT	RCP	REINFORCED CONCRETE PIPE
CR	CURB RETURN	RW	RECYCLED WATER
DIP	DUCTILE IRON PIPE	SS	SANITARY SEWER
EG	EXISTING GRADE	SQFT	SQUARE FEET
EL	ELEVATION	STA	STATION
ELEC	ELECTRIC	STD	STANDARD
EP	EDGE OF PAVEMENT	STL	STEEL
E	EXISTING	SD	STORM DRAIN
FC	FACE OF CURB	SL	STREET LIGHT
FDC	FIRE DEPT CONNECTION	TEL	TELEPHONE
FG	FINISH GRADE	TC	TOP OF CURB
FH	FIRE HYDRANT	TP	TOP OF PIPE
FL	FLOW LINE	TV	TV CABLE
FO	FIBER OPTIC CABLE	TYP	TYPICAL
G	GAS	UTILP	UTILITY POLE
HDPE	HIGH DENSITY POLYETHYLENE	VCP	VITRIFIED CLAY PIPE
ID	INSIDE DIAMETER	W	WATER
INV	INVERT	WM	WATER MAIN
IRR	IRRIGATION	WS	WATER SERVICE
JT	JOINT TRENCH	Ø	DIAMETER
LF	LINEAR FEET		

SYMBOLS

PROPOSED

EXISTING

		AIR RELIEF VALVE
		BLOWOFF
		FIRE HYDRANT
		VALVE
		ZONE VALVE
		REDUCER
		CLEAN OUT
		MANHOLE
		WATER METER
		CATCH BASIN
		INLET
		END CAP
		UTILITY POLE
		UTILITY BOX
		MONUMENT
		ADDRESS
		SEWER MAIN AND LATERAL
		SEWER LATERAL TAP ACTIVE
		SEWER LATERAL TAP CAPPED
		WATER MAIN
		RECYCLED WATER MAIN
		STORM DRAIN
		ELECTRIC CABLE
		GAS MAIN
		TELEPHONE CABLE
		TV CABLE
		STREET LIGHT AND CABLE
		CONSTRUCTION SIGN
		RIGHT OF WAY LINE
		TO BE ABANDONED
		TO BE REMOVED
		BORE LOCATION

REDORD DRAWING REFERENCE

NO.	DATE	DESCRIPTION	BY

PROJECT RESOURCE DATA (FOR CITY USE)

PROJECT START	
PROJECT END	
PROJECT CONTRACTOR	
CONTRACTOR'S SUPER.	
UTILITY CONT.	
UTILITY CONT.	
UTILITY CONT.	
SEWER PIPE, MH, CO	
STORM DRAIN PIPE, INLET	
WATER PIPE, VALVES, HDY.	
PROJECT MANAGER	
PROJECT INSPECTOR	
OTHER	

DATE: MAY - 2021
 DESIGNED BY: DH
 DRAWN BY: MT
 CHECKED BY: KC

PROJECT NO.
 C67502123
 C66501834

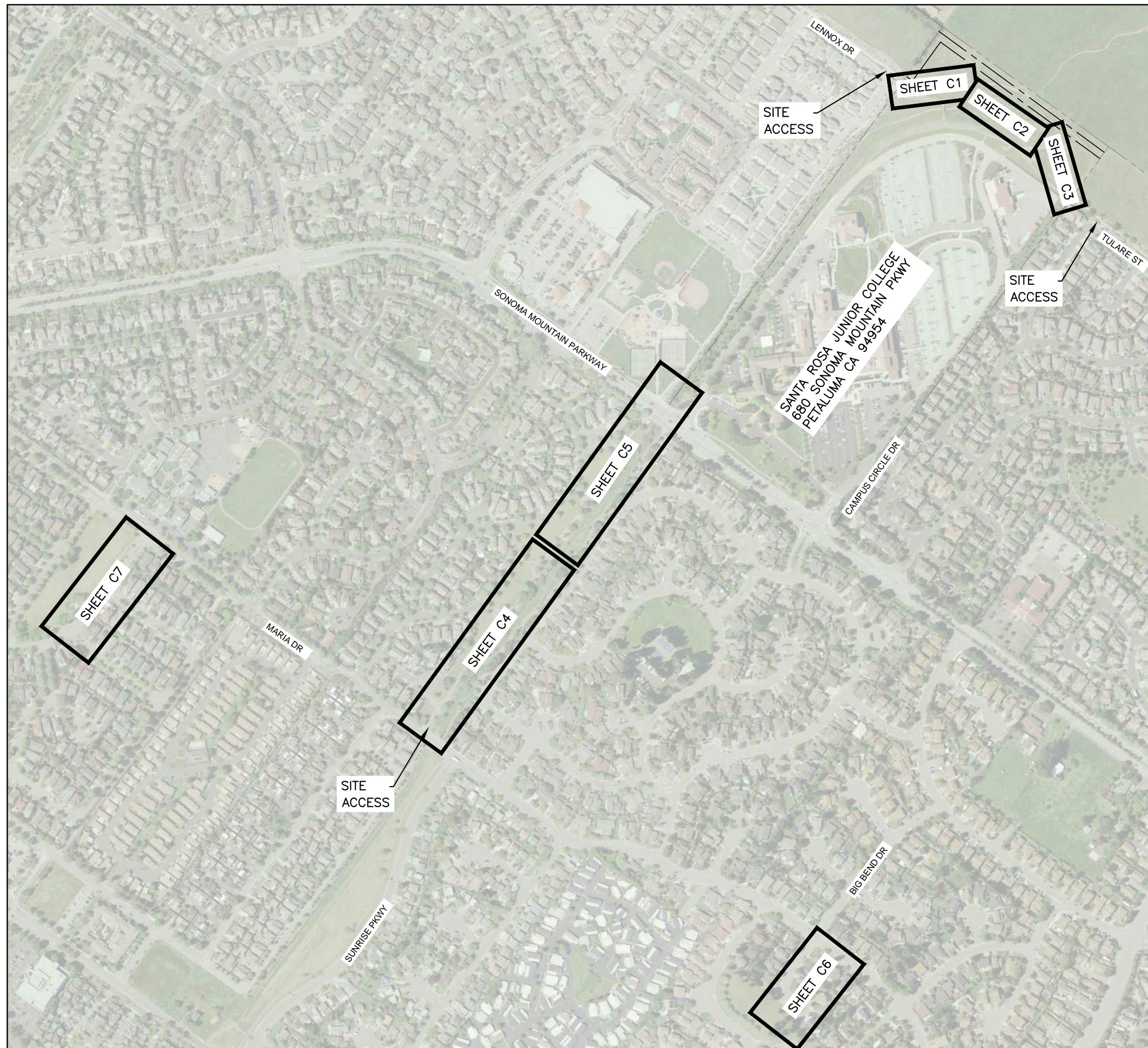


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 PH. 707-778-4546 FAX. 707-778-4508



SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
 MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
ABBREVIATIONS, SYMBOLS, AND REVISIONS

SHEET
G2
 2 OF 11

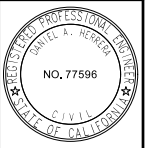


GENERAL NOTES

1. CITY STANDARDS AND SPECIFICATIONS ARE INCLUDED IN THE CONTRACT DOCUMENTS BY REFERENCE. CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE MOST RECENT EDITION OF ALL CITY STANDARD DRAWINGS AND SPECIFICATIONS.
2. CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING UTILITIES BY POTHOLES OR OTHER DIRECT INSPECTION METHOD PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY CHANGES IN THE VERTICAL AND/OR HORIZONTAL ALIGNMENT FROM THAT SHOWN ON THE PLANS.
3. SOME EXISTING UNDERGROUND UTILITIES MAY NOT BE SHOWN. EXISTING UNDERGROUND UTILITIES SHOWN ARE BASED ON FIELD OBSERVATIONS, EXISTING UTILITY MAPS, AND EXISTING IMPROVEMENT PLANS AND MAY NOT BE ACCURATE. EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND MAY NOT REPRESENT ACTUAL SITE CONDITIONS.
4. CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO START OF PROPOSED WORK.
5. ALL FRAMES AND COVERS MUST BE ADJUSTED TO FINISH GRADE WITHIN 2 DAYS AFTER FINAL PAVING.
6. THE CONTRACTOR SHALL NOTE ALL APPROVED FIELD CHANGES AND OTHER OCCURRENCES AND SUBMIT A FULL SIZE COMPLETE CONSTRUCTION "RECORD DRAWING" SET NOTED AND DATED ON THE DRAWINGS TO THE PROJECT ENGINEER PRIOR TO ACCEPTANCE OF THE WORK.
7. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE ALL MATERIAL AND WORKMANSHIP FULLY CONFORMS TO THE SPECIFICATIONS, STANDARDS AND ORDINANCES OF THE CITY OF PETALUMA.
8. ALL EROSION AND SEDIMENT CONTROL MATERIALS AND METHODS SHALL COMPLY WITH THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, SAN FRANCISCO BAY REGION, EROSION AND SEDIMENT CONTROL MANUAL.
9. THESE PLANS WERE PREPARED USING COMPUTER ASSISTED, AERIAL PHOTOGRAMETRIC MAPPING. THE MERIDIAN AND GRID IS BASED ON THE CALIFORNIA COORDINATE SYSTEM ZONE II, NAD 1983.
10. THESE PLANS DRAWN USING A VERTICAL DATUM: NAVD 1988.
11. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AND VERIFY UTILITY MARKINGS PRIOR TO ANY EXCAVATION. 1-800-227-2600
12. CONTRACTOR SHALL ENSURE THAT THE FIRE DEPARTMENT IS AWARE AT ALL TIMES OF THE OPERATIONAL STATUS OF ALL FIRE HYDRANTS.
13. CONTRACTOR SHALL PROTECT ALL MONITORING WELLS OR SHALL CONSTRUCT REPLACEMENT WELLS AND PROPERLY ABANDON DAMAGED WELLS AT NO ADDITIONAL COST TO OWNER.
14. ELEVATIONS OF EXISTING WATER MAINS ARE ESTIMATED FROM VALVE NUT ELEVATIONS
15. STATIONING AND PROFILE OF GROUND SURFACE SHOWN ON PLAN IS FOR CENTERLINE OF PIPELINE.
16. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL STAKING OF PIPELINE. ENGINEER SHALL VERIFY STAKING LOCATIONS PRIOR TO PIPELINE CONSTRUCTION.
17. PLANS ARE BASED OFF OF CITY WIDE AERIAL SURVEY DATA AND EXISTING RECORD DRAWINGS. PLANS WILL BE AVAILABLE DIGITALLY FOR STAKING AND SURVEY PURPOSES.
18. ALL NEWLY INSTALLED EQUIPMENT OR FACILITIES CONNECTED TO THE RECYCLE WATER SYSTEM SHALL BE LABELED AS SUCH AS REQUIRED, INCLUDING METER BOXES, VALVE COVERS, ETC.

DATE: MAY - 2021
DESIGNED BY: DH
DRAWN BY: MT
CHECKED BY: KC

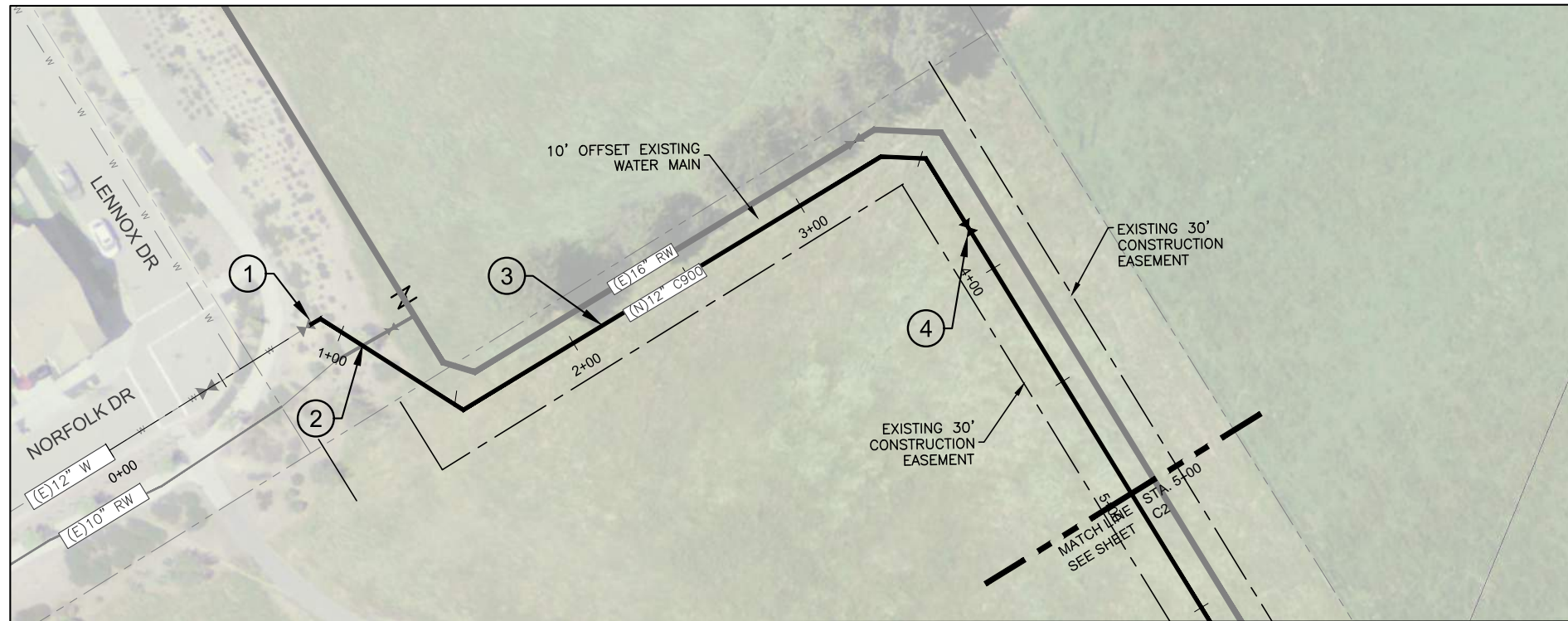
PROJECT NO.
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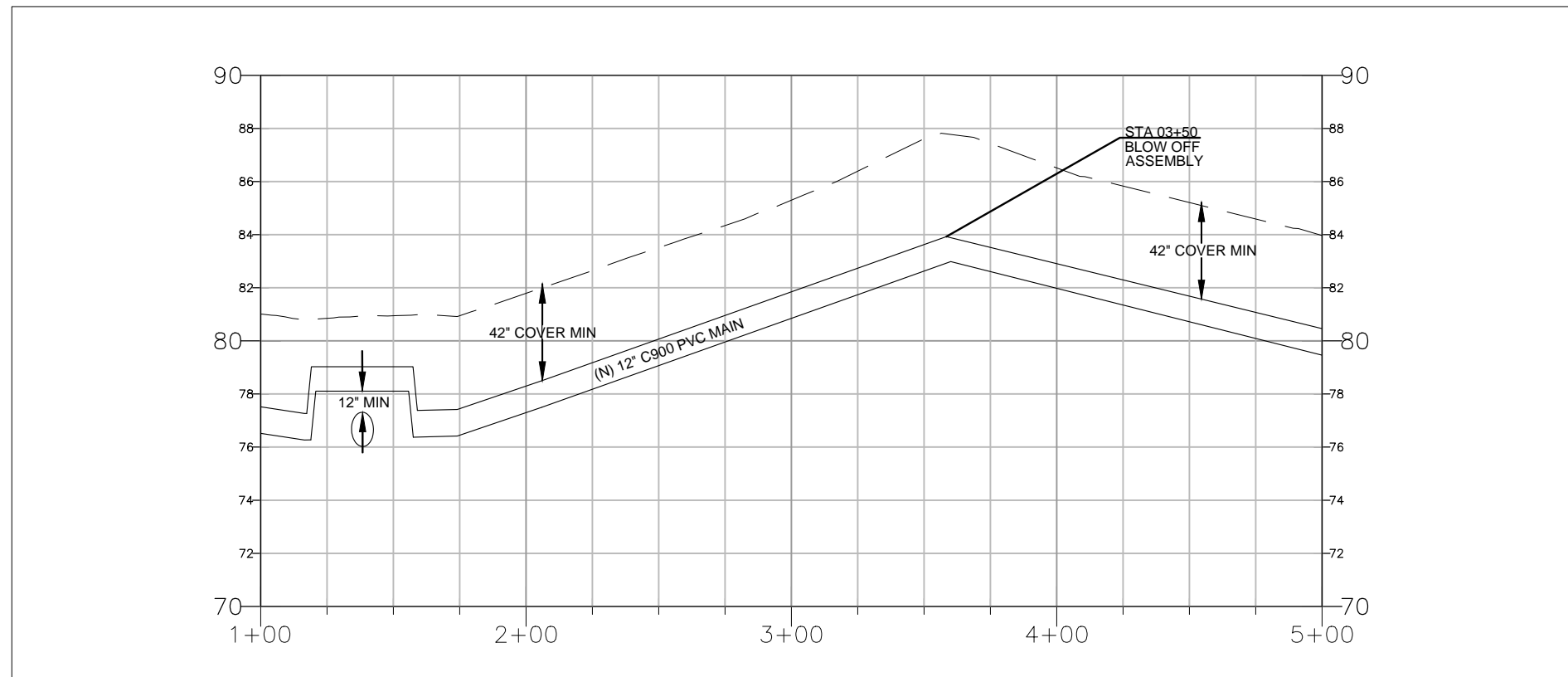
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SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
SURVEY CONTROL AND GENERAL NOTES



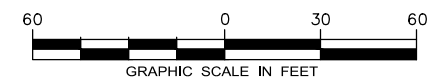
12 - INCH SRJC WATER MAIN PLAN
STA. 1+00 TO STA. 5+00



12 - INCH SRJC WATER MAIN PROFILE
STA 1+00 TO STA 5+00

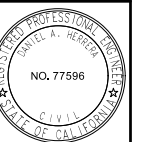
CONSTRUCTION NOTES:

- ① REMOVE EXISTING BLOW-OFF ASSEMBLY, NEW MAIN TO CONNECT TO EXISTING 12" WATER MAIN.
- ② MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, 12" MIN. 4" CONCRETE CAP TO BE INSTALLED OVER NEW WATER MAIN WHERE MINIMUM DEPTHS ARE NOT MAINTAINED. VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.
- ③ INSTALL 12" C900 PVC WATER MAIN; OFFSET 10' OF EXISTING 16" RECYCLE WATER MAIN, AT REQUIRED DEPTH.
- ④ INSTALL BLOW-OFF ASSEMBLY AT HIGH POINT.



DATE: MAY - 2021
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PROJECT NO.
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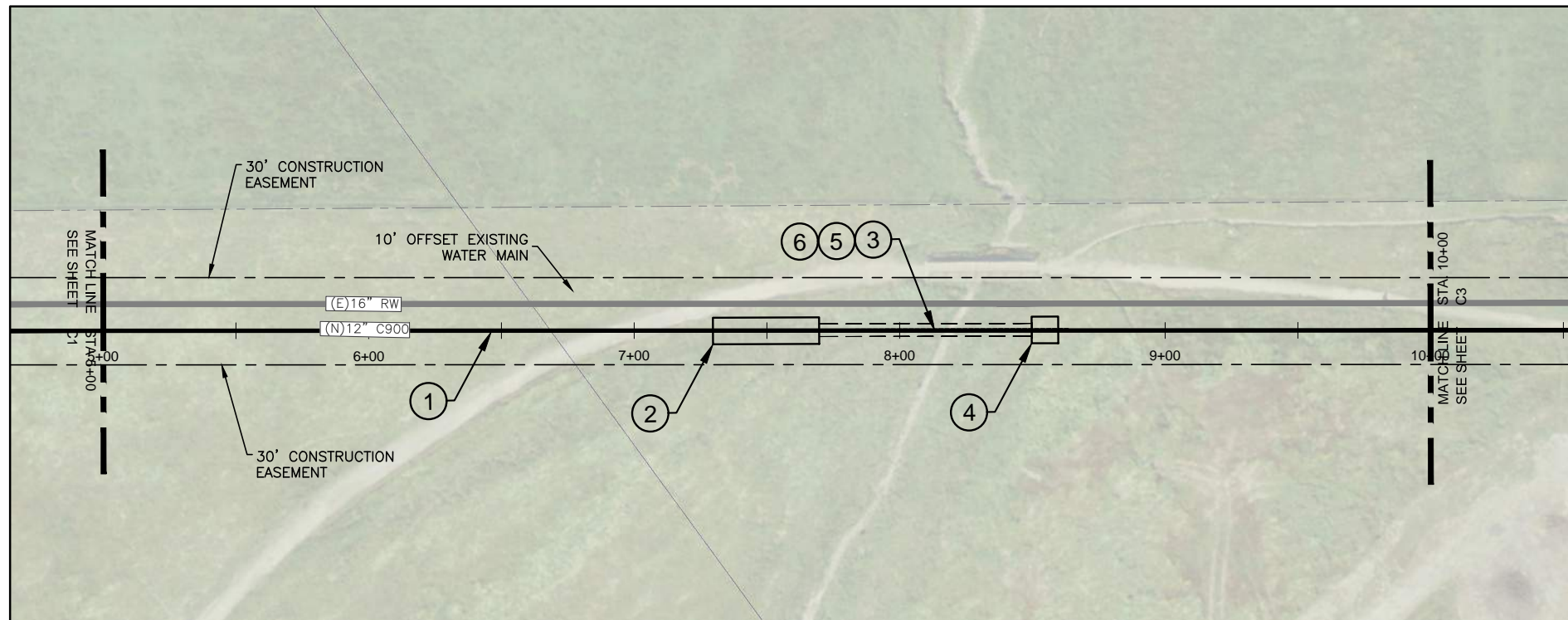


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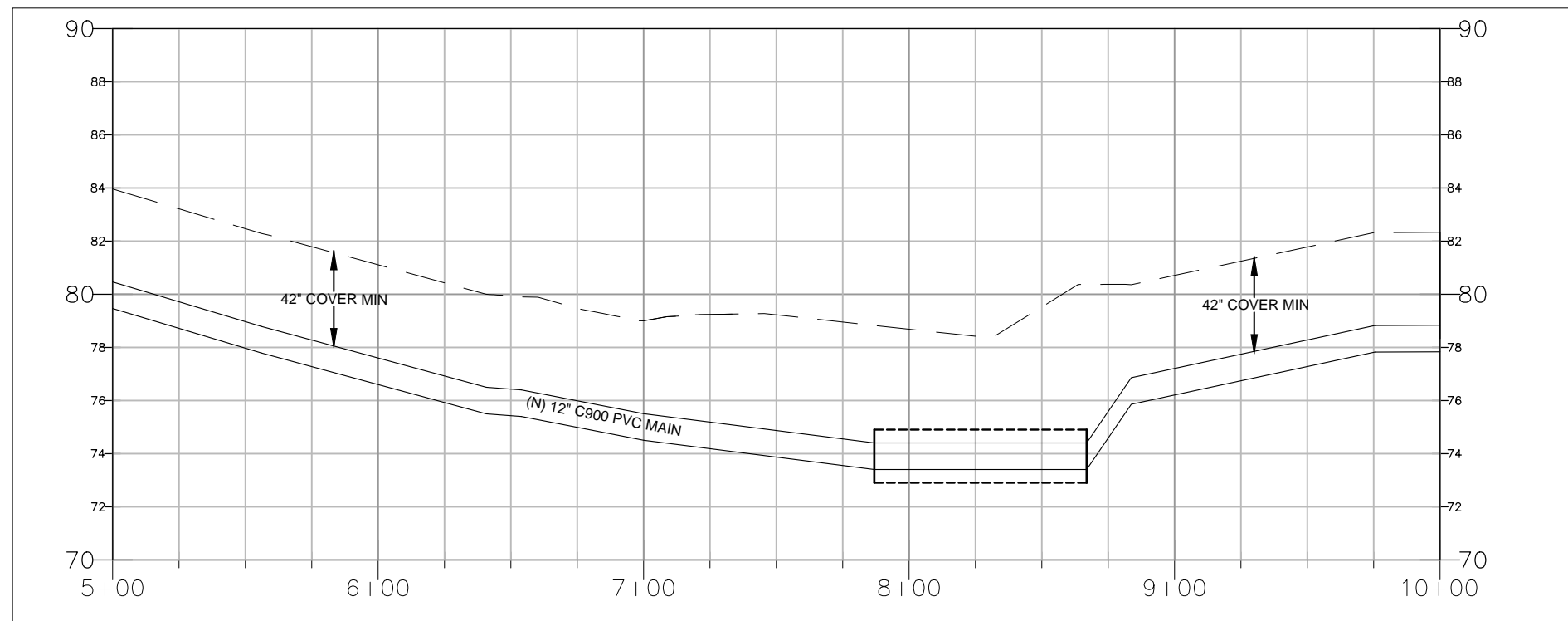


SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
SRJC PLAN AND PROFILE STA 1+00 TO STA 5+00

SHEET
C1



12 - INCH SRJC WATER MAIN PLAN
STA. 5+00 TO STA. 10+00



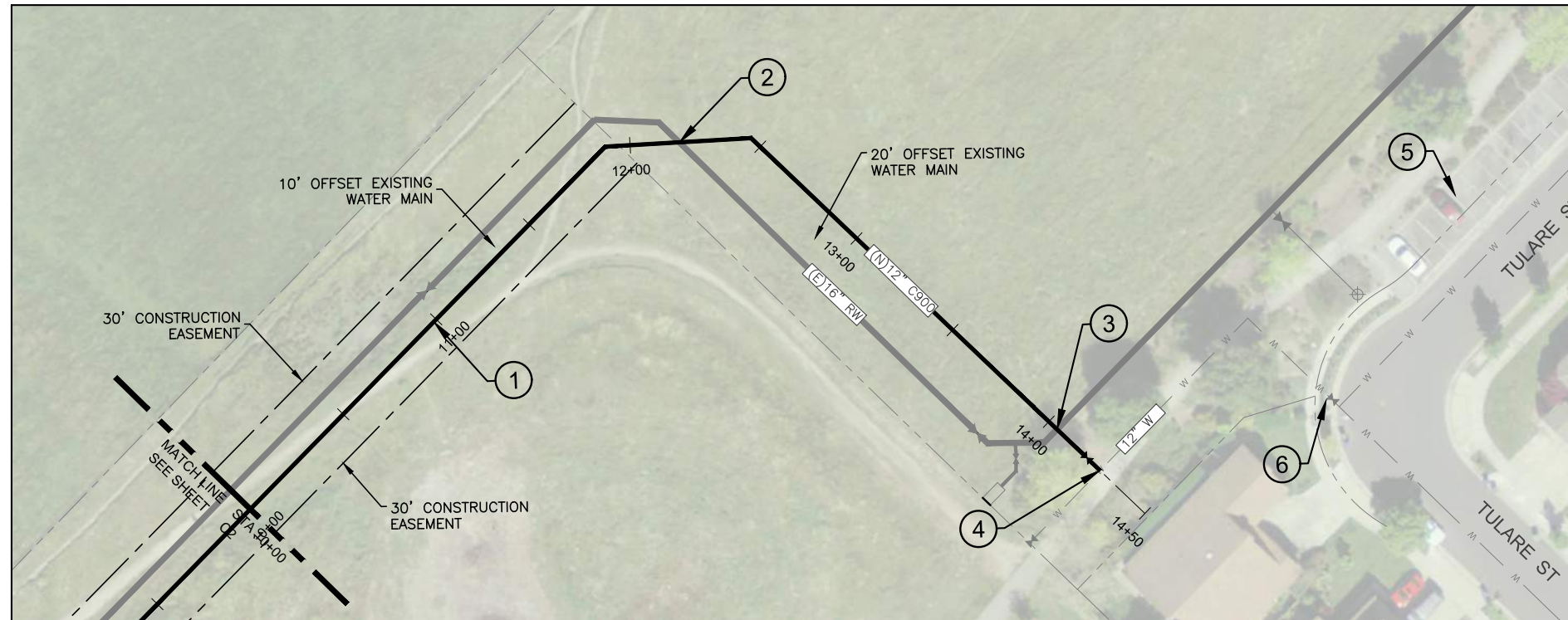
12 - INCH SRJC WATER MAIN PROFILE
STA 5+00 TO STA 10+00

CONSTRUCTION NOTES:

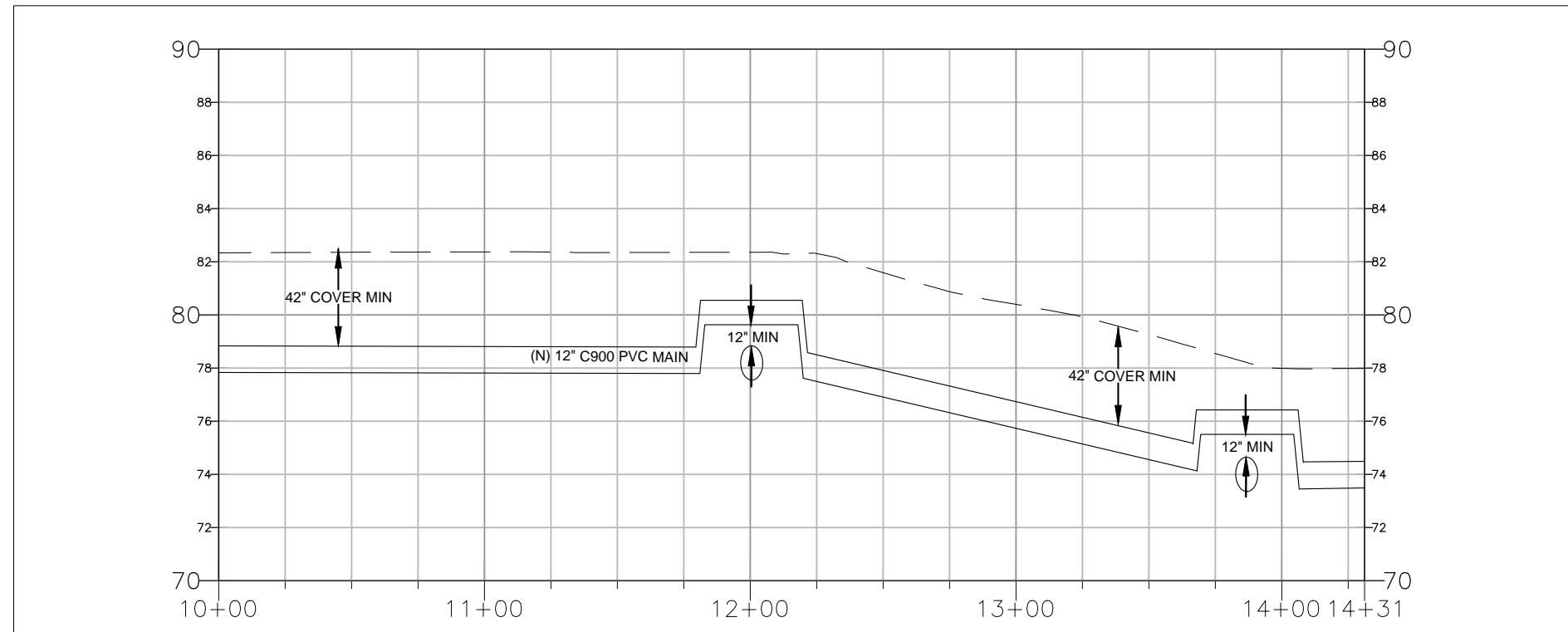
- ① INSTALL 12" C900 PVC WATER MAIN; OFFSET 10' OF EXISTING 16" RECYCLE WATER MAIN, AT REQUIRED DEPTH.
- ② BORE INSERTION PIT, 30' X 10', AS NEEDED,
- ③ CAPRI CREEK; NO CROSSINGS ALLOWED, NO EQUIPMENT WITHIN 40' OF CREEK BANK.
- ④ BORE RECEIVING PIT, 10' X 10', AS NEEDED, MAINTAIN REQUIRED OFFSET FORM CREEK.
- ⑤ BID ALTERNATE 1: JACK AND BORE UNDER CAPRI CREEK, 18" CARBON STEEL CONDUIT, 12" FUSEABLE PVC, 80' CROSSING, MAINTAIN REQUIRED OFFSET FROM CREEK.
- ⑥ BID ALTERNATE 2: DIRECTIONAL DRIALL UNDER CAPRI CREEK, 12" HDPE, 80' CROSSING, MAINTAIN REQUIRED OFFSET FROM CREEK.



DATE: MAY - 2021	DESIGNED BY: DH	DRAWN BY: MT	CHECKED BY: KC
PROJECT NO. C67502123 C66501834			
CITY OF PETALUMA PUBLIC WORKS & UTILITIES 202 N. McDowell Blvd., PETALUMA, CALIFORNIA, 94954 PH. 707-778-4546 FAX. 707-778-4508			
SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION SRJC PLAN AND PROFILE STA 5+00 TO STA 10+00			
SHEET C2			
5 OF 11			



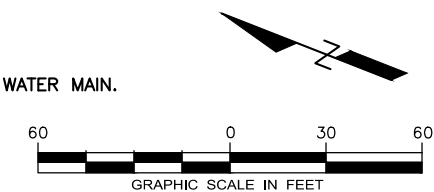
12 - INCH SRJC WATER MAIN PLAN
STA. 10+00 TO STA. 14+50



12 - INCH SRJC WATER MAIN PROFILE
STA 10+00 TO STA 14+50

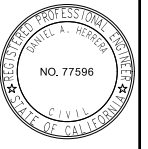
CONSTRUCTION NOTES:

- ① INSTALL 12" C900 PVC WATER MAIN; OFFSET 10' OF EXISTING 16" RECYCLE WATER MAIN, AT REQUIRED DEPTH.
- ② MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, 12" MIN. 4" CONCRETE CAP TO BE INSTALLED OVER NEW WATER MAIN WHERE MINIMUM DEPTHS ARE NOT MAINTAINED. VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.
- ③ MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, 12" MIN. 4" CONCRETE CAP TO BE INSTALLED OVER NEW WATER MAIN WHERE MINIMUM DEPTHS ARE NOT MAINTAINED. VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.
- ④ CUT IN 12" X 12" X 12" DI TEE, 12" GATE VALVE TO EXISTING 12" C900 WATER MAIN.
- ⑤ EQUIPMENT STAGING AREA, SITE ACCESS.
- ⑥ WATER MAIN SHUT OFF VALVE.



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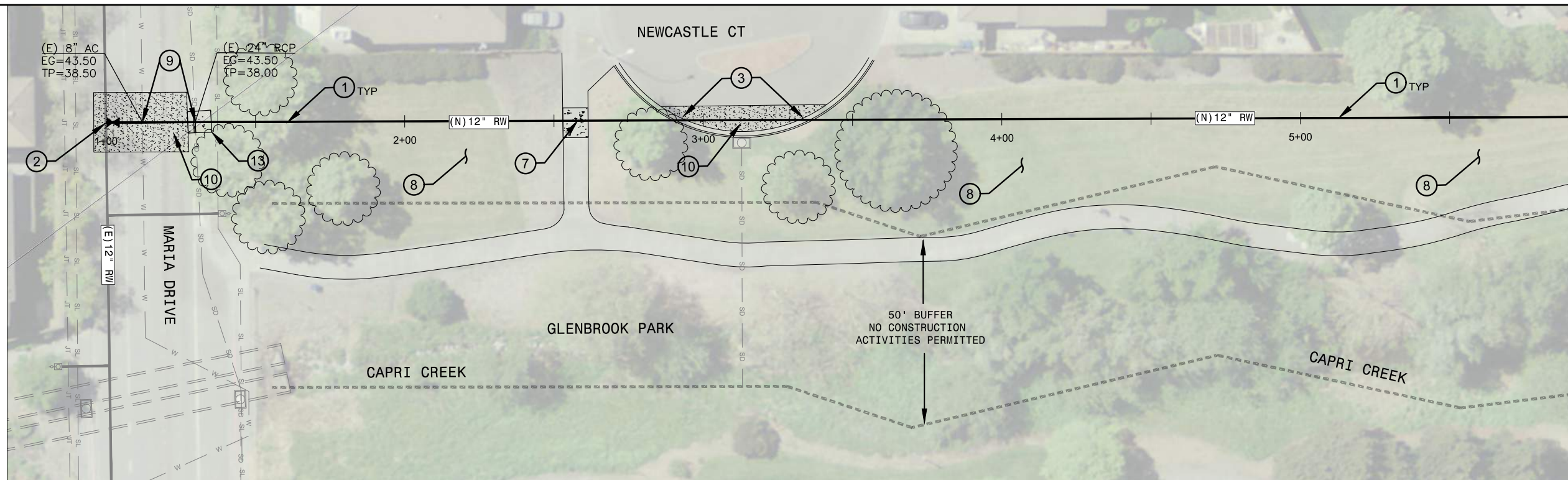


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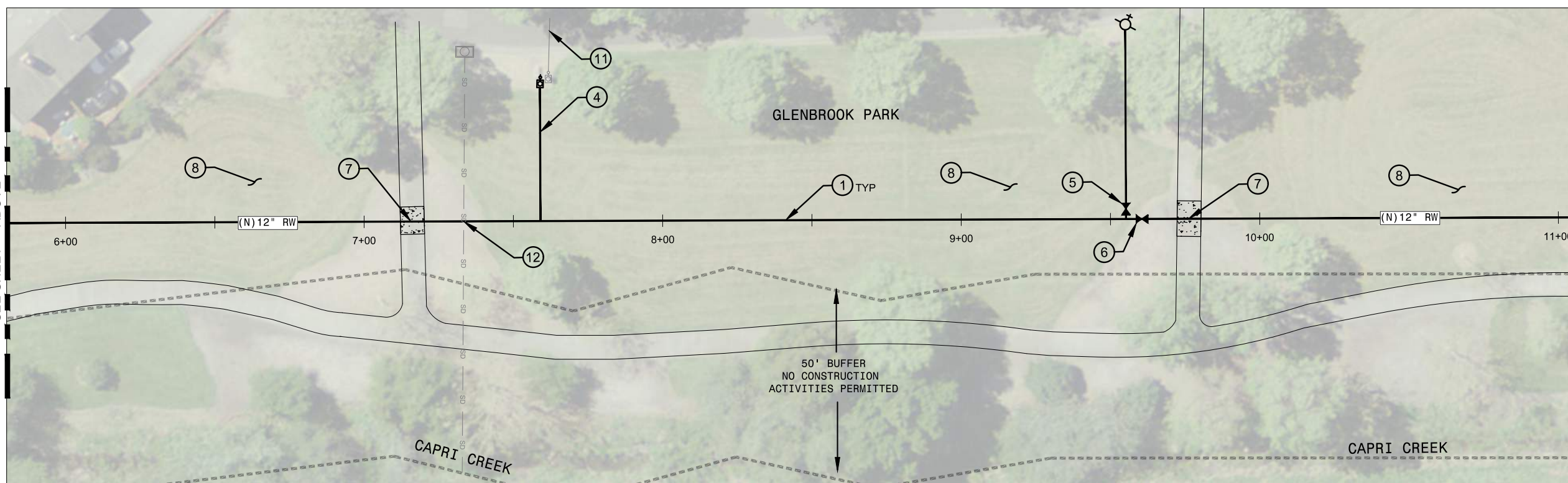
SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
SRJC PLAN AND PROFILE STA 10+00 TO STA 14+50

SHEET
C3
6 OF 11



MARIA - LEGHORN RECYCLE WATER MAIN EXTENSION PLAN
STA 1+00 TO STA 5+80

MATCHLINE STA. 5+80
SEE SHEET BELOW



MARIA - LEGHORN RECYCLE WATER MAIN EXTENSION PLAN
STA 5+80 TO STA 11+05

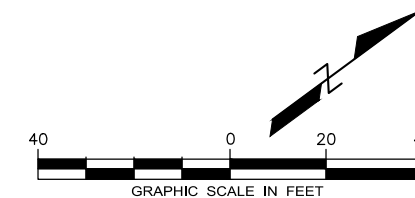
MATCHLINE STA. 11+05
SEE SHEET C5

CONSTRUCTION NOTES:

- ① INSTALL RECYCLED WATER MAIN; 12" C900 PVC PURPLE PIPE, 42" MINIMUM COVER.
- ② CONNECT TO EXISTING RECYCLED WATER MAIN, 12" C900 PVC. CUT IN 12" X 12" X 12" TEE, 12" GATE VALVE, 45 DEGREE BENDS TO CROSS EXISTING UTILITIES.
- ③ CROSS CURB AND GUTTER, INSTALL IN STREET, REMOVE AND REPLACE CURB AND GUTTER AS NEEDED.
- ④ INSTALL NEW 2" SERVICE AND RECYCLED METER BOX FROM RECYCLED WATER MAIN TO EXISTING IRRIGATION BACKFLOW DEVICE, PER CITY STANDARD 865. FINAL LOCATION TO BE DETERMINED IN FIELD.
- ⑤ INSTALL FIRE HYDRANT ASSEMBLY PER CITY STANDARD 857, CITY TO PROVIDE PURPLE HYDRANT.

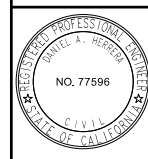
- ⑥ INSTALL 12" GATE VALVE.
- ⑦ EXISTING 8' CONCRETE PATHWAY, PROTECT IN PLACE, REMOVE AND REPLACE AS NEEDED.
- ⑧ EXISTING IRRIGATION NETWORK, REPLACE ALL DAMAGED PIPING, SCHEMATICS OF EXISTING IRRIGATION INCLUDED IN CONTRACT DOCUMENTS.
- ⑨ CROSS EXISTING UTILITIES, 12" SEPARATION MINIMUM.
- ⑩ PAVEMENT TO BE RESTORED PER CITY STANDARDS.

- ⑪ ABANDON EXISTING SERVICE, INSTALL FULL CIRCLE CLAMP ON WATER MAIN, 8" C900.
- ⑫ MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.
- ⑬ REMOVE AND REPLACE EXISTING SIDEWALK, CURB AND GUTTER AS REQUIRED, PER CITY STANDARDS.



DATE: MAY - 2021
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PROJECT NO.
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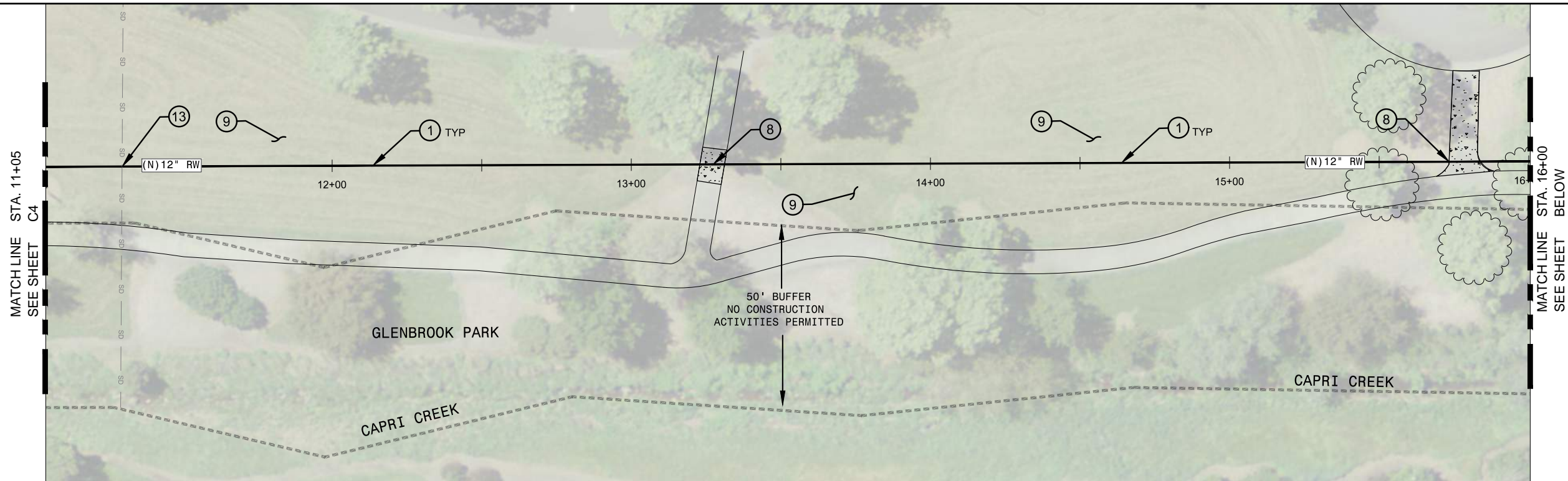


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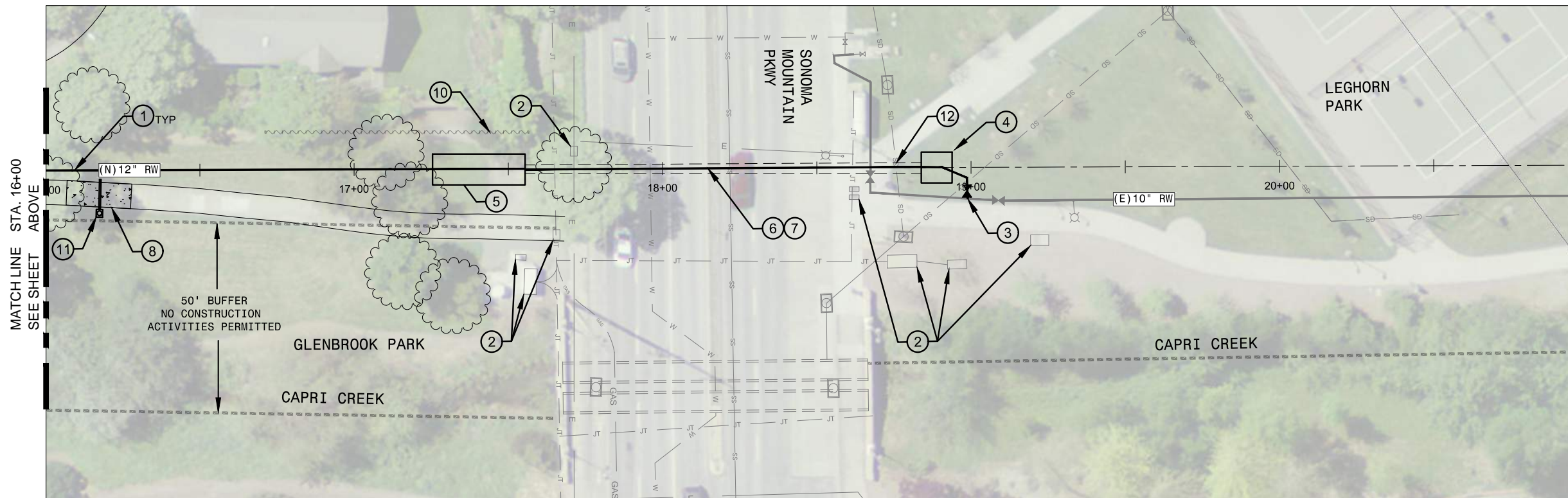


SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
GLENBROOK PLAN STA 1+00 TO STA 11+05

SHEET
C4
7 OF 11



MARIA - LEGHORN RECYCLE WATER MAIN EXTENSION PLAN
STA 11+05 TO STA 16+00



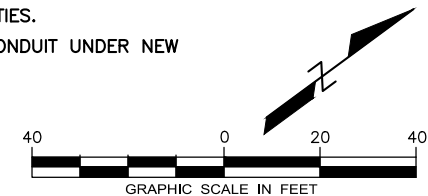
MARIA - LEGHORN RECYCLE WATER MAIN EXTENSION PLAN
STA 16+00 TO STA 21+00

CONSTRUCTION NOTES:

- ① INSTALL RECYCLED WATER MAIN; 12" C900 PVC PURPLE PIPE, 42" MINIMUM COVER.
- ② EXISTING ELECTRICAL / COMMUNICATION FACILITIES, PROTECT IN PLACE. DEPTH TO BE CONFIRMED.
- ③ CONNECT NEW 12" C900 RECYCLED WATER MAIN TO EXISTING 10" RECYCLED WATER MAIN; 12" X 12" X 12" TEE, 12" GATE VALVE, 12" TO 10" REDUCERS (X2), 45 DEGREE BENDS TO ALIGNMENT (X2).
- ④ BORE PIT, 10' X 10', AS NEEDED, TO BE APPROVED BY THE ENGINEER.

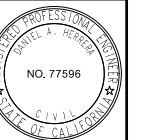
- ⑤ BORE PIT, 30' X 10', AS NEEDED, TO BE APPROVED BY THE ENGINEER.
- ⑥ BID ALTERNATE 1: JACK AND BORE UNDER SONOMA MTN PKY, 130', 18" CARBON STEEL CONDUIT, 12" FUSEABLE PVC, SEE DETAILS.
- ⑦ BID ALTERNATE 2: DIRECTIONAL DRILL UNDER SONOMA MTN PKY, 130', 12" HDPE, SEE DETAILS AND APPENDIX.
- ⑧ 8' CONCRETE PATHWAY. REMOVE AND REPLACE AS INDICATED, AS NEEDED.
- ⑨ EXISTING IRRIGATION NETWORK, REPLACE ALL DAMAGED PIPING, SCHEMATICS OF EXISTING IRRIGATION ATTACHED.

- ⑩ ERECT SOUND BARRIER DURING CONSTRUCTION ACTIVITIES.
- ⑪ REPLACE EXISTING DAMAGED SIDEWALK. INSTALL 4" CONDUIT UNDER NEW SIDEWALK. TERMINATE WITH NEW METER BOX.
- ⑫ STORM DRAIN CROSSINGS: REMOVE AND REPLACE AS NEEDED FOR CONSTRUCTION ACTIVITIES, INVERT 6.5' BELOW EXISTING GRADE.
- ⑬ MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.



DATE: MAY - 2021
DESIGNED BY: DH
DRAWN BY: MT
CHECKED BY: KC

PROJECT NO.
C67502123
C66501834



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PUBLIC WORKS & UTILITIES
202 N. McDowell Blvd., PETALUMA, CALIFORNIA, 94954
PH. 707-778-4546 FAX. 707-778-4508

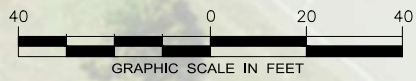
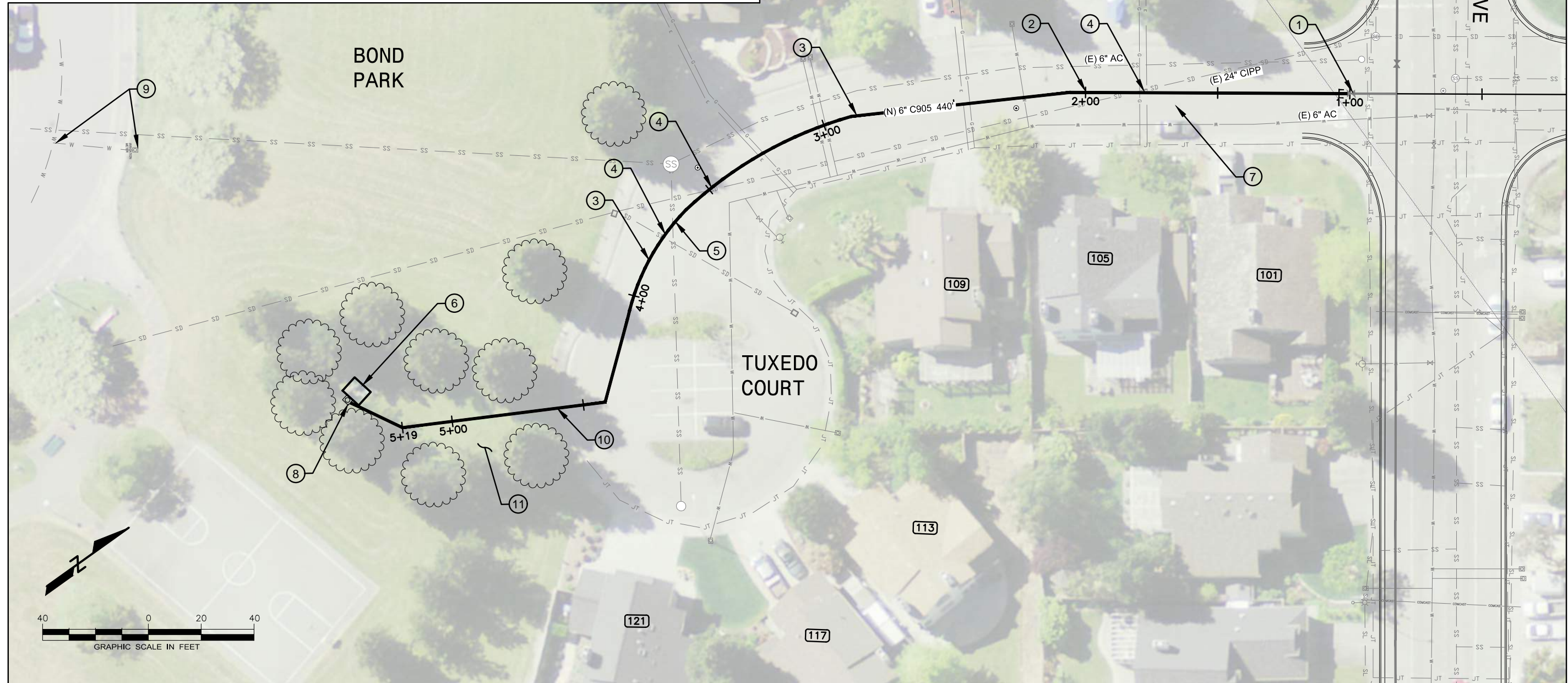


SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
GLENBROOK PLAN STA 11+05 TO STA 21+00

SHEET
C5
8 OF 11

CONSTRUCTION NOTES:

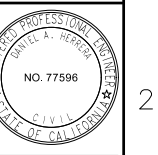
- ① CONNECT NEW 6" C900 PVC (PURPLE PIPE) TO EXISTING 8" C900 PVC, 8" TO 6" REDUCER OFF EXISTING 8" VALVE.
- ② INSTALL NEW 6" C900 (PURPLE PIPE) AT 36" OF COVER MINIMUM.
- ③ ESTABLISH RADIUS UTILIZING PIPE DEFLECTION AND 45 DEGREE BENDS AS REQUIRED.
- ④ MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, EXISTING STORM DRAIN INVERT, 4.5' BELOW EXISTING GRADE, VERTICAL OFFSET MAY BE REQUIRED PER CITY STANDARD 855.
- ⑤ MAINTAIN REQUIRED CLEARANCES THROUGH CROSSING, EXISTING SS MAIN INVERT 6.5' BELOW EXISTING GRADE.
- ⑥ EXISTING IRRIGATION BOOSTER PUMP STATION. PROTECT IN PLACE.
- ⑦ MAINTAIN 10' OFFSET MIN FROM EXISTING 8" AC WATER MAIN.
- ⑧ INSTALL 2" RECYCLED WATER SERVICE OFF NEW RECYCLED WATER MAIN PER CITY STANDARD 865, ABANDON EXISTING CONNECTION.
- ⑨ ABANDON EXISTING SERVICE, INSTALL FULL CIRCLE CLAMP ON EXISTING WATER MAIN, 8" AC.
- ⑩ INSTALLATION TRANSITIONS FROM ROADWAY TO OPEN SPACE, REMOVE AND REPLACE SIDEWALK AS REQUIRED.
- ⑪ EXISTING IRRIGATION PIPE NETWORK, REPAIR ALL DAMAGED PIPING, SEE APPENDIX FOR DETAILS.



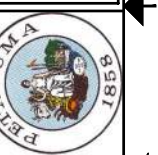
BOND PARK RECYCLED WATER EXTENSION PLAN
STA 1+00 TO STA 5+50

DATE: MAY - 2021
DESIGNED BY: DH
DRAWN BY: MT
CHECKED BY: KC

PROJECT NO.
C67502123
C66501834

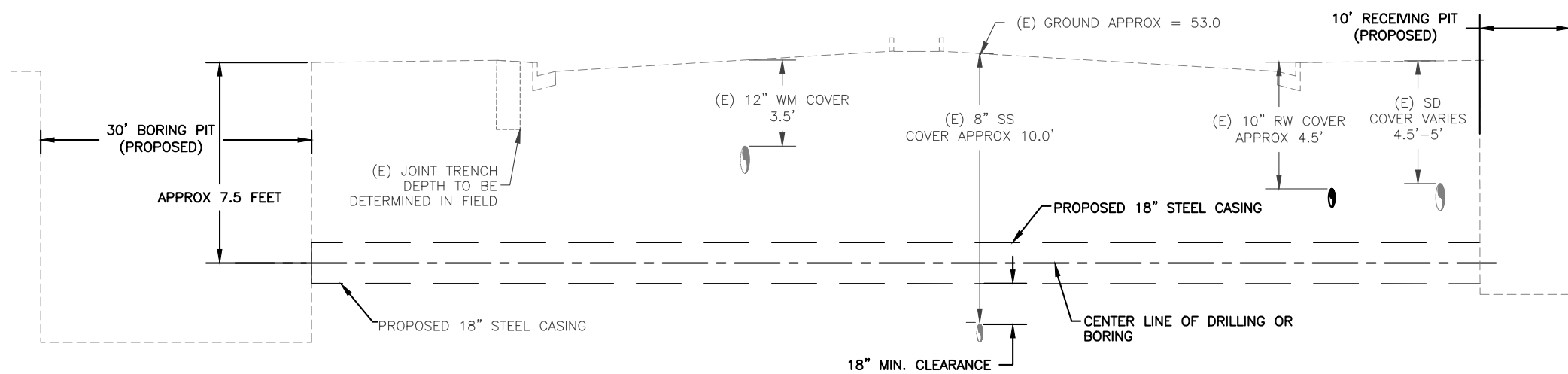


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PH: 707-778-4546 FAX: 707-778-4508



SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION
BOND PARK PLAN STA 1+00 TO STA 5+50

SHEET
C6
9 OF 11

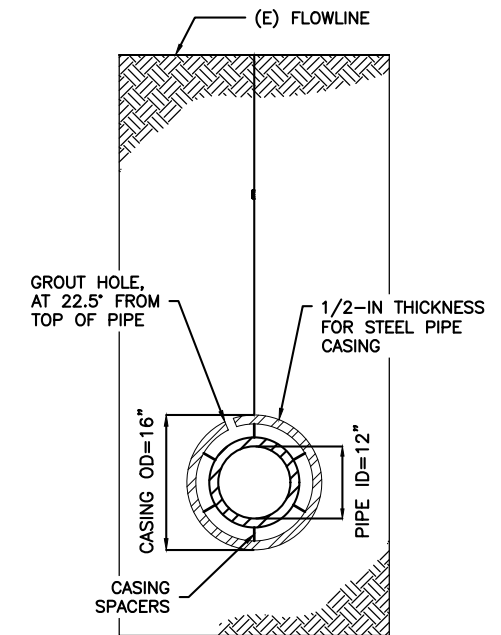


NOTES

1. LOCATION OF UTILITIES SHOWN FOR INFORMATIONAL PURPOSES ONLY. CONTRACTOR SHALL POTHOLE AND VERIFY LOCATION AND DEPTHS OF EXISTING UTILITIES.
2. DEPTHS OF UTILITIES BASED ON AS-BUILT INFORMATION IN CONTRACT DOCUMENTS. CONTRACTOR SHALL SURVEY EXISTING ELEVATIONS AND POTHOLED UTILITIES TO DETERMINE FINAL DEPTHS OF BOREHOLE OR DIRECTIONAL DRILLING.

SONOMA MTN PKWY CROSSING

NO SCALE



NOTES

1. SPACE GROUT HOLES AT 4'-0" OC ALTERNATING ON EACH SIDE OF CENTERLINE AND MINIMUM 15" FROM PIPE JOINT. GROUT HOLES SHALL BE 2" IN DIAMETER
2. PLUG FOR GROUT HOLES SHALL BE AS RECOMMENDED BY CASING PIPE MANUFACTURER

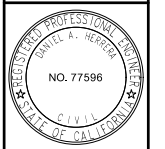
CASING PIPE DETAIL

NTS



DATE: MAY -2021
 DESIGNED BY: DH
 DRAWN BY: MT
 CHECKED BY: KC

PROJECT NO.
 C67502123
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SANTA ROSA JUNIOR COLLEGE 12 - INCH WATER MAIN
 MARIA - LEGHORN RECYCLED WATER MAIN EXTENSION

SHEET
D1
 11 OF 11

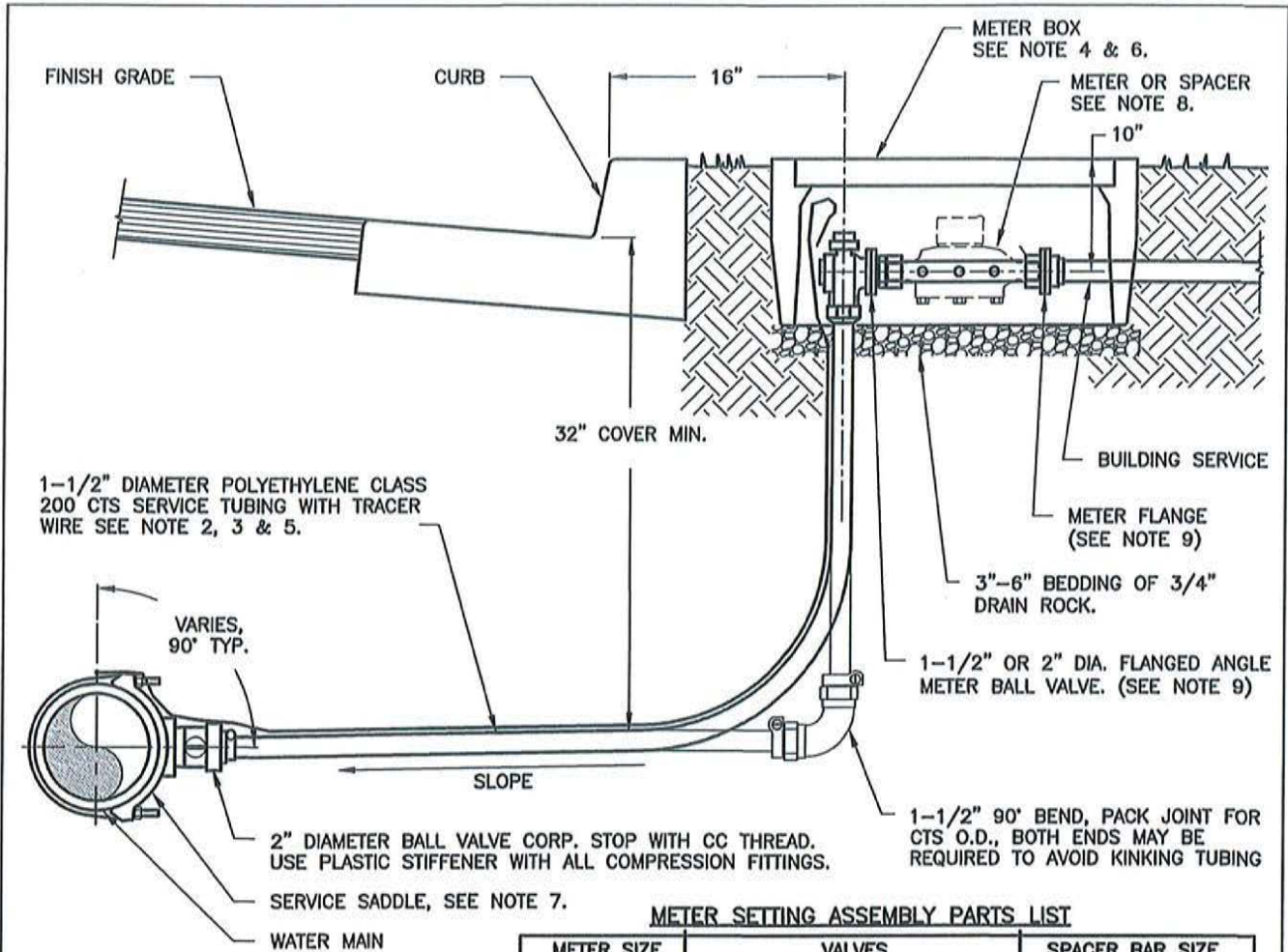
SECTION AND DETAILS

SECTION VII

APPENDICES

APPENDIX A

SELECTED
CITY STANDARDS



METER SETTING ASSEMBLY PARTS LIST

METER SIZE	VALVES	SPACER BAR SIZE (SEE NOTE 9.)
1-1/2"	SEE APPROVED MATERIALS LIST	1-1/2" DIA X13-1/4" L SCH. 80 PVC PIPE
2"	SEE APPROVED MATERIALS LIST	2" DIA X 17-1/4" LONG SCH. 80 PVC PIPE

NOTES:

- SEE WATER SYSTEM DESIGN GUIDELINES.
- THE SERVICE SHALL NOT BE SIZED SMALLER THAN THE METER. IF FIRE SPRINKLERS ARE REQUIRED SEE CITY STANDARD DETAIL 863.01 & 863.02.
- USE INSULATED NO. 12 THHN WIRE.
 - ALL WIRE CONNECTIONS SHALL BE MADE WITH MECHANICAL WIRE CONNECTORS WRAPPED WITH ELECTRICAL TAPE.
 - END OF TRACER WIRE TO BE EXPOSED 6" MINIMUM INSIDE OF METER BOX.
- METER BOXES SHALL BE LOCATED OUT OF TRAFFIC LOADING AREAS WHERE POSSIBLE. TRAFFIC LOADING BOX & LID TO BE INSTALLED IN ALL LOCATIONS WHERE VEHICULAR TRAFFIC MAY OCCUR, THE STEEL LID SHALL BE SET FLUSH WITH FINISHED SURFACE. BOX PIPE KNOCKOUTS TO BE GROUTED TO PREVENT DIRT INTRUSION WHERE REQUIRED.
- TRENCH BACKFILL REQUIREMENTS - SEE CITY STANDARD DETAIL 852.01.
- METER BOX AND COVER SHALL BE B-36 - SEE APPROVED MATERIALS LIST.
- TAPPING SERVICE SADDLES - SEE APPROVED MATERIALS LIST.
- FOR NEW SERVICES CONTRACTOR SHALL INSTALL SCHEDULE 80 PVC SPACER PIPE WITH 1/2" DIAMETER HOLES DRILLED THRU PIPE AT 2" ON CENTER, THREAD BOTH ENDS. CITY PUBLIC WORKS AND UTILITIES PERSONNEL TO REMOVE SPACER PIPE AND INSTALL METER. SEE METER SETTING ASSEMBLY PARTS LIST.
- INSTALL BRASS METER FLANGE (WITH OBLONG BOLT HOLES AND BUSHING TO FIT 1-1/2" METERS). SET 2" MIN. FROM SIDE OF BOX. USE 316 SS HARDWARE.
- ALL FLANGE BOLTS FOR METERS TO HAVE THREADS FACING AWAY FROM METER. INCLUDES 1 1/2" AND 2" METERS.



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2" WATER SERVICE
FOR 1-1/2" OR 2" METER
(COMMERCIAL)

DATE: AUGUST 2019

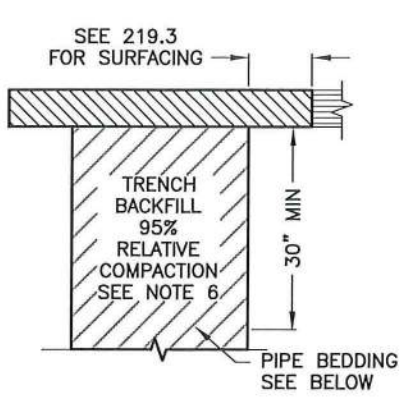
SCALE: N.T.S.

APPROVED BY:

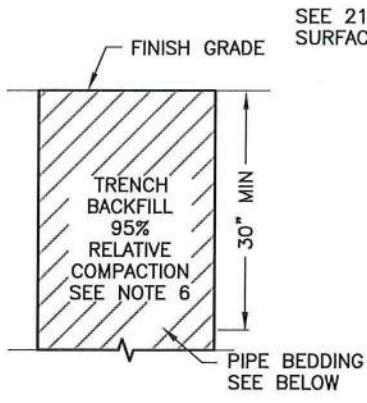
[Signature]
Kent R. Carothers, P.E. Operations Manager C60071

DRAWN BY: JDL

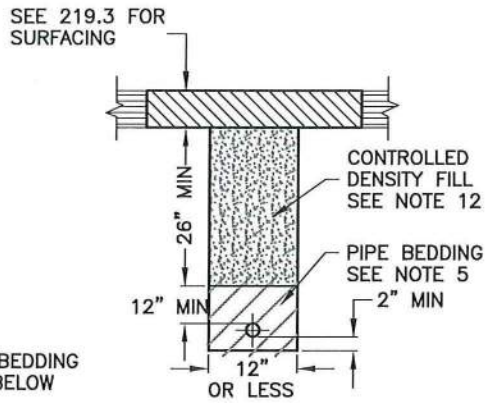
NO. 865



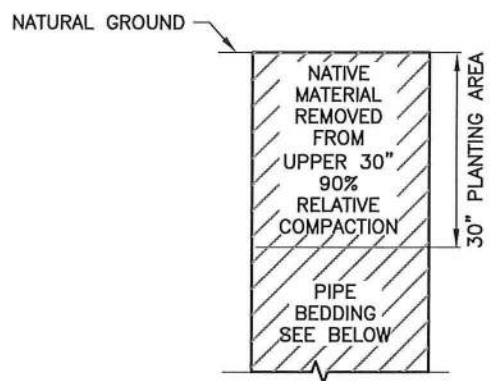
TYPE A
PAVED AREA



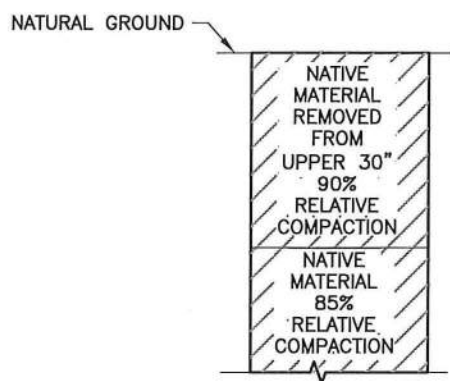
TYPE B
SHOULDER AREA



TYPE C
NARROW TRENCH

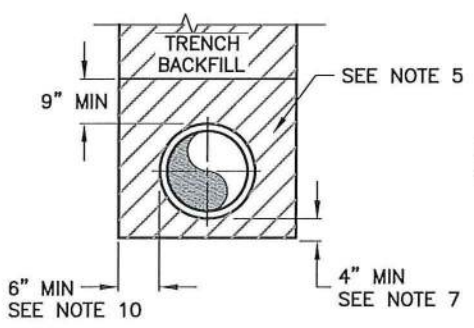


TYPE D
PUBLIC UTILITY EASEMENT
NON TRAFFIC LOADING AREA

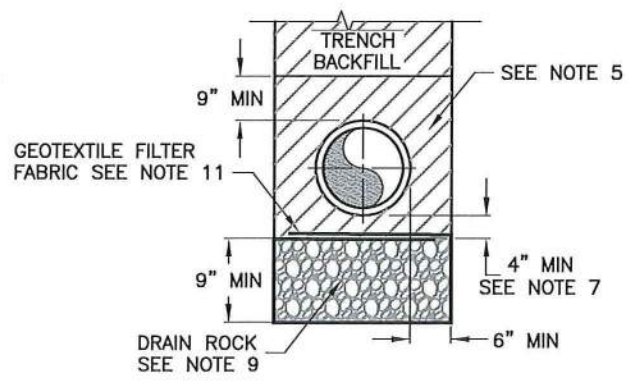


TYPE E
PUBLIC UTILITY EASEMENT
UNDEVELOPED AREAS
(APPROVAL REQUIRED)

TRENCH BACKFILL



STABLE TRENCH



UNSTABLE TRENCH

PIPE BEDDING

NOTES:
1. SEE 219.2 FOR NOTES



CITY OF PETALUMA
PUBLIC WORKS & UTILITIES
UTILITIES DIVISION
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**STANDARD TRENCH
DETAILS**

DATE: JAN 7, 2019 SCALE: N.T.S.
APPROVED BY:
Kent R. Carolthers
Kent R. Carolthers, P.E. Operations Manager C60671
DRAWN BY: TKM NO. 219.1

NOTES:

1. REFER TO ORDINANCE 2266 N.C.S. FOR PAVEMENT CUT IN STREETS WITH 5 YEARS FOR NEWLY CONSTRUCTED, RECONSTRUCTED, OR RESURFACED AND 2 YEARS FOR RESURFACING FOR SLURRY SEAL OR MICROSURFACE.
2. ASPHALTIC CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SECTION 39.
3. SAW CUT PAVEMENT NEAT LINE STRAIGHT, AS SHOWN ON STD DETAIL 219.1, FROM TRENCH WALL TO SUBGRADE. PAINT BINDER (TACK COAT) SHALL BE APPLIED TO ALL VERTICAL SURFACES. MATCH EXISTING A.C. THICKNESS OR USE A.C. THICKNESS TABLE WHICHEVER IS GREATER.

ADDITIONAL PAVEMENT REMOVAL:
REMOVE ADDITIONAL PAVEMENT TO A PAINTED VEHICLE LANE STRIPE, LIP OF GUTTER, CURB, A CENTERLINE OR EDGE OF PAVEMENT IF SUCH STREET FEATURE IS WITHIN 3' (FEET) OF THE FINAL SAW CUT, SUBJECT TO CITY APPROVAL. REMOVAL OF ADDITIONAL PAVEMENT TO ADJACENT EXISTING OR NEW PAVEMENT PATCH, IF PATCH IS WITHIN 5' OF FINAL SAWCUT.
4. DIFFERENT TRENCH SECTIONS MAY BE REQUIRED AND SPECIFIED BY PUBLIC WORKS & UTILITIES.
5. PIPE BEDDING MATERIAL SHALL BE CLASS 2 AGGREGATE BASE COMPACTED TO 90% RELATIVE COMPACTION AT OPTIMUM MOISTURE OR AS APPROVED BY PUBLIC WORKS & UTILITIES.
6. TRENCH BACKFILL SHALL BE CLASS 2 AGGREGATE BASE. THE UPPER 30" SHALL BE COMPACTED AT OPTIMUM MOISTURE AND SHALL CONFORM TO THE REQUIREMENTS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, SECTION 26 OR AS APPROVED BY PUBLIC WORKS & UTILITIES. (USE OF RECYCLED CL2 AB ONLY UPON APPROVAL BY THE CITY AND PROJECT GEOTECHNICAL ENGINEER.)
7. 1/4 PIPE OUTSIDE DIAMETER MINIMUM WHEN EXCAVATION IS IN ROCKY GROUND.
8. OPTIONAL BACKFILL- CONTROLLED DENSITY FILL (C.D.F.) MIX NO. 1500 (95% RELATIVE COMPACTION) SHALL CONFORM TO NOTE 12.
9. DRAIN ROCK MAY BE USED AS BEDDING UNDER PIPE FOR SLOPES LESS THAN 8%. DRAIN ROCK SHALL BE 100% CRUSHED AND SHALL CONFORM TO THE FOLLOWING GRADING:

1-1/2"	1"	1/2"	#4
100	95-100	0-30	0-4

DRAIN ROCK SHALL BE COMPACTED WITH A SURFACE VIBRATOR. PIPE BEDDING MATERIAL WHEN PLACED OVER DRAIN ROCK SHALL BE SEPARATED BY GEOTEXTILE FILTER FABRIC (MIRAFI 140NC) TO PREVENT MIGRATION AND COMPACTED WITH A SURFACE VIBRATOR CONFORMING TO NOTE 5.

10. IF PIPE DIAMETER IS LESS THAN 18" = 9" MAX.
IF PIPE DIAMETER IS GREATER THAN 18" = 12" MAX.
11. GEOTEXTILE FILTER FABRIC (MIRAFI 140NC OR EQUAL) SHALL BE APPLIED AS SHOWN IN THE UNSTABLE TRENCH DETAIL WRAPPED AROUND THE DRAIN ROCK WITH A 1' (ONE FOOT) MINIMUM OVERLAP.
12. CONTROL DENSITY FILL (CDF):
SHALL BE MIX DESIGN NO. 1500 MANUFACTURED BY SHAMROCK MATERIALS, INC. OR MIXTURE OF PORTLAND CEMENT, SAND AND 1" MAXIMUM COARSE AGGREGATE, AIR ENTRAINING AGENT AND WATER, BATCHED BY A READY-MIXED CONCRETE PLANT AND DELIVERED TO THE JOB SITE BY MEANS OF TRANSIT MIXING TRUCKS. CONTROL DENSITY FILL MAY ALSO CONTAIN CLASS F POZZOLAN (FLY ASH). CONTROL DENSITY FILL SHALL BE FREE OF ASPHALTIC MATERIAL.

MATERIALS:

CEMENT SHALL MEET THE STANDARDS AS SET FORTH IN ASTM C-150, TYPE II CEMENT.
FLY ASH SHALL MEET THE STANDARDS AS SET FORTH IN ASTM C-618, FOR CLASS F POZZOLANS. THE FLY ASH SHALL NOT INHIBIT THE ENTRAINMENT OF AIR.

AGGREGATE SIZE 1" MAX.
SAND - ASTM C33

MIX PROPORTIONS:

THE MIX PROPORTIONS SHALL BE DETERMINED BY THE PRODUCER OF THE CONTROL DENSITY FILL TO PRODUCE A FLOWABLE FILL MIXTURE WHICH WILL NOT SEGREGATE. EACH YARD SHALL CONTAIN NOT LESS THAN 50 POUNDS OF PORTLAND CEMENT AND NOT LESS THAN A TOTAL OF 100 POUNDS OF CEMENTIOUS MATERIAL. THE CONTRACTOR SHALL SUPPLY A MIX DESIGN TWO WEEKS PRIOR TO ANY USE OF CONTROL DENSITY FILL.

MIXTURE PROPERTIES:

COMPRESSIVE STRENGTH 75-200 PSI AT 28 DAYS
SLUMP = FLOWABLE (6"-9")

THE CONSISTENCY OF CDF SHALL BE SUCH THAT ALL TRENCH VOIDS ARE FILLED WITH MINIMUM RODDING OR VIBRATING BUT NOT SO WET AS TO CAUSE EXCESSIVE SHRINKAGE.

PAVING:

13. PERMANENT PAVEMENT MAY BE PLACED DIRECTLY UPON THE CONTROL DENSITY FILL AS SOON AS IT HAS CONSOLIDATED FOR THE SURFACE TO WITHSTAND THE PROCESS OF PAVING WITHOUT DISPLACEMENT. THE SURFACE OF THE CONTROL DENSITY FILL SHALL BE FIRM AND UNYIELDING. ANY VISIBLE MOVEMENT VERTICALLY OR HORIZONTALLY OF THE CONTROL DENSITY FILL UNDER THE ACTION OF CONSTRUCTION EQUIPMENT OR OTHER MAXIMUM LEGAL AXLE LOADS SHALL BE CONSIDERED AS EVIDENCE THAT THE CONTROL DENSITY FILL DOES NOT MEET THIS REQUIREMENT. THE CONTRACTOR SHALL PROVIDE TRENCH PLATES TO ALLOW TRAFFIC FLOW FOR ALL LOCATIONS UNTIL CONTROL DENSITY FILL IS READY TO BE PAVED.
14. FULL TACK COAT COVERAGE ON ALL VERTICAL SURFACES.
15. TRENCH SHALL BE PAVED WITH ASPHALT CONCRETE WHERE THICKNESS IS EQUAL TO THE THICKNESS OF THE EXISTING PAVEMENT BUT IN NO CASE SHALL THICKNESS BE LESS THAN SHOWN IN THE ASPHALT CONCRETE THICKNESS TABLE. ASPHALT SHALL BE 1/2" TYPE A CONFORMING TO SECTION 39 OF THE STANDARD SPECIFICATIONS.



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STANDARD TRENCH
DETAILS
(NOTES)

DATE: JAN 3, 2019

SCALE: N.T.S.

APPROVED BY:

Kent R. Carothers

Kent R. Carothers, P.E. Operations Manager C60671

DRAWN BY: TKM

NO. 219.2

APPENDIX B

AS BUILTS

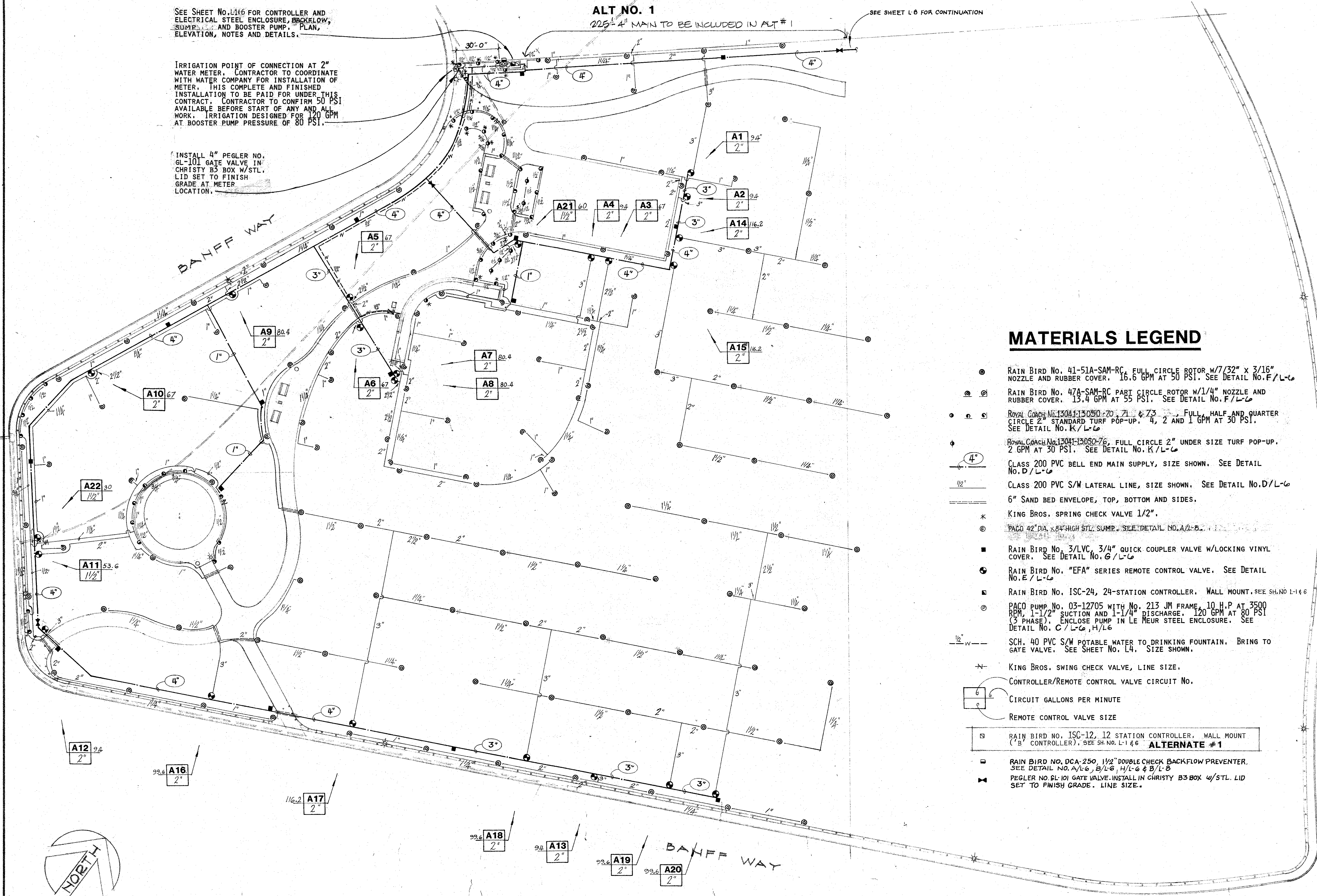
SEE SHEET NO. L166 FOR CONTROLLER AND ELECTRICAL STEEL ENCLOSURE, BACKFLOW SUMPS AND BOOSTER PUMP. PLAN, ELEVATION, NOTES AND DETAILS.

IRRIGATION POINT OF CONNECTION AT 2" WATER METER. CONTRACTOR TO COORDINATE WITH WATER COMPANY FOR INSTALLATION OF METER. THIS COMPLETE AND FINISHED INSTALLATION TO BE PAID FOR UNDER THIS CONTRACT. CONTRACTOR TO CONFIRM 50 PSI AVAILABLE BEFORE START OF ANY AND ALL WORK. IRRIGATION DESIGNED FOR 120 GPM AT BOOSTER PUMP PRESSURE OF 80 PSI.

INSTALL 4" PEGLER NO. 6L-101 GATE VALVE IN CHRISTY B3 BOX W/STL. LID SET TO FINISH GRADE AT METER LOCATION.

ALT NO. 1
225'-4" MAIN TO BE INCLUDED IN ALT #1

SEE SHEET L-8 FOR CONTINUATION



MATERIALS LEGEND

- RAIN BIRD No. 41-51A-SAM-RC, FULL CIRCLE ROTOR w/7/32" x 3/16" NOZZLE AND RUBBER COVER. 16.6 GPM AT 50 PSI. SEE DETAIL No. F/L-6
- RAIN BIRD No. 47A-SAM-RC PART CIRCLE ROTOR w/1/4" NOZZLE AND RUBBER COVER. 13.4 GPM AT 55 PSI. SEE DETAIL No. F/L-6
- ROYAL COACH No. 13041-13050-70, 71 & 73 FULL, HALF AND QUARTER CIRCLE 2" STANDARD TURF POP-UP. 4, 2 AND 1 GPM AT 30 PSI. SEE DETAIL No. K/L-6
- ROYAL COACH No. 13041-13050-76, FULL CIRCLE 2" UNDER SIZE TURF POP-UP. 2 GPM AT 30 PSI. SEE DETAIL No. K/L-6
- 4" — CLASS 200 PVC BELL END MAIN SUPPLY, SIZE SHOWN. SEE DETAIL No. D/L-6
- 1/2" — CLASS 200 PVC S/W LATERAL LINE, SIZE SHOWN. SEE DETAIL No. D/L-6
- 6" SAND BED ENVELOPE, TOP, BOTTOM AND SIDES.
- * KING BROS. SPRING CHECK VALVE 1/2".
- PACO 42" DIA. x 84" HIGH STL. SUMP. SEE DETAIL No. A/L-8.
- RAIN BIRD No. 3/LVC, 3/4" QUICK COUPLER VALVE W/LOCKING VINYL COVER. SEE DETAIL No. G/L-6
- RAIN BIRD No. "EFA" SERIES REMOTE CONTROL VALVE. SEE DETAIL No. E/L-6
- RAIN BIRD No. ISC-24, 24-STATION CONTROLLER. WALL MOUNT. SEE SH. NO. L-166
- PACO PUMP No. 03-12705 WITH No. 213 JM FRAME, 10 H.P. AT 3500 RPM, 1-1/2" SUCTION AND 1-1/4" DISCHARGE. 120 GPM AT 80 PSI (3 PHASE). ENCLOSE PUMP IN LE MEUR STEEL ENCLOSURE. SEE DETAIL No. C/L-6, H/L-6
- 1/2" — SCH. 40 PVC S/W POTABLE WATER TO DRINKING FOUNTAIN. BRING TO GATE VALVE. SEE SHEET No. L4. SIZE SHOWN.
- KING BROS. SWING CHECK VALVE, LINE SIZE.
- CONTROLLER/REMOTE CONTROL VALVE CIRCUIT No.
- CIRCUIT GALLONS PER MINUTE
- REMOTE CONTROL VALVE SIZE
- RAIN BIRD No. ISC-12, 12 STATION CONTROLLER, WALL MOUNT ("B" CONTROLLER). SEE SH. NO. L-166 **ALTERNATE #1**
- RAIN BIRD No. DCA-250, 1/2" DOUBLE CHECK BACKFLOW PREVENTER. SEE DETAIL No. A/L-6, B/L-6, H/L-6 & B/L-8
- PEGLER NO. 6L-101 GATE VALVE. INSTALL IN CHRISTY B3 BOX w/STL. LID SET TO FINISH GRADE. LINE SIZE.

NORTH
SCALE: 1"=30'-0"

arbogast
newton
& griffith
landscape architecture • site planning • urban design
1647 hopkins street • berkeley, ca 94707
415.524.2474

IRRIGATION PLAN
BANFF PARK
CITY OF PETALUMA
PETALUMA, CALIFORNIA

scale	1"=30'-0"
date	APRIL 30, 1985
drawn	RGB
checked	JSG
revisions	
sheet no.	L5
of	9 sheets

GENERAL KEY

- Sleeve: Class 200 PVC pipe with 24" cover - size as noted
- Main Line: 1 1/2" Schedule 40 PVC pipe with 24" cover
- Lateral Line: 3/4" Class 200 PVC pipe with 18" cover
- Lateral Line: 1" Class 200 PVC pipe with 18" cover
- Lateral Line: 1 1/4" Class 200 PVC pipe with 18" cover
- Lateral Line: 1 1/2" Class 200 PVC pipe with 18" cover
- P.O.C.: Existing Meter - by others
- Isolation Valve: Rain bird BLI-150-T Ball Valve
- Backflow Preventer: 1 1/2" Febco 825Y Reduced Pressure Device
- Quick Coupling Valve: Rainbird 33-DRC with key
- Control Valve: Rainbird PE series - size as noted
- Control Valve Key: Valve Number, Size & GPM
- Controller: Irri-Trol MC-10plus

HEAD KEY

HEAD	COMPANY AND CATALOGUE NO.	RADIUS	GPM	PSI
○	Pepco Quadra bubbler Q82-5633	-	.40	30
○	Pepco Quadra Bubbler Q82-9633	-	.66	30
○	Toro S700-PC-3.0	30'-39'	2.4	25
○	Toro S700-FC-3.0	30'-39'	2.4	25

- **PULL BOXES (2 LOCATIONS) - PROVIDE TWO SPARE CONTROL WIRES, AS SPECIFIED IN NOTES, TO EACH PULL BOX LOCATION. PULL BOXES TO BE 10" CONCRETE BOXES. ALL WIRING TO BE ENCLOSED IN ELECTRICAL CONDUIT AND PLACED IN MAIN LINE TRENCH AS SHOWN ON IRRIGATION TRENCH DETAIL.**

IRRIGATION NOTES

GENERAL NOTES: Do not willfully install the irrigation system as shown on the drawings when it is obvious in the field that obstructions, grade differences or differences in area dimensions exist that might not have been considered in the design of the system. Such obstructions or differences should be brought to the attention of the Landscape Architect. Notify Landscape Architect of any aspects of layout which will provide incomplete or insufficient water coverage of plant material and do not proceed until his instructions are obtained. In the event this notification is not performed, the Irrigation Contractor shall assume full responsibility for any revisions necessary. It is the responsibility of the Irrigation Contractor to familiarize himself with all the grade differences, location of walks, retaining walls, etc. prior to construction. It shall be the contractor's responsibility to protect in place (by all means necessary) all existing utilities unless otherwise specified on the plans. City standard drawings, specifications, specific notes & detail drawings and the soils report take precedence over general drawings and plans unless otherwise directed. Any deviation from approved plans during construction will require 48 hours prior notice to the Landscape Architect. At least one set of plans shall be on the site at all times for inspection. Irrigation Contractor shall comply with all State, County and City laws and ordinances, and regulations of the Department of Industrial Relations, O.S.H.A. and Industrial Accident Commission relating to the safety and character of work, equipment and labor personnel. The Irrigation Consultant assumes no responsibility beyond the adequacy of his design contained herein.

DRAWINGS: Due to the scale of drawings, it is not possible to indicate all offsets, heads, fittings, sleeves, etc., which may be required. The Contractor shall also carefully investigate the structural and finished conditions affecting all of his work, plan his work accordingly and furnish such fittings, etc. as may be necessary to meet such conditions. Drawings are generally diagrammatic and indicative of the work to be installed. The work shall be installed in such a manner as to avoid conflicts between irrigation system, planting, and architectural features. All piping, valves, etc. shown within paved areas are for design clarification only and shall be installed in planting areas where possible.

CONTROLLERS: Irrigation Contractor is to program timing of stations on controller to irrigate in the most efficient, water conserving manner possible. It is the responsibility of the Landscape Maintenance Contractor and/or the owner to program the Irrigation Controllers to provide the minimum amount of water needed to sustain proper plant health. This includes making adjustments to the program for seasonal weather changes, plant material needs, water requirements, changes in elevation, sun, shade and wind exposures. Contractor shall assume responsibility for any damage, erosion, muddling, etc. due to improper programming. Electrical Contractor to supply 120-VOLT A.C. (2.5 AMP) service & disconnect, junction box and conduit, as necessary, to controller location. Irrigation Contractor to make final connection from electrical stub-out to controller. Install new 9-VOLT Duracell battery(s) in each controller (if required) to retain program in memory during temporary power failures. Each controller shall have its own independent ground wire as per manufacturers instructions.

VALVES: Backflow Device Isolation and Control Valve locations shown are diagrammatic. Install in groundcover/shrub areas where possible (not in lawn area), and at the edges of the planting areas so as to not interfere with plant hole excavation. Install valve boxes 12 inches from and perpendicular to walks, curbs, lawn, walls, building and landscape features. At multiple valve box groups; each box shall be an equal distance from the walk, curb, lawn, etc. and each box shall be 12 inches apart. The short side of valve box shall be parallel to walk, curb, lawn edge etc. Locate Quick Coupling Valves and/or hose bibs 12 inches from hardscape area. Irrigation Contractor to notify all local jurisdictions for inspection and testing of installed Backflow Device. If pressure exceeds 30 PSI, Contractor shall install Pressure Reducing equipment as required.

WIRING: Control wires shall be U.L. approved for direct burial in ground. Copper size #14-1. Common ground wire shall have white insulation jacket. Control wire shall have insulation jacket of color other than white. Splicing shall be done with 3M #3270 Scotchlok seal packs. Splicing of 24-VOLT wires will not be permitted except in valve boxes. Leave a 24 inch coil of excess wire at each splice.

INSTALLATION: Install 24 separate control wires of a different color along the entire main line. Loop 24 inches of excess wire into each single valve box and into one valve box in each group of valves.

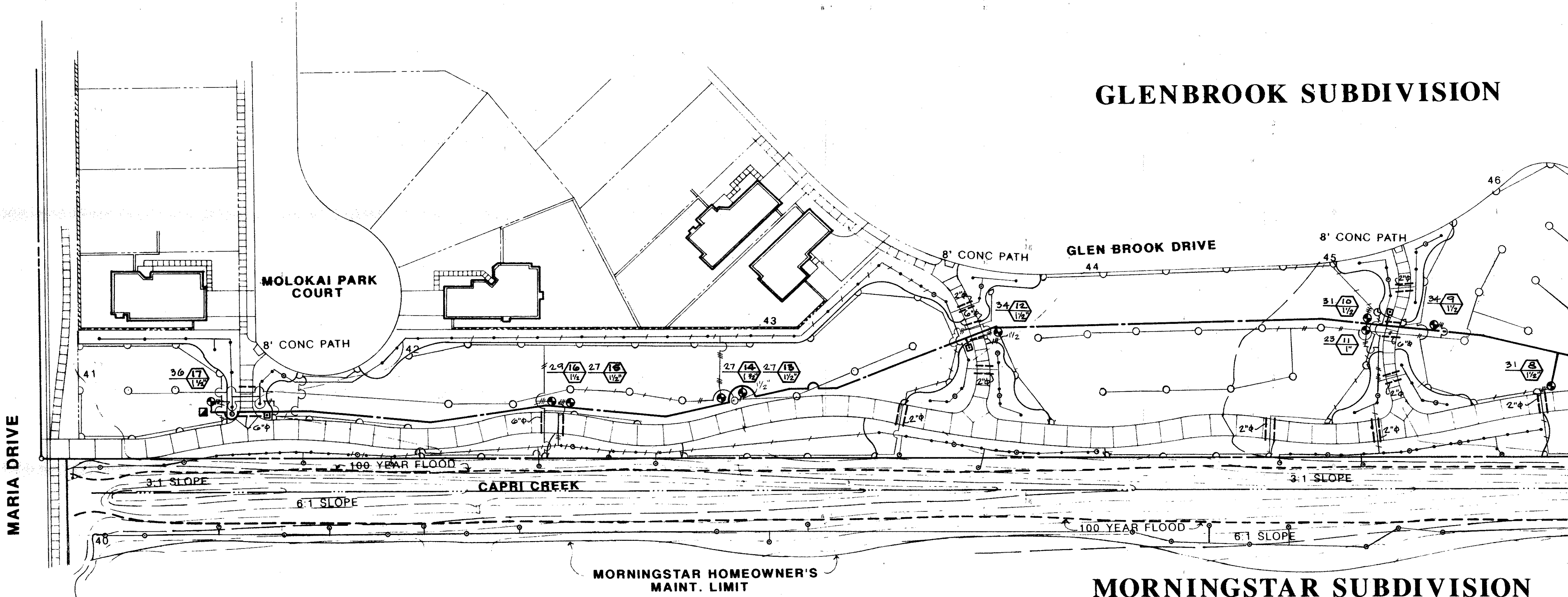
BUBBLERS: Bubblers as specified on drawings shall be installed as per manufacturers specifications. Use (1) tubes per tree and (1) tube per shrub. Staple within water basin shown on planting detail and where necessary to keep tubes firm against the ground. Use Insect Plug no. 2133 (color to coordinate with Quadra Bubbler) on all emitter tubes. Plug all unused ports with Plug No. 2132. All Quadra Bubblers shall be set flush with finish grade below mulch cover of area to be irrigated on a PVC riser unless otherwise noted on plans. Locate emitters on up-hill side of tree or shrub. Laser Tubing (if specified) shall be set a maximum of 12" apart and be installed 1"-2" below finish grade. Do not exceed manufacturers recommended lengths per Quadra Bubbler specified and use End Plug no. WP-25 on all tubing.

PIPING/TRENCHING: Install main line piping with concrete thrust blocks as per manufacturers recommendations. Main and lateral lines shall be surrounded with a minimum of 2" of sand or rock free soil. Pipe sealant compound shall be Rector Seal 1+2, Permatex 51 or Isoco MS05-305. Pressure the main line @ 150 PSI for 2 hours and the lateral lines @ 100 PSI for 2 hours, where it is necessary to excavate adjacent to existing trees, the contractor shall use all possible care to avoid injury to trees, and tree root systems. Excavation in areas where two (2) inch and larger roots exist shall be done by hand. Cut roots one (1) inch and larger in diameter shall be painted with two coats of tree seal, or equal. Trenches adjacent to trees should be closed within twenty-four (24) hours; and where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with set burlap or canvas.

SLEEVES: The Irrigation Contractor shall coordinate with the General Contractor and other Subcontractors for the location and the installation of sleeves, conduit or pipe through walls, under roadways, paving, structures etc. prior to construction. In addition to the sleeves and conduits shown on the drawings, the Irrigation Contractor shall be responsible for the coordination and/or installation of sleeves and conduits of sufficient size under all paved areas.

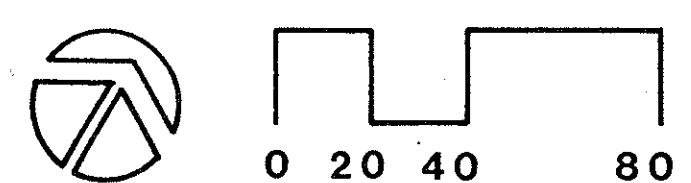
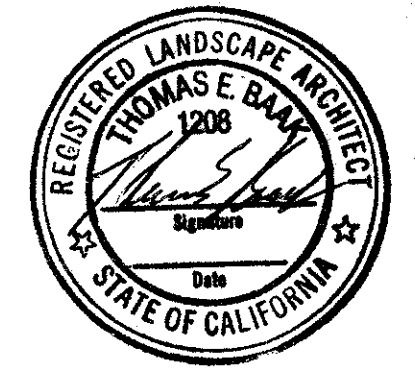
IRRIGATION SYSTEM: The irrigation system design is based on a minimum operating pressure of 70 PSI and a demand of 3.6 GPM. The Irrigation Contractor shall verify water pressure prior to construction. Report any difference between the water pressure indicated on the drawings and the actual pressure reading at the irrigation point of connection to the Landscape Architect. Failure to do so will result in the contractor being responsible for any necessary changes due to this difference.

DO NOT BID, ORDER MATERIALS OR INSTALL ANY OR ALL OF SYSTEM BEFORE READING THE IRRIGATION NOTES IN THEIR ENTIRETY. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL CHANGES, REVISIONS AND OR ADDITIONS TO SYSTEM DUE TO FAILURE TO DO SO.



GLENBROOK SUBDIVISION

MORNINGSTAR SUBDIVISION



REVISIONS	BY

TBA
 Thomas E. Baak & Associates
 Landscape Architects/Planners
 1626 North Main Street
 Walnut Creek, CA 94596
 (415) 933-2583



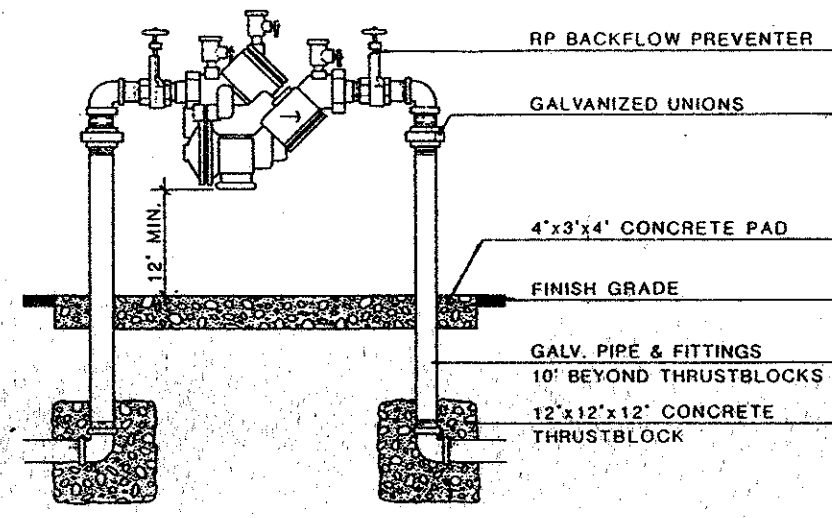
**GLENBROOK
 PARK PARCEL
 PETALUMA, CALIFORNIA**
 FOR: **MCBAIL COMPANY**

IRRIGATION PLAN

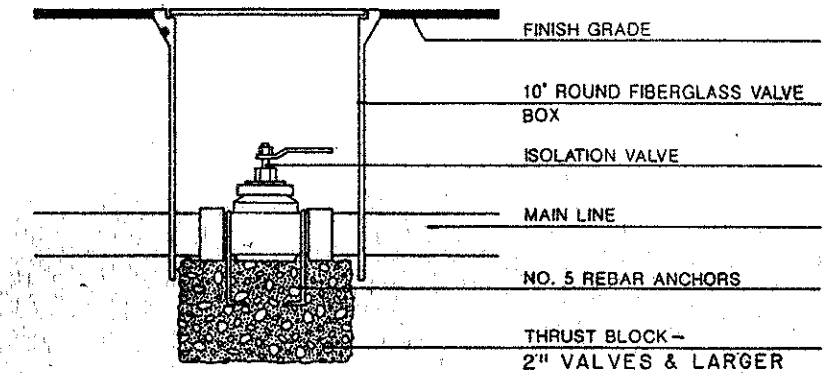
DRAWN	CHES
CHECKED	CE
DATE	3-28-91
SCALE	1" = 40'-0"
JOB NO.	

SHEET
L-3
 OF 4 SHEETS

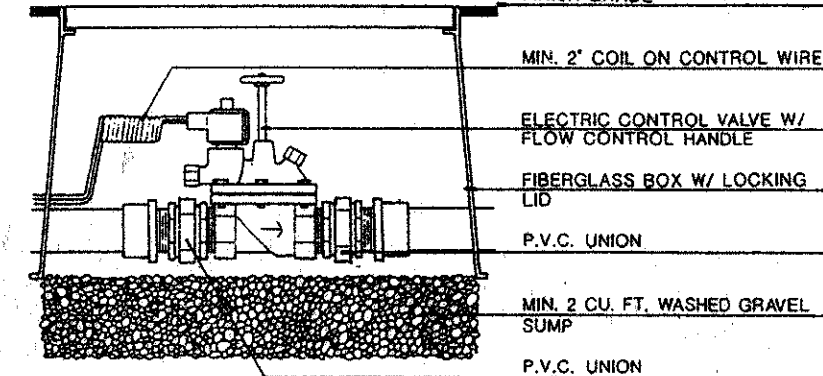
7-248



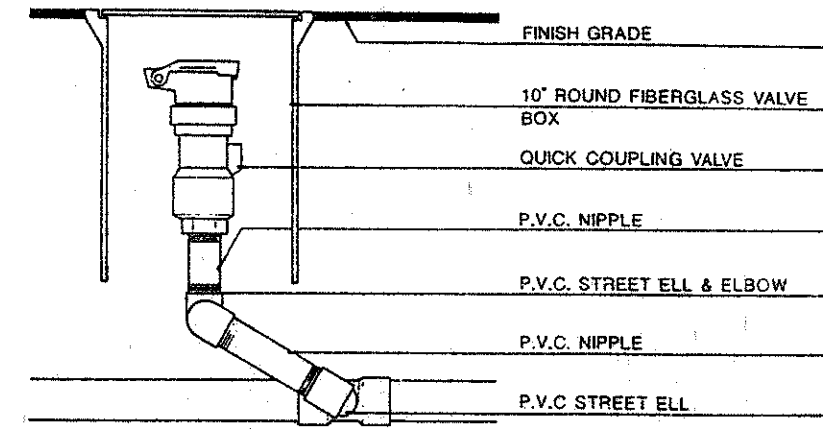
RP BACKFLOW PREVENTION DETAIL



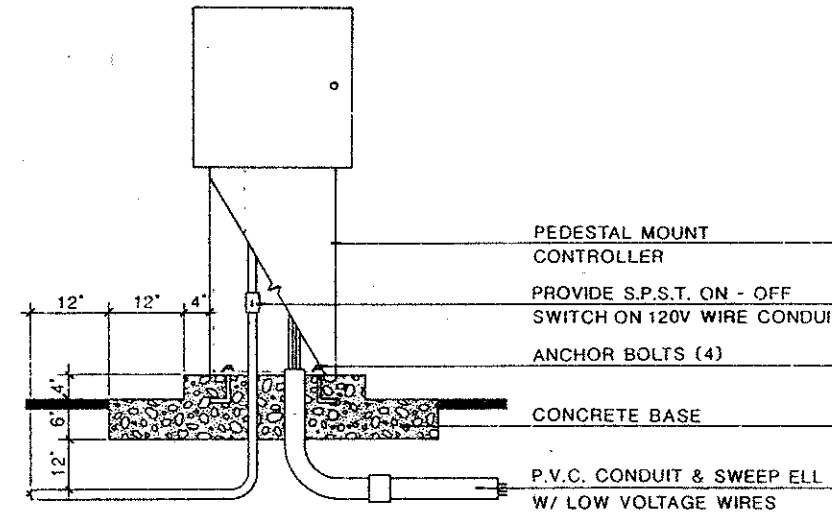
ISOLATION/BALL VALVE



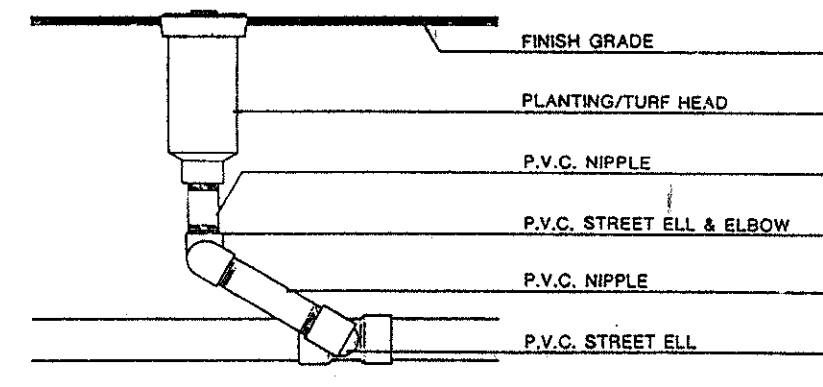
CONTROL VALVE & BOX DETAIL



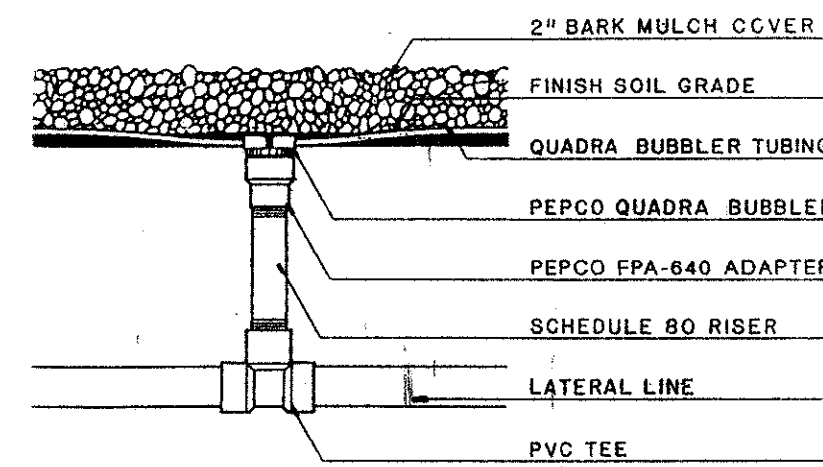
QUICK COUPLING VALVE IN BOX DETAIL



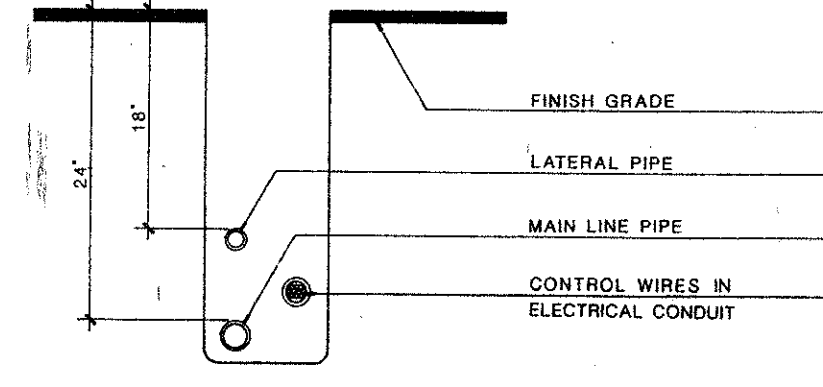
FIELD CONTROLLER INSTALLATION DETAIL



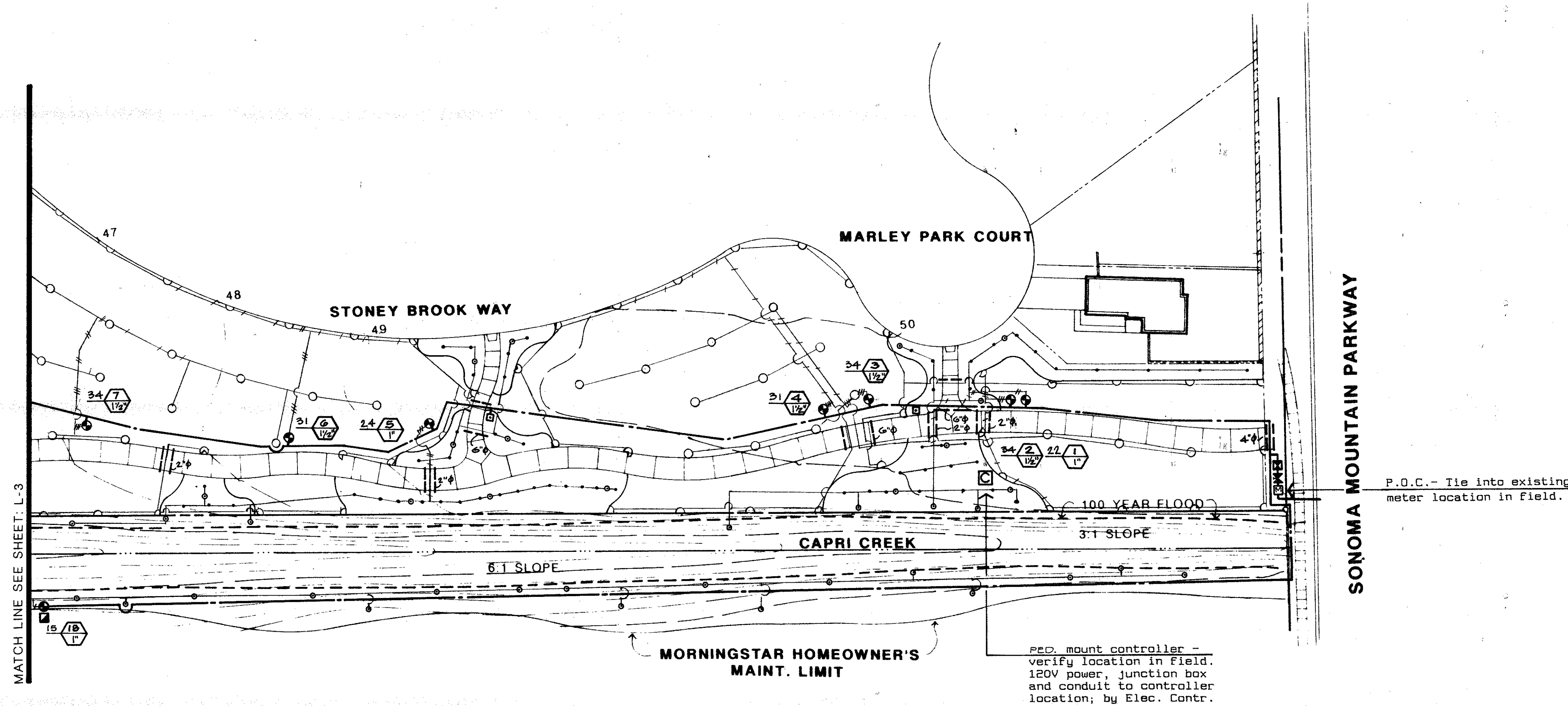
ADJUSTABLE RISER DETAIL AT GEAR DRIVEN HEADS



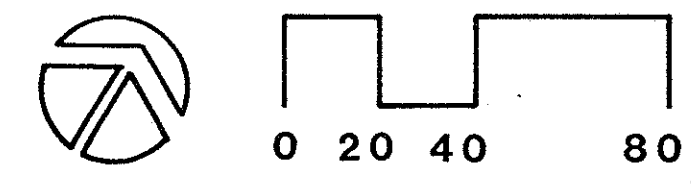
QUADRA BUBBLER DETAIL



IRRIGATION TRENCH DETAIL



MATCH LINE SEE SHEET: L-3



REVISIONS	BY

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 10000 Main Street
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 415-931-2553

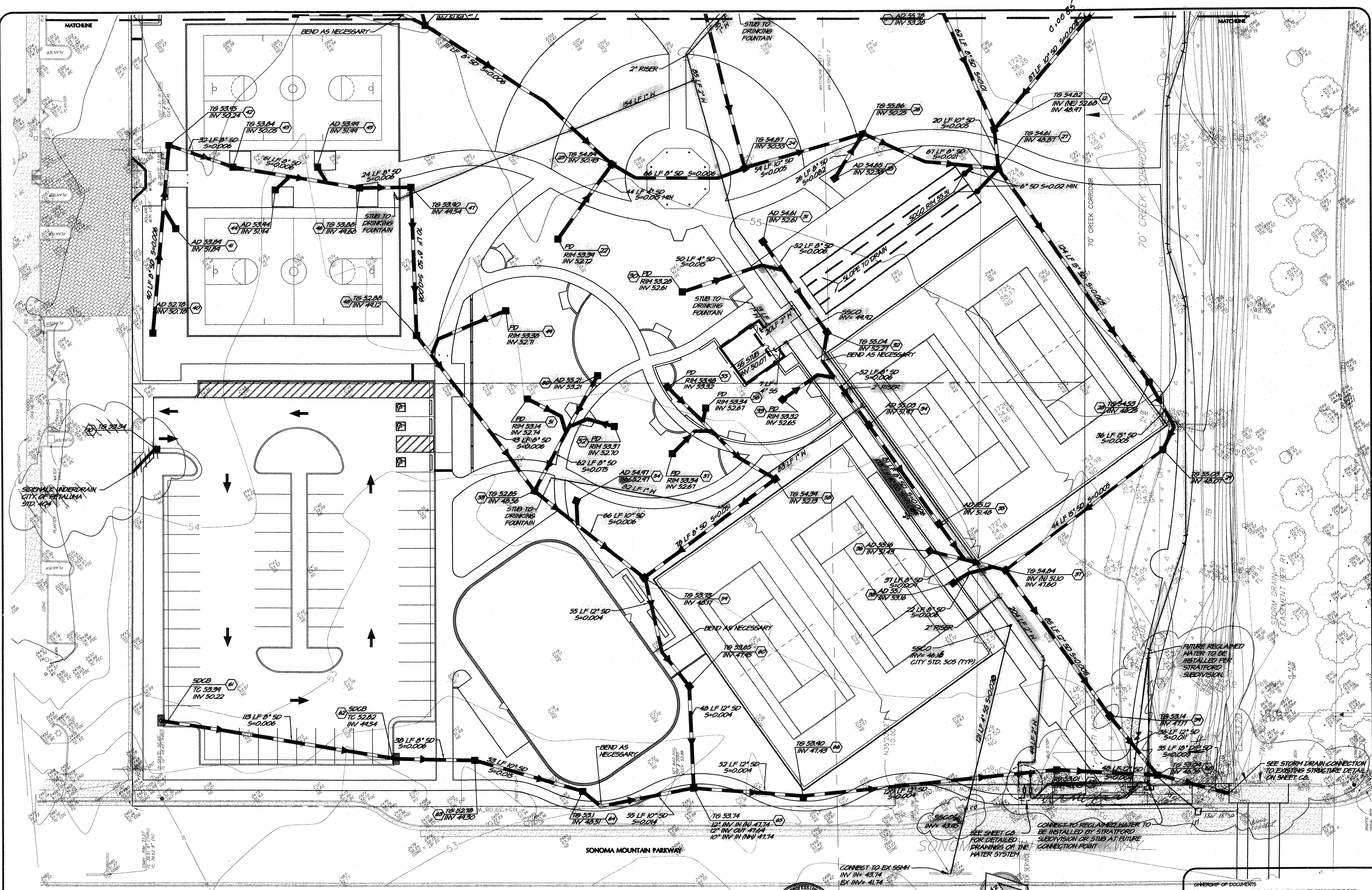
McBAIL Co.

GLENBROOK
 PARK PARCEL
 PETALUMA, CALIFORNIA
 FOR: McBAIL COMPANY

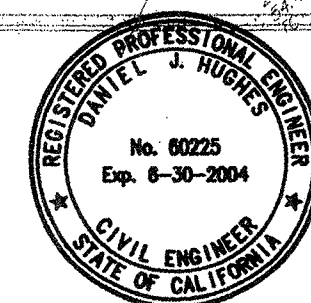
IRRIGATION PLAN

DRAWN
 CMES
 CHECKED
 CS
 DATE
 3-28-91
 SCALE
 1" = 40'-0"
 JOB NO.
 SHEET

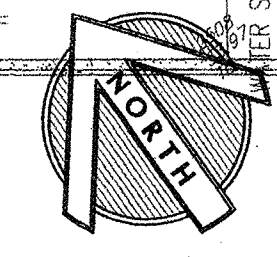
L-4
 OF 4 SHEETS



- SEE SHEET C1 FOR STORM DRAIN STRUCTURE TABLE SPECIFYING ALL STORM DRAIN STRUCTURE TYPES.
- ALL STORM DRAIN IS TO BE MINIMUM 8' SLOPED AT 0.01 MINIMUM WITH 1' MINIMUM COVER UNLESS OTHERWISE NOTED.
- SEE SHEET C6 FOR AREA DRAIN DETAIL WITHIN PLAYGROUND AREA.
- CONTRACTOR IS TO COORDINATE THE ZONE OF INFLUENCE AS IT RELATES ALL FOOTINGS TO UTILITY TRENCHES. CONTRACTOR IS TO NOTIFY CITY REPRESENTATIVE IMMEDIATELY IF A CONFLICT EXISTS.
- ALL PIPE SHALL BE RIGID PIPE WITH SMOOTH INTERIOR WALL. ALL PIPE CONNECTIONS SHALL BE MADE WITH FITTINGS MANUFACTURED TO BE COMPATIBLE WITH THE PIPE AND SHALL BE SILENT TIGHT.



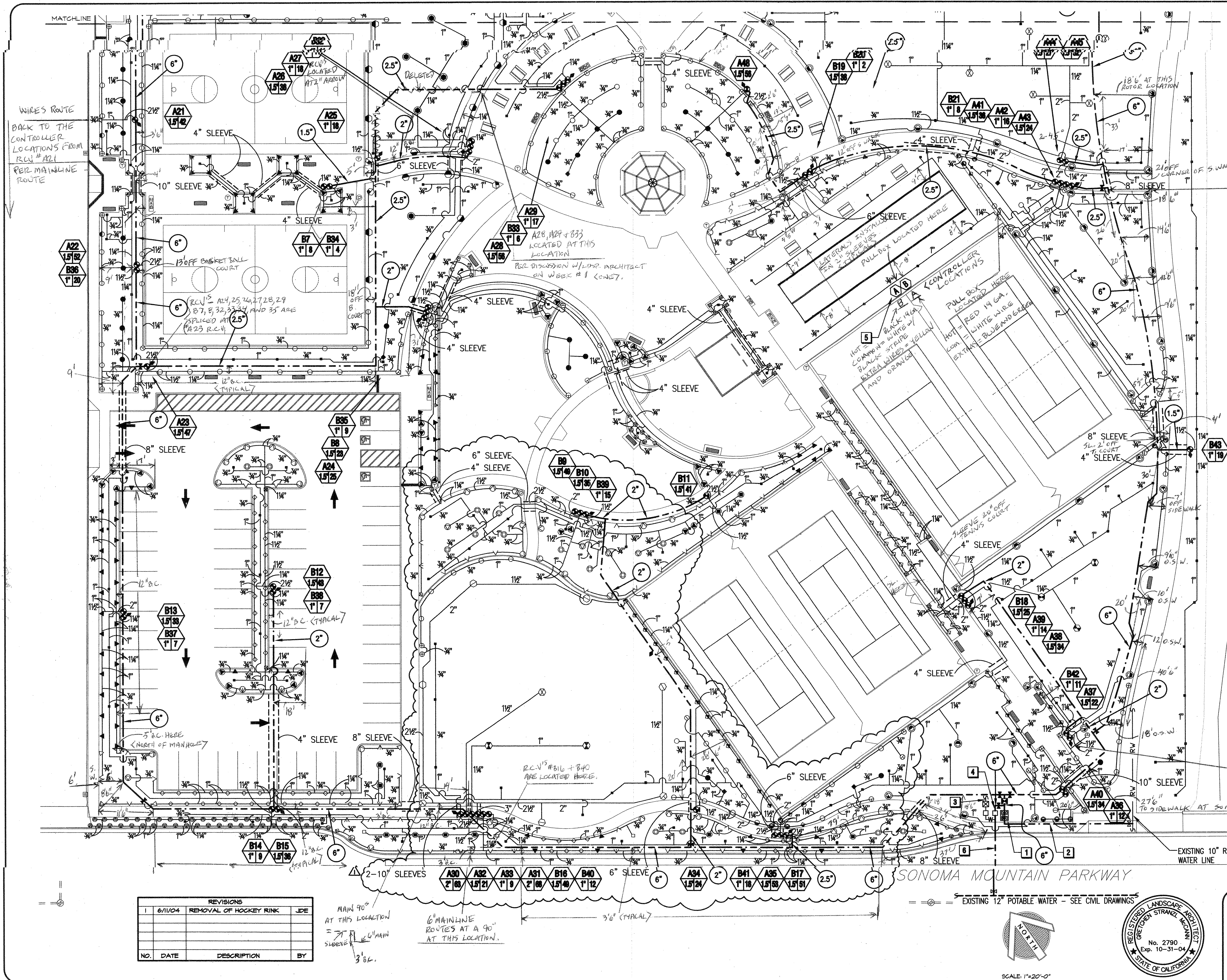
PREPARED UNDER THE DIRECTION OF:
Daniel John Heide
 DANIEL JOHN HEIDE #60225 Exp. 6-30-04



SCALE: 1"=20'-0"

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DES: DN	DRAW: LL	CHECK: DN
RIECHERS SPENCE		
818 Mendocino Avenue Santa Rosa, CA 95401 707-573-1872 707-573-1953		
UTILITY PLAN		
GATTIPARK		
CALIFORNIA		
PETALUMA		
DATE: 4/8/04	FILE NO:	JOB NO: 0514
SHEET NO:		C-4
		OF 45



JDE
 JAMES D. EDDY ASSOCIATES
 LANDSCAPE IRRIGATION ENGINEERS
 ONE ANNABEL LANE, SUITE 102
 SAN RAMON, CALIFORNIA 94583-4327
 P: (925) 867-3339 F: (925) 867-3310
 EMAIL: JDE@EDDYASSOCIATES.COM
 PLANNING-DESIGN-MANAGEMENT
 JDE PROJECT NO: 03043

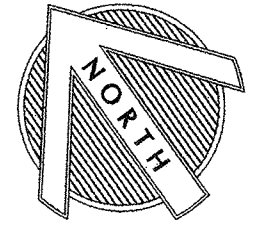


CALL
UNDERGROUND SERVICE ALERT TWO
 WORKING DAYS
 BEFORE YOU DIG:
 1-800-642-2444

- IRRIGATION SHEET NOTES**
- 1 RECYCLED WATER METER TO BE INSTALLED AT A LATER DATE BY CITY FORCES
 - 2 6" RECYCLED SERVICE LINE BY CIVIL - SEE CIVIL DRAWINGS
 - 3 POTABLE WATER LINE & BACKFLOW TO RESTROOM AND DRINKING FOUNTAIN (SEE CIVIL DRAWINGS)
 - 4 POINT OF CONNECTION: CONNECT TO 3" DOMESTIC WATER METER PROVIDED FOR IRRIGATION UNDER WORK OF CIVIL CONTRACT. REFER TO CIVIL DRAWINGS FOR EXACT LOCATION AND SPECIFIC CONNECTION INFORMATION FOR IRRIGATION SYSTEM. IRRIGATION DEMAND: 300 GPM AT 70 STATIC PSI AT POINT OF CONNECTION. RECYCLED WATER CONNECTION TO COMPLETED BY CITY FORCES AT A LATER DATE.
 - 5 IRRIGATION CONTROLLERS "A" AND "B" - PEDESTAL MOUNT IN LOCATION AS DIRECTED BY CITY ENGINEER. SERVICE WITH 120 VAC (15 AMP) ELECTRICAL SERVICE (ACTUAL CONTROLLER DEMAND: 2 AMPS, RECEPTACLE DEMAND: 10 AMPS) ELECTRICAL SERVICE TO THIS LOCATION IS TO BE PROVIDED UNDER ELECTRICAL CONTRACT. REFER TO ELECTRICAL DRAWINGS FOR EXACT BREAKER AND SERVICE LOCATION.
 - 6 6" DOMESTIC SERVICE LINE BY CIVIL - SEE CIVIL DRAWINGS

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	6/11/04	REMOVAL OF HOCKEY RINK	JDE

MAIN 90° AT THIS LOCATION
 6" MAINLINE ROUTES AT A 90° AT THIS LOCATION.
 3" TYPICAL



SCALE: 1"=20'-0"



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 CA Lic. 2790

IRRIGATION PLAN
 CALIFORNIA
 PETAUMA

DATE: 4/8/04
 FILE NO: 034ARR
 JOB NO: 0314
 SHEET NO: 1-1

SPECIAL NOTE
 CONTRACTOR SHALL PROTECT EXISTING ROAD SECTION ADJACENT TO SAWCUT LINE ALONG SONOMA MOUNTAIN PARKWAY IN ACCORDANCE WITH THE TRAFFIC CONTROL PLAN AND THE SPECIAL PROVISIONS SECTION 13, EARTHWORK AND SECTION 23, TRAFFIC CONTROL.

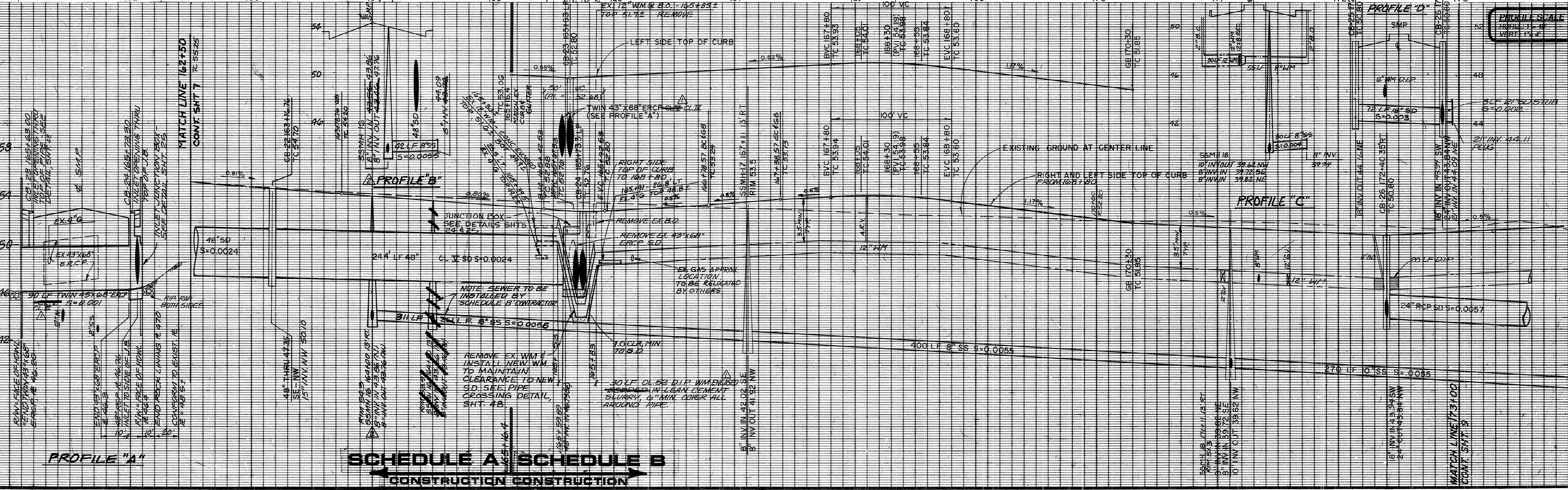
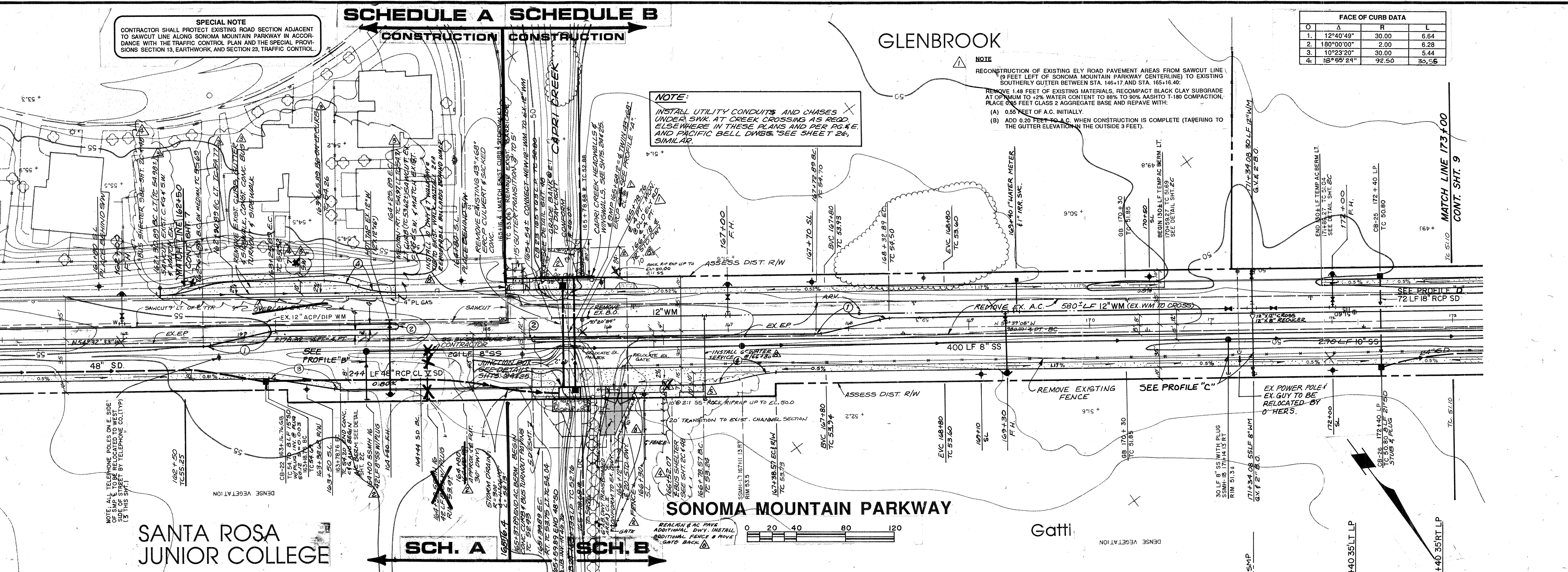
SCHEDULE A SCHEDULE B
CONSTRUCTION CONSTRUCTION

GLENBROOK

FACE OF CURB DATA			
0	A	R	L
1	12°40'49"	30.00	6.64
2	180°00'00"	2.00	8.28
3	10°23'20"	30.00	5.44
4	18°55'24"	92.50	30.56

NOTE:
 INSTALL UTILITY CONDUITS AND CHASES UNDER SHK. AT CREEK CROSSING AS REQD. ELSEWHERE IN THESE PLANS AND PER PG. 4 & 5 AND PACIFIC BELL DWGS. SEE SHEET 26, SIMILAR.

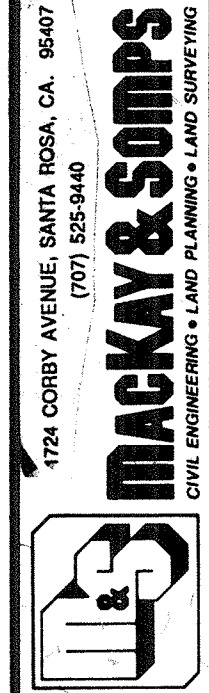
NOTE
 RECONSTRUCTION OF EXISTING ELY ROAD PAVEMENT AREAS FROM SAWCUT LINE (9 FEET LEFT OF SONOMA MOUNTAIN PARKWAY CENTERLINE) TO EXISTING SOUTHERLY GUTTER BETWEEN STA. 164+17 AND STA. 165+16.40.
 REMOVE 1.48 FEET OF EXISTING MATERIALS, RECOMPACT BLACK CLAY SUBGRADE AT 90% MIN TO +2% WATER CONTENT TO 85% TO 90% COMPACTION, PLACE 0.65 FEET CLASS 2 AGGREGATE BASE AND REPAVE WITH:
 (A) 0.55 FEET OF A.C. INITIALLY.
 (B) ADD 0.20 FEET A.C. WHEN CONSTRUCTION IS COMPLETE (TAPERING TO THE GUTTER ELEVATION IN THE OUTSIDE 3 FEET).



SCHEDULE A SCHEDULE B
CONSTRUCTION CONSTRUCTION

NO.	REVISION	DATE
1	AS BUILT	7-4-93
2	DELETE BUS SHELTER, MOVE - SEE V.4	4-92
3	MOVE BUS SHELTER, 1.2EEL S.H.	4-92
4	ADD BUS TURNOUT, 1.3 H.D.	5-92
5	MOVE SSMH 16, 30' FULL DRY, REUSE RAMP LIMITS	5-92
6	APPENDIX NO. 2	6-92

DATE: MARCH 1993
 SCALE: H. 1" = 40' V. 1" = 4'
 DRAWN BY: MWS
 DESIGNED BY: MWS
 CHECKED BY: MWS



PLAN FOR IMPROVEMENTS OF:
SONOMA MOUNTAIN PARKWAY
 #52+50 TO 73+00
 PETALUMA, CALIFORNIA

PROJECT NO.
5599-0

SHEET **8** OF **55**

NOTE: ASBUILT INFORMATION SUPPLIED BY BSI CONSULTANTS, INC.

5/30/93