

PROJECT MANUAL

FOR

Burbank Sanitary District

DISTRICT-WIDE SAMPLE IMPROVEMENT PROJECT

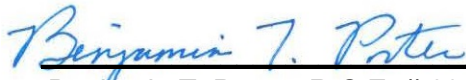
PREPARED BY



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APPROVED BY:



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Bid Date on June 22, 2021

Bid Opening on July 27, 2021 at 2 PM

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END OF DOCUMENT 00010

DOCUMENT 00200 – INSTRUCTIONS TO BIDDERS

1.1 SUMMARY

A. Document Includes:

- 1.2 Bid submission.
- 1.3 Intent.
- 1.4 Work Identified in Contract Documents.
- 1.5 Contract Time.
- 1.6 Definitions.
- 1.7 Contract Documents Identification.
- 1.8 Availability of Documents.
- 1.9 Examination of Documents.
- 1.10 Inquiries and Addenda.
- 1.11 Product Substitutions.
- 1.12 Site Examination.
- 1.13 Pre-bid Conference.
- 1.14 Bidder Qualifications.
- 1.15 Bidder Pre-qualification.
- 1.16 Subcontractors.
- 1.17 Bid Submission Procedure.
- 1.18 Bid Ineligibility.
- 1.19 Security Deposit.
- 1.20 Performance Assurance.
- 1.21 Insurance.
- 1.22 Bid Form Requirements.
- 1.23 Fees for Changes in the Work.
- 1.24 Bid Form Signature.
- 1.25 Additional Bid Information.
- 1.26 Selection and Award of Alternates.
- 1.27 Bid Opening.
- 1.28 Duration of Offer.
- 1.29 Acceptance of Offer.

B. Related Documents:

- 1.30 Document 00105 - Invitation to Bid.
- 1.31 Document 00412 - Bid Form - Unit Price.
- 1.32 Document 00430 - Bid Form Supplements: Appendices A, B

1.2 BID SUBMISSION

- A. Bids signed and under seal, executed, and dated will be received at the Mark Thomas Office, located at 20863 Stevens Creek Blvd Ste. 100, Cupertino, California 95014 by **2:00 PM** local standard time on **July 27, 2021**.
- B. Bids submitted after the above time may be returned to Bidder unopened at the discretion of the District.

- C. Amendments to submitted Bids will be permitted when received in writing prior to bid closing and when endorsed by the same party or parties who signed and sealed the Bid.
- D. Bidders may withdraw their Bid by written request at any time before bid closing.

1.3 INTENT

- A. The intent of this Bid request is to obtain an offer to perform work to install sanitary sewer main, sanitary sewer cleanouts, sanitary sewer manhole, and laterals with appurtenances.

1.4 WORK IDENTIFIED IN CONTRACT DOCUMENTS

- A. In December of 2016, the District applied for a Clean Water State Revolving Fund (CWSRF) loan. On April 29, 2021, the District was notified that the CWSRF loan had been approved. The loan will provide funding for construction costs and soft costs (engineering, administration, and construction support). The funds from the CWSRF loan will be allocated towards the District-wide Capitol Improvement Project.
- B. Funding for this District Wide Capital Improvement Project has been provided in full or in part by the Clean Water State Revolving Fund through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. Due to the state and Federal funding there are bidding and reporting requirements that contractors who are bidding the project will need to follow and demonstrate compliance. These requirements include, but are not limited to, disadvantaged businesses participation, Davis Bacon wage requirements, project signage, prohibition on the use of imported iron and steel, and the use of Huawei Technology or ZTE Corporation telecommunications equipment.
- C. The work to be done under this contract consists of, in general, but not limited to the cured in place rehabilitation approximately 43 line segments of 6 and 8 inch sewer mains for a total length of 18,010 linear feet and spot repairs at 41 locations with open cut trenching with an approximate length of 340 linear feet. Work includes the reconnection of active sanitary sewer service laterals, reconstruction of active sanitary sewer service laterals and reinstatement of active sanitary sewer service laterals.
- D. The solicitation is comprised of Base Bid Work for rehabilitation of sewer located within the Burbank street right of way and an Alternative Bid for rehabilitation work to repair pipes that are located in sewer easements. The table below provides a summary of the rehabilitation methods based on their condition for the Base Bid work and the Alternative Bid work. The Engineering is not obligated to approve all of the Alternative Bid items shown in the bid schedule.

1.7 CONTRACT DOCUMENTS IDENTIFICATION

- A. The Contract Documents are identified as: **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT** as prepared by Mark Thomas and Company, Inc. located at 20863 Stevens Creek Blvd. Suite. 100 Cupertino, CA 95014.

1.8 AVAILABILITY OF DOCUMENTS

- A. Bidding Documents may be obtained as stated in Invitation to Bid.
- B. Partial sets of Bidding Documents will not be issued to general contract Bidders.
- C. Bidding Documents are made available only for the purpose of obtaining offers for this Project. Their use does not grant a license for other purposes.

1.9 EXAMINATION OF DOCUMENTS

- A. Upon receipt of Bid Documents, Contractor shall verify documents are complete, and notify the Engineer if the documents are incomplete.
- B. Immediately notify Engineer upon finding discrepancies or omissions in Bidding Documents.

1.10 INQUIRIES AND ADDENDA

- A. Bidder must direct all questions about the meaning or intent of Bidding Documents to the District (Attention: District's Authorized Representative) **in writing**. Letters, Faxes or e-mails are acceptable forms of written questions with e-mail being the preferred method of contact.. Bidding Documents will be provided on the Santa Clara County Builder's Exchange (www.bxscco.com) as well as the Bay Area's Builder's Exchange (www.bayareabuilder.com) at no cost to the Bidder. Questions for clarifications can be sent to Estel **SAMPLE**. This point of contact will also be posted on both builder's exchange websites. Interpretations or clarifications considered necessary by the District in response to such questions will be issued by Addenda mailed, faxed, or delivered to all "Bid List" parties, recorded by District as having received a Bidding Document. Addenda will be written and will be issued to each Bidder to the address or fax number supplied to the District by the Bidder. The District may not answer questions received less than 10 days prior to the date for opening Bids. Only questions answered by formal written Addenda will be binding.
- B. Oral and other interpretations or clarification will be without legal effect.
- C. Questions must be submitted not less than two (2) days before date set for receipt of Bids. Replies will be made by Addenda.
- D. Addenda may be issued during bidding period. Addenda shall be acknowledged by number with signature and shall be part of the Contract Documents. A complete listing of Addenda may be secured from the District.

1.11 PRODUCT SUBSTITUTIONS

- A. Bidder must base their Bids on Products and systems specified in the Contract Documents or Addenda.
- B. Where Bidding Documents stipulate particular Products, substitution requests will be considered by the Engineer up to two (2) days before receipt of Bids.
- C. With each substitution request, the bidder must provide sufficient information for the Engineer to determine acceptability of proposed products.
- D. Bidder must base their Bids on Products and systems specified in the Contract Documents or Addenda.
- E. When a request to substitute a Product is made, the Engineer may approve the substitution. Approved substitution will be identified by Addenda.
- F. In submission of substitutions to Products specified, Bidders shall include in their Bid, changes required in the Work and changes to Contract Time and Contract Price to accommodate such approved substitutions. Later claims by the Bidder for an addition to the Contract Time or Contract Price because of changes in Work necessitated by use of substitutions will not be considered.
- G. Provide Products as specified unless substitutions are submitted in this manner and subsequently accepted.
- H. Approval to submit substitution requests prior to submission of Bids is not required

1.12 SITE EXAMINATION

- A. Before submitting a Bid, each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in accordance with the time, price and other terms and conditions of Contract Documents. Bidders shall advise District in writing during the Bid period of any questions, suppositions, inferences or deductions Bidders may have for District's review and response.
- B. A Pre-bid job walk will be scheduled for July 7, 2021 at 10:00 AM. The District recommends potential bidders to attend this job walk but attendance will not be mandatory for bidding. Meeting site for job walk will be within the project area but will be finalized closer to the meeting date.

- C. Contact Engineer at the following address and phone number for more information:

Address: 20863 Stevens Creek Blvd. Suite 100, Cupertino CA.
Telephone: (408) 477-7306
Contact: Frank Quach

- D. No Geotechnical Soils Investigation has been conducted for this project. Bidders shall satisfy themselves in assessing subsoil conditions for the Work.
- E. Contractor is responsible for contacting Underground Service Alert (USA) at (1-800-227-2600) prior to the start of construction to have all utility locations marked and located prior to the start of construction.

1.13 BIDDER QUALIFICATIONS

- A. To demonstrate qualification for performing the Work of this Contract, Bidders may be requested to submit written evidence of bonding capacity, previous experience, current commitments and licenses to perform work in the County of Santa Clara and State of California.

1.14 BIDDER PRE-QUALIFICATION

- A. Bidder must hold a Class "A" General Engineering Contractor or Class "C-34" Pipeline Contractor, contractor's license and meet current registration requirements with the **Burbank Sanitary District** to Bid this Contract. Joint ventures must secure a joint venture license prior to award of this Contract. Removal, handling, and/or disposal of hazardous materials may, by law, require hazardous substance removal certification by the Contractor's State License Board.

1.15 SUBCONTRACTORS

- A. All Bidders must submit with their Bids the required information on all Subcontractors, for those Subcontractors who will perform any portion of Work, including labor, rendering of service, or specially fabricating and installing a portion of the Work or improvement according to detailed drawings contained in the plans and specifications, in excess of one half of one percent of total Bid or ten thousand dollars (\$10,000), whichever is greater. Violation of this requirement may result in Bid being deemed non-responsive and being rejected. The District reserves the right to reject a proposed Subcontractor for reasonable cause, as determined by the District.

1.16 BID SUBMISSION PROCEDURE

- A. Bidders shall be solely responsible for delivery of Bids in manner and time prescribed.

- B. Submit one (1) copy of executed offer on Bid Forms provided, signed and sealed with required Bid Bond in a closed opaque envelope, clearly identified with Bidder's name, Project name, contact phone number and District's name on the outside.
- C. Double Envelope: Insert the closed and sealed Bid Form in a large envelope and include the requested Bid Bond in a separate opaque envelope. Label the outer envelope as noted above.
- D. Improperly completed information or irregularities in Bid Bond, may be cause not to open the Bid Form envelope. District may declare the Bid invalid.
- E. A summary of submitted Bids will be made available to all Bidders following bid opening.

1.17 BID INELIGIBILITY

- A. Bids that are unsigned, improperly signed or sealed, conditional, illegible, obscure, contain arithmetical errors, erasures, alterations, or irregularities of any kind, may be declared unacceptable at District's discretion.
- B. Bid Forms, Appendices, and enclosures which are improperly prepared may be declared unacceptable at District's discretion.
- C. Failure to provide security deposit, bonds or insurance requirements will invalidate the Bid at the discretion of the District.
- D. Bids are by invitation from selected Bidders and by qualified Bidders via project advertisement. Unsolicited Bids from non-qualified Bidders will be returned.

1.18 SECURITY DEPOSIT

- A. Bids shall be accompanied by a Bid Bond that equals the sum of no less than ten percent (10%) of the Bid Price on standard surety company form.
- B. Endorse Bid Bond in name of the District as obligee, signed and sealed by the principal Contractor and surety.
- C. Include the cost of the Bid Bond in the Bid Price. No separate payment will be made thereof.
- D. After a Bid has been accepted, Bid Bonds will be returned to the respective Bidders, other than the lowest bidder.
- E. If no contract is awarded, Bid Bonds will be returned.

1.19 PERFORMANCE ASSURANCE

- A. Accepted Bidder: Provide Performance and Payment bonds in amount of one hundred percent (100%) of Bid Price as described in Document 00200 – Instructions to Bidders.
- B. Include the cost of performance assurance bonds in the Bid Price. Bidder shall identify the cost when requested by the District.

1.20 INSURANCE

- A. Provide an executed "Undertaking of Insurance" on a standard form provided by the insurance company stating their intention to provide insurance to the Bidder in accordance with the insurance requirements of the Contract Documents.
- B. Insurance certificates shall name Burbank Sanitary District, Mark Thomas & Co. Inc., and the State Water Board, its officers, agents, employees, and servants as additional insured.

1.21 BID FORM REQUIREMENTS

- A. Complete requested information in the Bid Form and Bid Form Supplements.

1.22 FEES FOR CHANGES IN THE WORK

- A. Include in the Bid Form, the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Price is based.

1.23 BID FORM SIGNATURE

- A. Sign Bid Form, as follows:
 - 1. Sole Proprietorship: Signature of sole proprietor in the presence of a witness who will also sign. Insert the words "Sole Proprietor" under the signature. Affix seal.
 - 2. Partnership: Signature of all partners in the presence of a witness who will also sign. Insert the word "Partner" under each signature. Affix seal to each signature.
 - 3. Corporation: Signature of duly authorized signing officers in their normal signatures. Insert the officer's capacity in which the signing officer acts, under each signature. Affix the corporate seal. If the Bid is signed by officials other than the president or secretary of the company, or the president, secretary and/or treasurer of the company, submit a copy of the by-law resolution of their board of directors authorizing them to do so, with the Bid Form in the bid envelope.
 - 4. Joint Venture: Signature of each party of the joint venture under their respective seals in a manner appropriate to such party as described above, similar to requirements for Partnerships.

1.24 ADDITIONAL BID INFORMATION

- A. Complete and submit Document 00430 - Bid Form Supplements with Bid.
- B. Complete and submit the following Appendices included in Document 00430 - Bid Form Supplements within twenty-four (24) hours of Bid opening, if not already included in the Bid:
 - 1. Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.

1.25 DISADVANTAGE BUSINESS ENTERPRISE (DBE) REQUIREMENT

- A. The contractor shall comply with the requirements of the USEPA's Program for Utilization of Small, Minority, and Women's Business Enterprises.
- B. The contractor shall take necessary and reasonable steps to ensure that DBE's have opportunity to participate in the contract.
- C. **To ensure equal participation of DBE's, the District has a contract goal for DBE's. The contractor shall pay 1% of total contract amount to subcontractors which are classified as small, minority, or women business enterprises.**
 - a. Contractor must provide the proposed work, or bid items, as well as the dollar amount, that will be completed by the DBE firm.
- D. The prime contractor shall meet the DBE goal shown above in Item C or demonstrate that they made adequate good faith efforts to meet this goal.
 - a. Contractor must provide a log of all the DBE contractor's they made contact with while inquiring for bids for this project.
 - b. The log must include:
 - i. Name of the DBE firm
 - ii. Person contacted at the DBE firm
 - iii. Contractor personnel
 - iv. And all emails, phone call records, etc. between all parties

1.26 SELECTION OF AWARD AND ALTERNATES

- A. The contract will be awarded to the bidder with the lowest pricing based solely on the Base Bid, excluding alternative bids.

- B. The District reserves the right to award ALL of the Alternate Bid items shown in the bid schedule or portions of the Alternate Bid. Acceptance of the Alternate Bid in no way requires the District to award all of the Bid Items shown in the Alternate Bid.

1.26 BID OPENING

- A. Bids will be opened and read by Mark Thomas, 20863 Stevens Creek Blvd Ste. 100, Cupertino, California 95014 at **2:00 PM** local standard time on **July 27, 2021**. A report of the results will be made by Mark Thomas at a publicly noticed regular or special meeting of Burbank Sanitary District. The anticipated date of the meeting will be announced at the Bid Opening.

1.27 DURATION OF OFFER

- A. Bids shall remain open to acceptance and shall be irrevocable for a period of **ninety (90) calendar days** after bid closing date.

1.28 ACCEPTANCE OF OFFER

- A. The District reserves the right to accept or reject any or all offers.
- B. Before acceptance by the District, Engineer will distribute a Notice of Intent to Award (NOITA) informing all bidding contractors of the lowest bidder. The NOITA will be delivered to all bidders on October 22, 2021.
- C. It is anticipated that Burbank Sanitary District will award the contract on October 19, 2021 and inform the winning contractor on October 29. .
- D. After acceptance by the District, Engineer will issue to the accepted Bidder, a written Bid Acceptance, First Charge Date will be Npvenber 3, 2021.
- E. Once the contractor's submittals required by these Project Specifications are provided, the Project Kickoff Meeting will be scheduled. The Submittals will be reviewed at the Project Kickoff Meeting and if they meet the requirements of the Specifications, the contractor will receive a Notice to Proceed (NTP).
- F. Notwithstanding delay in the preparation and execution of the Agreement, accepted Bidder shall be prepared, upon written Notice to Proceed (NTP), to commence work within **fifteen (15) calendar days** following receipt of official written order of the District to proceed, or on date stipulated in such order.
- G. The accepted bidder shall assist and cooperate with the District to prepare the Agreement, and within **seven (7) calendar days** following its presentation shall execute Agreement and return it to the District.
- H. The contractor must begin construction within fourteen (14) days of the Notice to Proceed. The District is required by the State to hire and have a certified biologist perform a pre-construction survey of the project area for nesting sites for the Western burrowing owl and Townsend's big-eared bat.

1.29 FUNDING ACKNOWLEDGEMENT

- A. Funding for this project has been provided in full or in part through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. The contents of this document do not necessarily reflect the views and policies of the foregoing, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

END OF DOCUMENT 00200

DOCUMENT 00210 – INDEMNITY AND RELEASE AGREEMENT

Dated _____

POTENTIAL BIDDER: _____

DISTRICT: **Burbank Sanitary District (“DISTRICT”)**

SITE: An unincorporated area of Santa Clara County within the City of San Jose. District is bounded by Revey Avenue to the west, Forest avenue to the North, Richmond Avenue to the East, and Interstate 280 to the south.

PROJECT: **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**

In consideration of the above-referenced District’s permitting the undersigned potential bidder (“Bidder”) to have access to, and to conduct investigations, tests and/or inspections on, the Site, Bidder hereby agrees as follows:

1. To the greatest extent permitted by law, Bidder hereby releases, and shall defend, indemnify and hold harmless District, and its officers, employees, consultants (including without limitation Consulting Engineer), representatives, and agents, and all other parties having any other interest in the Site, against any claim or liability, including attorney’s fees, arising from or relating to any Site-related access, investigation, test, inspection and/or other activity conducted by Bidder or any of Bidder’s officers, employees, consultants, representatives, and/or agents, regardless of whether claim or liability is caused in part by the negligence of District or by any released and indemnified party.
2. Bidder hereby waives the provisions of California Civil Code Section 1542 which provides as follows:

A general release does not extend to claims that the creditor does not know or suspect to exist in his favor at the time of executing the release, which if known by him, must have materially affected his settlement with the debtor.
3. Bidder shall repair any damage to the Site or adjacent property resulting from activities authorized hereunder and comply with and be subject to all other requirements and obligations described or referenced in Document 00320 (Geotechnical Data and Existing Conditions).
4. Attached hereto (or to be delivered separately before Bidder’s visit to the Site) is a certificate for comprehensive general liability insurance.
5. Although this Indemnity and Release Agreement is not a Contract Document (see Document 00520 Contract), it shall be fully effective and binding regardless of whether Bidder submits a Bid for the subject Project, is awarded a contract for the Project, or otherwise.

Name of Bidder

By: _____
Signature

By: _____
Signature

Its: _____
Title (If Corporation: Chairman, President
or Vice President)

Its: _____
Title (If Corporation: Secretary, Assistant
Secretary, Chief Financial Officer or
Assistant Treasurer)

END OF DOCUMENT 00210

DOCUMENT 00320 – GEOTECHNICAL DATA, HAZARDOUS MATERIALS, SURVEYS, AND EXISTING CONDITIONS

1. SUMMARY

This Document sets forth the terms and conditions under which Bidder may review, study, use, or rely upon geotechnical data at or contiguous to the Site, and existing conditions information concerning existing conditions at or contiguous to the Site. This Document, the available geotechnical, soil and asbestos data, and the supplied existing conditions information are not Contract Documents.

2. REPORTS AND INFORMATION

- A. District, its consultants, and prior contractors may have collected documents providing a general description of the Site and conditions of the Work. These documents may consist of geotechnical reports for and around the Site, contracts, contract specifications, as-built drawings, utility drawings, and information regarding Underground Facilities. These reports, documents and other information are not part of the Contract Documents. They are provided “For Information Only”.

No Documents or Report Provided

3. USE OF INFORMATION ON EXISTING CONDITIONS

- A. Above ground Existing Conditions. Under no circumstances shall District be deemed to make a warranty or representation of existing aboveground conditions, as-built conditions, or other aboveground actual conditions verifiable by reasonable independent investigation. These conditions are verifiable by Bidder by the performance of its own independent investigation that Bidder must perform prior to bidding and Bidder must not rely on the information supplied by District regarding existing conditions. Bidder represents and agrees that in submitting its Bid, it is not relying on any information regarding existing conditions supplied by District.
- B. Underground Facilities. Information supplied regarding existing Underground Facilities at or contiguous to the Site is based on information furnished to District by others (e.g., the owners or builders of such Underground Facilities or others). Except as expressly set forth in this Document 00320, District does not assume responsibility for the accuracy, completeness or thoroughness of this information, and Bidder is solely responsible for any interpretation or conclusion drawn from this information. Except as expressly set forth in this Document 00320, District will be responsible only for the general accuracy of information regarding Underground Facilities, and only for those Underground Facilities that are owned by District.

This express assumption of responsibility applies only if Bidder has conducted the independent investigation required of it and discrepancies were not apparent.

4. LIMITED RELIANCE PERMITTED ON CERTAIN INFORMATION

- A. Geotechnical Data. For informational purpose only. Except as expressly set forth in this Document 00320, District does not warrant, and makes no representation regarding, the accuracy or thoroughness of any geotechnical data. Bidder represents and agrees that in submitting its Bid, it is not relying on any geotechnical data supplied by District, except as specifically set forth herein.
- B. Bidder may rely upon the general accuracy of the “technical data” contained in the geotechnical reports and drawings identified above, but only insofar as it relates to subsurface conditions, provided Bidder has conducted the independent investigation required of it and discrepancies were not apparent. The term “technical data” in the referenced reports and drawings shall be limited as follows:
 - 1. The term “technical data” shall include actual reported depths, reported quantities, reported soil types, reported soil conditions, and reported material, equipment, or structures that were encountered during subsurface
 - 2. The term “technical data” does not include, and Bidder may not rely upon, any other data, interpretations, opinions or information shown or indicated in such drawings or reports that otherwise relate to subsurface conditions or described structures.
 - 3. The term “technical data” shall not include the location of Underground Facilities.
 - 4. Bidder may not rely on the completeness of reports and drawings for the purposes of bidding or construction. Bidder may rely upon the general accuracy of the “technical data” contained in such reports or drawings.
 - 5. Bidder is solely responsible for any interpretation or conclusion drawn from any “technical data” or any other data, interpretations, opinions, or information contained in supplied geotechnical data.

5. INVESTIGATIONS

- A. Before submitting a Bid, each Bidder shall be responsible to obtain such additional or supplementary examinations, investigations, explorations, tests, studies and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site or otherwise, which may affect cost, progress, performance or furnishing of Work or which relate to any aspect of the means, methods, techniques, sequences or procedures of construction to be employed by Bidder and safety precautions and programs incident thereto or which Bidder deems necessary to determine its Bid for performing and furnishing the Work in

accordance with the time, price and other terms and conditions of Contract Documents. Bidders shall advise District in writing during the Bid period of any questions, suppositions, inferences or deductions Bidders may have for District's review and response.

- B. District has provided time in the period prior to bidding for Bidder to perform these investigations.

6. ACCESS TO SITE FOR INVESTIGATIONS

- A. Subject to reasonable scheduling, District 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. Bidders must fill all holes and clean up and restore the Site to its former conditions upon completion of such explorations, investigations, tests, and studies. Such investigations may be performed only under the provisions of Document 00200 (Instructions to Bidders) including, but not limited to, proof of insurance and obligation to indemnify against claims arising from such investigation work. Each Bidder shall supply all equipment required to perform any investigations as each Bidder deems necessary. District has the right to limit the number of pieces of machinery operating at one time due to safety concerns.

END OF DOCUMENT 00320

DOCUMENT 00412 – BID FORM-UNIT PRICE

To: Burbank Sanitary District
20863 STEVENS CREEK BLVD., SUITE 100
CUPERTINO, CA 95014

Project: **SAMPLE**

Date: _____

Submitted by: _____
Full Contractor Name

Full Address

City State ZIP

Area Code Phone No. Area Code FAX

1. OFFER

Having examined the Place of the Work and all matters referred to in the Instructions to Bidders and the Contract Documents and/or prepared by the Engineer for the above mentioned project; we, the undersigned, hereby offer to enter into a Contract to perform the Work for the Unit Prices listed in this bid form in lawful money of the United States of America.

We have included:

- The security Bid Bond as required by the Instruction to Bidders.
- All applicable Federal, State and Local taxes are included in the Unit Prices.
- All Cash and Contingency Allowances described herein - Price and Payment Procedures are included in the Bid Prices.

2. ACCEPTANCE

This offer shall be open to acceptance and is irrevocable for ninety (90) days from the bid closing date of July 27, 2021.

If the District accepts this bid within the time stated above, we will:

- Execute the Agreement within seven (7) days of receipt of acceptance of this bid.
- Furnish the required bonds within seven (7) days of receipt of acceptance of this bid in the form described in Supplementary Conditions once the contractor is given the First Charge Day.
- Commence work within fifteen (15) working days after written Notice to Proceed.

If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required bonds, the security deposit shall be forfeited as damages to the District by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

In the event our bid is not accepted within the time stated above, the required Bid Bond will be returned to the undersigned, in accordance with the provisions of the Instructions to Bidders; unless a mutually satisfactory arrangement is made for its retention and validity for an extended of time.

The District has the right to dictate contractor to implement alternate bid method.

3. CONTRACT TIME

If this Bid is accepted, we will:

- Complete the Work in **ninety (90) working days for the Base Bid Items, and twenty (20) for the Alternate Bid Items**, from Notice to Proceed.

4. UNIT PRICES

The following are Unit Prices for the Base Bid Items for the Work as listed.

BASE BID SCHEDULE					
#	Description	Unit	Quantity	Unit Cost (\$)	Total Cost (\$)
1	Mobilization	LS	1	\$	\$
2	Water Pollution Control	LS	1	\$	\$
3	Site Clearing	LS	1	\$	\$
4	Traffic Control	LS	1	\$	\$
5	SAMPLE				
6					
7					

5. TOTAL BASE BID – BASIS OF AWARD

- A. The contract will be awarded to the bidder with the lowest pricing based solely on the Base Bid, excluding alternative bids.
- B. Contract Prices shall include, Bidder's overhead, permitting, profit, providing temporary sewer bypass as required, traffic controls, job safety, sweeping, cleanup, all necessary tools, labor, equipment, materials, appurtenances and incidentals to complete the project for sanitary sewer rehabilitation by installing cure-in-place pipe (CIPP) liners and manhole rehabilitation and where open cut method for spot repairs are required: saw-cutting, excavation, backfill, fog seal coat over the trench, crushed rock, class 2 aggregate base, developing water supply, safety devices, equipment necessary for the work, shoring, dewatering, compaction, temporary patching, temporary pavement markings, disposal of excess materials, dump fees, import of select materials, and sheeting and shoring.
- C. In the event of any delays due to actions of the District or Engineer, time adjustments will be granted accordingly for the total Contract Time. In the event of delays due to weather, utility conflicts or unavailability of materials to be incorporated in the Contract Work, time adjustments will be granted in accordance with Caltrans Standard Specifications 2018, Section 9. However, no additional payments for costs due to delays of any nature will be granted.
- D. In the event of any delays beyond the total Contract Time **ninety (90)** working days other than those specified above, the Bidder shall be responsible for paying the District a penalty in the amount of five hundred dollars (\$500.00) per each additional day.
- E. Additional working days will not be granted to the Contractor if there are any days not worked by the Contractor for reasons other than those specified above. All time extension will be mutually agreed upon by District, Engineer, and Contractor.
- F. Contractor is responsible for obtaining all applicable permits and payment of all associated fees and taxes.

6. ADDENDA

The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Price.

Addendum # Dated

Addendum # Dated

7. APPENDICES

Submit the following Appendices included in Document 00430 - Bid Form Supplements concurrent with Bid submission:

Appendix A - List of Subcontractors.

Appendix B - Fees for Changes in the Work. Include the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Price is based.

8. BID FORM SIGNATURES

The Corporate Seal of

.....
(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer) (Title) (Seal)

.....
(Authorized signing officer) (Title) (Seal)

If the Bid is a joint venture or partnership, add additional forms of execution for each member of the joint venture in the appropriate form or forms as above.

END OF DOCUMENT 00412

DOCUMENT 00430 – BID FORM SUPPLEMENTS

To: Burbank Sanitary District
c/o MARK THOMAS & COMPANY, INC.
20863 STEVENS CREEK BLVD., SUITE 100
CUPERTINO, CA 95014

Project: **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**

Date: _____

Submitted by: _____

Full Contractor Name

Full Address

City State ZIP

Area Code Phone No. Area Code FAX

In accordance with Document 00200 - Instructions to Bidders and Document 00412 - Bid Form - Unit Price, we include the Appendices to Bid Form Supplements listed below. The information provided shall be considered an integral part of the Bid Form. The following Appendices are attached to this document:

Appendix A - List of Subcontractors: Include names of all Subcontractors and portions of the Work each Subcontractor will perform.

Appendix B - Fees for Changes in the Work. Include the overhead and profit fees on Bidder's own Work and Work by Subcontractors, applicable for Changes in the Work, whether additions to or deductions from the Work on which the Bid Price is based.

BID FORM SUPPLEMENTS SIGNATURES

The Corporate Seal of

.....
(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

.....
(Authorized signing officer) (Title) (Seal)

.....
(Authorized signing officer) (Title) (Seal)

APPENDIX A - LIST OF SUBCONTRACTORS

Herewith is the list of subcontractors referenced in the bid submitted by:

(Bidder)

To **Burbank Sanitary District**

Dated and which is an integral part of the Bid Form.

The following work will be performed (or provided) by subcontractors and coordinated by us:

WORK SUBJECT	NAME
.....
.....
.....
.....
.....
.....
.....
.....

APPENDIX B – FEES FOR CHANGES IN THE WORK.

Attach a separate document stating the overhead and profit fees on Bidder’s own Work and Work by Subcontractors, applicable for Changes in the Work.

END OF DOCUMENT 00430

DOCUMENT 00450 – STATEMENT OF QUALIFICATIONS FOR CONSTRUCTION WORK

ARTICLE 1 – GENERAL INFORMATION

1.01 Minimum Bidder Qualifications:

- A. Bidders must be duly licensed in accordance with the California Business & Professions Code and have a history of work performance sufficient to meet the requirements of a responsible bidder in the California Public Contract Code Section 1103.
- B. Bidders must have three **(3) years** experience as a continuously operating entity engaged in the performance of similar work (sanitary sewer repairs by grouting, CIPP liner and open cut methods).
- C. Bidders must demonstrate successful experience with type of work of this Project, to include, within the past year, completed two (2) projects of a similar nature and complexity with a contract dollar amount of at (i.) least 75% of the amount of Bidder's Bid or (ii.) 125% of such amount in the aggregate.

1.02 Measurement:

- A. Bidder's compliance with the minimum qualification requirements will be measured by Bidder's experience as an operating entity and also by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work.
- B. If Bidder subcontracts portions of the Work, Owner, in its determination of whether the minimum qualification requirements have been met, may consider the qualifications of the Subcontractor's supervisory personnel.

ARTICLE 2 – REQUIRED CONTENTS OF SOQ SUBMISSION

2.01 Transmittal Letter:

- A. The Transmittal Letter shall name the proposed prime contractor, its legal structure (i.e., corporation, partnership, limited partnership, joint venture). If a joint venture or partnership is proposed, Bidder shall identify partner and/or member of the joint venture and their roles and responsibilities.

2.02 Submittals:

- A. Completed Questionnaires. Bidder shall include a completed Statement of Qualification Questionnaire in the form attached to this Document 4513 as Attachment A. Also, if any Subcontractors (**Designated Subcontractors**) are identified below, Bidder must include a Part D to the Questionnaire for each Designated Subcontractors:

1. Designated Subcontractor 1: _____
2. Designated Subcontractor 2: _____
3. Designated Subcontractor 3: _____

- B. Resumes of Proposed Key Personnel. Bidder shall provide a resume for each named Key Personnel of Bidder and any Designated Subcontractors, to include as necessary: Years of experience; Education - degrees, schools and years obtained; Professional Registrations; Fluency in English (Yes/No); At least two client references, including contact names, addresses and telephone numbers, and description of projects of a similar nature worked on in the past five years.
- C. Audited or Reviewed Financial Statements. Include audited or reviewed financial statements for the three most recently completed fiscal years for Bidder and each member of any proposed consorting or joint venture. Also include audited or reviewed financial statements for the three most recently completed fiscal years for any parent companies of Bidder and each member of any proposed consortium or joint venture.
- D. Surety Letter re: Capability to Provide Required Performance and Payment Bonds. Bidder shall include a letter from a surety duly licensed to do business in the State of California, having a financial rating from A.M. Best Company of [A-, VIII] or better, that the surety has agreed to provide Bidder with the required performance and payment bonds in accordance with the requirements set forth in Documents 00 6113.13 (Construction Performance Bond) and 006113.16 (Construction Labor and Material Payment Bond), each in the penal sum of the Contractor's bid when submitted. Owner shall have the right to verify with the surety that the surety, based upon the Bid prices, will issue the required bonds under the conditions stated.
- E. Insurer Letter re: Capability to Provide the Required Insurance. Bidder shall provide a letter from an insurance underwriter, having a financial rating reasonably acceptable to Owner, confirming that the insurer will provide Bidder the required coverages and amounts specified in the Contract Documents.
- F. Description of Human and Physical Resources. Bidder shall identify, describe, and quantify for itself, the following technical information for the construction work: Description and location of manufacturing facilities, naming products and quantifying production capacity and current demand; Description of field organization(s), naming skills and equipment; Description of safety program quality control procedures, and safety experience
- G. License: Evidence of a valid contractor's license and required licenses of all licensees of persons who are Key Personnel necessary to perform the Work.
- H. Litigation History. Description of litigation history for the past three years including names of involved parties, nature of dispute, and disposition.

2.03 Format:

- A. The SOQ shall be clear and concise to enable management-oriented personnel to make a thorough evaluation and arrive at a sound determination as to whether the SOQ meet Owner's requirement. To this end, the SOQ should be so specific, detailed and complete as to demonstrate clearly and fully that the Bidder has a thorough understanding of and has demonstrated knowledge of the requirements to perform the Work (or applicable portion thereof).

- B. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document 4513 must be requested in writing and with sufficient time allowed for a reply to reach Bidder before the submission of its SOQ. Oral explanations or instructions will not be binding. Any information provided to any prospective Bidder concerning this Document 4513 will be furnished to all prospective Bidders as an Addendum to the Bidding Documents.

[STATEMENT OF QUALIFICATION QUESTIONNAIRE FOLLOWS ON NEXT PAGE]

ATTACHMENT A – Statement of Qualification Questionnaire – Document 4513

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Instructions to Bidders and Statement of Qualifications. Failure to complete the questionnaire or inclusion of any false statement(s) shall be ground for immediate disqualification.

**CONTACT
INFORMATION**

Company Name:

Owner of Company:

Contact Person:

Address:

Phone:

Fax:

PART A: EXPERIENCE OF PRIME CONTRACTOR

The nature of this Project requires prior similar experience for the firm and the Key Personnel assigned. Summarize similar project experience below and provide the detailed project information requested:

Prime Contractor. List three projects of similar size and scope to the Work of the Contract, completed in the past three (3) years, and indicate who were the superintendent, project manager and scheduler. NOTE: This listing will be used to assess compliance with the stated minimum qualifications.

Project Name	Construction Cost (\$)	Year Completed	Name of Project Superintendent	Name of Project Manager	Name of Project Scheduler

Recent Similar Projects.

Provide information about five (5) of its most currently completed projects of which three shall be CIPP lining projects. Names and references must be current and verifiable. This listing will be used to assess compliance with the stated minimum qualifications. If a separate sheet is used, it must contain all of the following information:

1. Project Name:

Location:

Owner:

Owner Contact (name and phone):

Architect/Engineer:

Architect/Engineer Contact (name and phone number): -

Const. Mgr. or Project Mgr. (name and phone number):

Description of Project, Scope of Work Performed:

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

2. Project Name:

Location:

Owner:

Owner Contact (name and phone):

Architect/Engineer:

Architect/Engineer Contact (name and phone number): -

Const. Mgr. or Project Mgr. (name and phone number):

Description of Project, Scope of Work Performed:

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

3. Project Name:

Location:

Owner:

Owner Contact (name and phone):

Architect/Engineer:

Architect/Engineer Contact (name and phone number): -

Const. Mgr. or Project Mgr. (name and phone number):

Description of Project, Scope of Work Performed:

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

4. Project Name:

Location:

Owner:

Owner Contact (name and phone):

Architect/Engineer:

Architect/Engineer Contact (name and phone number): -

Const. Mgr. or Project Mgr. (name and phone number):

Description of Project, Scope of Work Performed:

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

5. Project Name:

Location:

Owner:

Owner Contact (name and phone):

Architect/Engineer:

Architect/Engineer Contact (name and phone number): -

Const. Mgr. or Project Mgr. (name and phone number):

Description of Project, Scope of Work Performed:

Total Construction Cost: _____

Total Change Order Amount: _____

Did Change Orders exceed 10% of original contract sum? _____ If yes, please explain on separate sheet.

Original Scheduled Date of Completion: _____

Time Extensions Granted (number of Days): _____

Actual Date of Completion: _____

Number of Stop Notices filed by Subcontractors or Suppliers: _____

END OF DOCUMENT

(If Bidder is a partnership or a joint venture, this affidavit must be signed and sworn to by every member of the partnership or venture.)

(If Bidder [including any partner or venturer of a partnership or joint venture] is a corporation, this affidavit must be signed by the Chairman, President, or Vice President and by the Secretary, Assistant Secretary, Chief Financial Officer, or Assistant Treasurer.)

(If Bidder's affidavit on this form is made outside the State of California, the official position of the person taking such affidavit shall be certified according to law.)

END OF DOCUMENT 00481

DOCUMENT 00482 – BIDDER CERTIFICATIONS

Burbank Sanitary District

The undersigned Bidder certifies to the Burbank Sanitary District as set forth in sections 1 through 6 below.

1. **STATEMENT OF CONVICTIONS**

By my signature hereunder, I hereby swear, under penalty of perjury, that no more than one final, un-appealable finding of contempt of court by a Federal Court has been issued against Bidder within the past two years because of failure to comply with an order of a Federal Court or to comply with an order of the National Labor Relations Board.

2. **CERTIFICATION OF WORKER'S COMPENSATION INSURANCE**

By my signature hereunder, as the Bidder, I certify that I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's 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.

3. **CERTIFICATION OF PREVAILING WAGE RATES AND RECORDS**

By my signature hereunder, as the Bidder, I certify that I am aware of the provisions of Section 1773 of the California Labor Code, which requires the payment of prevailing wage on public projects. Also, that the Bidder and any sub bidders under the Bidder shall comply with California Labor Code §1776, regarding wage records, and with California Labor Code §1777.5, regarding the employment and training of apprentices. It is the Bidder's responsibility to ensure compliance by any and all subcontractors performing work under this Contract.

4. **CERTIFICATE OF NON-DISCRIMINATION**

By my signature hereunder, on behalf of the Bidder making this Bid, the undersigned certifies that there will be no discrimination in employment with regard to race, color, religion, gender, sexual orientation, age or national origin; that all federal, state, and local directives and executive orders regarding non-discrimination in employment will be complied with; and that the principle of equal opportunity in employment will be demonstrated positively and aggressively.

5. **CERTIFICATION REGARDING PREVIOUS DISQUALIFICATIONS**

By my signature hereunder, I hereby swear, under penalty of perjury, that the below indicated Bidder, any officer of such Bidder, or any employee of such Bidder who has a proprietary interest in such Bidder, has never been disqualified, removed or otherwise

prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation except as indicated on the separate sheet attached hereto entitled "Previous Disqualifications." If such exceptions are attached, please explain the circumstances

6. CERTIFICATION OF ADEQUACY OF CONTRACT AMOUNT

By my signature hereunder, as the Contractor, pursuant to Labor Code Section 2810(a), I certify that, if awarded the Contract based on the undersigned's Bid, the Contract will include funds sufficient to allow the Contractor to comply with all applicable local, state, and federal laws or regulations governing the labor or services to be provided. I understand that the District will be relying on this certification if it awards the Contract to the undersigned.

BIDDER:

(Name of Bidder)

Date: _____, 20__

By: _____
(Signature)

Name: _____
(Print Name)

Its: _____
(Title)

END OF DOCUMENT 00482

DOCUMENT 00510 – NOTICE OF AWARD

Dated _____

TO: _____

ADDRESS: _____

CONTRACT NO.: _____

CONTRACT FOR: **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**

The Contract Sum of your contract is

Dollars

(\$ _____).

1. Three copies of each of the proposed Contract Documents (except Specifications and Drawings) accompany this Notice of Award.
2. You must comply with the following conditions precedent by 5:00 p.m. of the 10th Calendar Day following the date of this Notice of Award, that is, by _____.
 - a. Deliver to District three fully executed counterparts of Document 00520 (Construction Contract Agreement). Each of the Contract Documents must bear your signature on the cover page.
 - b. Deliver to District three original Document 00610 (Bidder's Bond), executed by you and your surety.
 - c. Deliver to District three original Document 00620 (Faithful Performance Bond), executed by you and your surety.
 - d. Deliver to District three original copies of Document 00630 (Payment Bond), each executed by you.
 - e. Deliver to District three original copies of Document 00640 (Warranty Bond), each executed by you.
 - f. Deliver to District three original sets of the insurance certificates from Document 00530 (Insurance Forms) with endorsements.
3. Within 21 Days after you comply with the conditions in paragraph 2 of this Document 00510, District will return to you one fully signed counterpart of Document 00520 (Construction Contract Agreement) with the Contract Documents.
4. Upon commencement of the Work, you and each of your Subcontractors shall certify and make available for inspection payroll records on forms provided by the

Division of Labor Standards Enforcement, in accordance with Section 1776 of the
California Labor Code

THE Burbank Sanitary District, a Special District of
Santa Clara County ("District")

BY: _____

ITS: _____

AWARDED _____

by the Board of Burbank Sanitary District

END OF DOCUMENT 00510

DOCUMENT 00520 – CONSTRUCTION CONTRACT AGREEMENT

THIS CONSTRUCTION CONTRACT AGREEMENT (“Agreement”) is made and entered into as of the ____ day of _____, 2021, by and between the **Burbank Sanitary District**, a special district of Santa Clara County, (hereinafter referred to as the “DISTRICT”) and [**Name of the Contractor**], a California corporation, (hereinafter referred to as “CONTRACTOR”).

WHEREAS, District, on the ____ day of _____, 2021 awarded to Contractor the following Project:

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

DISTRICT and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1 - SCOPE OF WORK

CONTRACTOR shall perform and complete all Work specified in the Contract Documents, in accordance with the Specifications, Drawings, and all other term and condition of the Contract Documents. CONTRACTOR shall provide and furnish any and all labor, materials, methods or processes, equipment, implements, tools, machinery, equipment, and all utility, transportation and other services required to construct, install, and put in complete order for use in a good and workmanlike manner all of the work covered by the this Agreement in connection with the construction of improvements of sanitary sewer facilities, in strict accordance with the plans and specifications therefore entitled, **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**, and in strict accordance with the Bid Documents and Technical Specifications prepared by Mark Thomas & Company, Inc., attached hereto respectively as Exhibits “A” and “B,” including any and all addenda issued by the DISTRICT (hereinafter referred to as “WORK”). The intent of the plans and specifications is to describe the details for the construction and completion of the work which Contractor undertakes to perform in accordance with the terms, but not in complete detail, it is understood that only the best general practice is to prevail and that only materials and workmanship of first class quality are to be used.

Bidder should take particular notice that any and all items of Work, called in the Construction Documents, but not included in a description of any specific bid item, shall be considered as included in one (1) or more of the bid items and that no additional compensation for those items of Work, beyond the Base Bid, will be allowed. Work of this nature includes, but is not limited to, such items as flagmen, water, all safety requirements, or work and materials required providing public convenience and safety, barricades, lights, vehicular detours, and pedestrian walkways.

ARTICLE 2 - CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between the “DISTRICT” and the “CONTRACTOR” concerning the WORK consist of this Agreement, including all changes, addenda, and the following attachments to this Agreement:

- a. This Agreement;

- b. Notice Requesting Sealed Proposals;
- c. Accepted Proposal;
- d. Bidder's Bond;
- e. Faithful Performance Bond;
- f. Payment Bond;
- g. Warranty Bond;
- h. Labor and Material Bond;
- i. Standard Specifications;
- j. Design Standards; and
- k. Plans, Profiles, and Detailed Drawings.

There are no Contract Documents other than those listed in this Article 2. The Contract Documents may only be amended by Change Order as provided in the Bid Document hereto as Exhibit "A" and "B".

ARTICLE 3 - CHANGE IN THE WORK

The District may at any time it deems necessary or desirable, require changes in the Work called for by the Contract Documents. Changes and other amendments to the Contract Documents may be made only in writing executed by authorized representatives of the District and the Contractor.

All proposed change orders must be submitted on completed Change Order forms provided in the Contract Documents. If applicable, such proposed change orders must itemize all cost impacts of the proposed change order and include a total price for that change order and the amended Contract Price that would become effective upon execution of the change order. All proposed change orders must also specify any change in the Project schedule, or in any project milestone including, but not limited to, the Time of Completion, under the change order.

The General Manager will notify the Contractor in writing of the details of the change. No increase in the contract price or extension of contract time will be made for a change if the Contractor does not advise the General Manager in writing within five (5) days after receipt of the notification of change, that additional cost and/ or time extension will be required to make the change. Contractor shall submit to the District a detailed breakdown of the additional costs and/or time extension required to make the change within fifteen (15) days of notification of change.

No work shall commence on any change requested by the General Manager until there is mutual agreement on cost or the method of determining cost is established in writing.

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 District may require an adjustment to the amount of any applicable bond and the amount of each applicable bond shall be adjusted accordingly.

Notwithstanding the foregoing, the General Manager may, at any time, issue instruction to the Contractor requiring minor changes in the Work or schedule that are not inconsistent with the general intent of the Contract Documents, at no extra cost to the District.

ARTICLE 4 - COMPLETION OF WORK

The WORK shall be completed to the satisfaction of DISTRICT within ninety (90) working days for the Base Bid Items, and twenty (20) working days for the Alternate Bid Items, from the commencement date as stated in the Notice to Proceed. District will make the final inspection. If District determines that the Work has been completed, in accordance with the Contract Documents, District will recommend that the Work be accepted. Contractor will be relieved of the responsibility imposed on the date of Acceptance. District will record a "RESOLUTION" after the Board of Supervisors accepts the project as complete. The final payment including without limitation on retention will be made thirty (30) days after the Resolution has been recorded and signed by the Board of Supervisors, provided there are no outstanding punch list items or deficiencies in the project.

ARTICLE 5 - LIQUIDATED DAMAGES

DISTRICT and the CONTRACTOR recognize that time is of the essence of this Agreement and that the DISTRICT will suffer financial loss if the WORK is not completed within the time specified herein, plus any extensions thereof allowed in accordance with the Bid Document 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 DISTRICT 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 herein. It is, therefore, agreed in accordance with California Government Code section 53069.85 that the CONTRACTOR will forfeit and pay to the DISTRICT liquidated damages in the sum of **Five Hundred Dollars (\$500.00)** per day for each and every calendar day that expires after the time for completion specified herein. 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 DISTRICT may deduct liquidated damages sums in accordance with this provision from any payments due or that may become due the CONTRACTOR.

Liquidated damages will continue to accrue at the stated rate until final completion of the WORK. Accrued liquidated damages may be deducted by the DISTRICT from amounts due or that become due to the CONTRACTOR for performance of the WORK. Liquidated damages may not be waived or reduced by DISTRICT unless expressly waived or reduced in writing by the ENGINEER.

ARTICLE 6 - PREVAILING WAGES

1. Applicability of the Davis- Bacon (DB) prevailing wage requirements.

Under the Water Resources Reform and Development Act of 2014 (WRRDA), DB prevailing wage requirements apply to the construction, alteration, and repair of treatment works carried out in whole or in part with assistance made available by a State water pollution control revolving fund. If the District encounters a unique situation at a site that presents uncertainties regarding DB applicability, the District must discuss the situation with the State before authorizing work on that site.

2. Obtaining Wage Determinations.

- (a) District shall obtain the wage determination for the locality in which a covered activity subject to DB will take place prior to issuing requests for bids, proposals, quotes or other methods for soliciting contracts (solicitation) for activities subject to DB. These wage determinations shall be incorporated into solicitations and any subsequent contracts. Prime contracts must contain a provision requiring that subcontractors follow the wage determination incorporated into the prime contract.
- (i) While the solicitation remains open, the District shall monitor <https://beta.sam.gov/> weekly to ensure that the wage determination contained in the solicitation remains current. The District shall amend the solicitation if DOL issues a modification more than 10 days prior to the closing date (i.e. bid opening) for the solicitation. If DOL modifies or supersedes the applicable wage determination less than 10 days prior to the closing date, the District may request a finding from the State that there is not a reasonable time to notify interested contractors of the modification of the wage determination. The State will provide a report of its findings to the District.
- (ii) If the District does not award the contract within 90 days of the closure of the solicitation, any modifications or supersedes DOL makes to the wage determination contained in the solicitation shall be effective unless the State, at the request of the District, obtains an extension of the 90 day period from DOL pursuant to 29 CFR 1.6(c)(3)(iv). The District shall monitor <https://beta.sam.gov/> on a weekly basis if it does not award the contract within 90 days of closure of the solicitation to ensure that wage determinations contained in the solicitation remain current.
- (b) If the District carries out activity subject to DB by issuing a task order, work assignment or similar instrument to an existing contractor (ordering instrument) rather than by publishing a solicitation, the District shall insert the appropriate DOL wage determination from <https://beta.sam.gov/> into the ordering instrument.
- (c) District shall review all subcontracts subject to DB entered into by prime contractors to verify that the prime contractor has required its subcontractors to include the applicable wage determinations.
- (d) As provided in 29 CFR 1.6(f), DOL may issue a revised wage determination applicable to a District's contract after the award of a contract or the issuance of an ordering instrument if DOL determines that the District has failed to incorporate a wage determination or has used a wage determination that clearly does not apply to the contract or ordering instrument. If this occurs, the District shall either terminate the contract or ordering instrument and issue a revised solicitation or ordering instrument or incorporate DOL's wage determination retroactive to the beginning of the contract or ordering instrument by change order. The District's contractor must be compensated for any increases in wages resulting from the use of DOL's revised wage determination.

3. Contract and Subcontract provisions.

- (a) The State shall insure that the District(s) shall insert in full in any contract in excess of \$2,000 which is entered into for the actual construction, alteration and/or repair, including painting and decorating, of a treatment work under the CWSRF - financed in whole or in part from Federal funds or in accordance with guarantees of a Federal agency or financed from funds obtained by pledge of any contract of a Federal agency

to make a loan, grant or annual contribution (except where a different meaning is expressly indicated), and which is subject to the labor standards provisions of any of the acts listed in § 5.1 or -FY 2015 Water Resource Reform and Development Act, the following clauses:

(1) Minimum wages.

- (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in § 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis- Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. District may obtain wage determinations from the U.S. Department of Labor's web site, www.dol.gov.

- (ii) (A) The District(s), on behalf of EPA, shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The State award official shall approve a request for an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- (1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- (2) The classification is utilized in the area by the construction industry; and
- (3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the District(s) agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), documentation of the action taken and the request, including the local wage determination shall be sent by the District (s) to the State award official. The State award official will transmit the request, to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210 and to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification request within 30 days of receipt and so advise the State award official or will notify the State award official within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the District(s) do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the award official shall refer the request and the local wage determination, including the views of all interested parties and the recommendation of the State award official, to the Administrator for determination. The request shall be sent to the EPA DB Regional Coordinator concurrently. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt of the request and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii)(B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

- (iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.
- (iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the

applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

- (2) Withholding. The District(s), shall upon written request of the EPA Award Official or an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the (Agency) may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.
- (3) Payrolls and basic records.
 - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.
 - (ii) (A) The contractor shall submit weekly, for each week in which any contract work is performed, a copy of all payrolls to the District, that is, the entity that receives the sub-grant or loan from the State capitalization grant. Such documentation shall be available on request of the State or EPA. As to each payroll copy received, the District shall provide written confirmation in a form satisfactory to the State indicating whether or not the project is in

compliance with the requirements of 29 CFR 5.5(a)(1) based on the most recent payroll copies for the specified week. The payrolls shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on the weekly payrolls. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <https://www.dol.gov/whd/forms/index.htm> or its successor site.

The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the District(s) for transmission to the State or EPA if requested by EPA, the State, the contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the District(s).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

- (1) That the payroll for the payroll period contains the information required to be provided under § 5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under § 5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
- (2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
- (3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for

submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

- (iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the State, EPA or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency or State may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) Apprentices and trainees

- (i) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or sub contractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable

wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

- (ii) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.
- (iii) Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

- (5) Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.
- (6) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the EPA determines may be appropriate, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.
- (7) Contract termination; debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.
- (8) Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.
- (9) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and District(s), State, EPA, the U.S. Department of Labor, or the employees or their representatives.
- (10) Certification of eligibility.
 - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - (ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
 - (iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

4. Contract Provision for Contracts in Excess of \$100,000.

- (a) Contract Work Hours and Safety Standards Act. The District shall insert the following clauses set forth in paragraphs (a)(1), (2), (3), and (4) of this section in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by Item 3, above or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.
 - (i) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

- (ii) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (a)(1) of this section the contractor and any subcontractor responsible therefore shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a)(1) of this section, in the sum of \$25 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a)(1) of this section.
 - (iii) Withholding for unpaid wages and liquidated damages. The District, upon written request of the EPA Award Official or an authorized representative of the Department of Labor, shall withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.
 - (iv) Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a)(1) through (4) of this section.
- (b) In addition to the clauses contained in Item 3, above, in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR 5.1, the District shall insert a clause requiring that the contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the District shall insert in any such contract a clause providing that the records to be maintained under this paragraph shall be made available by the contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

5. Compliance Verification

- (a) The District shall periodically interview a sufficient number of employees entitled to DB prevailing wages (covered employees) to verify that contractors or subcontractors are paying the appropriate wage rates. As provided in 29 CFR 5.6(a)(3), all interviews must be conducted in confidence. The District must use Standard Form 1445 (SF 1445) or equivalent documentation to memorialize the interviews. Copies of the SF 1445 are available from EPA on request.
- (b) The District shall establish and follow an interview schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. District must conduct more frequent interviews if the initial interviews or other information indicated that there is a risk that the contractor or subcontractor is not complying with DB. District shall immediately conduct interviews in response to an alleged violation of the prevailing wage requirements. All interviews shall be conducted in confidence.
- (c) The District shall periodically conduct spot checks of a representative sample of weekly payroll data to verify that contractors or subcontractors are paying the appropriate wage rates. The District shall establish and follow a spot check schedule based on its assessment of the risks of noncompliance with DB posed by contractors or subcontractors and the duration of the contract or subcontract. At a minimum, if practicable, the District should spot check payroll data within two weeks of each contractor or subcontractor's submission of its initial payroll data and two weeks prior to the completion date the contract or subcontract. District must conduct more frequent spot checks if the initial spot check or other information indicates that there is a risk that the contractor or subcontractor is not complying with DB. In addition, during the examinations the District shall verify evidence of fringe benefit plans and payments there under by contractors and subcontractors who claim credit for fringe benefit contributions.
- (d) The District shall periodically review contractors and subcontractors use of apprentices and trainees to verify registration and certification with respect to apprenticeship and training programs approved by either the U.S Department of Labor or a state, as appropriate, and that contractors and subcontractors are not using disproportionate numbers of, laborers, trainees and apprentices. These reviews shall be conducted in accordance with the schedules for spot checks and interviews described in Item 5(b) and (c) above.
- (e) District must immediately report potential violations of the DB prevailing wage requirements to the EPA DB contact listed above and to the appropriate DOL Wage and Hour District Office listed at <http://www.dol.gov/whd/america2.htm>.

ARTICLE 7 - CONTRACT PRICE

DISTRICT shall pay CONTRACTOR for completion of the WORK the sum of _____ Dollars (\$_____) based on the bid price of same and in accordance with the Bid Schedule attached hereto as Exhibit "C" and the Contract Documents as defined in Article 10.

In no case shall the total contract compensation exceed _____ Dollars (\$_____) without the prior written authorization by the DISTRICT's General 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 General Manager.

ARTICLE 8 - PAYMENT PROCEDURES

Payment for the items in the BID, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items being described, as necessary to complete the items of the work as specified and indicated, including health and safety requirements, and for any items that is not specifically set forth in the BID, and all costs therefor shall be included in the prices named in the "BID for the various appurtenant items of work. Payments for maintenance of traffic and detours and for conforming to all of the provisions of the specifications shall be considered to be included in the Contract unit or lump sum prices paid for items of work where maintenance of traffic and detours is required, and no additional allowance will be made therefor.

CONTRACTOR shall submit Applications for Payment for the work completed for the period as follows:

1. The quantity or amount of work completed for each unit price item in the BID.
2. The percent complete for each lump sum item in the BID
3. The District may require evidence of quantities, amounts, or percent complete for the unit price and lump sum items

A partial payment may be made during the progress of the work, provided that the Contractor shall have submitted to the Engineer and Owner an application for such payment. On or before the due date of such payment, the Engineer shall issue to the Contractor, for delivery to the Owner, a certificate for such amount as the Engineer determines to be properly due. The application shall contain the same items listed above.

No Payment, made as provided for in the Contract, shall be evidence of the performance of the Contract, either wholly or in part, and no payment, including the final payment shall be construed to be an acceptance of any defective work or improper materials.

The acceptance by the Contractor of final payment hereunder shall be and shall operate as a waiver of all rights of the Contractor to file any claim of lien arising out of or connected with the work or the Contract and as a release to the Owner of all claims of the Contractor and of all liability to the Contractor for all things done and furnished in connection with the work and for any act or neglect of the Owner, Engineer, or others, relating to or arising out of the work.

If at any time any dispute shall exist between the Owner and the Contractor as to any amount of money due or claimed by the Contractor to be due from the Owner to the Contractor, then and in each such instance the Owner shall pay to the Contractor such amount of money involved in such dispute as shall have been certified by the Engineer to be due and payable from the Owner to the Contractor, and the Contractor hereby waives all rights of the Contractor to file any lien or claim of lien by reason of any balance of money involved in such dispute as shall have been certified by the Engineer to be due and payable from the Owner to the Contractor, and the Contractor hereby waives all rights of the Contractor to file any lien or claim of lien by reason of any balance of money involved in such dispute and not so certified by the Engineer; provided, however, that such determination by the Engineer may be subject to arbitration.

The Retention proceeds shall be withheld by the Owner in accordance with the provisions of Section 7107 of the Public Contract Code. The Owner may withhold or, on account of subsequently discovered evidence, nullify the whole or part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

1. Defective work not remedied.
2. Claim filed or reasonable evidence indicating probable filing of claims.
3. Failure of the Contractor to make payments properly to subcontractors or for material or labor.
4. A reasonable doubt that the Contract can be completed for the balance then unpaid.
5. Damage to any Other Contractor.
6. A reasonable doubt that the work can be completed within the Contract Time.
7. Unsatisfactory prosecution of the work by the Contractor. When the above grounds are removed, payment shall be made for amounts withheld because of them.

ARTICLE 9 - RETENTION

Pursuant to section 22300 of the California Public Contract Code, the CONTRACTOR may substitute securities for any money withheld by the DISTRICT 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 DISTRICT 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.

Alternatively, the CONTRACTOR may request and the DISTRICT 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 DISTRICT. These expenses and payment terms shall be determined by the DISTRICT'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 DISTRICT, pursuant to the terms of this section. The CONTRACTOR shall pay to each subcontractor, not later than twenty (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.

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 DISTRICT.

ARTICLE 10 - FACILITIES, EQUIPMENT, SAFETY AND JOBSITE MANAGEMENT

CONTRACTOR shall, at its sole cost and expense, provide all facilities and equipment that may be necessary to perform the services required by this Agreement and Bid Documents, Exhibit "A".

In accordance with generally accepted construction practices and state law, CONTRACTOR shall be solely and completely responsible for conditions on the jobsite, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours.

CONTRACTOR shall take all necessary precautions and provide all necessary safeguards to prevent personal injury and property damage. CONTRACTOR shall provide protection for all persons including, but not limited to, its employees and employees of its subcontractors; members of the public; and employees, agents, and representatives of the DISTRICT and regulatory agencies that may be on or about the work.

The services of the DISTRICT in conducting review and inspection of CONTRACTOR's performance is not intended to include review of the adequacy of CONTRACTOR's work methods, equipment, bracing or scaffolding, or safety measures, in, on, or near any CONTRACTOR jobsite.

All work and materials shall be in strict accordance with all applicable state, DISTRICT, county and federal rules, regulations and codes, with specific attention to the United States Department of Labor Occupational Health and Safety Administration (OSHA) requirements. CONTRACTOR shall be solely responsible for compliance with all DISTRICT, County, and State explosive transport, storage and blasting requirements and for any damages caused by such operations.

CONTRACTOR is hereby informed that work on DISTRICT property could be hazardous. CONTRACTOR shall carefully instruct all personnel working on DISTRICT property that all conditions of the property are potentially hazardous work areas as to potential dangers and shall provide such necessary safety equipment and instructions as are necessary to prevent injury to personnel and damage to property. Special care shall be exercised relative to work underground.

In addition to complying with all other safety regulations, CONTRACTOR shall abide by any and all other DISTRICT requirements contained in any specifications, special conditions or manuals, which shall be made available by DISTRICT upon request.

CONTRACTOR shall furnish, erect, and maintain all necessary safety equipment such as fences, barriers, signs, lights, walkways, and provide such flagging and guards as are necessary in the opinion of District or public agency having jurisdiction, to give adequate warning to the public of the construction and of any dangerous condition to be encountered as a result thereof.

It is the intent of the DISTRICT to provide a safe working environment under normal conditions. CONTRACTOR IS ADVISED THAT DISTRICT'S OPERATIONS AND PROPERTY ARE INHERENTLY HAZARDOUS BECAUSE OF CONDITIONS SUCH AS CONFINED SPACES, POTENTIALLY EXPLOSIVE ATMOSPHERES AND POSSIBLE EXPOSURE TO PATHOGENS.

CONTRACTOR shall designate one of Contractor's staff as "Site Safety Officer" whose duties shall include the responsibility for enforcing the environmental protection including safety and health, the requirements of the Occupational Safety and Health Act, and other applicable federal, state and local standards. Contractor submit for review by District Contractor's intended traffic flow plan, security plan, program for temporary structures, housecleaning plan, demolition plan, and environmental safety and health plan. After review by the District, the implementation and enforcement of these plans shall become the responsibility of the Site Safety Officer. Any changes in the plans shall be requested by Contractor through the Site Safety Officer for written concurrence by the District.

DISTRICT reserves the right to require that CONTRACTOR bring onto the project or engage the services of a licensed safety engineer at any time during the term of this Agreement. If CONTRACTOR does not have a licensed safety engineer on staff, then DISTRICT may require that CONTRACTOR engage a subcontractor or sub-consultant as the project's safety engineer. CONTRACTOR shall bear all costs in connection with meeting the requirements of this section.

CONTRACTOR shall maintain all portions of the jobsite in a neat, orderly, clean, and sanitary condition at all times. Contractor shall perform periodic cleaning to ensure that any streets and other County and public properties are maintained free from accumulation of waste materials, dust, mud and debris from Contractor's operations. Daily cleanup throughout the job will be necessary as Contractor progresses with its work. All dust, mud spoils, and construction debris shall be removed daily from all roadways, ditches, shoulders, and private property. If required by the DISTRICT, toilets shall be furnished by CONTRACTOR where needed for use of its employees and their use shall be strictly enforced.

CONTRACTOR shall keep adequate first aid facilities and supplies available and instruction in first aid for its employees shall be given.

ARTICLE 11 - BONDS

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 District and the requirement in the Bid Documents.

The CONTRACTOR shall guarantee the WORK to be free of defects in material and workmanship for a period of five (5) years following the DISTRICT'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 five-year guarantee period. The CONTRACTOR's guarantee against defects required by this provision shall be secured by a Warranty Bond, in the amount of ten percent (10%) of the contract price, which shall be delivered by the CONTRACTOR to the DISTRICT prior to acceptance of the WORK. The Warranty Bond shall remain in force for one (1) year from the date of acceptance of the contracted WORK, but may be renewed thereafter. The CONTRACTOR shall make all repairs and replacements within the time required on the Warranty Bond upon receipt of written order from the ENGINEER. If the CONTRACTOR fails to make the repairs and replacements within the required time, the DISTRICT may do the work and the CONTRACTOR and the CONTRACTOR's surety for the Warranty Bond shall be liable to the DISTRICT for the cost. The expiration of the Warranty Bond during the five-year guarantee period does not operate to waive or void the five-year guarantee, as set forth herein.

The form of the Bidder, Performance, Labor and Materials, Payment, and Warranty Bonds are provided by the DISTRICT as part of the Contract Documents. Only such bond forms provided by the DISTRICT 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.

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 seven (7) days thereafter substitute another Bond and surety, which must be acceptable to the DISTRICT.

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 Bid Documents and are required by the District.

ARTICLE 12 - 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 District's Attorney as to form and carrier and the District 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.

Coverage shall be at least as broad as: (i) Insurance Services Office Commercial General Liability coverage; (ii) Insurance Services Office form number covering Automobile Liability, code 1 (any auto); and (iii) Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

CONTRACTOR shall maintain limits no less than: (i) 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; (ii) Automobile Liability: \$1,000,000 per accident for bodily injury and property damage; (iii) 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.

Any deductibles or self-insured retentions must be declared to and approved by the DISTRICT. At the option of the DISTRICT, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the DISTRICT, 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.

The required general liability and automobile policies are to contain, or be endorsed to contain the following provisions: (i) The DISTRICT, its officers, officials, employees, agents and volunteers, and the State Water Board, its officers, agents, employees, and servants are to be covered as additional named insured as respects: liability arising out of activities performed by or on behalf of the CONTRACTOR; products and completed operations of the CONTRACTOR; premises owned, 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 DISTRICT, its officers, officials, employees, agents or volunteers; (ii) for any claims related to this project, the CONTRACTOR's insurance coverage shall be primary insurance as respects the DISTRICT, its officers, officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the DISTRICT, its officers, officials, employees, agents or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute with it; (iii) Any failure to comply with reporting or other provisions of the policies including breaches of warranties shall not affect coverage provided to the DISTRICT, its officers, officials, employees, agents or volunteers; (iv) 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; (v) 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 DISTRICT.

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

CONTRACTOR shall furnish the DISTRICT 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 DISTRICT. All endorsements are to be received and approved by the DISTRICT before work commences. As an alternative to the DISTRICT's forms, the CONTRACTOR's insurer may provide complete, certified copies of all required insurance policies, including endorsements affecting the coverage required by these specifications.

ARTICLE 13 - INDEMNIFICATION

To the fullest extent permitted by law, the CONTRACTOR shall indemnify, defend, and hold harmless the DISTRICT, its consultants, sub-consultants, and the officers, directors, employees, and agents of each and any of them, against and from all claims and liability arising under, by reason of, related, or incidental to the Contract Documents or any performance of the WORK, but not from the sole negligence or willful misconduct of the DISTRICT.

The CONTRACTOR shall reimburse the DISTRICT 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 DISTRICT in enforcing the provisions of this Paragraph.

The indemnification obligation under this Article 12 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.

ARTICLE 14 - DISCLAIMER AND INDEMNITY

(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 DISTRICT 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 DISTRICT, 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 DISTRICT, its officials, officers, employees, agents, volunteers and consultants from and against any or all loss, liability, expense, claim costs (including costs of defense), suits, and damages of every kind, nature and description directly or indirectly arising from performance of the WORK, including, without limitation, 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. This provision shall not be construed to exempt the DISTRICT, or its officials, officers and employees from their own fraud, willful injury or violation of law, whether willful or negligent. By execution of this contract, the CONTRACTOR acknowledges and agrees that the CONTRACTOR has read and understands the insurance and other requirements of this contract, including this indemnity provision, which is a material element of consideration. Approval of the CONTRACTOR's certificates of insurance does not relieve the CONTRACTOR of liability under this provision.

ARTICLE 15 - 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.

DISTRICT 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 16 – EQUAL OPPORTUNITY EMPLOYMENT

During the performance of this contract, the contractor agrees as follows:

- (a) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The

- contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of this nondiscrimination clause.
- (b) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color, or national origin.
 - (c) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or workers' representative of the contractor's commitments under Section 202 of Executive Order No. 11246 of September 24, 1965, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
 - (d) The contractor will comply with all provisions of Executive Order No. 11246 of Sept. 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
 - (e) The contractor will furnish all information and reports required by Executive Order No. 11246 of September 24, 1965, and by the rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
 - (f) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of such rules, regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246 of Sept 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order No. 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
 - (g) The contractor will include the provisions of Paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246 of Sept. 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the contracting agency may direct as a means of enforcing such provisions including sanctions for noncompliance: Provided, however, That in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

ARTICLE 17 - NOTICE

Except as otherwise specified herein, all notices to be sent pursuant to this Agreement shall be made in writing and sent to the parties at its addresses specified below or to such other address as a party may designate by written notice delivered to the other parties in accordance with this article. All such notices shall be sent by either: (a) personal delivery, in which case notice is effective upon delivery; (b) certified or registered mail, return receipt requested, in which case notice shall be deemed delivered on receipt if delivery is confirmed by a return receipt; (c) nationally recognized overnight courier, with charges prepaid or charged to the sender's account, in which case notice is effective on delivery if delivery is confirmed by the delivery service; or (d) facsimile transmission, in which case notice shall be deemed delivered upon transmittal, provided that (i) a duplicate copy of the notice is promptly delivered by first-class or certified mail or by overnight delivery, or (ii) a transmission report is generated reflecting the accurate transmission thereof. Any notice given by facsimile shall be considered to have been received on the next business day if it is received after 5:00 p.m. recipient's time or on a nonbusiness day.

DISTRICT: Burbank Sanitary District
Attention: Benjamin Porter
20863 Stevens Creek Blvd., Ste. 100
Cupertino, CA 95014
Telephone: (408) 255-2137
Facsimile: (408) 253-5173
Email: bporter@markthomas.com

CONTRACTOR: [Name of Contractor]
California Contractor's License No. _____
Attention: _____
Address: _____
_____, CA _____
Telephone: _____
Facsimile: _____
Email: _____
Agent for process service:

Name:
Address:
San Jose, CA _____

ARTICLE 17 - 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, DISTRICT and CONTRACTOR have caused this Agreement to be executed the day and year first above written.

ARTICLE 18 - GOVERNING LAW

The laws of the State of California shall govern this Agreement, without regard for the choice of law doctrine. Venue shall be in the County of San Mateo or Santa Clara County. See attached Exhibit "E" for County of Santa Clara Standard Terms and Conditions for Agreement for Services.

Burbank Sanitary District

By: _____

Name: _____

Title: _____

[NAME OF CONTRACTOR]

By: _____

Name: _____

Title: _____

APPROVED AS TO FORM:

Attorney for
Burbank Sanitary District

AGREEMENT CERTIFICATE

STATE OF CALIFORNIA)
) SS:
COUNTY OF _____)

I HEREBY CERTIFY that a meeting of the Board of Directors of [Name of Contractor], a corporation existing under the laws of the state of California, held on _____, 2021 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 _____, 2021, 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 _____, 2021.

Secretary

(SEAL)

EXHIBITS

- A Bid Documents
- B Technical Specifications
- C Bid Schedule

DOCUMENT 00530 – INSURANCE FORMS

INSURANCE FORMS INSTRUCTIONS

FOR ITEMS 3, 4 AND 5, THE FORMS PROVIDED BY THE BURBANK SANITARY DISTRICT MUST BE USED. FORMS OTHER THAN THESE WILL NOT BE ACCEPTED.

ALL DOCUMENTS MUST BE ORIGINALS - SUBMIT IN TRIPLICATE

1. Insurance Agreement - **Must** be signed by Contractor.
2. Certificate of Insurance to Burbank Sanitary District- **must** be completed by the insurance agent **or must** provide a certificate on the company's form. They **must** contain the same information.
3. Endorsement of Additional Insured and Primary Insurance and Notice of Cancellation - **must** be signed by the insurance agent for general liability and automobile liability only.
4. Comprehensive general liability/commercial general liability endorsement of aggregate limits of insurance per project - **must** be signed by the insurance agent for general liability only.
5. Waiver of subrogation endorsement worker's compensation insurance - **must** be signed by the insurance agent for worker's compensation only

INSURANCE AGREEMENT

- A. Contractor is aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for worker's compensation or undertake self-insurance in accordance with the provisions of that Code, and will comply, with such provisions before commencing the performance of the work of this Contract.
- B. Contractor and all subcontractors will carry worker's compensation insurance for the protection of its employees during the progress of the work. The insurer shall waive its rights of subrogation against the District, the District's officers, agents and employees and shall issue an endorsement to the policy evidencing same.
- C. Contractor shall carry at all times, on all operations hereunder, commercial general liability insurance, automobile liability insurance and builder's all risk insurance. All insurance coverage shall be in amounts required by the District and shall be evidenced by the issuance of a certificate in a form prescribed by the District and shall be underwritten by insurance companies satisfactory to the District for all operations, sub-contract work, contractual obligations, product or completed operations, all owned vehicles and non-owned vehicles. Said insurance coverage obtained by the Contractor, excepting worker's compensation coverage, shall name the District, its engineer, and each of its directors, officers, agents and employees, as determined by the District, and the State Water Board, its officers, agents, employees, and servants, as additional insureds on said policies. Insurers must be licensed to do business in the State of California. The Insurers must also have an "A" policyholder's rating and a financial rating of at least Class VII in accordance with the current Best's Guide Rating or that is otherwise acceptable to the District.
- D. Before Contractor performs any work at, or prepares or delivers materials to, the site of construction, Contractor shall furnish certificates of insurance evidencing the foregoing insurance coverages and such certificates shall provide the name and policy number of each carrier and policy and that the insurance is in force and will not be canceled or modified without thirty (30) days written notice to the District. Contractor shall maintain all of the foregoing insurance coverages in force until the work under this Contract is fully completed. The requirement for carrying the foregoing insurance shall not derogate from the provisions for indemnification of the District by Contractor under this Contract and for the duration of the warranty period. Notwithstanding nor diminishing the obligations of Contractor with respect to the foregoing, Contractor shall maintain in full force and effect during the life of this Contract, the following insurance in amounts not less than the amounts specified and having a Best's Guide Rating of A, Class VII or better or that is otherwise acceptable to the District.

LIMITS

Worker's Compensation & Employers' Liability	In accordance with the Worker's Compensation Act of the State of California – Worker's comp "statutory" per CA Law; Employers' Liability \$1,000,000 per occurrence.
General Liability - commercial general liability; including provisions for contractual liability, personal injury, independent contractors and products – completed operations hazard.	Combined single limit of \$2.0 million per occurrence; \$4.0 million in the aggregate
Automobile Liability - comprehensive covering owned non-owned and hired automobiles.	Combined single limit of \$1.0 million per occurrence.

_____ By: _____
(Contractor's Name)
Dated: _____ 20__

CERTIFICATE OF INSURANCE TO BURBANK SANITARY DISTRICT

This certifies to the Burbank Sanitary District that the following described policies have been issued to the insured named below and are in force at this time.

Insured: _____

Address: _____

Description of operations/locations/products insured (show contract name and/or number, if any):

=====

WORKER'S COMPENSATION

* Statutory Min.

* Employer's Liability

(name of insurer)

\$ _____ \$ _____ \$ _____

Insurance Company's State License No.

=====

Check Policy Type:

Each Occurrence \$ _____

COMPREHENSIVE GENERAL LIABILITY

[] Premises/Operations General Aggregate \$ _____
(if applicable)

[] Owners & Contractors Protective Aggregate \$ _____

[] Contractual for Specific Contract Personal Injury \$ _____

[] Products Liability

[] XCU Hazards

[] Broad Form P.D. Fire Damage (any one fire) \$ _____

[] Severability of Interest Clause

[] Personal Injury with Employee Exclusion Removed Medical Expense \$ _____
(any one person)

or Self-Insured Retention \$ _____

COMMERCIAL GENERAL LIABILITY

(name of insurer)

Policy No. _____

Expiration Date _____

=====

AUTOMOTIVE/VEHICLE LIABILITY Commercial Form Liability Coverage	BODILY INJURY Each Person	PROPERTY DAMAGE Each Accident
	\$ _____ Each Accident	\$ _____
_____	\$ _____ or	
(name of insurer)	Combined Single Limit	\$ _____

Policy No. _____ Expiration Date _____

=====

BUILDER'S RISK "ALL RISK"

This is to certify that the following policy has been issued by the below-stated company in conformance with the requirements of the project documents and is in force at this time.

(Name of insurer)

Policy No. _____ Expiration Date _____

Limits of Liability: _____ Deductible: _____

=====

_____ A copy of all Endorsements to the policy(ies) which in any way
(agent's initial) limit the above-listed types of coverage are attached to this

Certificate of Insurance.

This Certificate of Insurance is not an insurance policy and does not amend, extend or alter the coverage afforded by the policies listed herein. Notwithstanding any requirement, term, or condition of any contract or any other document with respect to which this Certificate of Insurance may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions and conditions of such policies.

IT IS HEREBY CERTIFIED that the above policy(ies) provide liability insurance as required by the Agreement between the District and the insured.

By: _____ Dated: _____ 20__

Attach Certificate of Insurance and Additional Insured Endorsement on company forms.

**ADDITIONAL INSURED ENDORSEMENT
and
ENDORSEMENT OF PRIMARY INSURANCE
and
NOTICE OF POLICY
CANCELLATION ENDORSEMENT**

[CU-16117]: DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

The Burbank Sanitary District ("District") and its directors, officers, engineers, agents and employees, and all public agencies from whom permits will be obtained and their directors, officers, engineers, agents and employees, and the State of California, and its officers, agents and employees, are hereby declared to be additional insureds under the terms of this policy, but only with respect to the operations of the Contractor at or upon any of the premises of the District in connection with the Contract with the District, or acts or omissions of the additional insureds in connection with, but limited to its general supervision or inspection of said operations.

The insurance afforded by this policy is primary insurance, and no additional insurance held or owned by the designated additional insured(s) shall be called upon to cover a loss under said additional policy.

Cancellation Notice. The insurance afforded by this policy shall not be suspended, voided, canceled, reduced in coverage or in limits, or materially altered, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the District. Such notice shall be addressed to the District as indicated below.

POLICY INFORMATION

1. Insurance Company:

2. Insurance Policy Number: _____)

3. Effective Date of this Endorsement:

_____ 20 _____

4. Insured:

All notices herein provided to be given by the Insurance Company to the District in connection with this policy and these Endorsements, shall be mailed to or delivered to the District at 20863 Stevens Creek Boulevard Suite 100, Cupertino, California 95014.

I, _____ (print/type name) warrant that I have authority to bind the below listed Insurance Company and by my signature hereon do so bind this Company.

Signature of Authorized Representative: _____
(Original signature required on all Endorsements furnished to the District)

Names of Agent/Agency: _____ Title: _____

Address: _____ Telephone: _____

_____ Facsimile: _____

**COMPREHENSIVE GENERAL LIABILITY
COMMERCIAL GENERAL LIABILITY
ENDORSEMENT OF AGGREGATE LIMITS OF
INSURANCE PER PROJECT**

[CU-16117]: DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is as follows:

This Endorsement modifies the insurance provided under the General Liability Coverage part of the below-referenced policy of insurance.

The general aggregate limit under LIMITS OF INSURANCE applies separately to the project described as

POLICY INFORMATION

1. Insurance Company: _____
2. Insurance Policy Number: _____
3. Effective Date of this Endorsement: _____ 20__
4. Insured: _____
5. Additional Insured: Burbank Sanitary District, its directors, officers, agents and employees.

All notices herein provided to be given by the Insurance Company to the District in connection with this policy and this Endorsement shall be mailed to or delivered to the District at 20863 Stevens Creek Boulevard Suite 100, Cupertino, California 95014.

I, _____ (print/type name)
warrant that I have authority to bind the below listed Insurance Company and by my signature hereon do so bind this Company.

Signature of Authorized Representative: _____
(Original signature required on all Endorsements furnished to the District)

Names of
Agent/Agency: _____ Title: _____

Address: _____ Telephone: _____

_____ Facsimile: _____

**WAIVER OF SUBROGATION ENDORSEMENT
WORKER'S COMPENSATION INSURANCE**

[CU-16117]: DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

In consideration of the policy premium and notwithstanding any inconsistent statement in the policy to which this Endorsement is attached or any other Endorsement attached thereto, it is agreed as follows:

It is agreed that with respect to such insurance as is afforded by the policy, the Insurance Company waives any right of subrogation against the Burbank Sanitary District, and each of its directors, officers, agents, consultants and employees by reason of any payment made on account of injury, including death resulting therefrom, sustained by any employee of the insured, arising out of the performance of the above-referenced Contract.

POLICY INFORMATION

1. Insurance Company: _____
2. Insurance Policy Number: _____
3. Effective Date of this Endorsement: _____ 20____
4. Insured: _____

All notices herein provided to be given by the Insurance Company to the District in connection with this policy and this Endorsement, shall be mailed to or delivered to the District at 20863 Stevens Creek Boulevard Suite 100, Cupertino, California 95014.

I, _____ (print/type name)
warrant that I have authority to bind the below listed Insurance Company and by my signature hereon do so bind this Company.

Signature of Authorized Representative: _____
(Original signature required on all Endorsements furnished to the District)

Names of
Agent/Agency: _____ Title: _____

Address: _____ Telephone: _____

_____ Facsimile: _____

END OF DOCUMENT 00530

DOCUMENT 00550 – NOTICE TO PROCEED

Dated: _____

To: _____
(Contractor)

Address: _____

CONTRACT FOR:

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

You are notified that the Contract Time under the above Contract will commence to run on _____ 20____. On that date, you are to start performing your obligations with respect to Work at the Site under the Contract Documents. In accordance with Article 4 of Document 00520 (Construction Contract Agreement), the dates of Substantial Completion and Final Completion for the entire Work are _____, 20____, and _____, 20____, respectively.

Before you may start any Work at the Site, you must:

1. Submit certified Safety Program and related information, and comply with all requests of the District's safety officer.
 2. Submit copies of applicable permits
 3. Submit approved fire protection plan, if applicable
 4. Attend preconstruction conference. The preconstruction conference may be arranged through [_____].
-

Burbank Sanitary District, a Special District of Santa Clara County

By: _____

Its: _____

END OF DOCUMENT 00550

DOCUMENT 00610 – BIDDER’S BOND

KNOW ALL MEN BY THESE PRESENT:

THAT WE _____

as PRINCIPAL, and _____

as SURETY, are held and firmly bound unto the Burbank Sanitary District in the penal sum of TEN PERCENT (10%) of THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the Burbank Sanitary District (“District”) for the work described below; for the payment of which sum in lawful money of the United States, well and truly, to be made to the Burbank Sanitary District to which said bid was submitted, we bind ourselves; our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the surety hereunder exceed the sum of _____ Dollars (\$ _____).

THE CONDITION OF THIS OBLIGATION IS SUCH,

THAT, WHEREAS, the Principal has submitted the above-mentioned bid to the Burbank Sanitary District, aforesaid, for certain construction specifically described as follows, for which bids are to be opened at the Mark Thomas Office 20863 Stevens Creek Blvd Ste. 100, Cupertino, California 95014, on July 27, 2021 at 2:00 P.M.

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

NOW, THEREFORE, if the aforesaid Principal is awarded the contract and, within the time and manner required under the specification, after the prescribed forms are presented to him for signature, enters into a written contract, in the prescribed form, in accordance with the bid, and files three bonds with the District, one to guaranty faithful performance, one to guaranty payment for labor and materials another to guaranty correction of defective materials or workmanship as required by law, then this obligation shall be null and void; otherwise, it shall be and remain in full force and virtue. In the event suit is brought upon this bond by the obligee and judgment is recovered, the Surety shall pay all costs incurred by the obligee in such suit, including a reasonable attorney's fee to be fixed by the court.

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

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

_____ day of _____, 2021.

(Seal)

(Seal)

(Seal)

Principal

(Seal)

(Seal)

(Seal)

Surety

NOTE: Signatures of those executing for the surety must be properly acknowledged.

Accompanying this proposal is either (check appropriate box)

CASH (\$_____)

CASHIER'S CHECK

BIDDER'S BOND

END OF DOCUMENT 00610

DOCUMENT 00620 – FAITHFUL PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

THAT _____, as Principal, and _____ incorporated under the laws of the State of _____ and authorized to execute bonds and undertakings as Surety, are held firmly bound unto Burbank Sanitary District and City of San Jose, a Special District and City, respectively, of the County of Santa Clara, California, in the sum of (*Bid Amount*), for payment whereof, well and truly to be made, said Principal and Surety bind themselves, their administrators, successors and assigns, jointly and severally, firmly by these presents.

The condition of the foregoing obligation is such that;

WHEREAS, the above bounded Principal is about to enter into a certain contract with the Burbank Sanitary District, to do and perform the following work; to wit:

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

As required by the plans and specifications, pursuant to the award made to said Contractor by the Board of the Burbank Sanitary District on _____, as will more fully appear by reference to the Minutes of said Board of the said District of said date.

“THE CONDITION OF THIS OBLIGATION IS SUCH that if the above bound Principal, his/hers/its heirs, executors, administrators, successors, or assigns, shall in all things stand to and abide by, and well and truly keep and perform the covenants, conditions and 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 defend, indemnify and save harmless District, its officers, agents and employees, 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 the obligation secured hereby and in addition to the face amount specified therefore, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by District in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

And the said Surety hereby stipulates and agrees that upon termination of the Agreement, the District reserves the right to refuse tender of the principal by the surety to complete the Work.

The surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anyway effect 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.”

NOW, THEREFORE, if the above bounded Principal shall well and truly perform the work contracted to be performed under said contract, then this obligation shall be void; otherwise, to remain in full force and effect.

Signed and sealed this _____ day of _____, 2021.

BY: _____

Contractor
(Corporate seal)

Surety
(Corporate seal)

The amount of the within obligation hereby fixed by the District Board in the sum of **(Bid Amounts)**, that sum being One Hundred percent (100%) of the contract price, is by said District Board deemed sufficient and adequate, and is the sum fixed by it for that purpose.

APPROVED AS TO FORM:

Marc Hynes
District Counsel

Benjamin T. Porter, P.E.
District Manager/Engineer

Burbank Sanitary District,
of Santa Clara County

BY _____
President, Board of Supervisors
Santa Clara County

ATTEST:

Secretary, Board of Supervisors
Santa Clara County

END OF DOCUMENT 00620

DOCUMENT 00630 – PAYMENT BOND

(Section 9550, Civil Code)

Bond No. _____

WHEREAS, the Burbank Sanitary District, hereafter referred to a "Obligee", has awarded to Contractor _____, hereafter referred to as "Principal", a contract for the work described as follows:

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

AND, WHEREAS, said Principal is required to furnish a bond in connection with said contract to secure the payment of claims of laborers, mechanics, material men and other persons as provided by law.

NOW, THEREFORE, we the undersigned Principal and Surety are bound unto the Obligee in the sum of **(\$Amount)** the sum being fifty percent (50%) of the contract price for which payment we bind ourselves, jointly and severally.

THE CONDITION OF THIS OBLIGATION IS SUCH,

That if said Principal or its subcontractors shall fail to pay any of the persons named in Civil Code Section 3181, or amounts due under the Unemployment Insurance Code with respect to work or labor performed by such claimant, or any amounts required to be deducted, withheld and paid over to the Franchise Tax Board from the wages of employees of the Principal and his subcontractors pursuant to Section 18806 of the Revenue and Taxation Code, with respect to such work and labor, that the surety herein will pay for the same in an amount not exceeding the sum specified in this bond, otherwise the above obligations shall be void. In case suit is brought upon this bond, the surety will pay a reasonable attorney's fee to be fixed by the court.

This bond shall insure to the benefit of any of the persons named in Civil Code Section 3181 as to give a right of action to such persons or their assigns in any suit brought upon this bond.

Dated: _____, 2021

Correspondence or claims relating to this bond should be sent to the surety at the following address:

[NAME OF THE CONTRACTOR] _____

By: _____

Principal

By: _____
Attorney-in-fact

NOTE: Signatures of those executing for the surety must be properly acknowledged.

CERTIFICATE OF ACKNOWLEDGMENT

State of California
County of _____

On this _____ day of _____ in the year 2021, before me _____, personally appeared _____ personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to this instrument as the attorney-in-fact of _____ and acknowledged to me that he (she) subscribed the name of the said company thereto as surety, and his (her) own name as attorney-in-fact.

(SEAL)

Notary Public

END OF DOCUMENT 00630

DOCUMENT 00640 – WARRANTY BOND

KNOW ALL MEN BY THESE PRESENT:

THAT _____, as Principal, hereinafter called Contractor and _____ as Surety, hereinafter called Surety, are held and firmly bounded unto the Burbank Sanitary District as Obligee, hereinafter called DISTRICT, in the amount of _____ (\$_____), the sum being ten percent (10%) of the contract, for the payment whereof, Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these present.

WHEREAS, Contractor, by written agreement dated _____, 2021 entered into a contract with the District for the construction of the

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

Which contract is by reference made a part hereof, and is hereinafter referred to as the Contract; and,

WHEREAS, the Contract contains provisions for the correction of any defects due to defective materials or workmanship in the work performed under said contract;

NOW, THEREFORE, the condition of this obligation is such that if the Contractor, upon receiving notice within a period of one (1) year from the date of acceptance of the work included within the contract of any defects in the work performed under the Contract, which are directly attributable to defective materials or workmanship, shall promptly correct said defects, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

If any action shall be brought by District upon this bond, a reasonable attorney's fee, to be fixed by the Court, shall be and become a part of the District's judgment in any such action.

No right of action shall accrue on this bond to, or for the use of, any person or corporation other than the District named herein or the heirs, executors, administrator or successor of the District.

SIGNED AND SEALED this _____ day of _____, 2021.

CONTRACTOR: [NAME OF CONTRACTOR]

BY: _____ Title: _____

BY: _____ Title: _____

END OF DOCUMENT 00640

DOCUMENT 00650 – LABOR AND MATERIAL BOND

KNOW ALL MEN BY THESE PRESENTS;

WHEREAS, the **Burbank Sanitary District**, County of Santa Clara, State of California (hereinafter designated as "District"), and _____ (hereinafter designated as "Principal") are about to enter into an agreement providing for the construction by Principal of sanitary sewer replacement "**DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**" in the County of Santa Clara, State of California; 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 bond with district 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, we, the Principal, and _____, as Surety, are held and firmly bound unto the Burbank Sanitary District and all contractors, subcontractors, laborers, material men, and other persons employed in the performance of said agreement and referred to in the aforesaid Civil Code, in the penal sum of _____ (\$ _____), lawful money of the United States, for the payment of which sum, well and truly to be made, bind ourselves and our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT; if the above bound Principal shall fail to pay for any materials furnished or labor thereon of any kind in connection with the performance of said agreement, 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 the District 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.

This bond shall insure 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 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 to the work to be performed thereunder, 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 of time, alteration or addition to the terms of the contract, or to the work, or to the specifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety,
this _____ day of _____, 2021.

[NAME OF CONTRACTOR]

Principal:

by _____

Title: (SEAL)

Surety

by _____

Attorney-in-fact [NAME]

(To be signed by Principal and
Surety with current Notarial
Acknowledgement and seal
attached)

END OF DOCUMENT 00650

DOCUMENT 00660 – AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS

DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT

THIS AGREEMENT AND RELEASE OF ANY AND ALL CLAIMS (“Agreement and Release”), made and entered into this _____ day of _____, 20____, by and between the _____ (“District”), and _____ (“Contractor”), whose place of business is at: _____.

RECITALS

- A. District and Contractor entered into Contract Number _____ (the “Contract”).
- B. The Work under the Contract has been completed.

Now, therefore, it is mutually agreed between District and Contractor as follows:

AGREEMENT

- 1. Contractor will not be assessed liquidated damages except as detailed below:

Original Contract Sum	\$ _____
Modified Contract Sum	\$ _____
Payment to Date	\$ _____
Liquidated Damages	\$ _____
Payment Due Contractor	\$ _____

- 2. Subject to the provisions of this Agreement and Release, District will forthwith pay to Contractor the sum of \$ _____ Dollars and _____ Cents (\$ _____) under the Contract, less any amounts withheld under the Contract or represented by any Notice to Withhold Funds on file with District as of the date of such payment.
- 3. Contractor acknowledges and hereby agrees that there are no unresolved or outstanding claims in dispute against District arising from the Contract, except for the claims described in paragraph 4 of this Document. It is the intention of the parties in executing this Agreement and Release that this Agreement and Release shall be effective as a full, final and general release of all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities of Contractor against District, and all if its agents, employees, consultants, inspectors, representatives, assignees and transferees except for the Disputed

Claims set forth in paragraph 4 of this Document. Nothing in this Agreement and Release

4. The following claims are disputed (hereinafter, the “Disputed Claims”) and are specifically excluded from the operation of this Agreement and Release:

<u>Claim No.</u>	<u>Date Submitted</u>	<u>Description of Claim</u>	<u>Amount of Claim</u>
------------------	-----------------------	-----------------------------	------------------------

[Insert information, including attachment if necessary]

5. Consistent with California Public Contract Code Section 7100, Contractor hereby agrees that, in consideration of the payment set forth in paragraph 2 of this Document, Contractor hereby releases and forever discharges District, and all of its agents, employees, consultants, inspectors, assignees and transferees from any and all liability, claims, demands, actions or causes of action of whatever kind or nature arising out of or in any way concerned with the Work under the Contract
6. Guarantees and warranties for the Work, and any other continuing obligation of Contractor, shall remain in full force and effect as specified in the Contract Documents.
7. Contractor shall immediately defend, indemnify and hold harmless the Burbank Sanitary District, Santa Clara County, its Architect, any of their Representatives, and all of their agents, employees, consultants, inspectors, assignees and transferees, from any and all claims, demands, actions, causes of action, obligations, costs, expenses, damages, losses and liabilities that may be asserted against them by any of Contractor’s suppliers and/or Subcontractors of any tier and/or any suppliers to them for any and all labor, materials, supplies and equipment used, or contemplated to be used in the performance of the Contract, except for the Disputed Claims set forth in paragraph 4 of this Document.
8. Contractor hereby waives the provisions of California Civil Code Section 1542, which provides as follows:

A general release does not extend to claims that the creditor or releasing party does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her, would have materially affected his or her settlement with the debtor or released party.

9. The provisions of this Agreement and Release are contractual in nature and not mere recitals and shall be considered independent and severable, and if any such provision or any part thereof shall be at any time held invalid in whole or in part under any federal, state, county, municipal or other law, ruling, or regulation, then such provision, or part thereof shall remain in force and effect only to the extent

permitted by law, and the remaining provisions of this Agreement and Release shall also remain in full force and effect, and shall be enforceable.

10. Contractor represents and warrants that it is the true and lawful owner of all claims and other matters released pursuant to this Agreement and Release, and that it has full right, title and authority to enter into this instrument. Each party represents and warrants that it has been represented by counsel of its own choosing in connection with this Agreement and Release.
11. All rights of District shall survive completion of the Work or termination of the Contract, and execution of this Agreement and Release.

*** CAUTION: THIS IS A RELEASE - READ BEFORE EXECUTING ***

Burbank Sanitary District,
a Special District of Santa Clara County

By: _____

Its: _____

ATTEST:

District Clerk

[CONTRACTOR]

By: _____

Name: _____

Its: _____

By: _____

Name: _____

Its: _____

REVIEWED AS TO FORM AND LEGALITY:

John A. Castro, Deputy County Counsel

END OF DOCUMENT 00660

DOCUMENT 00670 – SUBSTITUTION REQUEST FORM

To: Burbank Sanitary District,
A Special District of Santa Clara County (“District”)

Project: **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT**

Contractor: _____

Subcontractor/Supplier: _____

Drawing Sheet Reference/Detail No: _____

The undersigned Bidder submits for consideration the following equipment instead of the specified item for the above project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
_____	_____	_____
_____	_____	_____

Proposed Substitution: _____

The undersigned encloses the information required herein. If this Document 00670 is being submitted by a Bidder wishing to use “or equal” item(s) as provided in Document 00200 (Instructions to Bidders), the undersigned Bidder must also enclose the technical information (other than cost) otherwise required for a post-Award of Contract Request for Substitution (“RFS”).

The undersigned has (a) attached manufacturer’s literature, including complete technical data and laboratory test results, if applicable, (b) attached an explanation of why proposed substitution is a true equivalent to specified item, (c) included complete information on changes to Drawings and Specifications that the proposed substitution will require for its proper installation, and (d) filled in the blanks below:

A. Does the substitution affect dimensions shown on Drawings?

B. Are the manufacturer’s guarantees and warranties on the proposed substitution items identical to those on the specified items? If there are differences, please specify each and every difference in detail.

C. What effect does the substitution have on other contractors, trades, or suppliers?

D. What are the differences between the proposed substitution and the specified item? If proposed substitution has a color or pattern, provide a color board showing proposed substitution in relation to the other adjacent colors and patterns.

E. Will granting the requested substitution cause any schedule delay? (If yes, please explain)

The undersigned Bidder certifies that the function, appearance, and quality of the proposed substitution are equivalent or superior to those of the specified item.

Submitted by:

Bidder/Contractor
[note applicable]

For Use by District:

____ Accepted ____ Accepted as Noted

Signature

____ Not Accepted ____ Received Too Late

Name

By: _____
District's Representative

Address

Date: _____

City/State/Zip

Remarks: _____

Telephone: _____

Date: _____

END OF DOCUMENT 00670

**DOCUMENT 00680 – ESCROW AGREEMENT SECURITY DEPOSITS IN LIEU OF
RETENTION**

P.C.C. §22300

THIS ESCROW AGREEMENT (“Escrow Agreement”) is made and entered into this _____ day of _____, 20___, by and between the BURBANK SANITARY DISTRICT, a Special District of Santa Clara County (hereinafter “District”), whose address is 20863 Stevens Creek Boulevard Suite 100, Cupertino, California 95014; _____ (“Contractor”), whose place of business is located at _____; and **[District, as escrow agent ...OR... [_____],** a state or federally chartered bank in the State of California, whose place of business is located at _____] (“Escrow Agent”).

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

1. Pursuant to Section 22300 of Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by District for **DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT** in the amount of _____ dated _____ (the “Contract”). Alternatively, on written request of Contractor, District shall make payments of the retention earnings directly to Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, Escrow Agent shall notify District within ten Days of the deposit. The market value of the securities at the time of substitution shall be at least equal to the cash amount then required to be withheld as retention under terms of Contract between District and Contractor. Securities shall be held in name of _____ and shall designate Contractor as the beneficial owner.
2. District shall make progress payments to Contractor for those funds which otherwise would be withheld from progress payments pursuant to Contract provisions, provided that Escrow Agent holds securities in form and amount specified in paragraph 1 of this Document.
3. When District makes payment(s) of retention earned directly to Escrow Agent, Escrow Agent shall hold said payment(s) for the benefit of Contractor until the time that the escrow created under this Escrow Agreement is terminated. Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when District pays Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account, and all expenses of District. Such expenses and payment terms shall be determined by District, Contractor, and Escrow Agent.

5. Interest earned on securities or money market accounts held in escrow and all interest earned on that interest shall be for sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to District.
 6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from District to Escrow Agent that District consents to withdrawal of amount sought to be withdrawn by Contractor.
 7. District shall have the right to draw upon the securities in event of default by Contractor. Upon seven Days written notice to Escrow Agent from District of the default, Escrow Agent shall immediately convert the securities to cash and shall distribute the cash as instructed by District.
 8. Upon receipt of written notification from District certifying that the Contract is final and complete, and that Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payments of fees and charges.
 9. Escrow Agent shall rely on written notifications from District and Contractor pursuant to paragraphs 5 through 8, inclusive, of this Document and District and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of securities and interest as set forth.
- C. Names of persons who are authorized to give written notice or to receive written notice on behalf of District and on behalf of Contractor in connection with the foregoing, and exemplars of their respective are as follows:

On behalf of District:

Title

Name

Signature

Address

City/State/Zip

On behalf of Contractor:

Title

Name

Signature

Address

City/State/Zip

On behalf of Escrow Agent:

Title

Name

Signature

Address

City/State/Zip

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

END OF DOCUMENT 00680

DOCUMENT 01100 – PROJECT SUMMARY

SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and Project Limits.
- C. Work sequence.
- D. Order of Work for Project

CONTRACT DESCRIPTION

- E. In December of 2016, the District applied for a Clean Water State Revolving Fund (CWSRF) loan. On April 29, 2021, the District was notified that the CWSRF loan had been approved. The loan will provide funding for construction costs and soft costs (engineering, administration, and construction support). The funds from the CWSRF loan will be allocated towards the District-wide Capitol Improvement Project.
- F. Funding for this District Wide Capital Improvement Project has been provided in full or in part by the Clean Water State Revolving Fund through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds. Due to the state and Federal funding there are bidding and reporting requirements that contractors who are bidding the project will need to follow and demonstrate compliance. These requirements include, but are not limited to, disadvantaged businesses participation, use of prevailing wage rates, Davis Bacon wage requirements, project signage, prohibition on the use of imported iron and steel, and the use of Huawei Technology or ZTE Corporation telecommunications equipment.
- G. The work to be done under this contract consists of, in general, but not limited to the cured in place rehabilitation approximately 43 line segments of 6 and 8 inch sewer mains for a total length of 18,010 linear feet and spot repairs at 41 locations with open cut trenching with an approximate length of 340 linear feet. Work includes the reconnection of active sanitary sewer service laterals, reconstruction of active sanitary sewer service laterals and reinstatement of active sanitary sewer service laterals.
- H. The solicitation is comprised of Base Bid Work for rehabilitation of sewer located within the Burbank street right of way and an Alternative Bid for rehabilitation work to repair pipes that are located in sewer easements. The table below provides a summary of the rehabilitation methods based on their condition for the Base Bid work and the Alternative Bid work. The Engineering is not obligated to approve all of the Alternative Bid items shown in the bid schedule.

District-wide Capital Improvement Project

Rehabilitation Priority	Location	Segment	Description
1	Bailey Ave	LU-101	3 Spot Repairs
1	Bailey Ave	LU-102	5 Spot Repairs
1	Cecil St	LU-103	CIPP
1	Cecil St	LU-104	CIPP
1	Cecil St	LU-104A	CIPP
1	Bascom Ave	HU-101	CIPP
1	Cleveland Ave	LU-107	CIPP
1	Cleveland Ave	LU-107A	CIPP
1	Brookland Ave	LU-108	CIPP
1	Brookland Ave	LU-108A	CIPP
1	Boston Ave	LU-109	CIPP
1	Boston Ave	LU-109A	4 Spot Repairs
1	Wabash Ave	LU-110	CIPP
1	Laswell Ave	LU-201	5 Spot Repairs
1	Laswell Ave	LU-202	CIPP
1	Laswell Ave	LU-203	6 Spot Repairs
1	Vaughn Ave	LU-204	4 Spot Repairs
1	Vaughn Ave	LU-205	CIPP
1	Vaughn Ave	LU-206	3 Spot Repairs
1	Arleta Ave	LU-208	CIPP
1	Arleta Ave	LU-209	CIPP
1	Raymond Ave	HU-140	1 Spot Repair
1	Leland Ave	LU-122	CIPP
1	Leland Ave	LU-123	CIPP
1	Leland Ave	LU-213	CIPP
1	Leland Ave	LU-214	CIPP
1	Leland Ave	LU-215	CIPP
1	Rutland Ave	LU-216	CIPP
1	Rutland Ave	LU-217	CIPP
1	Rutland Ave	LU-218	CIPP
1	Rutland Ave	LU-219	CIPP
1	Rutland Ave	LU-220	CIPP
1	Rutland Ave	LU-221	CIPP
1	Clifton Ave	LU-223	3 Spot Repairs
1	Clifton Ave	LU-224	CIPP
1	Clifton Ave	LU-225	3 Spot Repairs
1	Leigh Ave	LU-227	CIPP
1	Leigh Ave	LU-228	CIPP
1	Leigh Ave	LU-229	CIPP
1	Richmond Ave	LU-230	CIPP

Rehabilitation Priority	Location	Segment	Description
1	Richmond Ave	LU-231	CIPP
1	Richmond Ave	LU-232	CIPP
1	Scott St	HU-131	1 Spot Repair
1	Scott St	HU-132	2 Spot Repairs
2	Bascom/Laswell Easement	LU-112	CIPP
2	Bascom/Laswell Easement	HU-141	CIPP
2	Laswell/ Arleta Easement	LU-114	CIPP
2	Laswell/ Arleta Easement	LU-115	CIPP
2	Arleta/ Raymond Easement	LU-116	CIPP
2	Arleta/ Raymond Easement	LU-117	CIPP
2	Raymond/Irving Easement	LU-118	CIPP
2	Raymond/Irving Easement	LU-119	CIPP
2	Irving/Leland Easement	LU-120	CIPP
2	Irving/Leland Easement	LU-121	CIPP
2	Irving/Leland Easement	LU-121A	CIPP

- A. Perform Work of the Contract under separate stipulated price contract with District in accordance with Conditions of Contract.

CONTRACTOR'S USE OF SITE AND PROJECT LIMITS

- A. Contractor shall limit use of street right of way to maintain traffic access all driveway and to public through the construction areas. Contractor must maintain one traffic lane open at all times during construction, and Contractor will be responsible for all traffic control and pedestrian accessibility (including stopping traffic for pedestrians, if required).
- B. Time Restrictions for Performing Contract Work: Work shall not commence prior to 8:00 AM and shall end at 5:00 PM daily, Monday through Friday. Daily cleanup operations shall begin no later than 4:00 PM and all traffic lanes shall be open and unrestricted no later than 5:00 PM each day. Work will not be permitted on the weekends, after hours, or holidays.

WORK SEQUENCE

- A. Coordinate construction schedule and operations, including any soils testing and notifications, with the Engineer. Sequence of Work to progress as based on a schedule provided by Contractor to the District prior to the start of construction.

- B. Construction Work to accommodate traffic access during construction period. Written notification to all affected agencies shall be made one (1) week prior and again twenty-four (24) hours prior to the start of work affecting said agencies and homeowners. The Contractor shall obtain written approval from the Engineer prior to distribution of all notices. The request for approval shall be received in the office of the Engineer forty-eight (48) hours prior to each distribution.
- C. Contractor shall adhere to the Traffic Control Plan showing proposed traffic restriction locations (if any), advance warning signs, and flagmen positions.
- D. Cleanup operations shall begin no later than 4:00 PM in order to leave streets open to traffic by 5:00 PM.

ORDER OF WORK FOR PROJECT

- A. Field locate all repair per layout and details sheet, and all existing sewer service laterals for the purpose of maintaining service during construction and for reconnection.
- B. For Cured in Place Repairs:
 - i. Complete point repairs following procedure in Section 3300, if applicable.
 - ii. Once point repair is complete, install CIPP liner as stated in Section 3400.
- C. If repairing via Open Cut or pipe bursting method, In pavement areas, expose laterals connected to existing main, then place steel plate to cover the excavated holes and place AC cut back (minimum 1 foot wide) around the steel plate and open it to traffic.
- D. Locations of spot repairs involving laterals in proximity:
 - Temporarily disconnect sewer lateral at the wye, CCTV, and then temporarily reconnect sewer lateral (maximum disconnection time is two (2) hours per each lateral).
 - Repair mainline via Open Cut, pipe bursting, or CIPP mainline and laterals.
 - Re-establish connection for all laterals
 - If laterals need to be replaced, maximum disconnection time will be 8 hours per laterals
 - Perform testing (Per BSD standard requirement)
 - Final CCTV Inspection of mainline by District

- E. In pavement areas, cutback shall be placed for a minimum of 30 days. Final placement of asphalt concrete and fog seal shall be performed in one continuous operation.

END OF DOCUMENT 01100

DOCUMENT 01200 – PRICE AND PAYMENT PROCEDURES

SECTION INCLUDES

- A. Contingency allowances.
- B. Testing and inspection allowances.
- C. Applications for payment.
- D. Change procedures.
- E. Defect assessment
- F. Unit prices.

CONTINGENCY ALLOWANCES

- A. No contingency allowance is included in this contract.

TESTING AND INSPECTION ALLOWANCES

- A. Construction inspection is provided by the District at no additional cost to the Contractor.

APPLICATIONS FOR PAYMENT

- A. Submit three copies of each application.
- B. Content and Format: Utilize Schedule of Values for listing items in Application for Payment.
- C. Contractor shall submit wages to paid to staff, as well as subcontractors, as stated in Davis Bacon Prevailing Wage language stated in the Project Contract.
- D. Submit updated construction schedule with each Application for Payment.
- E. Submit with transmittal letter as specified for Submittals in Section 01330.
- F. Submit claim waivers with application for final payment upon completion of the Work.
- G. Substantiating Data: When Engineer requires substantiating information, submit data justifying dollar amounts in question. Include the following with Application for Payment:
 - 1. Partial release of liens from major subcontractors and vendors.
 - 2. Affidavits attesting to value of off-site stored products.

3. Construction progress schedules, revised and current as specified in Section 01330.

CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Engineer will advise of minor changes in the Work not involving adjustment to Contract Price or Contract Time by issuing supplemental instructions in a Written Amendment to the Contract.
- C. The Engineer may issue a Notice of Change including a detailed description of proposed change with supplementary or revised drawings and specifications, a change in Contract Time for executing the change and the period of time during which the requested price will be considered valid. Contractor will prepare and submit estimate within five (5) days.
- D. Contractor may propose changes by submitting a request for change to Engineer, describing proposed change and its full effect on the Work. Include a statement describing reason for the change, and effect on Contract Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors. Document requested substitutions in accordance with Section 01600
- E. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Work Directive Change. Changes in Contract Price or Contract Time will be computed as specified for Time and Material Change Order.
- F. Work Directive Change: Engineer may issue directive, instructing Contractor to proceed with change in the Work, for subsequent inclusion in a Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Price or Contract Time. Promptly execute change.
- G. Time and Material Change Order: Submit itemized account and supporting data after completion of change, within time limits indicated in Conditions of the Contract. Engineer will determine change allowable in Contract Price and Contract Time as provided in Contract Documents.
- H. Contractor will not be paid for extra work performed prior to approval by Engineer.
- I. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.

- J. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation.
- K. Change Order Forms: District Change Order.
- L. Execution of Change Orders: Engineer will issue Change Orders for signatures of parties as provided in Conditions of the Contract.
- M. Correlation of Contractor Submittals:
 - 1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as separate line item and adjust Contract Sum/Price.
 - 2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
 - 3. Promptly enter changes in Project Record Documents.

DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to requirements of approved Construction Plans and Specifications, i.e.: failing compacted backfill material, contaminated soils or aggregates, damaged pipe materials etc.
- B. If, in the opinion of the Engineer, it is not practical to remove and replace the Work, the Engineer will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit price will be adjusted to new price at discretion of Engineer.
- D. Individual specification sections may modify these options or may identify specific formula or percentage sum/price reduction.
- E. Assessment of defects and identification of payment adjustments is the authority of the Engineer.
- F. Non-Payment for Rejected Products: Payment will not be made for rejected products for any of the following:
 - 1. Products wasted or disposed of in a manner that is not acceptable.
 - 2. Products determined as unacceptable before or after placement.
 - 3. Products not completely unloaded from transporting vehicle.
 - 4. Products placed beyond lines and levels of required Work.
 - 5. Products remaining on hand after completion of the Work.
 - 6. Loading, hauling, and disposing of rejected products.
 - 7. Any other products/work deemed unacceptable by the Engineer.

UNIT PRICES

- A. Measurement methods delineated in individual specification sections complement criteria of this section. In event of conflict, requirements of individual specification section govern. All measurements shall be as specified or made by conventional means with accuracies consistent with field conditions and common practice. Should a discrepancy in measurement exist which is greater than ten percent (10%), the item in question shall be re-measured by both the Contractor and the Owner's Representative for verification.
- B. Contractor to take measurements and compute quantities. Engineer will verify measurements and quantities.
- C. Unit Quantities: Quantities and measurements indicated in Bid Form are for contract purposes only. Quantities and measurements supplied or placed in the Work shall determine payment.
 - 1. When actual Work requires twenty-five (25%) percent or greater change in quantity than those quantities indicated, District or Contractor may claim for Contract Price adjustment.
- D. Payment Includes: Full compensation for required labor, products, tools, equipment, plant and facilities, transportation, services and incidentals; erection, application or installation of item of the Work; overhead and profit.
- E. Final payment for Work governed by unit prices will be made on basis of actual measurements and quantities accepted by Engineer multiplied by unit price for Work incorporated in or made necessary by the Work.
- F. Measurement of Quantities:
 - 1. Measurement by Volume: Measured by cubic dimension using mean length, width and height or thickness.
 - 2. Measurement by Area: Measured by square dimension using mean length and width or radius.
 - 3. Linear Measurement: Measured by linear dimension, at item centerline or mean chord.
 - 4. Stipulated Price Measurement: Items measured by count, weight, volume, area, or linear means or combination, as appropriate, as completed item or unit of the Work.
 - 5. Lump Sum: Items measured by all components required to complete item of the Work.

END OF DOCUMENT 01200

DOCUMENT 01300 – ADMINISTRATIVE REQUIREMENTS

SECTION INCLUDES

- A. Field engineering.
- B. Pre-construction meeting.

FIELD ENGINEERING

- A. The District will provide a Land Surveyor registered in State of California to stake the project area, at no cost to the Contractor. Field staking/engineering shall be provided one time by the District. Any subsequent damaged or missing stakes or markings shall be replaced at the Contractor's expense.
- B. The District will provide locations of survey control and reference points.
- C. Vertical control datum for survey is that shown on Project Plans.
- D. Contractor shall protect survey control points prior to starting site work; preserve permanent reference points during construction.
- E. Contractor shall promptly report to District loss or destruction of reference point or relocation required because of changes in grades or other reasons. Contractor shall be responsible for replacing any lost or destroyed items.
- F. Contractor shall replace dislocated survey control points based on original survey control. Make no changes without prior written notice to District.

FIRST CHARGE DAY

- A. Contractor will be given a First Charge Day during the Notice of Award. This Day will be the day they can begin charging to the job.
- B. Tasks allowed are gathering of Bonds, Insurance, Emergency Contact Information, and any necessary submittals.
- C. The First Charge Day does NOT equate to the Notice to Proceed (NTP).

PRECONSTRUCTION MEETING

- A. District will schedule meeting after Notice of Award.
- B. Preconstruction meeting required prior to Notice to Proceed (NTP).
- C. Attendance Required: District Engineer or authorized representative, and Contractor.
- D. Agenda:

1. Execution of District-Contractor Agreement.
 2. Submission of executed bonds and insurance certificates.
 3. Distribution of Contract Documents.
 4. Submission of list of products, schedule of values, and progress schedule. Designation of personnel representing parties in Contract, District and the Contractor. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
 5. Scheduling, Critical Path Schedule and Order of Work.
 6. Site Mobilization and Equipment staging.
 7. Scheduling activities of Geotechnical Engineer.
 8. Traffic Control and Work Hours.
 9. Daily Clean Up Procedures.
 10. Safety Program (including trench safety). Verify that Contractor has notified appropriate police and fire departments and post office of construction dates. Contractor must submit copies of the written notifications to the Engineer.
 11. Utility and environmental compliance.
 12. Required Material submittals
 - 1) PVC Pipe & Fittings
 - 2) CIPP Liner & Installation Procedures
 - 3) Pipe Bedding
 - 4) Trench Backfill
 - 5) Asphalt Concrete
 - 6) Mortar/Grouting for connections to manholes
 - 7) SWPPP
- E. Record minutes and distribute copies within two (2) days after meeting to participants, with two (2) copies to Engineer, Owner, and those affected by decisions made.

END OF DOCUMENT 01300

DOCUMENT 01330 – SUBMITTAL PROCEDURES

SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed product and submittal lists.
- D. Test reports.

SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form.
- B. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- C. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- D. Schedule submittals to expedite Project, and deliver to Engineer at business address. Coordinate submission of related items.
- E. Contractor shall identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- F. Allow space on submittals for Engineer review stamps.
- G. Distribute copies of reviewed submittals as appropriate to any subcontractors. Instruct parties to promptly report inability to comply with requirements.
- H. District shall review and return submittals within three (3) working days after receipt.

CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within seven (7) days after date of District-Contractor Agreement. After review, resubmit required revised data within three (3) days.
- B. Submit revised Progress Schedule on Monday of each week following start of construction.

- C. Distribute copies of reviewed schedules to District Engineer, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit computer generated horizontal bar chart with separate line for each section of Work, identifying first workday of each week.

PROPOSED PRODUCT AND SUBMITTAL LISTS

- A. Within seven (7) days after date of District-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product. All products must be approved by District prior to start of construction.
- B. Certifications are required for all proposed materials to be used for the construction of this project. These certificates must provide the project name, description of the material, the location of the manufacturer of the material, and date of when contractor obtained the certificate from the material supplier.
- C. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
- D. Procurement Prohibitions under Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, including Executive Order 11738, Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans; 42 USC § 7606; 33 USC § 1368. Except where the purpose of this Agreement is to remedy the cause of the violation, the Recipient may not procure goods, services, or materials from suppliers excluded under the federal System for Award Management: <http://www.sam.gov/>.
- E. All "iron and steel products" used in the Project were or will be produced in the United States. For purposes of this section, the term "iron and steel products" means the following products made primarily of iron or steel: lined or unlined pipes and fittings, manhole covers and other municipal castings, hydrants, tanks, flanges, pipe clamps and restraints, valves, structural steel, reinforced precast concrete, and construction materials. "Steel" means an alloy that includes at least 50 percent iron, between 0.02 and 2 percent carbon, and may include other elements.
- F. Methods of construction, reconnection, and restoration of existing service laterals.
- G. Detailed descriptions of the methods of modifying existing manholes.
- H. Sewer bypass plans, methods and list of equipment to be utilized.

- I. Description of the method to remove and dispose of the host pipe, if required.
- J. The safety plan in conformance with the Contract Documents and OSHA regulations.
- K. Operator certifications for CIPP lining, grouting, horizontal directional drilling, and pipe fusing, if applicable.
- L. Traffic Control Plans
- M. Storm Water Prevention and Best Management Practices

TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator for District.
- B. Submit compaction test reports for information for purpose of assessing conformance with Specifications shown on Project Plans and expressed in Contract Documents.

END OF DOCUMENT 01330

DOCUMENT 01400 – QUALITY REQUIREMENTS

SECTION INCLUDES

- A. Quality control and control of installation.
- B. Testing and inspection services.
- C. Examination.

QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. As Stated in Document 01330, Certifications are required for all proposed materials to be used for the construction of this project. These certificates must provide the project name, description of the material, the location of the manufacturer of the material, and date of when contractor obtained the certificate from the material supplier.
- C. Comply with manufacturers' instructions, including each step in the sequence.
- D. When manufacturers' instructions conflict with Contract Documents, request clarification from Engineer before proceeding.

TESTING AND INSPECTION SERVICES

- A. Construction inspection of the sanitary sewer will be provided by the District at no cost to the Contractor.
- B. The State Water Board, the Governor of the State, the United States Environmental Protection Agency, the Office of Inspector General, any member of Congress, or any authorized representative of the foregoing, must have safe and suitable access to the Project site at all reasonable times during Project construction.
- C. Any product or material testing required by the District shall be coordinated by the Contractor via an independent testing firm. The independent firm will perform tests, inspections and other services, at the Contractor's expense, specified in individual specification sections and as required by the District.
- D. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by the District and/or Santa Clara County.
- E. All reports will be submitted by the independent firm to Engineer and Contractor, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

- F. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
 - 1. Notify Engineer and independent firm twenty-four (24) hours prior to expected time for operations requiring services.
 - 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- G. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- H. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by Engineer. Payment for re-testing or re-inspection will be charged to Contractor by deducting testing charges from Contract Price.
- I. Limits on Testing Authority:
 - 1. Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Agency or laboratory may not approve or accept any portion of the work.
 - 3. Agency or laboratory may not assume duties of Contractor.
 - 4. Agency or laboratory has no authority to stop the Work.

EXAMINATION

- A. Verify existing site conditions and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Examine and verify specific conditions described in individual specification sections.
- C. Prior to starting work, The Contractor shall verify the location of all adjacent existing utilities.
- D. The Contractor shall expose all interfering and crossing utilities by spot excavating at the planar intersection of the pipe and removing the soil from around the utility.

END OF DOCUMENT 01400

DOCUMENT 01500 – TEMPORARY FACILITIES AND CONTROLS

SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary water service.
 - 2. Temporary sanitary facilities.

- B. Construction Facilities:
 - 1. Vehicular access.
 - 2. Parking.
 - 3. Progress cleaning and waste removal.
 - 4. Traffic regulation.

- C. Temporary Controls:
 - 1. Barriers.
 - 2. Fence
 - 3. Water control.
 - 4. Dust control.
 - 5. Erosion and sediment control.
 - 6. Noise control.
 - 7. Pollution control.
 - 8. Removal of utilities, facilities and controls.

TEMPORARY WATER SERVICE

- A. Provide suitable water supply at the Contractor's expense as needed to maintain specified conditions for construction operations. Contractor is responsible for contacting local water agency for the use of their facilities.

TEMPORARY SANITARY FACILITIES

- A. Maintain required facilities and enclosures at the beginning of the project and keep in place until project completion.

VEHICULAR ACCESS

- A. Maintain vehicular access as work progresses, provide detours as necessary for unimpeded traffic flow.

- B. Provide unimpeded access for emergency vehicles.

- C. Provide and maintain access to fire hydrants free of obstructions

PARKING

- A. When vehicle/equipment parking space is not adequate on-site, Contractor shall utilize off-site parking, within legal parking areas/spaces as determined by the City of San Jose and the County of Santa Clara Roads & Airports Department.
- B. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material and construction equipment.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving, access and drainage in original, condition.
- C. Removal, Repair:
 - 1. Remove temporary materials and construction when permanent paving is usable. Before Substantial Completion.
 - 2. Repair existing facilities damaged by use, to original and/or specified condition.
- D. Mud from Construction Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain work areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Broom and wash down paved areas to control dust and remove tracked mud during construction and at end of each workday. Mechanical street sweeping may be required if excessive amounts of dirt, mud and dust are present.
- C. Collect and remove waste materials, debris, and rubbish from site daily and dispose at approved off-site location.

TRAFFIC REGULATION

- A. Signs, Signals, and Devices:
 - 1. Barricade-Mounted or Temporary Folding Based Traffic Control and Informational Signs: As approved by the City, County, and District.
 - 2. Traffic Cones and Drums, Flares and Lights: As approved by the City, County, and District.
 - 3. Flag Person Equipment: As required by the City, County, and District.
 - 4. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on public traffic lanes.
- B. Flares and Lights: Use flares and lights during hours of low visibility to delineate traffic lanes and to guide traffic.

- C. Haul Routes:
 - 1. Consult with authority having jurisdiction, establish public thoroughfares to be used for haul routes and site access.
 - 2. Provide traffic control at critical areas of haul routes to regulate traffic, to minimize interference with public traffic.

- D. Traffic Signs and Signals:
 - 1. Provide signs at approaches to site and on site, at crossroads, detours, parking areas, and elsewhere as needed to direct construction, pedestrians, and affected public traffic.
 - 2. Relocate as Work progresses, to maintain effective traffic control.

BARRIERS

- A. Provide barriers to protect existing facilities and adjacent properties from damage from construction operations.

- B. Protect vehicular and pedestrian traffic, stored materials and private facilities from damage.

TEMPORARY FENCE

- A. Temporary portable fence, including chain link, or other approved materials shall be furnished, constructed, maintained, and later removed as directed by the Engineer. Temporary fence shall be installed at all locations where trench is opened after working hours or at locations as directed by the Engineer.

- B. Except as otherwise specified in this section, temporary fence shall conform to the Specifications for permanent fence of similar character as provided in Section 80, "Fences," of the Caltrans Standard Specifications 2018. Contractor shall provide a submittal for proposed temporary portable fence to the District prior to project mobilization.

- C. Used materials may be installed provided the used materials are good, sound and are suitable for the purpose intended, as determine by the Engineer.

- D. Materials may be commercial quality provided the dimensions and sizes of the Materials are equal to, or greater than, the dimensions and sizes shown on the plans or specified herein.

- E. Post shall be metal with concrete bases or approved equal.

- F. Galvanizing and painting of steel items will not be required.

- G. Temporary fence that is damaged during the progress of the work shall be repaired or replaced by the Contractor at the Contractor's expense.
- H. When no longer required for the work, as determined by the Engineer, temporary Fence shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.
- I. No additional payment will be made for maintaining, removing, and disposing of Temporary fence and shall be considered as incidental to the contract prices paid as lump sum under Traffic Control and no additional compensation will be allowed therefor.

WATER CONTROL

- A. Maintain excavations free of water. When necessary provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.
- C. Protect existing storm drain facilities from pollutants, silts, etc., with the installation of fossil filters in catch basins downstream of work areas.

DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.
- C. During the performance of all work under this Contract, Contractor shall assume all responsibility for dust control and shall furnish all labor, equipment, and means required to carry out proper and efficient measures wherever and whenever dust control is necessary to prevent operations from producing dust damage and nuisance to persons and property. Any claims resulting therefrom shall be borne solely by Contractor.

EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and spoils piles. Prevent erosion and sedimentation. All disturbed or graded areas shall be hydro-seeded per Caltrans Specifications 2018, Section 21, after the completion of work.
- B. Provide temporary measures including silt fences, berms, dikes, or drains, straw wattles, hay bales, burlap rock sacks, and other devices to prevent water flow.

- C. Periodically inspect spoils or material stock piles to detect evidence of erosion and sedimentation; promptly apply corrective measures.

NOISE CONTROL

- A. Provide methods, means, and facilities to minimize noise produced by construction operations.
- B. Hours of Operation are restricted to 8:00AM to 5:00PM, Monday through Friday. Work is not allowed on at night, weekends, or holidays without prior approval from the District.
- C. Contractor shall comply with all local sound control and noise level rules, regulations and ordinances which apply to any work performed pursuant to the contract.

POLLUTION CONTROL

- A. Contractor shall prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.
- C. Contractor shall provide a temporary concrete washout (i.e. portable) area.

REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, and materials prior to Final Application for Payment inspection.
- B. Clean and repair damage caused by installation or use of temporary work.
- C. Restore existing and permanent facilities used during construction to original condition. Restore permanent facilities used during construction to specified condition.

MEASUREMENT AND PAYMENT

- A. All item of work required in this section of specification will not be measured separately, but shall be considered to be included in the various contract item of work required and no separate payment will be made therefor.

END OF DOCUMENT 01500

DOCUMENT 01510 – TEMPORARY BYPASS PUMPING SYSTEMS

SECTION INCLUDES

- A. Refer to Section 3300 for diversion of sewer system during construction.
- B. This Section includes requirements for implementing a temporary pumping system for the purpose of diverting existing sewage flow around work area for duration of the project. Contractor is required to furnish all materials, labor, power, maintenance, and equipment required for bypass pumping of sewer flows around portions of existing gravity sewers being repaired, replaced, or rehabilitated. All flow shall be pumped around segment during the installation and testing of the new sewer, sewer connections or reconnections, and the replacement of sewer manhole, or wet well.
- C. Contractors shall be responsible for all sewage pumping and any spills that may occur for any reason including, but not limited to, equipment failure, clogging, hose or pipe breakage, or high flows.
- D. The design, installation, and operation of the temporary bypass pumping system shall be the Contractor's responsibility. The Contractor shall employ the services of a subcontractor who can demonstrate to the Owner that he specializes in the design and operation of temporary bypass pumping facilities. The subcontractor shall provide at least five references of projects a similar size and complexity of this project performed by his firm within the past three (3) years. The bypass system shall meet the requirements of all codes and regulatory Agencies having jurisdiction, including Burbank Sanitary District.

QUALITY ASSURANCE

- A. Follow national standards and as specified herein.
- B. Perform leakage and pressure tests on discharge piping using clean water, before operation. Notify Engineer 24 hours prior to testing.
- C. Maintain and inspect temporary pumping system every two hours.
Responsible operator: on site when pumps are operating.
- D. Keep and maintain spare parts for pumps and piping on site, as required.
- E. Maintain adequate hoisting equipment and accessories on site for each pump.

SUBMITTALS

- A. Submit following as per Section 01330:
 - 1. Detailed plan and description of proposed pumping system. The

Contractor shall submit to the Engineer detailed plans and descriptions outlining all provisions and precautions to be taken by the Contractor regarding the handling of existing wastewater flows. The plan must be specific and complete, including such items as schedules, size, material, location and method of installation of suction and discharge piping, size of pipeline or conveyance system to be bypassed, staging area for pumps, site access point, and expected flow.

2. Certify bypass system will meet requirements of codes, and regulatory agencies having jurisdiction.

CONTRACTOR'S RESPONSIBILITY FOR OVERFLOWS AND SPILLS

- A. Schedule and perform work in manner that does not cause or contribute to incidence of overflows, releases, or spills of sewage from sanitary sewer system or bypass operation.

MEASUREMENT AND PAYMENT

- A. Item of work required as shown on this Section for temporary bypass pumping operations will not be measured separately for payment.
- B. Full compensation for providing temporary bypass pumping system required in conjunction with the pipe repair, replacement and installation of new sewer pipes, manholes and appurtenances shall include furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in providing temporary sewer bypass system and no separate payment will be made therefor.

END OF DOCUMENT 01510

DOCUMENT 01600 – PRODUCT REQUIREMENTS

GENERAL

SECTION INCLUDES

- A. Products
- B. Product delivery requirements
- C. Product storage and handling requirements
- D. Product options
- E. Product substitution procedures

PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. Furnish interchangeable components from same manufacturer for components being replaced.
- C. Iron and Steel products shall be produced in the United States.

PRODUCT DELIVERY REQUIREMENTS

- A. The Contractor shall transport, handle, and store pipe and fittings as recommended by manufacturer.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. New pipe and fittings that are damaged before or during installation it shall be repaired or replaced, as recommended by the manufacturer or required by the Engineer. The costs of such repair or replacement shall be borne by the Contractor and be accomplished prior to proceeding with the project.
- D. The Contractor shall deliver, store and handle other materials as required to prevent damage. Materials that are damaged or lost shall be repaired or replaced by the Contractor at no additional expense to the District.

PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Provide off-site storage and protection when site does not permit on-site storage or protection.

- C. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- D. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those reference standards or descriptions per the Plans or Specifications.
- B. Products Specified by Naming One or More Manufacturers: products of one of manufacturers named and meeting specifications, no options or substitutions allowed.
- C. Products Specified by Naming One or More Manufacturers with Provision for Substitutions: Submit request for substitution for any manufacturer not named in accordance with the following article.

PRODUCT SUBSTITUTION PROCEDURES

- A. The District will consider a product substitution and a request constitutes a representation that Contractor:
 - 1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 - 2. Will provide same warranty for substitution as for specified product.
 - 3. Will coordinate installation and make changes to other work which may be required for the work to be complete with no additional cost to District.
 - 4. Waives claims for additional costs or time extension which may subsequently become apparent.
- B. Substitution Submittal Procedure:
 - 1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 - 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer. Engineer will notify Contractor in writing of decision to accept or reject request.

END OF DOCUMENT 01600

DOCUMENT 01700 – EXECUTION REQUIREMENTS

GENERAL

SECTION INCLUDES

- A. Mobilization.
- B. Closeout procedures
- C. Final cleaning.
- D. Protecting installed construction.
- E. Project record documents.

MOBILIZATION

- A. Mobilization shall conform to the provisions in Section 02200, Mobilization and Site Preparation, of these specifications.

CLOSEOUT PROCEDURES

- A. Submit written notice to the District that Contract Documents have been reviewed, Work has been inspected, and that Work is complete in accordance with Contract Documents and ready for Engineer's review.
- B. Provide submittals to Engineer required by authorities having jurisdiction.
- C. Submit final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Remove waste and surplus materials, rubbish, and construction facilities from site.

PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections, if applicable.
- B. Provide temporary and removable protection for installed products, as required.

PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Plans/Drawings
 - 2. Specifications
 - 3. Addenda
 - 4. Change Orders and other modifications to the Contract
- B. Record information concurrent with construction progress, not less than weekly.
- C. Record Drawings and As-Built. Mark each item to record actual construction including:
 - 1. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 2. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original Contract Plans.
- D. Submit documents to Engineer with claim for final Application for Payment.
- E. Video Inspection. Contractor must videotape entire length of the sanitary sewer main and laterals for all point/spot repairs prior to commencing work, to ensure that the repairs will be made in the correct locations.

END OF DOCUMENT 01700

TECHNICAL SPECIFICATIONS

FOR

DISTRICT WIDE CAPITAL IMPROVEMENT PROJECT

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DOCUMENT 01900 – FIELD ENGINEERING & SURVEYING WORK

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section includes specifications for survey services for layout of the Work and for field measurement of work quantities to be determined by surveys.
- B. This Section includes the responsibilities of the Contractor and the District respectively, in terms of survey services.

1.02 LINES AND GRADES

- A. All control monuments, bench marks, stakes, or markers required to establish the lines and grades required for the completion of the Work shall be the responsibility of the Contractor. These would include, but are not limited to, primary horizontal and vertical control, secondary horizontal and vertical control, rough grade, slope stakes, topographic surveys for quality calculations, and construction surveys for layout of civil improvements.

1.03 SURVEYS FOR LAYOUT AND PERFORMANCE

- A. District will not provide any construction staking as part of the current scope of this project. If the project scope changes to add a new mainline installation, the District will provide a one-time survey for the Contractor.
- B. Contractor will be responsible for all other layout required for the project, including but not limited to re-staking, additional layout staking if required by the Contractor for construction, striping layout, stage construction and traffic handling at no cost to the District.
- C. Contractor shall carefully preserve all reference points and benchmarks. In case of loss or disturbance of reference points and benchmarks, Contractor shall be responsible for the cost replacement by Engineer.

PART 2 - PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01900

DOCUMENT 02000 – PROTECTION OF ADJACENT CONSTRUCTION AND UTILITIES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Prior to commencing the Work, the Contractor will tour the Project site with a District's Representative to examine and record damage to existing adjacent buildings, County and City's streets, sidewalks, and other improvements. This record shall serve as a basis for determination of subsequent damage due to Contractor's operations and shall be signed by all parties making the tour.

1.2 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. The Drawings show, if applicable, existing above and below grade structures, drainage lines, storm drains, sewers, water, gas, electrical, landscape irrigation, site lighting and other utilities that are known to the District in their approximate location. Contractor shall exercise care in avoiding damage to these facilities. The Contractor will be held responsible for the repair if damaged. The Engineer and District's Representative does not guarantee that all utilities or obstructions are shown or that the locations indicated are accurate.
- B. Locate and surface mark (various colors specified by USA811) all known existing underground structures and utilities before proceeding with construction operations that may damage them. Stake and flag utility valve boxes and other surface structures. Prior to commencing excavation and trenching, coordinate with Underground Service Alert (USA North/1-800-227-2600 or 811) for field verification and marking of utilities within limits of Project site. Provide USA notification permit number to District's Representative prior to starting site Work. Existing underground structures and utilities shall be kept in service unless approval to interrupt or shutdown service is obtained from District's Representative or permission of authorities having jurisdiction. If damaged, the utility shall be repaired at no additional cost to the District.
- C. Do not disconnect or shut down any part of the existing utilities and services, except by permission of authorities having jurisdiction. Submit schedule of estimated shut-down time in order to obtain such permission, and notify all interested parties, neighbors, utilities, and municipal and county authorities, as required.
- D. Utilities to be removed shall not be removed until shut-down time can be kept to a minimum. Do not remove an existing utility line or service until the replacement line, crossover, or capping is ready to be performed.
- E. Provide shoring, underpinning, and structural support for existing utility lines and structures which become suspended or otherwise unsupported because of adjacent excavation operations.

- F. Excavate, including potholing, in proximity of existing underground facilities using methods as required by the utility companies and as specified, whichever is more protective of utilities.

1.3 NOTIFICATIONS AND POTHOLING FOR EXISTING UTILITIES

- A. Notify, prior to performing any excavation or other work close to any underground pipeline, conduit, duct, wire or other structure, the Underground Service Alert-Northern California (USA) at 1-800-227-2600, and utility companies that do not participate in USA which have underground facilities within the limits of the work. Notify USA at least 2 working days, but not more than 14 calendar days prior to performing excavation or other work close to underground facility. Notify other utility companies in accordance with each utility's notification requirements. Have USA and other utility companies locate and mark their facilities within the area of excavation or other work. Maintain such markings in accordance with utility requirements, i.e. have markings renewed, as applicable.
- B. Potholing for Utilities and Other Facilities: Prior to any excavation or other subsurface work, excavate, expose, and verify the location of existing utility mains and laterals and other existing underground facilities which may be affected by the Work.
 - 1. At a minimum, pothole and accurately locate the following:
 - a. all marked or inferred facilities located with less than five (5) feet of clearance to the nearest point of proposed trenching, excavation, shoring, pile or other subsurface temporary or permanent facility
 - b. all sanitary sewer laterals at one foot back of the sidewalk
 - 2. Survey and record the size, location, elevation, and alignment of potholed existing underground utilities and other facilities for inclusion in as-built drawings.
- C. Do not proceed with excavation or other subsurface work until surrounding utilities and underground facilities have been located by potholing or other positive means. Determine the method and equipment required to perform potholing without damage to existing facilities. At minimum, utilize hand digging in the vicinity of high-risk utilities and where recommended by USA guidelines.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

PART 4 – MEASUREMENT AND PAYMENT

- A. Measurement and Payment for compliance with this section of the specification will not be measured and paid separately, including potholing as required and shall be considered to be included in the various contract items of work involved.

END OF SECTION 02000

DOCUMENT 02100 - SOILS

GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Subsoil materials

1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
 - 1. AASHTO T180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.
- B. American Society for Testing and Materials:
 - 1. ASTM D1557 - Standard Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort (6,000 ft-lb./ft³ (2,700 kN-m/m³)).
 - 2. ASTM D2487 - Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 - 3. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
 - 4. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures:

1.4 QUALITY ASSURANCE

- A. Perform Work in accordance with Burbank Sanitary District, County of Santa Clara and Caltrans Standard Specifications 2018, Sections 5 and 6.

PART 2 - PRODUCTS

2.1 SUBSOIL MATERIALS

- A. Subsoil Type:
 - 1. Excavated and re-used material.
 - 2. Free of lumps larger than six (6) inches, rocks larger than three (3) inches and debris.
 - 3. Having a Plasticity Index of fifteen (15) or less.

2.2 SOURCE QUALITY CONTROL

- A. Section 01400 - Quality Requirements: Testing and analysis of soil material.
- B. Testing and Analysis of Subsoil Material: Perform in accordance AASHTO T180

- C. When tests indicate materials do not meet specified requirements, change material and retest.
- D. Furnish materials of each type from same source throughout the Work.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. Excavate subsoil and topsoil from areas designated. Strip topsoil to full depth of topsoil in designated areas.
- B. Stockpile excavated material meeting requirements for subsoil materials and topsoil materials.
- C. Remove excess excavated materials, subsoil and topsoil, not intended for reuse, from site.
- D. Remove excavated materials not meeting requirements for subsoil materials and topsoil materials from site.

3.2 STOCKPILING

- A. Stockpile in sufficient quantities to meet Project schedule and requirements.
- B. Separate differing materials with dividers or stockpile apart to prevent mixing.
- C. Stockpile topsoil six (6) feet high maximum.
- D. Prevent intermixing of soil types or contamination.
- E. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.
- F. Stockpile unsuitable materials on impervious material and cover to prevent erosion and leaching, until disposed of.
- G. Contractor to inform the District of their proposed stockpile location.

3.3 STOCKPILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition. Grade site surface to prevent free standing surface water.

3.4 MEASUREMENT AND PAYMENT

- A. No separate payment will be made for compliance with this section of the specifications and payment for work herein required shall be considered to be included in the various contract item of work required and no separate payment will be made.

END OF DOCUMENT 02100

DOCUMENT 02200 - MOBILIZATION

PART 1 - GENERAL

1.1 REQUIREMENT

- A. The Work of this Section includes all those measures required during the CONTRACTOR's initial move onto the site to mobilize equipment, material, and protect existing fences, structures, and associated improvements, streets, and utilities adjacent to the construction areas from damage due to boulders, trees or other objects dislodged during the construction process; clearing, grubbing and stripping.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Division 1, General Requirements.
- B. Section 02400, Site Clearing

1.3 JOB CONDITIONS

- A. Existing Conditions. The CONTRACTOR shall determine the actual condition of the site as it affects this portion of the Work.
- B. Protection. Site preparation shall not damage existing structures or cause obstruction and/or contamination to the property. The CONTRACTOR shall repair or replace any damaged property at no cost to the DISTRICT.

1.4 CONTRACTOR SUBMITTALS

- A. A copy of this specification section, with any addendum updates included, and all referenced and applicable sections, with any addendum updates included, shall be submitted with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. 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.
- B. Submittals shall be provided to confirm that material to be used comply with information specified herein.

- C. The CONTRACTOR shall submit to the ENGINEER a schedule of proposed disposal locations and written authorization from disposal site owner.
- D. The CONTRACTOR shall submit safety measure drawings.
- E. The CONTRACTOR shall submit a map identifying the location of any construction staging areas to be utilized, unless shown on the Project Drawings. The CONTRACTOR shall submit written authorization from each site owner.
- F. Deactivating Existing Facilities. The CONTRACTOR shall submit to and obtain the ENGINEER's approval of a deactivation plan 30 days prior to commencing with the work. The CONTRACTOR shall also advise the ENGINEER in writing not less than forty-eight hours in advance of the time of any necessary deactivation of existing sewer pipelines, which are to be connected to the new work.

PART 2 PRODUCTS

2.1 SAFETY BARRIERS

- A. The CONTRACTOR shall prepare a submittal to the ENGINEER with drawings that define the proposed safety measures prior to any construction activity.
- B. All work shall be done in conformance with the rules and regulations pertaining to safety established by California Division of Industrial Safety and OSHA.

2.2 SIGNAGE

- A. The Contractor shall furnish and install a sign that is 4 feet tall by eight feet wide made of $\frac{3}{4}$ " thick exterior grade plywood, or other approved material, in a prominent location on the Project site and shall maintain the sign in good condition for the duration of the construction period.
- B. The Project Funding Sign shall be placed on the northeast corner of the intersection of W San Carlos Street and N Bascom Avenue within San Jose Water Company land. The District will coordinate with San Jose Water Company but the installation and procurement of the sign must be made by the Contractor.
- C. The Sign Shall have the following disclosure statement and colored logos:
 - 1. Funding for this District Wide Capital Improvement Project has been provided in full or in part by the Clean Water State Revolving Fund through an agreement with the State Water Resources Control Board. California's Clean Water State Revolving Fund is capitalized through a variety of funding sources, including grants from the United States Environmental Protection Agency and state bond proceeds.



- 2.
3. The District will provide higher quality image files of these logos for the Contractor's use.

PART 3 EXECUTION

- A. Contractor, prior to commencing of site clearing as required for the project, shall notify Engineer 48 hours prior to commencement.
- B. Contractor is not required to have a field office for this project.
- C. Refer to Section 02400, Site Clearing, of these specifications for details.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. The contract lump price paid for mobilization shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved, complete and in place, as shown on the plans, as specified in these specifications, and as directed by the Engineer, including the project funding sign.

END OF DOCUMENT 02200

DOCUMENT 02300 – WATER POLLUTION CONTROL

PART 1 GENERAL

1.1 SUMMARY

- A. This Section includes requirements for water pollution control including water pollution control maintenance.
- B. Water pollution control shall conform to the requirements of the County of Santa Clara, the District, and these technical specifications. Water pollution control maintenance work shall be considered as integral functional practices to implement water pollution control.
- C. Failure to fully comply with the requirements of the permit shall subject the Contractor to all fines, damages and job delays incurred due to failure to implement the proper measures.

1.2 REFERENCES

- A. Water pollution control work shall conform to the requirements in the “Construction Site Best Management Practices (BMPs) Manual”.
- B. State of California, Department of Transportation (Caltrans):
 - 1. Standard Specifications:
 - a. Section 13 – Water Pollution Control
 - b. Section 21 – Erosion Control

1.3 SUBMITTALS

- A. The Contractor shall make a combined submittal of the Water Pollution Control Program and Water Pollution Control Plan (WPC Plan), which include all the requirements specified herein.
- B. The submittal shall include the site plan of the WPC Plan updated to accurately show the actual site conditions at various phases of construction and the WPC Plan revised to reflect the actual site conditions as shown on the site plan.
- C. Updated and revised WPC Plan shall be submitted no later than August 1 of any 1 year and shall be updated, revised and submitted by the first day of each month thereafter until and including March 31 of the following year. From April 1 to July 31, updates, revisions and number of submittals will be determined by the District. The updated plan shall indicate any new construction work and the addition of any new temporary erosion control or slope protection facilities added or upgraded to accommodate the new earthwork.

- D. Submit working or shop drawings for any additional unit descriptions (other water pollution control measures designated by the Contractor and included in the schedule of values) to District for review and approval.
- E. The Contractor shall update and submit a water pollution control maintenance program and schedule to District for approval not less than 20 working days before the beginning of each water pollution maintenance period. If District determines the submitted water pollution maintenance program and/or schedule is unacceptable, the Contractor shall submit a revised maintenance program and/or schedule to District for approval within 5 working days after receiving notice that previously submitted program and/or schedule is unacceptable.
- F. In addition to the various water pollution control measures shown on the Plans and indicated herein, any further use of these measures as proposed on the Plans and schedule of values shall be approved by District before installation.
- G. The Contractor shall submit a list of on-hand materials and their respective quantities to District for review.
- H. The Contractor shall submit 2 sets of construction entrance working drawings to District for approval. The working drawings shall show complete construction entrance layout, construction details and installation and removal schedules.

1.4 SYSTEM DESCRIPTION - GENERAL

- A. The Contractor's program to control water pollution shall be included in the WPC Plan to prevent, to the extent feasible, any net increase in pollution of storm water runoff from entering waterways.
- B. The WPC Plan shall include a water pollution control program (narrative) that graphically indicates where water pollution control measures and temporary erosion control work will be used year-round and during all phases of construction.
- C. The water pollution control program shall be updated and revised whenever there is a proposed change in construction or operations which may affect the site drainage patterns or discharge of pollutants to surface waters, groundwater, or a separate municipal storm sewer system. The change will be recorded by amending (updating) the plan in accordance with the provisions for plan amendment, which includes revisions to the Water Pollution Control Program (narrative) and graphic changes to the WPC Plan.
- D. The WPC Plan shall graphically show the use of temporary drainage inlet protection, check dams, temporary straw (slope protection), and temporary blankets in relation to other water pollution and temporary erosion control and slope protection work specified elsewhere in these technical specifications.

- E. All areas of exposed earth created by the Contractor beyond what is shown on the Plans and referred to in the technical specifications shall also be subject to these provisions except that the Contractor shall be fully responsible for all costs and liabilities associated with slope protection work in these areas.

1.5 WATER POLLUTION CONTROL PROGRAM

- A. The water pollution control program shall include the following:
 - 1. A schedule for implementing and maintaining water pollution control measures for all phases of the work.
 - 2. When temporary sediment basins or sediment traps are used to contain runoff, the following information will be required:
 - a. Basin or trap calculations used in sizing these facilities. For design purposes, all soil particles 0.8 mil in size and larger shall be captured. Basin efficiency will be evaluated in trapping all soil particles 0.8 mil or larger in size.
 - b. Soil loss calculations shall be based on a storm of at least a 10-year, 6-hour frequency.
 - c. The shed area contributing runoff to individual basins or traps.
 - d. The settling and storage depth of each basin or trap. A 24-in minimum depth for settling and storage will be required for sediment traps.
 - 3. A description of the methods of temporary or permanent erosion control that will be implemented to stabilize permanent, temporary and on-going work.
- B. The water pollution control program shall also direct attention to other sections in the WPC Plan, which apply to the program for water pollution control.
- C. The water pollution program submitted as part of the WPC Plan shall include the Contractor's plans for temporary erosion control measures for all phases of the work. Refer to temporary erosion control requirements specified herein.

1.6 SYSTEM DESCRIPTION - WATER POLLUTION CONTROL PLAN

- A. The WPC Plan shall include a site map that is a combination of the contract drainage, stage construction, and contour grading plans and showing water pollution control components. Contractor shall update this site map and the WPC Plan to accurately show the actual site conditions at various phases of construction.

- B. The WPC Plan shall include graphic representation of conditions, measures, and features as specified and as required in the permit.
- C. The site conditions, measures and facilities graphically shown on the plan and included in the schedule of values shall, at a minimum, include:

- 1. The Contractor shall include the following minimum quantities of water pollution control measures:

Silt Fencing	75 ft
Drainage Inlet Protection	2 each
Concrete Washout Area	1 each
Construction Entrance	1 each
Stockpile Cover	400 sq ft
Fiber Roll	75 ft

- 2. The current stage and phase of construction and all other planned improvements throughout the construction period.
- 3. All exposed graded surfaces, finished and unfinished construction slopes, stockpiles, haul roads and storage areas, top and toe of slope lines and drainage arrows shall be graphically shown.
- 4. Drainage patterns within each shed area (shown by slope arrows) and the drainage system or containment area where runoff will be conveyed for removal or storage. Drainage swales, temporary culverts, active and inactive drainage inlets, gutters and dikes, and any basin locations shall be clearly shown as a minimum.
- 5. Where offsite water enters or exits the site.
- 6. The Contractor shall focus on identifying, as a minimum, storage facilities, concrete washout areas and proposed earthen stockpile locations. Precautionary water pollution control measures shall also be shown and may consist of providing drainage inlet protection around or temporarily capping selected drainage systems within areas of active construction. The District will, and Contractor shall, monitor the weather forecast to anticipate if inclement weather is approaching. Uncapping drainage inlets and providing measures to trap sediments should be installed before the storm. The Contractor shall reinstall precautionary measures as required after the storm event.
- 7. Any additional requirements of the permit as referenced elsewhere in this Section and not covered in the above noted items.

1.7 WATER POLLUTION CONTROL MAINTENANCE PROGRAM

- A. The Contractor shall furnish sufficient personnel, materials and adequate equipment to perform the water pollution control maintenance work immediately and to work continuously until its completion.
- B. Water Pollution Control Maintenance Work. Water pollution control maintenance work shall consist of maintaining water pollution control measures during the water pollution control maintenance periods as defined herein.
- C. Each water pollution control maintenance period shall be through the duration of the construction period. Note: If the completion of all work (including plant establishment work), except water pollution control maintenance work falls within a water pollution control maintenance period, the water pollution control maintenance work will end.

1.8 SYSTEM DESCRIPTION - WATER POLLUTION CONTROL MEASURES

- A. Water pollution control measures shall be constructed and functioning year round throughout the construction period. From April 1 to September 14, the Contractor shall install water pollution control measures to prevent discharges into storm drain systems and natural drainage channels. The emphasis during this period will be to install precautionary measures in the event a storm occurs. However, water pollution control measures shall be installed and functioning as provided below. Water pollution control measures shall include the measures specified herein.
- B. The Contractor shall install precautionary measures including drainage inlet protection around the immediate perimeter of each active storm drain system within construction work areas.
- C. If work in any area has not progressed to a point where all or part of the facilities on the WPC Plan for that area can be constructed, the Contractor shall construct such supplementary temporary water pollution control facilities as are necessary to protect adjacent private and public properties and drainage systems.
- D. No earthen materials shall be stockpiled within 50 ft of drainage inlets. All stockpiles of earthen materials shall have appropriate erosion control measures installed to abate and control erosion.
- E. By September 15, water pollution control measures shall be constructed and functioning to prevent water pollution from areas where portions of the contract are completed for that year and no further earthwork is planned. In all areas where earthwork and construction will continue during the September 15 through March 31 period, the following shall apply:
 - 1. Water pollution control measures, hereafter noted as measures, shall be implemented as practicable to control runoff and to allow earthwork to

continue. This may include removing and reinstalling erosion control measures to allow ingress or egress of construction equipment into work areas.

2. Special attention will be required to protect areas which have been cleared and grubbed before excavation or embankment operations, and which are subject to runoff during the period from September 15 to March 31. Temporary measures may include, but shall not be limited to: temporary desilting basins; contour graded ditches; temporary paved and unpaved ditches; and filter fabric fences to filter silt and sediment from runoff.
3. After each storm, desilting basins shall be checked against their design capacity and if necessary, silt and sediment shall be removed to restore capacity. Sediments removed shall be disposed of or relocated, stockpiled and ringed with silt fence material to prevent erosion back into retention areas.
4. Active drainage inlets where runoff is likely to go shall have drainage inlet protection installed around the immediate perimeter of the inlet as noted on the Plans. The perimeter of each individual work area shall have measures installed to control sediments that would otherwise leave the work area.
5. If there is no active drainage system within each individual work area, the Contractor shall submit a plan proposing measures to de-silt and remove runoff from active construction areas. This may include the use of sediment basins, sediment traps and a pumping system to remove de-silted runoff from basins or traps.
6. The minimum capacity of each desilting basin shall be constructed with a capacity of 1860 cu. ft./acre (slope measurement) of disturbed ground.
7. No earthen materials shall be stockpiled within 25 ft. of drainage inlets. All stockpiles of earthen materials shall have appropriate erosion control measures installed to abate and control erosion.
8. Staging and work areas shall be kept orderly with neat stockpiling of construction materials. Measures shall be installed at the entrance and exits of staging and work areas to control mud from entering the roadway pavement.
9. The District will and the Contractor shall monitor the weather forecast on a daily basis. If rain is predicted within 48 hours, construction scheduling shall be modified, as required, to provide functioning water pollution control measures before the onset of the rains.
10. Water pollution control materials (silt fence) shall be stockpiled on the site in sufficient quantities to stabilize any problem areas within 24 hours. The

Contractor shall replenish his stockpiles of material as required to quickly install measures before an anticipated rain, as determined by the District.

11. The Contractor shall have adequate labor on hand to install and maintain water pollution control measures within 24 hours following notification by the District.

1.9 SYSTEM REQUIREMENTS - TEMPORARY EROSION CONTROL

- A. Temporary erosion control shall include constructing such facilities and taking such measures as are necessary to prevent, control, and abate water, mud, and erosion damage to public and private property as a result of the construction of this project. Temporary erosion control shall apply year-round to all areas where earthen material is exposed and shall not be limited to those areas outlined in these technical specifications or as shown on the Plans.
- B. All areas of exposed earth created by the Contractor beyond what is shown on the Plans and referred to in the technical specifications and areas cleared and grubbed before excavation or embankment operations which are subject to wind erosion and runoff shall also be subject to these technical specifications, except that the Contractor shall be fully responsible for all costs and liabilities associated with water pollution and temporary erosion control work in these areas.
- C. As a minimum, the program shall provide for the following:
 1. If sediment basins are used, rainfall intensity expected from a storm of at least a 10-year 6-hour frequency/duration, shall be used to calculate basin capacity.
- D. Construction or implementation of temporary erosion control measures shall be performed year-round. By September 15 of each year such temporary erosion control features as are necessary to prevent damage during the forthcoming winter season shall be constructed and functioning. If the earthwork in any area has not progressed to a point where all or part of the facilities on the WPC Plan for that area can be constructed, the Contractor shall construct such supplementary temporary erosion control facilities as are necessary to protect adjacent private and public property.
- E. The Contractor shall use the pollution control measures outlined in the Plans and referenced in these technical specifications as part of the overall program to control erosion and silt runoff. If the Contractor elects to modify the construction details, modified details shall be submitted to the District for review. Approval to use modified erosion control facilities shall be obtained in writing from the District. From September 15 to March 31, the Contractor shall comply with the requirements outlined in Water Pollution control measures for performing active construction.

- F. Temporary erosion control facilities and measures to be used shall include the following:
1. The Contractor shall conduct his operations in such a manner that storm runoff will be contained within the project or channeled into the storm drain system which serves the runoff area. Storm runoff from 1 area shall not be allowed to divert to another runoff area.
 2. Storm drain systems, toe of slope drains, and outlet structures shall be constructed and operating before, or concurrently with, constructing an embankment. Temporary downdrains, drainage structures, and other devices shall be provided to channel storm runoff water into the respective permanent storm drain systems during construction. Permanent drainage structures, not fully completed, shall be modified as required to accept de-silted runoff.
 3. Embankment areas, while being brought to grade, and during periods of completion before final roadbed construction, shall be protected by various measures to eliminate erosion and the siltation of downstream facilities and adjacent areas. These measures may include the following:
 - a. Temporary down drains, either in the form of pipes or paved ditches with protected outfall areas.
 - b. Graded berms around areas to eliminate erosion of embankment slopes by surface runoff.
 - c. Embankment slopes, not included as part of the roadway construction contract and constructed by the contractor for temporary access roads, shall be compacted by track-walking the face of the slope in a direction perpendicular to the slope contours. Several passes may be required to adequately compact the slope face.
 4. Excavation areas, while being brought to grade, shall be protected from erosion and the resulting siltation of downstream facilities and adjacent areas by the use of various temporary erosion control measures. These measures may include, but shall not be limited to:
 - a. Check dams/Fiber rolls
 - b. Silt fence
 - c. Protection around inlets, which have not been brought up to grade.
 - d. Protection around flared end sections.

5. Contour graded areas shall be protected against erosion and the resulting siltation of downstream facilities and adjacent areas during grading operations. Various measures may include, but shall not be limited to: the use of graded contour berms to control sheet flow; supplemental grading of large areas around temporary or unfinished inlet structures, such as inside ramp loops; and temporary ditch paving. All temporary erosion control facilities shall be maintained during temporary suspension of work periods.

1.10 SITE CONDITIONS

- A. A copy of the WPC Plan, together with updates, revisions and amendments shall be kept at the construction site. At the request of the District, the Contractor shall furnish multiple copies of the WPC Plan for distribution.

PART 2 PRODUCTS

2.1 MATERIALS

- A. General: Materials (not all listed shall be used) shall conform to the provisions in Section 13-5.02, "Materials," of the Caltrans Standard Specifications 2018 and these technical specifications.
- B. Sediment Bag:
 1. Filter Fabric: Geosynthetic filter fabric for sediment bags shall be a prefabricated geosynthetic filter envelope with a woven polypropylene fabric and sewn with a double stitched seam using nylon thread. The fabric shall conform to the provisions in Section 96, "Geosynthetics" of the Caltrans Standard Specifications 2018.
 2. Sediment Filter Bag: The sediment bag shall be sized to fit the catch basin or drop inlet and be complete with lifting hoops and dump straps attached at the bottom to facilitate emptying of the sediment bag. The sediment bags shall have a restraint cord approximately halfway up the bag to keep the sides away from the catch basin walls.
- C. Gravel-Filled Bag:
 1. Gravel-Filled bag fabric shall be woven polypropylene, polyethylene or Polyamide with a minimum unit weight of 0.03 lb/ft². The fabric shall have a mullen burst strength of at least 300 lb/in² in accordance with ASTM D3786 and an ultraviolet (UV) stability exceeding 70 percent.
 2. Gravel-Filled bags shall have a length of 24-in to 31-in, width of 16-in to 18-in, thickness of 6-in to 8-in, and weight of 80 lb to 120 lb.
 3. Gravel-Filled bag fill material shall be non-cohesive, gravel, free from deleterious material.

- D. Geosynthetic filter Fabric: Geosynthetic filter fabric shall conform to the requirements in Section 96 of the Caltrans Standard Specifications 2018 and to the requirements shown in Section 3.1 “Temporary Drainage Inlet Protection” of this technical specification.
- E. Rock for construction entrances shall be Class 3 permeable material and shall conform to the provisions in Section 68-1.025, “Permeable Material,” of the Caltrans Standard Specifications 2018 and these technical specifications.
- F. Reinforcing Fabric: Reinforcing fabric for construction entrances shall be manufactured from 1 or more of the following materials: polyester, nylon or polypropylene. Reinforcing fabric shall be woven, permeable and shall conform to the following specifications:

Characteristic	ASTM	Requirement
Grab Tensile Strength lb (Average of Warp and Fill) min.	D1682	190
Elongation, percent max.	D1682	35

- 1. The reinforcing fabric shall be furnished in an appropriate protective cover, which shall protect it from ultraviolet radiation and from abrasion due to shipping and handling.
- G. Temporary Blanket. Temporary blanket shall conform to the provisions in Section 20-2, “Materials,” of the Caltrans Standard Specifications 2018 and these technical specifications.

PART 3 EXECUTION

3.1 TEMPORARY DRAINAGE INLET PROTECTION

- A. Temporary drainage inlet protection shall be installed, maintained and later removed as shown on the Plans, as specified in these technical specifications, and as directed by the District. Temporary drainage inlet protection shall be installed at each drainage system box location where runoff will enter the storm water system.
- B. The Contractor shall use temporary drainage inlet protection as one of the various measures to prevent water pollution.
- C. Sediment bags shall be installed by removing the drainage inlet grate, placing the sediment bag in the opening, and replacing the grate to secure the sediment bag in place. Removal of the bag shall be facilitated by the use of 10-inch long steel reinforcing bars placed through the lifting hoops.
- D. Sediment bags installed, as part of temporary drainage inlet protection shall be emptied when the restraint cords are no longer visible. Emptying of the bags shall

be facilitated by the use of 10-inch long steel reinforcing bars placed through the dumping hoops. The sediment bag shall be emptied of material with a shovel and rinsed before replacement in the catch basin or drop inlet.

- E. The storage capacity of the sump area around each drain inlet shall be maintained to provide for maximum capacity and as directed by Valley Transportation Authority.
- F. When no longer required for the purpose, as determined by the District, temporary drainage inlet protection facilities shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the Worksite.

3.2 TEMPORARY FIBER ROLL

- A. Temporary fiber rolls shall be installed as shown on the plans and in conformance with construction detail sheet.
- B. Temporary fiber rolls shall be maintained to disperse concentrated water runoff and to reduce runoff velocities. When no longer required for the intended purpose, as determined by the District Representative, temporary fiber rolls shall be removed from the site of the work.

3.3 TEMPORARY CONCRETE WASHOUT FACILITY

- A. Temporary concrete washout facility shall be constructed, maintained and later removed as shown on the Plans, as specified in these technical specifications and as directed by the District. The work shall consist of furnishing all materials and installing concrete washouts at locations identified on the plans and as directed by the District.

3.4 TEMPORARY CONSTRUCTION ENTRANCE

- A. Temporary construction entrance shall be constructed, maintained and later removed as shown on the Plans, as specified in these technical specifications and as directed by the District. The work shall consist of furnishing all materials and installing construction entrances at points of construction ingress and egress for the purpose of reducing the amount of sediments and other pollutants tracked onto paved roadways.
- B. Temporary construction entrances shall be removed immediately following completion of work at the above locations and as directed by District.
- C. The reinforcing fabric for construction entrances shall be handled and placed in accordance with the manufacturer's recommendations. A 24-inch minimum overlap will be required at adjoining pieces. Care shall be taken to install the fabric taut and aligned with as little wrinkling as possible. Should the fabric be damaged during placing, the torn or punctured sections shall be repaired as required and shall meet overlapping requirements. Damage incurred due to the Contractor's

vehicles, equipment or operations shall be repaired by the Contractor at his expense.

- D. A 35-inch skirt of reinforcing fabric shall extend beyond the cross sectional limits of the rock bed as shown on the WPC Plan.
- E. The temporary construction entrance shall be graded to prevent runoff from leaving the construction site and flowing onto paved roadways.
- F. The rock bed shall be spread to a minimum depth of 6 inches. Additional rock shall be added as directed by the District to maintain the rock bed.
- G. At the completion of work at each individual work area as determined by the District, construction entrances shall be removed in their entirety.

3.5 TEMPORARY SILT FENCE

- A. Wood posts shall be an integral part of the silt fence and shall be packaged with the silt fence fabric. Wood posts shall be a minimum of 4 feet in length.
- B. Concrete footings for wood posts will not be required.
- C. Temporary silt fences that are damaged from any cause during the progress of the work shall be repaired or replaced by the Contractor at his expense. The Contractor shall repair any damaged temporary silt fences as directed by District.
- D. When no longer required for the purpose as determined by District, temporary silt fence shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the Worksite.

3.6 TEMPORARY COVER

- A. Temporary cover shall be furnished and installed, as specified in these technical specifications, as shown on the Plans and at locations designated by District.
- B. Contractor shall use temporary cover as one of the various measures to prevent water pollution.
- C. Temporary cover shall be installed at locations designated by District and shall be installed to control erosion on critical areas of unfinished earthwork slopes not currently identifiable.
- D. When no longer required for the purpose as determined by District, temporary cover shall be abandoned or removed as directed by District.

3.7 RESTORATION

- A. Before contact acceptance, restore damaged work to the same state of completion as before the damage.

- B. The District will not make adjustment for payment for repair or restoration that the Engineer determines was caused by contractor's failure to construct the work under this contract or to protect the work from being damaged.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. The work performed for water pollution control including temporary erosion control measures will be measured for payment as a lump sum price.

4.2 PAYMENT

- A. The contract lump sum price paid water pollution control including temporary erosion control measures shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in temporary silt fence, temporary cover, construction entrance, concrete washout installing, complete in place, as shown on the plans, as specified in these specifications, and as directed by the Engineer.

END OF DOCUMENT 02300

DOCUMENT 02400 – SITE CLEARING

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents:
 - 1. State of California, Department of Transportation (Caltrans), Standard Specification 2018.
 - a. Section 15 Existing Facilities
 - b. Section 17-2 Clearing and Grubbing
- B. Related Sections:
 - 1. Section 02200 – Mobilization and Site Preparation.

1.2 REFERENCES

- A. The General Conditions, Supplementary Conditions, and applicable portions of Division I apply to the work of this Section as if printed herein.

1.3 REGULATORY REQUIREMENTS

- A. Comply with all applicable codes, standards, and regulations in the execution of the work.

1.4 PROJECT CONDITIONS

- A. Traffic: Conduct site-clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets, walks, or other occupied or used facilities without permission from authorities having jurisdiction.

PART 2 PRODUCTS

No products are required in this Section.

PART 3 EXECUTION

3.1 PREPARATION

- A. Verify that existing heritage trees designated to remain are tagged or identified, if applicable.
- B. Call Local USA Underground not less than two working days before performing Work.
- C. Requested underground utilities to be located and marked within and surrounding construction areas.

- D. Remove or abandon facilities when it is no longer used or active.
- E. Each structure to be filled with pea gravel, 2-sack slurry or approved equal.
- F. Existing manhole frame and cover and grade ring will be removed and disposed of, upon removal, areas shall be saw cut neatly around the structure and repaved in accordance with paving section specified elsewhere in these specifications.
- G. Indicated locations of existing utilities are approximate; Contractor shall determine exact locations by potholing before commencing work.

3.2 PROTECTION

- A. Locate, identify, and protect utilities that remain from damage.
- B. Protect heritage trees designated to remain, against unnecessary cutting, breaking or skinning of roots, skinning or bruising of bark, smothering of trees by stockpiling construction materials or excavated materials within drip line, excess foot or vehicular traffic, or parking of vehicles within drip line. Provide temporary guards to protect trees to be left standing.
 - 1. Water trees and other vegetation to remain within limits of contract work as required to maintain their health during the course of construction operations.
 - 2. Provide protection for roots over 1-1/2 inch in diameter that are cut during construction operations. Coat cut faces with emulsified asphalt or other acceptable coating formulated to use on damaged plant tissues. Temporarily cover exposed roots with wet burlap to prevent roots from drying out; cover with earth as soon as possible.
 - 3. Repair or replace trees indicated to remain that are damaged by construction operations in a manner acceptable to District. Employ a licensed arborist to repair damage to trees.
 - 4. Replace trees that cannot be repaired and restored to full-growth status, as determined by arborist.
- C. Protect benchmarks and existing improvements on adjoining properties and existing improvements on the County, City or District's property designated to remain, from damage or displacement.
- D. Restore damaged improvements to their original condition, as acceptable to the District at no extra cost to owner.

3.3 CLEARING, GRUBBING, STRIPPING, AND REMOVAL

Where existing utilities interfere with the Work, the Work shall be stopped and the ENGINEER shall be notified of interferences before proceeding in accordance with the Contract Documents.

- A. All construction areas shall be cleared of structures including retaining walls, fences, concrete, masonry, or pavement debris, landscaping, trees, logs, upturned

- stumps, grass, weeds, loose boulders, and any other objectionable material of any kind which would interfere with the performance or completion of the Work, create a hazard to safety, or impair the Work's subsequent usefulness or obstruct its operation. Loose boulders within 10 feet of the top of cut lines shall be incorporated in landscaping or removed from the site. Trees and other natural vegetation outside the actual lines of construction shall be protected from damage during construction and trees within site not shown to be demolished.
- B. Removal of concrete curb, sidewalk, and driveway required for construction shall be removed to construction joints and replaced in kind. Removal of concrete bus stop parking area may be removed only as necessary for construction by sawcutting minimum depth of 1 ½" and replaced in kind.
 - C. Within the limits of clearing, the areas below the natural ground surface shall be grubbed to a depth necessary to remove all stumps, roots, buried logs, and all other objectionable material. Cleanouts and connection lines and any other underground structures, debris or waste shall be totally removed if they are found on the site. All objectionable material from the clearing and grubbing process shall be removed from the site and wasted.
 - D. Additional requirements for excavating or removing existing soil are shown on the Drawings.
 - E. Unless otherwise shown or specified, native trees larger than 3 inches in diameter at the base shall not be removed without the ENGINEER's approval. The removal of any trees, shrubs, fences, or other improvements outside of the limits of construction as deemed necessary by the CONTRACTOR, shall be arranged with the District, removed and replaced, if required, by the CONTRACTOR at his/her expense.
 - F. Trees and shrubbery adjacent to the trench, pole lines, fences, signs, survey markers and monuments, structures, conduits, pipeline under or above ground, all roadway facilities and any other improvements or facilities within or adjacent to the work shall be protected from injury or damage, and, if ordered by the ENGINEER, the CONTRACTOR shall provide and install suitable safeguards approved by the ENGINEER to protect such objects from injury or damage.
 - G. Serious injuries to trees to remain shall be avoided. No major roots or branches crossing the trench shall be cut if such cutting would seriously injure or imperil the safety of the tree or trench. All limbs, roots or branches, which are cut or broken, shall be trimmed and painted with an approved tree seal. If other objects are injured or damaged by reason of the CONTRACTOR's operations, they shall be replaced or restored, at the CONTRACTOR's expense, to a condition at the time the CONTRACTOR entered upon the work.
 - H. The ENGINEER shall be notified when site preparation work is completed.

3.4 REGRADING

- A. In areas to receive fill, the stripped surface should be scarified to a depth of about 6 inches below the excavated level, conditioned to near optimum moisture content and re-compacted to 90 percent (90%) of maximum relative density.
- B. Any holes remaining after stripping and grubbing shall be backfilled unless they are located within an area designated for further excavation. Backfill material and placement shall be in accordance with these specifications.

3.5 DISPOSAL OF DEBRIS

- A. Dispose of removed materials, waste, trash, and debris in a safe, acceptable manner, in accordance with applicable laws and ordinances and as prescribed by authorities having jurisdiction.
- B. Burying of trash and debris on the site will not be permitted. Burning of trash and debris at the site will not be permitted.
- C. Remove trash and debris from the site daily so that its presence will not delay the progress of the Work.
- D. Removed materials, trash, and debris shall become the property of the CONTRACTOR and shall be removed from the District's property and disposed of in a legal manner. Location of disposal site and length of haul shall be the CONTRACTOR's responsibility.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Measurement will be made for site clearing as a lump sum bid item.

4.2 PAYMENT

- A. The contract lump price paid for site clearing shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved complete and in place, as shown on the plans, including protection of existing structures, grubbing, stripping, disposal, removal and restoration of existing facilities in kind, as specified in these specifications and as directed by the Engineer.

END OF DOCUMENT 02400

DOCUMENT 02500 – TRAFFIC CONTROL

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. The work specified in this Section includes furnishing all labor, materials and equipment required to properly maintain vehicular, pedestrian and bicyclist in the work zone area as described herein, as directed by the Engineer and as shown on the plans.
- B. The Contractor shall provide the requirements for temporary work zone traffic control, signing and Pavement in accordance with Section 12, "Construction Area Traffic Control Devices" of the State Standard Specification, the plans, the Standard Drawings for Road Construction, these special provisions, the MUTCD, and as directed the Engineer.
- C. The Contractor shall either remove permanent signs or cover the signs in conflict with construction and remove pavement markings in conflict. Remove signs or pavement markings shall be replaced as before the commencement of construction.
- D. The Contractor shall have an individual on call twenty-four (24) hours a day familiar with and responsible for Traffic Control. The name and telephone number of this individual shall be submitted to the Engineer.
- E. In general, open holes/trenches shall not be allowed overnight unless steel plates are placed. Overnight open holes/trenches not yet backfill shall be allowed only upon approval of the Engineer. If allowed, the Contractor shall immediately provide overnight surveillance of the work site upon the request of, and in accordance with, the directions of the Engineer.
- F. The Contractor shall be allowed to close traffic lanes during normal working hours only with approval of the Engineer. The Contractor shall notify the Engineer at least one (1) calendar week before any intended lane closures. The Contractor shall notify both the police dispatcher and the fire dispatcher of the community in which the work is to be performed of the exact time of the commencement of any lane or road closure at least one (1) calendar day before said lane or road closure. The Contractor shall erect all of the traffic controls and warnings necessary and shall be responsible for the protection of the public safety in connection with lane and road closures for the execution of his operations to complete the project.

PART 2 PRODUCTS

- A. All signs shall conform to the latest Manual on Uniform Traffic Control Devices (MUTCD) and as shown on the plans.

- B. Channelizes shall be orange color and either surface mounted or with portable base as shown on the plans.
- C. Cones shall be orange and shall be minimum 24" in height.
- D. Steel plate shall be minimum one inch in thickness.

PART 3 TRAFFIC CONTROL PROCEDURES

- A. The Contractor shall have flaggers available to control all construction vehicles entering or crossing the travel lanes of secondary or primary routes. The Engineer shall determine the necessity of these flaggers for control of these construction sites. Ensure these flaggers do not stop roadway traffic, cause roadway traffic to change lanes or affect roadway traffic in any manner.
- B. Conduct all work activities within the boundaries of a travel lane closed to vehicular traffic or a pedestrian thoroughfare closed to pedestrian traffic. Conducting work activities over a travel lane open to traffic is PROHIBITED. Conducting work activities over a pedestrian thoroughfare open to pedestrian traffic is PROHIBITED. Do not conduct any work activities in any manner over a thoroughfare open to vehicular or pedestrian traffic.
- C. Steel plate shall be placed over all open trenches/holes at the end of each working day. Asphalt cutback shall be placed minimum width of 3 inches all around the steel plate.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Traffic Control for DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT will be measured by lump sum.

4.2 PAYMENT

- A. The contract lump sum price paid for Traffic Control (DISTRICT-WIDE CAPITAL IMPROVEMENT PROJECT) shall include full compensation for furnishing all signs, labor, materials, tools, equipment, and incidentals for doing all the work involved including furnishing and placing steel plates as required, complete and in place, as shown on the plans, as specified in these specifications, and as directed by the Engineer.

END OF DOCUMENT 02500

DOCUMENT 02600 – EARTHWORK AND EXCAVATION

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. This Section includes all earthwork required for construction of the Work. 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, furnishing, 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.
- B. The CONTRACTOR shall provide all materials, equipment, and labor necessary to perform and complete all earthworks as shown on the Drawings and as specified herein.
- C. Excavations and backfill for appurtenant structures such as, but not limited to, maintenance holes shall be deemed to be in the category of trench excavation and backfill.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02200, Mobilization and Site Preparation
- B. Section 02800, Aggregate Base
- C. Section 02900, Asphalt Concrete

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. 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.
- B. Specifications, Codes and Regulations:
 - 1. California Department of Transportation Test Method Nos. 301 and 217
 - 2. Caltrans Standard Specification 2018, Section 19

3. U.S. Corp of Engineers, Specification CW-002215

- C. 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. The latest edition of the following references at the time of bid shall be used:

ASTM C150	Specification for Portland Cement
ASTM C231	Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
ASTM C260	Specification for Air-Entraining Admixtures for Concrete
ASTM C618	Specification of Fly Ash and Raw or Calcined Natural Pozzolan for use as a Mineral Admixture in Portland Cement Concrete
ASTM D422	Method for Particle-Size Analysis of Soils
ASTM D1556	Test Method for Density of Soil in Place by the Sand-Cone Method
ASTM D1557	Test methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in. (457-mm) Drop
ASTM D2419	Test Method for Sand Equivalent Value of Soils and Fine Aggregate
ASTM D2487	Classification of Soils for Engineering Purposes
ASTM D2844	Resistance R-Value and Expansion Pressure of Compacted Soils
ASTM D2922	Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
ASTM D3744	Aggregate Durability Index
ASTM D3776	Test Methods for Mass per Unit Area (Weight) of Woven Fabric
ASTM D3786	Test Method for Hydraulic Bursting Strength of Knitted Goods and Nonwoven Fabrics: Diaphragm Bursting Strength Tester Method
ASTM D4253	Test Methods for Maximum Index Density of Soils Using a Vibratory Table
ASTM D4254	Test Methods for Minimum Index Density of Soils and Calculation of Relative Density
ASTM D4355	Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
ASTM D4491	Test Methods for Water Permeability of Geotextiles by Permittivity
ASTM D4632	Test Method for Grab Breaking Load and Elongation of Geotextiles
ASTM D4751	Test Method for Determining the Apparent Opening Size of a Geotextile

ASTM D4833	Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products
Caltrans Standard Specification 2018	Aggregate Subbases Specification, Section 25
Caltrans Standard Specification 2018	Aggregate Bases Specification, Section 26

1.4 CONTRACTOR SUBMITTALS

- A. A copy of this specification section, with any addendum updates included, and all referenced and applicable sections, with any addendum updates included, shall be submitted with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. 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.
- B. Submittals shall be provided to confirm that material to be used comply with information specified herein.
- C. Certificates of Compliance. Certificates of Compliance shall be provided for all products and materials proposed to be used at the project site conform to requirements, and that all tests were conducted in accordance with the specification.
- D. The Contractor shall prepare a work plan detailing the order of work, waste excavation minimization and material handling

1.5 QUALITY ASSURANCE

- A. General. It shall be the responsibility of the CONTRACTOR to accomplish the specified compaction for backfill or other earthwork. All soils testing will be done by a testing laboratory of the DISTRICT's choice at the DISTRICT's expense except as otherwise specified below. The CONTRACTOR shall provide the ENGINEER at least 24 hours' notice in advance of required tests.
- B. Where soil material is required to be compacted to a percentage of maximum density, the maximum density at optimum moisture content shall be determined in accordance with ASTM D1557. Where cohesionless, free draining soil material is required to be compacted to a percentage of relative density, the calculation of

relative density shall be determined in accordance with ASTM D4253 and ASTM D4254. Field density in-place tests shall be performed in accordance with ASTM D1556, ASTM D2922, or by such other means acceptable to the ENGINEER.

- C. In case the first test and one retest 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 after the first retest to show compliance shall be by a testing laboratory selected by the DISTRICT and shall be at the CONTRACTOR's expense.
- D. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to performing any excavation.
- E. Particle size analysis of soils and aggregates shall be performed using ASTM D422.
- F. Determination of sand equivalent value shall be performed using ASTM D2419 or California Test Method No. 217, State of California, Department of Transportation.
- G. The determination of durability index shall be made using ASTM D3744.
- H. The determination of the resistance (R-Value) shall be made using ASTM D2844 or California Test Method No. 301, State of California, Department of Transportation.
- I. All materials to be used shall be natural materials. No recycled materials are acceptable.
- J. The CONTRACTOR shall provide access in the trench for the 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.
- K. Unified Soil Classification System. References in these specifications to soil classification types and standards are set forth in ASTM D2487. The CONTRACTOR shall be bound by all applicable provisions of said ASTM D2487 in the interpretation of soil classifications.
- L. Moisture Content: The ratio, expressed as a percentage of the weight of water for a given soil mass to the weight of solid particles, shall be determined by ASTM D1557.

- M. Perform work as specified herein and in accordance with Section 19, "Earthwork" of the State of California Department of Transportation, Standard Specifications, dated 2018.
- N. If at any time, the Contractor encounters impacted soil or groundwater, as indicated by visual discoloration, noticeable odor, or evidence of asbestos fibers, the Contractor shall immediately notify the Owner.
- O. The Contractor is responsible for performing excavation to meet applicable OSHA safety standards and requirements
- P. The Contractor is responsible for determining the equipment and construction methods necessary to efficiently perform the work.

1.6 DEFINITIONS

- A. Utility. Any buried pipe, conduit or cable.
- B. Open Trench. Any excavation deeper than 2 feet below original grade.

1.7 SURVEY CONTROL

- A. CONTRACTOR shall verify that intended elevations for work are as shown on the Drawings.

PART 2 PRODUCTS

2.1 SUITABLE MATERIALS

- A. Class 2 Aggregate Base. – Refer to Section 02800, Aggregate Base, of these specifications.
- B. Native Material.
 - 1. Native material will be allowed for trench backfill and shall be material obtained from on-site excavations, provided the materials are not classified as unsuitable. Native materials shall be free of stones, lumps, and broken concrete, objectionable material, vegetation and deleterious substances.
- C. Type 1 Material – ¾" Crushed Rock.
 - 1. Type 1 material shall be clean, durable, natural 3/4-inch crushed (angular) drain rock.
- D. Sand.
 - 1. Sand shall be free of organics and other deleterious materials.
 - 2. Sand shall meet the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
3/8-inch	100
No. 4	90-100

3. Sand shall have a sand equivalent not less than 30.

2.2 UNSUITABLE MATERIAL

- A. Unsuitable soils for fill material shall include, but not be limited to, all soils that, when classified under ASTM D2487, fall in the classifications of PT, OH, or OL. Type CH and MH soils will be permitted in unimproved areas only where required compaction and stability can be demonstrated.
- B. In addition, any soil that cannot be compacted sufficiently to achieve the percentage of maximum density specified for the intended use, shall be classed as unsuitable material.
- C. **Materials Containing Detrimental Amounts of Organic Matter.** Organic matter shall be no more than 5 percent. Amount of organic matter shall be determined based on ASTM Test Method D2974.
- D. Materials containing rock or similar irreducible material with a maximum dimension greater than 6 inches.
- E. Materials containing foreign manmade objects, such as construction debris.
- F. Materials of such unstable nature as to be incapable of being compacted to specified density using ordinary methods at optimum moisture content.
- G. Materials that are too wet to be properly compacted and circumstances that prevent suitable in-place drying prior to incorporation into the Work. However, the presence of excessive moisture in a material is not, by itself, sufficient cause for determining that the material is unsuitable.
- H. Any material determined to be hazardous is defined as unsuitable material.
- I. Washed, smooth rock (pea gravel) is classified as unsuitable material.
- J. Materials that is unsuitable for the planned use.
- K. When moisture content of the material is not in conformance with this Specification, the material shall be classified as unsuitable material.
- L. Chemical testing for corrosivity shall be performed for all materials proposed for use as backfill for metallic pipe. The testing shall be in accordance with the requirements of California Test Methods 532 and 643 of the California Department of Transportation. Backfill materials shall be considered unsuitable when the

chloride concentration exceeds 500 ppm, sulfate concentration exceeds 1,500 ppm, resistivity is less than 2,000 ohm-cm or pH is less than 6.5. Testing shall be performed by a qualified laboratory as approved by the ENGINEER. The test results shall be submitted to the ENGINEER for acceptance during the submittal process.

2.3 USE OF FILL AND BACKFILL MATERIAL TYPES

- A. The CONTRACTOR shall use the types of materials as designated herein, and as shown on the Contract Documents for all required construction.
- B. Fill and backfill types shall be used in accordance with the following provisions:
 - 1. Pipe bedding, pipe zone, trench zone, and final zone shall be as shown on the Contract Drawings, unless otherwise specified.
 - 2. Aggregate base materials under pavements, sidewalks, and curb and gutters shall be aggregate base material constructed to the thicknesses shown or specified.
 - 3. Backfill materials beneath concrete slabs on grade shall be ¾" crushed rock, as shown on the PLANS.
 - 4. Trench backfill and final zone backfill for pipelines under slabs shall be the same material as used in the pipe zone, except where specifically required otherwise by the Contract Documents.

PART 3 EXECUTION

3.1 GENERAL

- A. Trench excavation shall be in accordance with Caltrans Specifications 2018, Section 19, Earthwork.
- B. Excavation shall include removal of all waters that interfere with the construction work.
- C. Excavated spoils shall be dumped directly into trucks for off haul, as native excavated soil cannot be used as backfill. Dumping of excavated materials on adjacent pavement will not be permitted.
- D. Trench width is shown on the Drawings. If maximum trench width is exceeded, the CONTRACTOR shall consult the ENGINEER immediately, and the CONTRACTOR shall provide additional bedding, another more stringent type of bedding, or higher strength pipe as directed by the ENGINEER at no additional cost to the DISTRICT.
- E. Before lowering into the trench, the pipe shall be inspected for defects. All cracked, chipped, or broken pipe shall be discarded. The ends and interior of the pipe shall

be clean. Belled ends shall be laid upgrade. Handling of the pipe shall be accomplished in a manner that will not damage the pipe. The joint shall be made in the manner recommended by the manufacturer. Care shall be taken not to buckle or disturb previously laid pipe.

- F. Pipe shall be laid accurately to the staked line and grade. All service connections shall be installed as indicated on the Drawings. Where existing service sewers are to be connected, suitable fittings and adapters shall be provided by the Contractor.
- G. Pipe shall be cleaned of all foreign matter, and water shall be kept out of trenches until joints have been completed. When WORK is not in progress, open ends of pipe and fitting shall be securely closed to keep foreign matter and animals from entering.
- H. Location of the sewer laterals are approximate and may be changed by the Engineer. Relocating of the sewer lateral will not add extra cost to the Owner, unless either of the following conditions result:
 - 1. The relocation results in a significant increase in the length of the lateral;
or
 - 2. There are significant differences in the surface characteristics at the new lateral location which would result in substantial and foreseeable changes in construction methods and materials.
- I. Lateral connections to new sewer mains shall be made with a manufactured sanitary wye of the same materials as the mainline pipe.

3.2 STRUCTURE AND ROADWAY EXCAVATION

- A. General. 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 to complete the Work, but shall not exceed 4 days maximum before backfilling trench. 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 02140, Dewatering.

- B. **Steel Plates.** Steel plates of 1-inch minimum thickness with adequate trench bracing shall be used to bridge across trenches at roadways where trench backfill and temporary patch have not been completed during regular working hours. Safe and convenient passage for pedestrians shall be provided. The ENGINEER may designate a passage to be provided at any point deemed necessary. Access to fire stations, fire hydrant, and hospitals shall be maintained at all times. Steel plates shall only be allowed where specified herein.
- C. **Excavation Beneath Paved Areas.** Excavation under areas to be paved shall extend to the bottom of the aggregate base. After the required excavation has been completed, the exposed surface shall be scarified, brought to optimum moisture content and compacted.

3.3 PIPELINE AND UTILITY TRENCH EXCAVATION

- A. **General.** Unless otherwise shown, ordered, or accepted by the ENGINEER, excavation for pipelines and utilities shall be vertical trenches, unless otherwise shown.
- B. Existing utilities, maintenance holes, drainage structures, and other facilities shall be protected, supported, and kept in service.
- C. Excavation and pipe laying shall proceed up station or upstream unless otherwise approved by the ENGINEER.
- D. **Trench Bottom.** The bottom of the trench shall be excavated uniformly. The trench bottom shall be given a final trim, using a laser to set the string line for establishing grade, such that each pipe section when first laid will be continually in contact with the ground along the extreme bottom of the pipe. Rounding out the trench to form a cradle for the pipe will not be required. Bell holes shall be excavated in the pipe bedding material as required to ensure uniform bearing of the pipe barrel on the bottom of the trench. Trench bottom shall be prepared as shown on the trench detail.
- E. **Open Trench.** The maximum lengths of open trench permitted in any on location shall be the length necessary to accommodate the amount of pipe installed in a single day. The distance is the collective length at any location, including open excavation, pipe laying and appurtenance construction, and backfill that has not been temporarily resurfaced. All trench excavations shall be fully backfilled at the end of each day. Use of steel plates as open trench covers will not be permitted except as described below:
 - 1. Trench plates will be allowed to cover a minimum area over the end of the last section of pipe installed each day, provided the trench is properly shored and the plates are within barricaded area approved by the ENGINEER. Temporary backfill of the trench in the plated area is not required. Trench plates will not be allowed in intersections and open traffic

lanes.

2. In other special circumstances, but only with the prior approval of the ENGINEER and the DISTRICT, City of San Jose, or Santa Clara County.
 3. When traffic plates are authorized, they shall be provided with non-skid coating and cold mix asphalt around the plate perimeter.
- F. Trench Over-Excavation. Where the Contract Documents indicate that trenches shall be over-excavated, they shall be excavated to the depth shown, and then backfilled to the grade of the bottom of the bedding.
- G. Over-Excavation. If the bottom of the excavation is found to consist of soft or unstable material that is incapable of properly supporting the pipe or structure, the ENGINEER shall be advised immediately. At the ENGINEER's direction, such material shall be removed to the depth and for the lengths ordered. The trench shall then be backfilled to the grade of the bottom of the bedding with coarse bedding material wrapped in geotextile fabric as specified herein. When over-excavation is ordered by the ENGINEER, additional compensation will be provided to the CONTRACTOR.
1. The CONTRACTOR shall obtain the ENGINEER's written approval prior to over-excavating. Any over-excavating and resultant backfill and compaction without such approval shall be at the CONTRACTOR's expense. The quantity of approved unsuitable material excavated and its replacement shall be paid for as directed by the ENGINEER.

3.4 DISPOSAL OF EXCESS EXCAVATED MATERIAL

- A. The CONTRACTOR shall remove and dispose of all excess excavated material in a legal manner at a site located off-site as selected by the CONTRACTOR and reviewed by the ENGINEER.

3.5 BACKFILL- GENERAL

- A. Backfill shall not be dropped directly upon any structure or pipe. Backfill shall not be placed around or upon any structure until the concrete has attained sufficient strength to withstand the loads imposed. Backfill around water-retaining structures shall not be placed until the structures have been tested, and the structures shall be full of water while backfill is being placed.
- B. Except for materials being placed in over-excavated areas, backfill shall be placed after all water is removed from the excavation.

3.6 PLACING AND SPREADING OF BACKFILL MATERIALS

- A. Backfill materials shall be placed and spread evenly in layers, loose depth 8 inches or less.

- B. During spreading, each layer shall be thoroughly mixed as necessary to promote uniformity of material in each layer. Pipe zone backfill materials shall be manually spread around the pipe so that when compacted, the pipe zone backfill will provide uniform bearing and side support. All materials placed below 3 feet above the top of the pipe should be compacted with hand-compaction equipment. Materials placed above 3 feet above the top of the pipe shall be compacted using heavier, self-propelled compaction equipment.
- C. Where the backfill material moisture content is too low to permit the specified degree of compaction, water shall be added before or during spreading until the proper moisture content is achieved. Jetting will not be permitted for compaction.
- D. Where the backfill material moisture content is too high to permit the specified degree of compaction, the material shall be dried until the moisture content is satisfactory.
- E. Storage of backfill materials overnight at the job site is prohibited, unless accepted by the DISTRICT.
- F. Bell or coupling holes shall be provided. Do not shovel slice bedding material into the bell or coupling hole.

3.7 COMPACTION OF FILL, BACKFILL, AND EMBANKMENT MATERIALS

- A. Each layer of backfill materials as defined herein, where the material is graded such that at least 10 percent passes a No. 4 sieve, shall be mechanically compacted to the specified percentage of maximum density. Equipment that is consistently capable of achieving the required degree of compaction shall be used and each layer shall be compacted over its entire area while the material is at the required moisture content. Lightweight tampers or vibrating plate compactors shall be used in pipeline and utility trenches to prevent damage to existing or new utilities.
- B. Compaction of backfill adjacent to all subgrade structure walls shall follow a pattern of compaction that begins at the wall face and progresses outward to the outside edge of the excavation before beginning a new lift.
- C. Flooding, ponding, or jetting shall not be used.
- D. Class 2 Aggregate Base materials shall be compacted by means of at least 2 passes from a flat plate vibratory compactor. $\frac{3}{4}$ " Crushed rock bedding shall be placed in lifts no greater than six (6) inches at a time.
- E. Compaction Requirements. The following compaction test requirements shall be in accordance with ASTM D1557, or in accordance with ASTM D4253 and D4254, as applicable.

Location or Use of Fill	Minimum Percentage of Maximum Density
Aggregate base for AC pavement	95
Backfill beneath all structures, footings, slabs and pads	95
Backfill around all structures, footings, and slabs	90
Pipe zone backfill	90
Trench zone backfill in paved and unpaved areas	90
¾" crushed rock bedding material	n/a
Pipe bedding (excluding ¾" C.R.)	90
Over-excavated zones	90
Final zone backfill, beneath paved areas	95
Final zone backfill, beneath unpaved areas	90

- F. Trench Backfill Requirements. The pipe has been structurally designed based upon the trench configuration. Where pipe embedment is disturbed after compaction, such as by the removal of sheeting and shoring, the DISTRICT may require recompaction to the specified minimum limit.
- G. If the allowable deflection specified for the pipe is exceeded, the CONTRACTOR shall expose and reround or replace the pipe, repair all damaged lining and coating, and reinstall the pipe zone material and trench backfill as specified at no additional expense to the DISTRICT.

3.8 PIPE AND UTILITY TRENCH BACKFILL

- A. Pipe Backfill. The pipe zone and pipe bedding is defined as that portion of the vertical trench cross-section lying between a plane 6 inches below the bottom surface of the pipe (i.e., the trench subgrade), and a plane at a point 12 inches above the top surface of the pipe. The coarse bedding is defined as that portion of pipe zone backfill material between the trench subgrade and the bottom of the pipe.
- B. After compacting the bedding, the CONTRACTOR shall perform a final trim using a stringline for establishing grade, such that each pipe section when first laid will be continually in contact with the bedding along the extreme bottom of the pipe.
- C. The pipe zone shall be backfilled with the specified backfill material as specified in the Contract Documents. The CONTRACTOR shall exercise care to prevent damage to the pipeline coating, cathodic bonds, and the pipe itself during the installation and backfill operations.
- D. Trench Zone. After the pipe zone backfill has been placed as specified above, and after all excess water has completely drained from the trench, backfilling of the trench zone may proceed. The trench zone is defined as that portion of the vertical trench cross-section lying between a plane 12 inches above the top surface of the

pipe and a plane at a point 30 inches below a paved area, or 24 inches below the finished grade of an unpaved area.

- E. Final zone. Final zone is all backfill in the last 30 inches between the top of the trench zone and the bottom of the paved subgrade, and the last 24 inches between the top of the trench zone and the finish final grade in unpaved area.
- F. If compaction fails to meet the specified requirements, the CONTRACTOR shall remove and replace the backfill at proper compaction or shall increase the compaction to specified level by other means acceptable to the ENGINEER. Subsequent tests required to verify that the reconstructed backfill meets the specified compaction shall be paid by the CONTRACTOR.
- G. Periodic compliance tests may be made by the ENGINEER at no cost to the CONTRACTOR to verify that compaction is meeting the specified requirements.

3.9 DISPOSAL OF SURPLUS MATERIAL

- A. Remove excess earth materials, unsuitable materials, and debris from the site and dispose of it in a legal manner. Location of disposal site and length of the haul shall be the CONTRACTOR's responsibility. Site shall be located off DISTRICT property.

3.10 UTILITIES

- A. Location
 - 1. A particular effort has been made to locate and indicate on the Contract Drawings all utilities and/or other facilities, which may conflict with, cross, or lie close to the Work. While the locations shown are believed to be reasonably correct, neither the ENGINEER nor the DISTRICT can guarantee the accuracy of adequacy of this information.
 - 2. The CONTRACTOR shall, before proceeding with the Work, confer with all agencies and utilities that have or may have above-ground and/or underground facilities in the vicinity of the Work. The purpose of the Conference shall be to notify said agencies and utilities of the proposed construction schedule and locate and/or verify the locations of all facilities, including connections, in the area of the Work. The CONTRACTOR shall also arrange for all necessary suspension of service and make arrangements to physically locate and avoid interference with all existing facilities. The CONTRACTOR may make arrangements for alterations or relocations for his sole convenience (not actually required to complete installation); such alterations or relocations shall be completely at the expense of the CONTRACTOR.
 - 3. Where existing utilities and/or other facilities, above-ground and/or underground, are encountered during construction, they shall not be

displaced or molested unless necessary. If it is necessary to relocate a utility or if a utility is disturbed or accidentally damaged in the prosecution of the Work, the CONTRACTOR shall notify the DISTRICT and the Owner or proper authority. The CONTRACTOR shall abide with the requirements of and cooperate with such Owner or authority (who may enter upon the Work at any time) while protecting, repairing, replacing or relocating such utilities. All abandoned pipelines that are severed during the Work shall be immediately plugged by the CONTRACTOR with approved material, unless otherwise directed by the ENGINEER.

4. A 12-inch minimum clearance shall be maintained at all utility crossings. Adjustments to the pipe alignment and elevation will be made by the ENGINEER where exploratory work indicates the need.

B. Excavation Around Utilities.

1. Excavation and other work under or adjacent to utilities shall not interfere with their safe operation and use.
2. CONTRACTOR shall carefully probe to determine the exact location of utility, and hand excavate where necessary to avoid damages.
3. In the event of damage incurred during construction to such structures property, CONTRACTOR shall immediately notify the Owners or proper authorities, and shall arrange for immediate repairs at his expense.

3.11 STREET MONUMENTS

- A. Any monuments or bench marks replaced by CONTRACTOR due to work shall be replaced in accordance with applicable DISTRICT's details and requirements.

3.12 SHORING REMOVAL

- A. Shoring Removal. Shoring shall be removed as soon as the trench backfill has been placed and compacted to a level adequate to support the trench walls, unless otherwise indicated. Compaction of the backfill shall be continuous throughout the shoring removal process in order to minimize the potential creation of voids between trench walls and compacted trench backfill. Alternatively, voids created by removal of shoring may be filled by allowing low-density concrete placed on top of backfill to flow into the voids or by grouting with air-entrained concrete grout. Shoring shall be completely removed prior to compaction of the top 4 feet of trench depth.

3.13 TEMPORARY PAVING

- A. A minimum of 2 inches of hot-mix temporary asphalt shall be placed in finished trenches and rolled to a smooth surface at the end of each day, unless final paving can be completed or steel plates are authorized to cover trenches in paved streets.

The temporary asphalt shall be placed within 1/4 inch of finished pavement grade. Temporary paving shall be maintained in a safe and drivable condition until permanent paving is placed.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. The work included in this specification section will not be measured separately for payment.
- B. Full compensation for the work of this section will be considered as included in the prices for work performed under other contract items listed in the schedule of bid prices in the Bid Form, and no additional compensation will be made.

END OF DOCUMENT 02600

DOCUMENT 02700 - DEWATERING

PART 1 GENERAL

1.1 DESCRIPTION

- A. Section includes specifications for temporary dewatering systems if required.

1.2 SYSTEM DESCRIPTION

- A. Remove water which accumulates in excavations during the progress of work so that all work can be done in the dry, unless otherwise approved by the Engineer. Keep excavated areas free from water while underground utilities or structures are constructed, while concrete is setting and until backfill or elements of the structure have been placed to a sufficient height to anchor the work against possible leakage or buoyant uplift forces. A height to anchor the work against buoyant uplift forces shall be considered sufficient when the dead load weight of the backfill or elements of the structure exceeds the uplift forces by a minimum factor-of-safety of 1.5.
- B. In addition to the other requirements specified herein, design the dewatering systems to perform as follows:
 - 1. Prevent damage to adjacent properties, buildings, structures, utilities, and other work as a result of settlement or other groundwater-related effects.
 - 2. At all times, maintain groundwater levels over the entire excavation a minimum of 3 feet below the excavation grade.
- C. At all times, have on the work site sufficient pumping equipment for immediate use, including standby pumps for use in case other pumps become inoperable. Dispose of water in accordance with the detailed requirements specified herein and so as to cause no injury to personnel or the public, damage to public or private property, nor menace to the public health.
- D. Design dewatering system to prevent pumping fines from below grade or disturbing materials exposed at the excavation bottom.
- E. Furnish container for construction dewatering complete with baffles for the purpose of filtering silt prior to discharge of water. Size container or containers to suit dewatering and storage demands.
- F. If the approved methods include displacing groundwater as concrete or other work is placed in excavations, the dewatering system shall capture groundwater as it is displaced and follow the procedures herein for its containment, analysis, and discharge.
- G. Obtain jurisdictional authority's specific discharge requirements prior to commencement of dewatering.

1.3 SUBMITTALS

- A. Submit dewatering plan including shop drawings and design data including the following elements:
 - 1. The proposed type of dewatering system.
 - 2. Arrangement, location, and depths of system components.
 - 3. Complete description of equipment and instrumentation to be used, with installation, operation and maintenance procedures.
 - 4. Types and sizes of filters.
 - 5. Design calculations demonstrating adequacy of the proposed system and equipment.
 - 6. Methods of disposal of pumped water.
 - 7. Method of water quality monitoring.
 - 8. Type of filtration and chemical treatment of contaminated water, as applicable.

1.4 DELIVERABLES

- A. Submit copies of dewatering plan as required for work of this Section, including any permits required for disposal of pumped water.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.1 DEWATERING

- A. Except as otherwise indicated in the Contract Documents, perform dewatering to accomplish a lowering of measured static ground water level to an elevation which is suitable for the construction of structures below grade.
- B. When pumping is required to reduce groundwater levels, accomplish pumping in a manner that will not disrupt the surrounding environment.
- C. Do not turn off the dewatering system in a manner that the upsurge in water weakens the subgrade for completed excavation and structure foundation work.
- D. Construct, operate and maintain as required to complete the Work all necessary cofferdams, channels, pipes, flumes, drains, sumps, well points and protective

works; and furnish, install, operate and maintain all necessary pumping and other equipment for dewatering the areas of Work suspected of containing hazardous materials; and control all surface flow and groundwater as may be encountered while performing the Work. Remove all water that may accumulate in the excavation while the Work progresses so that all Work can be performed in dry conditions. All contaminated water shall be removed from the excavation before it is backfilled. The excavation shall be kept free from water until backfilling has progressed to a height above the water source.

- E. Storage tank: Provide a minimum 2,500-gallon double-walled water storage tank on Site for the duration of the Work. If more storage capacity is needed, provide additional storage tanks on Site.
- F. Water sampling and chemical analysis: Water samples shall be collected from the holding tanks and submitted to a State-Certified chemical analysis laboratory. Chemical analyses required for the samples shall at a minimum include: TPHg following EPA Test Methods 5030/8015 (modified); benzene, toluene, ethylbenzene, and total xylenes (BTEX) following EPA Test Method 8020; and chlorinated solvents following EPA Test Method 8010.
- G. Perform additional chemical analyses that may be required for disposal or recycling of the water. Laboratory chemical analysis reports associated with the water samples shall be provided to Town of Woodside.
- H. Remove storage containers, including those cleaned, and other dewatering facilities from the site at the completion of dewatering operations.
- I. Excavated trench, after dewatering, may be sealed water tight per State Standard Specification at the option of the Contractor in lieu of continual dewatering.

3.2 CONTAINMENT, ANALYSIS, AND DISCHARGE OF GROUNDWATER EXTRACTED

- A. Containment: Upon extraction, store groundwater extracted in the process of construction dewatering in containers prior to discharge or disposal of water, as applicable. Keep containers locked to prevent accidental or purposeful discharge of the water. Contain and store the water on-site and in such a manner that it will not interfere with the Contractor's existing or continued construction operations.
- B. Analysis: Collect and analyze water samples taken directly from each storage container to verify that the extracted groundwater meets applicable discharge requirements. Number of samples taken per container shall be at the sole discretion of the Engineer.
- C. Discharge Requirements: Discharge no water which exceeds regulatory requirements or the jurisdictional authority's discharge requirements.

- D. Discharge: Obtain jurisdictional authority's specific discharge requirements prior to commencement of dewatering. Subject to the discharge restrictions specified herein and upon written authorization from the jurisdictional authority, discharge effluent from dewatering directly into existing sanitary manholes, where said sewer system is in operating condition. Provide conduits to carry said effluent to nearest sanitary sewer manhole and drainage to the nearest storm drainage. Confirm that manholes to be utilized are in operating condition. Release water in a manner that will not impact the Contractor's operations.
- E. Disposal: In the event that extracted groundwater does not meet the discharge
- F. requirements criteria, provide for the disposal of the extracted groundwater in accordance with General Provisions 7.16, Disposal of Material Outside of the Work Site. Clean dewatering containers, piping, pumps, and other dewatering facilities contaminated as a result of the Work
- G. Use: Extracted groundwater of sufficient quality as shown by test data may be used on site with Engineer's written approval for those purposes approved by the Engineer.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT AND PAYMENT

- A. The work included for dewatering will not be measured for payment.
- B. Full compensation for dewatering, if required, shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals for doing all the work involved in dewatering, complete and in place, as shown on the plans, as specified in these specifications and as directed by the Engineer and no separate payment will be made therefor.

END OF DOCUMENT 02700

DOCUMENT 02800 – AGGREGATE BASE

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Aggregate base for trench backfill and course

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM C136: Test Method for Sieve Analysis of Fine and Coarse Aggregates
 - 2. ASTM D421: Practice for Dry Preparation of Soil Samples for Particle-Size Analysis and Determination of Soil Constants
 - 3. ASTM D1241: Specification for Materials for Soil-Aggregate Subbase, Base, and Surface Courses
 - 4. ASTM D1557: Test Method for Laboratory Compaction Characteristics of Soil Using Modified Effort
 - 5. ASTM D2419: Test Method for Sand Equivalent Value of Soils and Fine Aggregate
 - 6. ASTM D2844: Test Method for Resistance R-Value and Expansion Pressure of Compacted Soils
 - 7. ASTM D2922: Test Methods for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 8. ASTM D3017: Test Method for Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
 - 9. ASTM D3744: Test Method for Aggregate Durability Index
- B. State of California, Department of Transportation (Caltrans), Standard Specifications, 2018 edition:
 - 1. Section 10-6 Watering
 - 2. Section 26 Aggregate Bases

1.3 SUBMITTALS

- A. General: Submit under the provisions of Section 01330, Submittal Procedures
- B. Product Data: Submit source, gradation, R-value, sand equivalent, and durability for the base material.
- C. Test Reports: Submit plant and field test reports as specified in these specifications.

PART 2 PRODUCTS

2.1 AGGREGATE BASE MATERIAL

- A. Aggregate for base at the time the base material is deposited on the prepared sub grade or in trench shall conform with ASTM D1241 and the following requirements:
- B. Class 2 Aggregate Base:
 - 1. Class 2 aggregate base shall be free of vegetable matter, reclaimed asphalt, concrete, glass and other deleterious substances. Coarse aggregate, material contained on the No. 4 sieve, shall consist of material of which 25 percent by weight shall be crushed particles. ¾" Class 2 aggregate base shall conform to the following grading, determined in accordance with ASTM C136:

Percentage Passing Sieves

Sieve Sizes	1-1/2 inch Maximum	3/4-inch Maximum
2-inch	100	-----
1-1/2 inch	90-100	-----
1-inch	-----	100
3/4-inch	50-85	90-100
No. 4	25-45	35-55
No. 30	10-25	10-30
No. 200	2-9	3-9

- 2. Class 2 aggregate base shall conform to the following additional requirements:

Tests	ASTM Test Method	Requirements
Resistance (R-Value)	D2844	78 min.
Sand Equivalent	D2419	30 min.
Durability Index	D3744	35 min.

2.2 SOURCE QUALITY CONTROL

- A. The Contractor shall perform sampling and tests of the aggregate base material in accordance with the ASTM Test Methods herein specified and provide copies of such tests to District, to determine compliance with specified requirements. Samples shall be taken from material as delivered to the site, and shall be prepared in accordance with ASTM D421, as applicable.
- B. Aggregate grading or sand equivalent test shall represent no more than 500 cubic yards of base material or one day's production, whichever is the greater amount.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01300 - Administrative Requirements: Verification of existing conditions before starting work.
- B. Section Verify substrate has been inspected, gradients and elevations are correct, and are dry.
- C. The Contractor shall call for an inspection by the Engineer and obtain written acceptance of the prepared sub grade or sub base before proceeding with the placement of aggregated base course.
- D. The Subgrade or subbase to receive aggregate base course, immediately prior to spreading, shall conform to the compaction and elevation tolerances indicated for the material involved and shall be free of standing water and loose or extraneous material.

3.2 PREPARATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy, or unsuitable surfaces.

3.3 AGGREGATE PLACEMENT

- A. Level and contour surfaces to elevations and gradients indicated.
- B. Add small quantities of fine aggregate to coarse aggregate as appropriate to assist compaction.
- C. Maintain optimum moisture content of fill materials to attain required compaction density.

- D. Use mechanical tamping equipment in areas inaccessible to compaction equipment.
- E. Aggregate base shall be applied over the prepared subgrade or subbase and compacted (95% relative compaction unless otherwise noted) in accordance with Section 26 of the Caltrans Standard Specifications 2018.
- F. Aggregate base shall have minimum uniform thickness after compaction of dimensions indicated. Where not indicated compacted thickness shall be 6 inches.
- G. All compaction expressed in percentages in this section refers to the maximum dry density as determined by ASTM D1557.

3.4 TOLERANCES

- A. Section 01400 - Quality Requirements: Tolerances.
- B. Maximum Variation from Thickness: ¼ inch.
- C. Maximum Variation from Design Elevation: ½ inch.

3.5 FIELD QUALITY CONTROL

Elsewhere covered

3.6 SCHEDULES

- A. Under pavement:
 - 1. Compact placed aggregate materials uniformly to achieve dry density minimum ninety-five percent (95%) of maximum density.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Aggregate base will not be measured separately for payment.

4.2 PAYMENT

- A. No separate payment will be for aggregate base. Full compensation for furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved, complete and in place, as shown on the plans, as specified in these specifications, and as directed by the Engineer for Aggregate Base shall be considered to be included in the various contract items of work and no separate payment will be made.

END OF DOCUMENT 02800

DOCUMENT 02900 – ASPHALT CONCRETE

PART 1 GENERAL

1.1 REQUIREMENTS

- A. The CONTRACTOR shall perform all work associated with asphalt concrete pavement and base as shown on the Drawings and/or as specified herein including all labor, materials, equipment, supplies, and facilities associated with providing a finished product satisfying all the requirements of the Contract Documents and various encroachment permit requirements of agencies having right-of-way jurisdiction, whichever is more stringent. CONTRACTOR shall replace all asphalt concrete pavement damaged or demolished while performing the Work under this contract, as well as provide new pavement where shown.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 02400, Site Clearing
- B. Section 02600, Earthwork and Excavation

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. 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.
- B. 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. The latest edition of the following references at the time of bid shall be used.

AASHTO M82	Cut-Back Asphalt (Medium Curing Type)
AASHTO M140	Emulsified Asphalt
AASHTO M208	Cationic Emulsified Asphalt
AASHTO M226	Viscosity Graded Asphalt Cement
AASHTO T209	Maximum Specified Gravity of Paving Mixtures
ASTM D242	Mineral Filler for Bituminous Paving Mixtures
ASTM D692	Coarse Aggregate for Bituminous Paving Mixtures
ASTM D977	Emulsified Asphalt

ASTM D1073	Fine Aggregate for Bituminous Paving Mixtures
ASTM D1188	Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
ASTM D1557	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 10-lb (4.54-kg) Rammer and 18-in (457-mm) Drop
ASTM D2027	Cutback Asphalt (Medium Curing Type)
ASTM D2397	Cationic Emulsified Asphalt
ASTM D2726	Bulk Specific Gravity and Density of Compacted Bituminous Mixture Using Saturated Surface-Dry Specimens
ASTM D3381	Viscosity-Graded Asphalt Cement for Use in Pavement Construction
ASTM D3515	Hot-Mixed, Hot-Laid Bituminous Paving Mixtures
ASTM D2922	Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods
SC-205 or SC-800	California State Specification, Section 93
Caltrans Standard Specification, Section 26	Aggregate Bases
Caltrans Standard Specification, Section 37	Bituminous Seals
Caltrans Standard Specification, Section 39	Asphalt Concrete
Caltrans Standard Specification, Section 42	Groove and Grind Pavement
Caltrans Standard Specification, Section 92	Asphalt Binders
Caltrans Standard Specification, Section 94	Asphaltic Emulsions

1.4 CONTRACTOR SUBMITTALS

- A. A copy of this specification section, with any addendum updates included, and all referenced and applicable sections, with any addendum updates included, shall be submitted with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (√) shall denote full compliance with a paragraph as a whole. 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.

- B. Submittals shall be provided to confirm that material to be used comply with information specified herein.
- C. The CONTRACTOR shall submit, in writing, materials testing reports, job-mix formulas, and other pertinent information satisfactory to the ENGINEER demonstrating that the materials and methods the CONTRACTOR proposes to utilize comply with the provisions of this Section.
- D. Certificate of Compliance of Proposed Materials. Certificate of Compliance with the specifications shall be provided prior to start of the Work. The Certificate of Compliance shall identify the name of the material, aggregate source, name of the supplier, contract number, and the segment of the Work where the material represented by the sample is to be used. Results of all tests shall be submitted to the ENGINEER for approval. Materials to be tested shall include aggregate base, coarse and fine aggregate for paving mixtures, mineral filler, liquid asphalt, asphaltic emulsion, slurry seal mixture, and asphalt concrete mixture properties in accordance with Caltrans Standard Specifications 2018, Section 39, and theoretical maximum asphalt concrete density in accordance with AASHTO T209. AC paving in areas under Santa Clara County or City of San Jose jurisdiction shall have final mix design approved by the appropriate agency prior to submittal to the ENGINEER for approval.
- E. Delivery Tickets. The CONTRACTOR shall provide delivery tickets to the ENGINEER at the time of delivery of each load of product, including aggregate subbase, aggregate base, asphalt concrete, liquid asphalt, and sealant. Each delivery ticket shall include or be accompanied by appropriate batch information produced by the batching plant or factory of origin and information stating the mix or model number, total yield in kilograms, liters, or square meters, and time date, and location of delivery.

1.5 QUALITY ASSURANCE

- A. The DISTRICT may employ a testing laboratory to perform all quality assurance testing and inspection testing as may be required by this Section.

PART 2 PRODUCTS

2.1 AGGREGATE BASE

- A. Materials for aggregate base shall be Class 2 material as specified in Section 02600, Earthwork and Excavation.

2.2 PRIME COAT

- A. Prime coat shall be Grade SC-250 liquid asphalt complying with the requirements of AASHTO M82 (ASTM D2027). Grade SC-70 liquid asphalt complying with the requirements of Caltrans Standard Specification 2018 Section 93 may be used when acceptable to the ENGINEER.

2.3 TACK COAT OR PAINT BINDER

- A. Tack coat of paint binder shall be emulsified asphalt Grade SS-1 in conformance with Caltrans Standard Specification 2018 Section 39.

2.4 ASPHALT CONCRETE

- A. Asphalt concrete shall be HMA Type A.
- B. Asphalt binder to be mixed with the mineral aggregate shall be steam-refined paving asphalt grade designation AR-4000 conforming to Section 92 of the California State Specifications. Asphalt binder for temporary paving shall consist of liquid asphalt grade MC-800.
- C. The aggregate shall be medium grading for top lift(s) (1/2" max. aggregate size) and, the aggregate shall be medium grading, for the bottom lift(s) (3/4" max. aggregate size) in conformance with Caltrans Standard Specification 2018 Section 39.

2.5 FOG SEAL

- A. Fog seal shall be emulsified asphalt Grade SS-1 or CSS-1, conforming to Section 37 of Caltrans Standard Specifications 2018.

PART 3 EXECUTION

3.1 GENERAL PAVING AND GRADING

- A. Where pavement restoration is required due to trenching, the road section shall be restored to the as-built section. In no case shall the section be less than that indicated in the Contract Documents.
- B. Existing curbs and sidewalks being demolished shall be replaced to match the existing curb and sidewalk.
- C. Where trenches are within 2 feet from the lip of the gutter or the edge of the pavement, the CONTRACTOR shall remove and replace the pavement to the lip of the gutter or the edge of the pavement.

- D. Failed pavement adjacent to the trench shall be removed and replaced by the CONTRACTOR. Any pavement damaged by the CONTRACTOR shall be removed and replaced by the CONTRACTOR.
- E. All residents in each area to be paved shall be notified by the CONTRACTOR at least 48 hours in advance of the paving work. Each notice shall indicate the approximate duration that the road will be closed.

3.2 SUBGRADE PREPARATION

- A. The subgrade shall be prepared in conformance with Caltrans Standard Specification 2018 Section 19 & 25, unless modified by this Section.
- B. All soft material which will not compact readily and all unstable material shall be removed in conformance with Section 02600, Earthwork and Excavation.
- C. Subgrade preparation and compaction and determination of subgrade stability shall be performed under the observation of the ENGINEER. In no case shall lime or cement treatment be used to stabilize subgrade.
- D. Finish subgrade shall be within the tolerance established in Caltrans Standard Specification 2018 Section 19 & 25.

3.3 AGGREGATE BASE

- A. Aggregate base shall be provided where shown and to the thickness shown and shall not vary more than 0.05 foot above or below the established grade. Imported aggregate bases shall be delivered to the job site as uniform mixtures and each layer shall be spread in one operation. Segregation shall be avoided and the bases shall be free of pockets of coarse or fine material. Where the required thickness is 6 inches or less, the base materials may be spread and compacted in one layer each.
- B. Where the required thickness is more than 6 inches the base materials shall be spread and compacted in two or more layers of approximately equal thickness and the maximum compacted thickness of any one layer shall not exceed 6 inches. The relative compaction of each layer of aggregate base and subbase shall be not less than 95 percent of maximum density when measured in accordance with ASTM D1557. The compacted surface of the finished aggregate shall be hard, uniform, smooth and at any point shall not vary less than the minimum specified cross section. Placement of aggregate base shall be in accordance with Caltrans Specifications 2018, Section 26, and as specified in Section 02200, Earthwork.
- C. The surface of the aggregate base after compaction shall be hard, unyielding, uniform, smooth, self-draining, and true to grade and cross-section.

3.4 REMOVAL OF PAVEMENT

- A. Vertically saw-cut all bituminous pavements, regardless of the thickness prior to excavation. Cuts shall be made with an approved saw. Pavement shall be removed from the trench utilizing two or more separate saw-cuts. The initial pavement cut shall coincide with the vertical wall of the actual trench. The CONTRACTOR shall maintain the neat saw-cut edge throughout the excavation, placement, and compaction of backfill and base course materials. Should the CONTRACTOR fail to maintain the neat saw-cut edge of the initial or any subsequent cut, another saw-cut, representing an additional initial saw-cut, shall be made. The additional initial saw-cut shall be a made outside the limits of the pavement damage as directed by the ENGINEER. Prior to placement of the prime coat for the replacement asphalt, the second saw-cut shall be made. The limits of the second pavement cut shall be a distance shown on the Drawings from the edge of the previous saw-cut at ground surface. The existing asphalt concrete shall be removed and sufficient aggregate base shall be added between the previous and secondary saw-cuts to bring the surface of the base course to a smooth even grade at the correct distance below the top of the existing pavement surface. Pavement materials removed shall be hauled from the site and not used as backfill.

3.5 PAVEMENT PREPARATION

- A. The CONTRACTOR shall clean the surface by sweeping, blowing or other means to remove all loose particles of paving, all dirt and all other extraneous material immediately before applying the prime coat.

3.6 PRIME COAT

- A. Prior to placing of pavement, a prime coat of Grade SC-250 liquid asphalt shall be applied to the compacted base or subgrade and all vertical surfaces that abut the new paving at a rate between 0.30 and 0.50 gallon/square yard.

3.7 TACK COAT OR PAINT BINDER AND FOG SEAL

- A. A tack coat or paint binder shall be applied to existing paved surfaces where new asphalt concrete is to be placed on or against existing pavement. It shall also be applied to the contact surfaces of all cold pavement joints, curbs, gutters, manholes, and the like immediately before the adjoining asphalt pavement is placed. Care shall be taken to prevent the application of tack coat material to surfaces that will not be in contact with the new asphalt concrete pavement. It shall be applied at approximate total rate of 0.02 to 0.10 gallon/square yard.
- B. Fog seal shall be applied to limit shown on the plans after trench has been restored to permanent condition.

3.8 ASPHALT CONCRETE

- A. The CONTRACTOR shall install piping, backfill, and bedding before placing asphalt concrete.
- B. The CONTRACTOR shall notify the ENGINEER before the paving has begun. At the time of delivery to the Work site, the temperature of mixture shall not be lower than 260 degrees F nor higher than 320 degrees F, the lower limit to be approached in warm weather and the higher in cold weather.
- C. Asphalt concrete shall not be placed when the atmospheric temperature is below 50 degrees F or during unsuitable weather.
- D. Application of a prime coat and/or tack coat shall not occur until all surface preparation has been performed.
- E. The asphalt concrete shall be evenly spread upon the base to such a depth that, after rolling, it will be of the minimum specified cross section and grade of the course being constructed. All spreading and compacting shall be in conformance with Section 39 of the California State Specifications. The ENGINEER may at his/her option, call for continuous and/or random testing of asphalt concrete compaction. Asphalt concrete shall not be placed or stockpiled in windrows when the underlying layer of surface is frozen, or when, in the opinion of the ENGINEER, weather conditions will prevent the proper handling, finishing, or compaction of the asphalt concrete.
- F. The depositing, distributing, and spreading of the asphalt concrete shall be accomplished in a single, continuous operation by means of a self-propelled mechanical spreading and finishing machine designed especially for that purpose. The machine shall be equipped with a screed or strike-off assembly capable of being accurately regulated and adjusted to distribute a layer of the material to a definite predetermined thickness. When paving is of a size or in a location that use of a self-propelled machine is impractical, the ENGINEER may waive the self-propelled requirement. Spreading by blading equipment consisting of motor graders will not be allowed unless approved in writing by the ENGINEER.
- G. Spreading, once commenced, must be continued without interruption.
- H. Asphalt concrete, when required to be distributed by hand, shall be placed using a shovel into a mass of asphalt, the asphalt concrete shall not be broadcast or scattered resulting in segregation.
- I. The mix shall be compacted immediately after placing. In areas too small for the roller a vibrating plate compactor or a hand tamper shall be used to achieve thorough compaction.

- J. The relative density after compaction shall be 95 percent of the density obtained by using ASTM D1188 or D2726. A properly calibrated nuclear asphalt testing device shall be used for determining the field density of compacted asphalt concrete, or slabs or cores may be laboratory tested in accordance with ASTM D1188. The CONTRACTOR shall supply certified test reports as to the adequacy of compaction. The CONTRACTOR shall provide a minimum of one compaction test per day and an additional compaction test for each 500 square feet completed.
- K. The finished grade shall be flush with the adjacent existing pavement, shall conform to the cross slope or crown of the street, and shall be within the tolerances of the "straightedge" test as defined in Section 39 of the Caltrans Standard Specifications 2018. The CONTRACTOR shall be responsible for all damage to fresh surfacing until it is ready for use by public traffic. Damaged areas shall be repaired to the satisfaction of the ENGINEER.
- L. The depositing, distribution, and spreading of each lift of the asphalt concrete shall be accomplished in a single, continuous operation.

3.9 ASPHALT CONCRETE UTILITY CUT PAVEMENT REPLACEMENT

- A. Preparation of Existing Asphalt Concrete Pavement. The existing asphalt concrete pavement shall be saw-cut 12 inches past the edge of the trench to provide a smooth joint for the new pavement. The CONTRACTOR may saw-cut the pavement before excavating the trench to facilitate the removal of the pavement. In addition, the CONTRACTOR shall saw-cut and remove any irregular or damaged pavement along the open trench as directed by the ENGINEER before placing new asphalt concrete pavement.
- B. Placement of asphalt concrete shall be in conformance with this Section.

3.10 PROTECTION OF STRUCTURES

- A. Provide whatever protective coverings may be necessary to protect the exposed portions of buildings, curbs, posts, guard fences, equipment pads, and any other structures from splashing oil and asphalt from the paving undesirable matter that may come upon these structures by reason of the paving operations.

3.11 CONTRACTOR'S RESPONSIBILITY

- A. Settlement of replaced pavement over trenches within the warranty period shall be considered the result of improper or inadequate compaction of the sub-base or base materials. The CONTRACTOR shall promptly repair all pavement deficiencies noted during the warranty period at the CONTRACTOR's sole expense.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. Asphalt Concrete (and other associated materials required in conjunction with the installation/placing of asphalt concrete) will not be measured separately for payment.

4.2 PAYMENT

- A. Full compensation for asphalt concrete shall include furnishing all labor, materials, tools, equipment, and incidentals for doing all the work involved, complete and in place including prime and tack coat, fog seal, and as shown on the plans, as specified in these specifications, and as directed by the Engineer and no separate payment will be made.

END OF DOCUMENT 02900

DOCUMENT 03000 – CONCRETE CURB, GUTTER, DRIVEWAY, & SIDEWALK

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. The work specified in this Section includes furnishing all labor, materials and equipment required to remove concrete curb, gutter, driveway, and sidewalk and replace with new concrete curb, gutter, driveway, and sidewalk to properly complete construction as described herein, as directed by the Engineer and as shown on the Contract Documents

1.2 PROCEDURES

- A. Concrete curb, gutter, driveway, and sidewalk shall conform to Road and Airport County of Santa Clara Standard Details, City of San Jose and in accordance with Section 73, "Concrete Curbs and Sidewalk" of the State Standard Specifications. Curb and gutter shall be replaced with 3,000 psi concrete mix and sidewalk shall be 4 inches thick, except for driveway where it should be 6 inches thick.
- B. Where pipe is to be placed under an existing concrete curb and gutter, the concrete shall be removed at construction joints unless their length is more than 10 feet, in which case, the concrete shall be saw-cut as directed by the Engineer.
- C. Backfill shall be thoroughly compacted for the entire depth of the trench prior to concrete pour.

1.3 MEASUREMENT

- A. Measurement for curb and gutter will not be made for payment.

1.4 PAYMENT

- A. Full compensation for removal and installation of concrete curb and gutter shall furnish all labor, materials, tools, equipment, and incidentals for doing all the work involved, complete and in place as specified herein and as directed by the Engineer. include

END OF DOCUMENT 03000

DOCUMENT 03100 – SEWER PIPES AND APPURTENANCES

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. This Section covers the Work necessary to furnish, install, test, and complete the polyvinyl chloride (PVC) pipe and fittings as shown on the Drawings and specified herein.

1.2 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. The following references are part of this Section. In case of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail. The latest edition of the following references at the time of bid shall be used.

Plastic Pipe Materials Classification and Installation and Testing Procedure.

ASTM D1784	Rigid PVC Compounds and Chlorinated PVC Compounds
ASTM D1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
ASTM D2464	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
ASTM D2466	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
ASTM D2564	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM D2774	Underground Installation of Thermoplastic Pressure Piping
ASTM D3034	Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
ASTM D3139	Joints for Plastic Pressure Pipes using Flexible Elastomeric Seals
ASTM D3212	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ASTM F402	Safe Handling of Solvent Cements and Primers Used for Joining Thermoplastic Pipe and Fittings
ASTM F477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
ASTM F656	Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
ASTM F679	Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings

ASTM F913	Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe
AWWA C900	Polyvinyl Chloride (PVC) Pressure Pipe, 4 In. Through 12 In.

1.3 CONTRACTOR SUBMITTALS

- A. Submittals shall be provided to confirm that materials to be used comply with information specified herein.
- B. Submit list of pipe and fittings to be used, which includes the following information, where applicable:
 - 1. List of Pipe Fittings to be Used
 - 2. Manufacturer
 - 3. Model Number, if applicable
 - 4. Size and Schedule
 - 5. Material
 - 6. Pressure Rating
 - 7. Catalog Data
 - 8. Drawings
- C. Certificates and Compliance. Certificates of compliance shall be provided for all products and materials proposed to be used under this Section as specified in the referenced standards and the following supplemental requirements:
 - 1. Hydrostatic proof test reports
 - 2. Sustained pressure test reports
 - 3. Burst strength test reports
- D. All expenses incurred in making samples for certification of tests shall be borne by the CONTRACTOR.

1.4 QUALITY ASSURANCE

- A. Tests. Except as modified herein, all materials used in the manufacture of the pipe shall be tested in accordance with the requirements of this Section, and as specified in the referenced standards, as applicable.

- B. The CONTRACTOR shall have said material tests performed at no additional cost to the DISTRICT. The ENGINEER shall have the right to witness all testing provided that the CONTRACTOR's schedule is not delayed for the convenience of the ENGINEER.
- C. In addition to those tests specifically required, the ENGINEER may request additional samples of any material for testing by the DISTRICT. The additional samples shall be furnished at no additional cost to the DISTRICT.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. All plastic materials should be stored out of direct sunlight.

PART 2 PRODUCTS

2.1 POLYVINYL CHLORIDE (PVC) PIPE

- A. All PVC pipe and fitting shall be suitable for use with raw wastewater.
 - 1. PVC pipe shall be SDR 26 and SDR 17, as shown on the DRAWINGS, unless shown otherwise.
 - 2. Pipe shall be joined using solvent cement in accordance with ASTM D2564 and ASTM D1784. Primers used on solvent cement joints shall be in accordance with ASTM F656, and handling of primers and solvent cements shall conform to ASTM F402. Solvent cements shall comply with the requirements for potable water use. Threaded and flanged joints shall be used where required. Manufacture and viscosity shall be as recommended by the pipe and fitting manufacturer to assure compatibility.
 - 3. Threaded Lubricant. Threaded lubricant shall be Teflon tape. Lubricant, if required, shall be suitable for lubricating the parts of the joints in the assembly. The lubricant shall have no deteriorating effects on the gasket and pipe material.
 - 4. Solvent Cement. All connections to be joined by PVC (polyvinyl chloride) solvent cement shall be industrial grade and shall conform to ASTM D2564 and shall bear a dated stamp on the container indicating the date of manufacture. Manufacture and viscosity shall be as recommended by the pipe and fitting manufacturer to assure compatibility. PVC flanges shall be supplied with all necessary gaskets, bolts, and nuts. Gaskets shall be full face, 1/16-inch thick Viton. Primers used on solvent cement connections shall be in accordance with ASTM F656 and handling of primers and solvent cements shall conform to ASTM F402.
- B. Gravity Sewer Pipe.

1. Gravity sewer pipe shall conform to ASTM F679 with integral bell gasketed joints. Polyvinyl chloride (PVC) pipe shall be manufactured from rigid, unplasticized polyvinyl chloride compound complying with ASTM D1784, Type 1, Grade 1 (Class 12454-B or 12364) and shall have a SDR of 26 and SDR of 18 and minimum stiffness of 115 psi.
2. Joints. Unless otherwise indicated or shown on the Contract Drawings, PVC pipe and fittings shall have gasketed or solvent welded joints. Elastomeric gaskets shall conform to ASTM F477. All gaskets shall be suitable for corrosive air from the wet well and temperatures up to 200 degrees F. Where PVC pipe and fittings connect to valves, flexible connectors, or fans, and where shown on the Drawings, connections shall be made with flanges, unless shown otherwise. Adapter flanges may be used for connection.
3. Polyethylene Plastic Pipe shall be high-density polyethylene pipe (HDPE) and meet the applicable requirements of ASTM F714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on outside diameter of AWWA C906, ASTM D1248 and ASTM D3350. The maximum wall thickness of the polyethylene pipe shall be as follows:
 - a. Depth of cover 0 – 16.0 feet minimum SDR21
 - b. Depth of cover > 16.0 feet minimum SDR17

PART 3 EXECUTION

3.1 GENERAL

- A. Upon completion of installation, piping systems shall be flushed and cleaned.
- B. All rigid polyvinyl chloride (PVC) pipe shall be cut square, burrs removed, made up, and installed in accordance with the pipe manufacturer's recommendations, as approved. Offset shall be as recommended by the manufacturer for the maximum temperature variation between time of solvent welding and final use.
- C. Pipe shall not be laid when the temperature is below 40 degrees F, nor above 120 degrees F when exposed to direct sunlight. Ends to be joined shall be shielded from direct sunlight prior to and during the laying operation.
- D. Provide adequate ventilation when working with pipe joint solvent cement.
- E. Wyes shall be 6 inch by 4 inches of the same materials as the main line pipe and shall be same type gasket connections. Tees will not be allowed.
- F. Bend shall be standard 4 inch; 11.25 degree (1/8) pipe bends. Bends and joints shall be as specified for service pipe.

- G. Service Pipe installed as part of main sewer line construction shall be standard 4, 6, 8, or 10 inch service pipe. PVC service pipe shall be 4, 6, 8, or 10-inch SDR-26 pipe which complies with the same requirement as the main sewer.
- H. All wyes bends, service pipe and other appurtenances shall be provided as required for each connection. All joints shall be installed so as to provide watertight connection.
- I. Wye joint shall be installed as directed, with the branch turned to the proper direction. Wye shall be firmly supported by methods and materials used for bedding of main line pipe. Branch of wyes shall be installed at an angle 45 degree to the springline unless grade requirements dictate otherwise.
- J. Coupler band shall be stainless steel banded Mission "Flex-Seal ARC Coupling", Fernco "shear-ring" or approved equal.
 - 1. Steel banded couplings must be made with steel that has been produced in the United States.

3.2 TESTING

- A. Conduct pressure and leaking tests on all newly installed pipelines. Furnish all necessary equipment, instrumentation, and material including temporary plugs and blind flanges and make all taps in the pipe, as required. The Engineer will monitor the tests.
- B. Where any section of pipe provided with concrete thrust blocking, do not make the pressure test until at least 5 days have elapsed after the thrust blocking is installed.
- C. Conduct the tests on piping after the piping has been completely installed, including all thrust blocks and anchors.
- D. All leaks shall be repaired and all leaking lines retested as approved by the ENGINEER.
- E. The CONTRACTOR shall perform the deflection "mandrel" test for the sanitary sewer system as specified herein. If the amount of allowable pipe deflection is exceeded, the CONTRACTOR shall uncover the pipe and shall improve the quality of the pipe zone backfill material and/or compaction to the extent that the allowable pipe deflection is not exceeded.
- F. All sanitary sewer systems shall be tested as specified. All sanitary sewer gravity lines shall be tested for leakage using a low-pressure air test. All sanitary sewer maintenance holes shall be tested for leakage as specified herein. Maintenance holes shall be tested prior to backfill placement, whereas all pipe shall be backfilled prior to testing. All leakage tests shall be completed and approved prior to placing of permanent surfacing. When leakage exceeds the amount allowed, the CONTRACTOR, at his expense, shall locate the leaks and make the necessary

repairs or replacements to reduce the leakage to the specified limits, in accordance with the Specifications. Any individually detectable leaks shall be repaired regardless of the results of the tests.

- G. During flushing of the sewer lines, the maintenance hole at the low end of the new line shall be plugged and incoming water pumped to a drain point approved by the DISTRICT. Before the plug can be removed, all sand, silt, gravel, and other foreign material shall be completely removed from the maintenance manhole.
- H. Deflection. All PVC non-pressure pipe shall be tested for deflection obstructions and protruding laterals by passing a “mandrel” from the nearest downstream structure to the nearest upstream structure. The “deflection test” procedure shall be acceptable to the ENGINEER. The “mandrel” diameter shall be 95 percent of the pipe inside diameter.
- I. Air Pressure Test. The CONTRACTOR shall furnish all materials, equipment, and labor for making an air test. Air test equipment shall be approved by the ENGINEER.
 - 1. The CONTRACTOR may conduct an initial air test of the sewer main line after densification of the backfill but prior to installation of the laterals. Such tests will be considered to be for the CONTRACTOR’S convenience and need not to be performed in the presence of the ENGINEER.
 - 2. Each section of the sewer shall be tested between successive maintenance manholes by plugging and bracing all openings in the main sewer line and the end of all laterals. Prior to any air pressure testing, all pipe plugs shall be checked with a soap solution to detect any air leakage. If any leaks are found, the air pressure shall be released, the leaks eliminated and the test procedure started over again.
 - 3. The final leakage test of the sewer main line and laterals shall be conducted in the presence of the ENGINEER.
 - 4. The test procedure shall be conducted by first increasing the pressure within the line to approximately 4 psi using a compressed air supply. After the air supply is turned off or disconnected, there shall be a two-minute waiting period to allow stabilization of air within the sewer line before the actual test begins. In no case shall the test pressure within the line be less than 3.5 psi when the test begins. The allowable air pressure loss shall not exceed 1 psi. After completion of the test, the air pressure shall be released slowly, and the test plugs shall not be removed until the air pressure is no longer measurable.
 - 5. At the CONTRACTOR’S option, joints may be air tested individually, joint by joint, with the use of specialized equipment. The CONTRACTOR shall submit its joint testing procedure for the ENGINEER’S review prior to testing. Prior to each test, the pipe at the joint shall be wetted with water. The maximum test

pressure shall be 3.0 psi. The minimum allowable pressure drop shall be 1.0 psi over a 30-second test period.

3.3 CLEANING

- A. Care shall be exercised during fabrication to prevent the accumulation of weld rod, weld splatter, pipe cuttings and filings, gravel, cleaning rags, etc., within piping sections. All piping shall be examined to assure removal of these and other foreign objects prior to assembly. Shop cleaning may employ any conventional commercial cleaning method if it does not corrode, deform, swell, or otherwise alter the physical properties of the material being cleaned.
- B. Following assembly and testing, but prior to final acceptance, all pipelines shall be flushed with high velocity water or flushed with a cleaning ball. All accumulated construction debris and other foreign matter shall be removed. Flushing velocities shall be a minimum of 2.5 feet per second. Accumulated debris shall be removed through drains 2-inches and larger or by dropping spools and valves.
- C. All leaks shall be repaired and all leaking lines retested as approved by the ENGINEER.
- D. The CONTRACTOR shall perform the deflection "mandrel" test for the sanitary sewer system as specified herein. If the amount of allowable pipe deflection is exceeded, the CONTRACTOR shall uncover the pipe and shall improve the quality of the pipe zone backfill material and/or compaction to the extent that the allowable pipe deflection is not exceeded.

PART 4 MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

- A. The work performed for PVC pipe will be measured for payment on a lump sum basis.

4.2 PAYMENT

- A. The contract lump sum price paid for PVC Pipe listed in the Bid Schedule shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in excavating, installing and backfilling, complete in place, including pipe, fittings, wye and band coupling, trench excavation and backfill, trench safety, and pavement removal and restoration of pavement and surfacing, as shown on the plans, as specified in these specifications, and as directed by the Engineer.

END OF DOCUMENT 03100

DOCUMENT 03200 – CLEANING AND TELEVISION INSPECTION FOR SANITARY SEWERS

Part 1 GENERAL

1.1 REQUIREMENTS

- A. This section covers the cleaning and television inspection as first order of work for sewer pipelines where cured-in-place (CIPP) lining will be performed and video processing software and equipment with traffic control for the sewer pipelines.

1.2 CONTRACTOR SUBMITTALS

- A. A copy of the CCTV operators' NASSCO certification(s) including expiration date shall be submitted as part of the submittals prior to the start of the work.
- B. Each of the Contractor's crews, upon completion of their first 1000 LF of pipe, shall submit one copy of the video recordings and inspection logs to the Engineer for review if the quality of the video and still images are acceptable and defects were properly identified and documented prior to continuing work
- C. After completing host pipe cleaning and inspection, submit a written inspection and Evaluation report within seven (7) days. Include two (2) copies of the video recording and one set of digital photographs.
- D. The Contractor shall submit the television inspection DVD-R's and written logs to the Engineer immediately following recording. Television inspection DVD-R's shall not be edited. If the Contractor does not comply with this section, the Contractor shall re-tape the pipeline at the Contractor's sole expense. DVD recordable shall be "DVD-R" not "DVD+R" and the video file format shall be mp4.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.0 GENERAL

Sewers shall be cleaned and televised prior to initiating sewer rehabilitation work.

3.1 CLEANING

1. Before cleaning activities start, inspect sewer main to determine which cleaning method to use for controlling sediments, debris and other accumulated materials
2. Completely remove sediments, debris and other accumulated materials within the sewer main.
3. Implement a plan for control of sediments dislodged during cleaning
4. Implement a Plan for control diversion of existing stream or groundwater flows. Bypass system must be of adequate capacity and size to handle the existing flow
5. Contractor to prepare and submit a schedule indicating the duration of each flow diversion.

6. Use only low-velocity hydraulic cleaning equipment and industrial air mover, or mechanically powered equipment to clean the sewer main.

Contractor shall at all times maintain existing sanitary sewer flows and prevent back-up into service laterals

3.2 TELEVISION INSPECTION

3.3.1 GENERAL REQUIREMENTS

The District will provide Post-installation and Post-construction CCTV of the repairs.

Retain a copy of all inspection documentation (memory sticks, databases, and logs) for duration of work. All work must be completed within ninety (90) working days, plus an additional twenty (20) for the alternate Bid items, of the notice to proceed, and work hours shall be from 8:00 AM to 5:00 PM Monday through Friday only unless otherwise authorized by Burbank Sanitation District District Manager.

3.3.2 Operators

Video inspection shall be performed by a certified NASSCO Pipeline Assessment and Certification Program (PACP) operator holding current certification.

A copy of the CCTV operators' NASSCO certification(s) including expiration date shall be submitted as part of the submittals prior to the start of the work. CCTV inspection shall be performed by the same operator(s) throughout the project. If a substitution is required, Contractor shall inform the Engineer and submit an updated copy of the CCTV operators' NASSCO certification(s) including expiration date prior to commencing CCTV work.

3.3.3 Equipment

Contractor's CCTV equipment shall include video cameras, a video monitor cable, power sources, and all equipment necessary to perform a CCTV inspection. The cameras shall meet Cal-OSHA requirements for operating in the sanitary sewer environment.

CCTV inspections shall be performed using a Pan-and-Tilt camera system with a minimum of 360 x 270 degree rotation. The cameras and video monitor shall produce a minimum of 460 lines of resolution. Videos should be captured at a minimum rate of 24 frames per second.

During inspection, lighting intensity shall be adjusted to minimize glare. Lighting and picture quality shall be adjusted to provide a clear, in-focus picture of the entire periphery of the pipeline for all conditions encountered. Camera focal distance shall be adjustable through a range from 25 mm (1 inch) to infinity. All camera systems shall be able to navigate around minor objects, roots, and debris. The system used to move the camera through the pipe shall not obstruct the camera's view or interfere with proper documentation of the sewer conditions. The camera lens shall be kept clear of condensation and debris. Video recordings showing steam, inadequate lightning, or other poor image quality will be cause for delay of final acceptance by the District.

The cable footage-counter shall measure the distance traveled by the camera in the pipe from manhole wall to manhole wall regardless of the “buckle” distance and/or equipment calibration. The counter shall be accurate to plus or minus 2 feet in 1,000 feet. The camera cable shall be retracted to remove slack to ensure an accurate footage reading. Measurement units shall be recorded in standard units and the video display readout shall read in units of one-tenth of a foot. The Contractor shall calibrate their distance measuring device with a known distance typical of a sewer run prior to starting the inspection and recording process.

Different transporters including floating devices and/or skids may be required to accommodate different flow conditions and amounts of debris or sediment found in the pipelines.

Cleaning equipment including nozzles and pressure setting shall be properly sized and/or adjusted to effectively clean the system. Equipment shall not cause any damage to the pipe. Any damage to the pipe shall be repaired by the Contractor immediately at no cost to the District. The Contractor shall have experience with equipment and/or devices specifically made to clean the sanitary sewer under these conditions.

3.3.4 Software Requirements

The Contractor shall perform all CCTV inspections using NASSCO’s PACP Version 6.0 or higher certified data collection software that can produce the following.

Separate video and data files shall be created for each sewer line segment. In case of reverse setup, such inspection shall be stored in a separate video and data files. If an undocumented manhole is discovered during the inspection, then a separate inspection shall be started for the additional pipe segment. The District will provide the Contractor with a list of unused manhole IDs for naming the undocumented manholes.

3.3.5 Videos

The Contractor shall make a continuous color digital recording in MPEG-4 format for each pipe segment inspected. The Contractor shall store a single video file for each pipeline inspected. The recorded files shall have a minimum resolution of 720 by 480 pixels and an interlaced frame rate of a minimum of 24 frames per second.

The running footage distance shown on the video shall be the distance traveled by the camera in the pipe from manhole wall to manhole wall regardless of the “buckle” distance and/or equipment calibration. Condition of the pipe connections in the manhole shall be recorded before entering the pipeline.

The operator shall comment on observations. The audio track shall be continuous so that subsequent users are aware of what is going on during the inspection.

Video inspection will not exceed a traverse rate of 30 feet per minute.

The Contractor shall pause the digital recording at any time there is a delay in the inspection and restart the digital video recording in the same digital file. The pause shall in no way affect, freeze, or interrupt the replay of the video and shall not close the video file during the inspection.

During the CCTV inspection, the camera shall stop, pan and tilt at all defects and significant observations to ensure a clear and focused view of the pipe condition. The onscreen text shall be moved as needed so as not to obstruct the defect or observation.

3.3.6 Photographs

Digital photographs shall be taken at all sewer defects and significant observations. These photographs shall be integrated into the inspection reports and system software with appropriate reference numbers assigned to them. All photographs shall be recorded and stored in JPEG format.

At each defect or significant observation, a minimum of TWO photographs shall be taken, one with a perspective view and the second one with a close-up view. When a lateral is encountered, the second photograph should show the direct front view of the lateral with a clear view of the lateral and its connection.

3.4 Inspections and Observation/Coding

3.4.1 General Requirements

Recommended maximum depth of flow for CCTV inspections shall be 25 percent of the pipe diameter. If the depth of flow is greater than the recommended maximum depth, then the CCTV Inspections shall be performed during the low flow periods, unless otherwise approved by the District.

The camera shall be lowered and centered into the trough of the manhole. The camera cable shall be retracted to remove slack to ensure an accurate footage reading. The cable footage counter shall be reset to start the measurement beginning at the manhole wall. The Contractor shall stop and rotate the camera head at each defect, lateral, and all other significant observations to allow for later adequate evaluation. The cable footage counter shall measure the distance traveled in each inspection from manhole wall to manhole wall regardless of the "buckle" distance or calibration requirement.

The Contractor shall provide a 360-degree pan and 270-degree tilt at all manholes located at the beginning and end of the segment to clearly show the condition of the manhole walls and all pipeline connections in the manholes.

During the CCTV inspection, the camera shall stop at all defects and significant observations to ensure a clear and focused view of the pipe condition. The observations shall be properly documented following NAASCO's PACP guidelines and procedures. Each defect or observation

shall be captured and saved in JPEG images with the footage, PACP defect code, pipe identification, severity, clock position, and comments shown. Each observation shall also be documented by text overlay on the video screen. The observations shall also be noted on the inspection report with stationing referenced.

Camera lens shall be kept clear of condensation and debris. Video recordings showing steam, inadequate lighting, or other poor image quality will be the cause for delay of acceptance by the District

Contractor shall use appropriate transportation conveyance (e.g. tracks, wheels, skids, etc.) of the CCTV camera that are suitable to the pipe diameter, material, and flow condition. CCTV camera shall be able to maneuver around obstacles, climb over offsets and debris, fit through curved invert, and remains above 25% flow level of the pipe diameter.

Obstructions may be encountered during the course of the CCTV inspection and prevent the travel of the camera. If an obstruction is not passable and need to be removed by cleaning, the inspection should be rescheduled after the line is properly cleaned. Lines that have been cleaned but still have debris or obstructions that would affect the inspection should be re-cleaned and televised at no additional cost to the District.

Should the Contractor encounter a major obstruction such as a protruding lateral, an intruding object, or a structurally defective pipe needing immediate attention, the Contractor shall properly document the obstruction or the defect with video footages and photo images and immediately notify the Engineer.

A video inspection of a pipe segment shall not be considered complete unless it meets one or more of the following conditions, provided that all cleaning, observations and coding were performed in accordance with the requirements set forth in these Special Provisions and to the satisfaction of the Engineer:

1. When the entire pipe segment between two manholes has been videotaped and coded, or when a reverse inspection has been completed. A reverse inspection is required when a situation encountered during the inspection prevents the camera from passing, and cannot be cleared by cleaning or by other methods or where a point repair to remove the obstruction was not authorized.
2. In the event a reversal inspection cannot be completed due to circumstances such as: a connection to a drop manhole, a buried manhole that cannot be located or raised, or encountering an additional situation that prevents the camera from passing, resulting in an un-inspected portion of pipe, the reason shall be provided in the comment field of the reversal inspection, and the segment will be considered complete.
3. In the event of high flows, and a documented attempt during off peak hours has been made, a reversal inspection should also be attempted. Should the flows be high at this manhole, a photo and appropriate coding shall satisfy this segment as completed.
4. Should the Contractor encounter abandoned pipelines, such as capped pipelines, a photograph of the cap, and a comment indicating the situation will be sufficient to consider the run completed.
5. Should the Contractor encounter a submerged manhole, the Contractor shall abandon the inspection and immediately notify the Engineer. The Engineer will coordinate with the Department of Transportation to have its crews attempt to clear the line to allow the survey to begin. If the manhole is cleared, then the Contractor shall complete the CCTV inspection from manhole to manhole.

3.4.2 Observations and Coding

The observations shall be properly documented following NASSCO's PACP guidelines and procedures.

All observations and defects shall be recorded and rated according to the PACP method using NASSCO's PACP Version 6.0 or higher certified data collection software and will include digital photographs, audio, and digital video recording.

3.5 Deliverables

Final format of the reports shall be reviewed and approved by the Engineer and is subject to changes at the discretion of the Engineer. Deliverables shall include the following:

A. PRINTED OR PDF COPY REPORT

All deliverables, including the external hard drives, shall become property of the District.

3.6 Additional Requirements

3.6.1 Overflow Response Plan

The Contractor shall prepare an overflow response plan, submit it to the City for review and acceptance, train the operators in the overflow response procedures, and implement the plan in the event of an overflow.

Maximum depth of flow for CCTV inspections shall be 25 percent of the pipe diameter. If the depth of flow is greater, then the CCTV Inspections shall be performed during the low flow periods, unless otherwise approved by the District.

Contractor shall be responsible for any fines levied by others, reimbursement of any agency incurred costs, damage, cleanup, restoration of flow, and any disruption of service costs to customers as a result of Contractor's work. This is in addition to any costs incurred by the customer.

In the event of any Contractor-related overflow or interruption/backup of customer service, the Contractor shall immediately notify the District at (408) 253-7863 during business hours, or designated District Inspector after hours, and shall contain and eliminate the overflow. In addition, the Contractor shall immediately inform the Engineer of the incident.

3.6.2 Plugging and Diversion of Sewage Flow for Post-Installation Inspection

The work shall conform to Section 1501-3.2, "Plugging and Diversion of Sewage Flow," of the Standard Specifications and Section 1501, "Plugging and Diversion of Sewage Flow," of these Special Provisions.

PART IV MEASUREMENT AND PAYMENT

4.1 MEASUREMENT & PAYMENT

There is no additional payment for the cleaning and pre-construction CCTV. As stated above, the District will provide the Post-construction CCTV.

4.2 ADDITIONAL PAYMENT

- A. The District does not pay for additional cleaning that may be necessary to have quality of video scans and digital photographs of the host pipe.
- B. The District pays for the following work as extra work under Section 4-1.05, "Change and Extra Work," of the Standard Specifications 2010:
 - 1. Any necessary work determined by the Engineer, including host pipe repair prior to lining
 - 2. When ordered by the Engineer, any additional cleaning and CCTV.

END OF SECTION 03200

DOCUMENT 03300 – SANITARY SEWER REHABILITATION

Part 1 GENERAL

REQUIREMENTS

This Section covers the Work for performing point-spot repairs and cured-in-place (CIPP) lining as shown on the Drawings, as specified herein and as directed by the Engineer, including necessary steps to mitigating odors and noise, plugging and diverting sewage flows.

CONTRACTOR SUBMITTALS

Contractor shall submit to the Engineer calculations showing the estimated flow, retention time, and adequate holding capacity to ensure the system will not be surcharged.

The Contractor shall submit, as part of the diversion plan, a hydraulic analysis of the bypass pumping including plots of system head versus pumped flow. System head shall be on the y-axis and flow shall be on the x-axis of these plots. The plots for pumping curves shall include capacities of single pumps and combined curves if more than one pump is used. The hydraulic analysis shall be comprehensive, evaluating the full range of flow to be pumped.

The Contractor shall submit to the Engineer, for review, a contingency plan that outlines the precautions to be implemented to prevent the following: sewage spills onto streets or into basements of buildings, backup into service laterals, and sewage from entering the storm drain system.

The Contractor shall submit to the Engineer for review the 6-inch and 8-inch diameter PVC pipe and fittings to be used for this project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.1 GENERAL- Rehabilitation of the sanitary sewer shall conform to the Part 5, "Sewer Rehabilitation," of the Standard Specifications (Green Book) and these Technical Specifications. Prior to ordering rehabilitation materials, the Contractor shall be responsible for inspecting and verifying the inside diameter and alignment of the host pipe. The Contractor shall also determine the condition of each manhole-to-manhole reach to be rehabilitated. CCTV inspection shall be performed in accordance with Section 3200 of these Special Provisions to document the condition of the host pipe and to verify that it was cleaned. The Contractor shall use the data and information collected from this inspection to verify the size of the liner and refine the installation techniques.

If physical conditions in the work area are encountered during the investigation that materially differ from those ordinarily encountered, the Contractor shall notify the Engineer per Section 4- 1.07, "Differing Site Conditions," of the Standard Specifications.

3.2 Odor and Noise Mitigation - This work shall conform to Section 3.1, “Odor and Noise Mitigation,” of the Standard Specifications and these Technical Specifications. The Contractor shall submit to the Engineer, for review, plans for the mitigation of odor and noise.

The Contractor shall utilize mufflers, enclosures, sound barriers, or other applicable equipment or devices in order to limit the noise impact of the Contractor's equipment and operations. The noise level from the Contractor's operations as measured at the outside wall of any habitable structure or at any point within fifty (50) feet of the noise source shall not exceed the following limits:

Time of Day	Limit
7 a.m. to 7 p.m.	80 dBA
7 p.m. to 7 a.m.	55 dBA

It should be noted that other noise sources (e.g. airplanes, buses, cars passing, etc.) are capable of exceeding the specified limits during the specified time frames. This fact does not relieve the Contractor of complying with the noise provisions. Measurement of the noise generated from the Contractor's operations, for the purpose of complying with the specified limits, shall be done in the absence of these other noise sources.

It should also be noted that the project area is subject to varying degrees of background noise generated by the traffic on and/or other streets within and outside project limits. If at any time during a noise measurement the traffic background noise exceeds the stated limits, then the Contractor's operations will be required not to exceed the background noise level. For Contractor operations that may continue over a 24-hour period, sufficient noise control must be in place so that the night time limit of 55dBA is not exceeded (recognizing that the traffic background noise will dissipate during the late night and early morning hours).

3.3 Plugging and Diversion of Sewage Flow - The work shall conform to Section 3.2, “Plugging and Diversion of Sewage Flow,” of the Standard Specifications and these Technical Specifications.

3.3.1 General Conditions - The Contractor shall adhere to the following list of general conditions to perform the work required to divert sewage flow.

The sanitary sewer lines associated with the project diversion, shall be cleaned and video inspected during low flow, as deemed necessary by the Engineer, prior to beginning the diversion and following completion of the diversion.

The Contractor shall divert/pump/vactor truck pump 100 percent of the upstream sewage flow from the section of pipe to be rehabilitated and/or replaced until the liner and/or new pipe is completely in place and ready for use. Diversion of sewage flow shall be accomplished by pumping and/or by rerouting with diversion mechanisms in upstream sewer systems that have available capacity. If vactor pump truck is used, contractor shall truck sewage in a County inspected and registered vehicle to downstream sewer systems that have available capacity.

Diversion pumping equipment and piping shall be tested for leaks prior to pumping sewage. Leak testing shall be performed any time the diversion pumping system is disassembled, reassembled, and/or modified. No leaks in the diversion piping shall be permitted.

At no time shall the sanitary sewer system become surcharged due to diversion of sewage flow. SurchARGE shall be defined as the sanitary sewage flow rising above the crown of the pipe and within five (5) feet of any manhole rim. No diversion shall be implemented or left in place, once the system is surcharged.

Diversion of sewage flow shall not be implemented during rainy weather, unless authorized by the Engineer. High sewage flow conditions may require the Contractor to temporarily suspend work. Work that requires sewage diversion shall be suspended until sewage flow conditions allow for resumption of diversion activities. Days on which the suspension is in effect shall not be considered working days, and no additional compensation will be allowed.

The Contractor shall take all necessary measures to ensure that sewage does not spill onto the street or onto or into private properties. The Contractor shall be responsible for all costs associated with the clean-up or damage from any sewage spills resulting from diversion of flows.

The use of storm sewers for the purposes of diverting or pumping sanitary sewer flows will not be permitted.

3.3.2 Temporary Plugging. – Temporary plugging without the use of pumps or other diversion mechanisms to reroute the flow to a parallel system or to a manhole downstream of the construction site is allowed only when Contractor had provided a calculation showing that this work can be safely carried out without impacting the sewer system or causing an overflow.

Under no circumstance plugging without pumping or diversion is allowed on sewer lines 10-inch or larger. Plugs shall not be installed without monitoring and shall not be left unattended. Contractor shall monitor the system and remove all plugs immediately when system becomes surcharged.

3.3.3 Diversion Implementation – The trial diversion shall be performed by the Contractor on each and every sewer lines that require sewer bypass. The trial diversion shall be performed for two (2) continuous days on sewer lines of 8-inch or smaller, and four (4) continuous days on sewer lines of 10-inch or larger and shall include weekend peak flow.

The Contractor shall submit a diversion plan to the Engineer for review before performing the trial diversion. If the trial diversion does not perform as per the diversion plan, the plan shall be considered unacceptable. In this event, the Contractor shall submit a revised diversion plan to the Engineer, for review, and the trial diversion shall be repeated until satisfactory operation and/or performance is obtained. A trial diversion shall be successfully performed by the Contractor on each sewer line before beginning the work on that sewer line.

The diversion plan shall include, but not be limited to, a sewer map showing all sewer invert and street surface elevations at the manholes in the areas affected by the diversion, anticipated peak sewage flows, locations of plugs, the location, number, and sizes of pumps, diameter and layout of

pipings, valves, and structure of manifolding, and calculated water surface elevations. The Contractor shall indicate on the map the critical manholes in the diversion area where the system may become surcharged.

The diversion plan shall include a stand-by pump, manifolded to the system for redundancy, in the event that any one pump becomes inoperable. The system shall also have sufficient spare parts and extra piping in the event that any pipe run needs to be replaced.

Diversion pipes, fittings, and manifolds shall be made of metal, solid wall HDPE, or solid wall PVC. At the Engineer's sole discretion, exceptions may be made to allow the use of lay flat hose material for diversion piping. Only when approved for usage by the Engineer, lay flat hoses shall be double walled and have adequate protection along the entire length at all times. Lay flat hoses will not be allowed to extend into the manholes. Under no circumstance lay flat hoses will be allowed to be left unattended, unprotected, or be backfilled and covered under temporary pavement. Lay flat hoses shall not be used to divert flow from a sewer main larger than 12 inches in diameter.

Where diversion piping crosses intersecting streets or blocks access to driveways, the Contractor shall place diversion piping below street grade and either cover with recessed steel plates, or backfill and cover with temporary pavement as specified under Section 1301-4.2.4, "Temporary Resurfacing," of these Special Provisions. Diversion piping placed on the street surface within the vehicular traveled way shall be protected with K-railing. The Contractor shall remove all diversion piping and barricades at the completion of diversion operations and shall restore the surface of the pavement as specified under Section 1301-4.2 "Backfill and Surface Restoration" of the Standard Specifications and as shown on the project plans.

The Contractor shall receive authorization from the Engineer prior to proceeding with each trial diversion attempted. At no time shall the Contractor change the proposed diversion plan without prior approval from the Engineer. Following authorization from the Engineer, the Contractor shall notify the Engineer at least two working days prior to implementing flow diversion or pumping. The Contractor shall continuously monitor the sewage flow surface elevation in manholes within the area affected by the diversion to ensure compliance with the general conditions.

Payment for the trial diversion and for the diversion of sewage flows shall include all materials, labor, equipment, incidentals, and services related to plugging and pumping of sewage. The contract payment shall include, but not be limited to, mobilization, installation of storm drain pollution prevention system, developing the diversion plan, inserting and removing pipe plugs, constructing bulkheads, pumping flows, monitoring water levels, installation and removal of by-pass pumps, stand-by pumps, diversion piping and manifolding, cleaning of pipelines, odor and noise mitigation, trenching to place diversion piping below street grade, plating for diversion piping, backfill, compaction, placing temporary pavement, and surface restoration.

3.3.4 Point Spot Repairs

The work shall conform to Section 6, "Point Repairs," of the Standard Specifications and these Special Provisions.

The project plans indicate an approximate location that may require a point repair. Point repairs shall be defined as repairing defective pipe mains up to 12 feet in length using open-cut methods. The Contractor shall investigate this location and submit a video recording of the damaged pipe to the Engineer for review. The Contractor shall also clean and video the sewer main as shown on the project plans and in Section 7, "Pre-Video Inspection and Cleaning," to determine any additional point repairs that are not shown in the project plans and include these locations in a video recording. The Contractor shall submit the video recordings of the additional point repairs to the Engineer for review and acceptance prior to commencing point repair work.

Polyvinyl Chloride (PVC) Pipe – PVC pipe shall be used for the sanitary sewer main point repairs and shall conform to Section 03100 Sewer Pipe and Appurtenances. PVC pipe for the sanitary sewer main shall be 6-inch or 8-inch diameter polyvinyl chloride (PVC) pipe. Joints between the existing VCP pipe and new PVC pipe shall be made using coupler bands that shall be stainless steel banded Mission "Arc Shield", Fernco "shear-ring" or approved equal.

The Contractor shall replace, at the Contractor's sole expense, all curb and gutter, parkway strip, sidewalk, private property appurtenances, and pavement damaged or displaced due to negligence or non-precautionary construction practices, during the replacement of sanitary sewer main or laterals.

3.3.5 Existing Sewer Service Lateral Connection

This work shall conform to Section 500- 1.1.7(a), "Service Connections," of the Greenbook and Section 3.4, "Existing Sewer Service Lateral Connections," of the Standard Specifications and these Special Provisions.

In cases where existing sewer service lateral connection protrude into the existing sewer, the Contractor shall perform all work required to remove the protrusions prior to the installation of the liner. If protruding laterals cannot be removed internally, such removal shall be performed, with authorization of the Engineer, externally as specified in Section 4, "Point Repairs" of these Special Provisions.

The Contractor shall, at all times, maintain existing sanitary sewer service flows and prevent back-up into service laterals.

Only active sanitary sewer service laterals shall be reinstated, and the Contractor shall submit to the Engineer, for review, the method to be used for active lateral reinstatement. Service connections which are not reinstated according to these Special Provisions shall be repaired at the Contractor's own expense. The Contractor shall submit to the Engineer, for review, a plan which details the method to be employed when repairing deficiencies in the service connections.

Payment for compliance with this section shall include all labor, materials, equipment, and incidentals to perform the work.

3.3.6 Transition Sections

Transition sections shall be constructed to channelize the flow and to provide smooth transitions for flow passing through manhole structures. The Contractor shall submit to the Engineer, for review, a

plan for the construction of transition sections. All sewer flow shall be bypassed or diverted during the construction of transition sections.

When the liner is placed up to, but not through a manhole, the difference in elevation between the existing channel and the new liner shall be built-up to the invert of the liner using a quick setting, non-shrink grout, which shall be submitted to the Engineer for review. If the difference in elevation between the existing manhole invert and the inside diameter of the new liner is less than mm, then the requirement stated above in this paragraph will not apply.

Also, where the liner is proposed to terminate at a manhole and not continue through a manhole, such as at ends of liner run installations or at inversion locations, the contractor shall submit a plan to the Engineer which shall address the coverage of the manhole interior from the invert to the level of the crown of the incoming pipelines. Acceptable methods of coverage include installation of a short cured-in-place liner section or application of an approved epoxy material which is compatible with both the existing material to be covered whether it be concrete, VCP, or other material, and also with the new liner.

When the liner is placed through a manhole, the Contractor shall modify the liner and the existing manhole structure to create a smooth transition section. Any modification to the liner shall leave a smooth, clean, straight edge. A bench shall be constructed from the liner to the manhole wall, if necessary, and intercepting sewer lines shall be channelized. Where new channels or benches are required in order to provide a smooth transition of flow, cement concrete/grout with a high-strength, corrosion-resistant Class A PCC with Type II modified cement, shall be used. The materials and mix design shall be submitted to the Engineer for review. Prior to applying new concrete, the existing surfaces shall be cleaned, scraped to remove loose concrete, and roughened. A concrete bonding agent shall be applied prior to the construction of the new channels or benches. This bonding agent shall meet ASTM C881 requirements for Class C, Type II epoxy adhesive, and be submitted to the Engineer for review.

3.3.7 Access Openings

Any cone, barrel, or base section of a manhole removed to provide access openings as required for the Contractor's operations shall be restored with new materials as specified in Section 1305, "Pipeline Structures," of the Standard Specifications and these Special Provisions. Backfill and surface restoration shall conform to the Trench Backfill and Surface Restoration detail shown on the project plans. The depths of AC base and surface courses shall be as shown on the project plans.

3.3.8 Liner Pipe Installation

The Contractor shall proceed with the installation of the liner pipe within forty-eight (48) hours of sewer cleaning. The Contractor shall repeat cleaning of the host pipe at the Contractor's sole expense if the liner installation does not occur within the same time.

3.3.9 Removal of Manhole Rungs. – Existing manhole rungs shall be removed by cutting the rungs flush with the wall of the manhole and any rough edges ground smooth. Any holes in the manhole wall left by the removal of the rungs shall be cleaned and patched with quick setting, non-shrink grout. The quick setting, non-shrink grout shall be submitted to the Engineer for review. The grout shall be

mixed and applied without the use of any aggregate as per the manufacturer's specifications and the Standard Specifications and these Special Provisions.

PART IV MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Point Spot repairs will be measured by each in accordance with bid schedule, which includes, length of spot repairs and if the spot the repair has lateral connection.

4.2 PAYMENT

Payment\ for point spot repairs per each shall include full compensation for furnishing all labor, equipment, tools, materials, including all fittings and pipes, diversion of sewer, excavation, backfill, pavement restoration, and striping complete in place as shown on the plans, as specified herein and as direction by the Engineer.

END OF DOCUMENT 03300

DOCUMENT 03400 – CURED-IN-PLACE LINING (CIPP)

PART 1 GENERAL

1.1 REQUIREMENTS

- A. This Section specifically covers additional specifications and requirements for the work necessary to rehabilitate main line segments of the sanitary sewer system using cured in place (CIPP) lining system as shown on the Drawings and specified herein.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 03300, Sanitary Sewer Rehabilitation

1.3 CONTRACTOR SUBMITTALS

- A. The Contractor shall submit installation procedures, equipment details, and an insertion location plan to the Engineer for review.
- B. The Contractor shall submit to the Engineer verification that the CIPP liner complies with the ASTM testing requirements. Verification of compliance shall be in written form of a finalized, signed and dated independent laboratory report. The date on this report shall constitute the date of compliance.
- C. CCTV inspection of all installed CIPP liner and any subsequent repairs shall be performed in accordance with Section 1307-3, "Television Inspection", of these Special Provisions. A DVD copy of the CCTV inspection shall be submitted to the Engineer for acceptance. DVD recordable shall be "DVD-R" not "DVD+R" and the video file format shall be mpg.

PART 2 PRODUCTS

PART 3 EXECUTION

3.1 GENERAL

3.1.1 Cured-in-Place Pipe Liner (CIPP Liner). –

- a) First order of work: CCTV as specified herein.
- b) The CIPP liner shall extend the full length of the pipe reach to be rehabilitated and shall provide a structurally sound, impermeable, seamless, joint-less, tight fitting pipe-within-pipe that when cured, is mechanically bonded to the host pipe. The Contractor shall use

cured-in-place pipe liner for sanitary sewer rehabilitation in accordance with Section 500-1.4, “Cured-In-Place Pipe Liner (CIPP Liner)”, of the Greenbook, excluding Section 500-1.4.4, “Chemical Resistance”, ASTM 1216 or ASTM F1743 and ASTM D5813 excluding Section 8.2.2, and these Special Provisions. Only licensed and manufacturer-certified contractors may install CIPP liner.

3.1.2 Material Composition and Testing. – The CIPP liner shall meet or exceed the minimum initial and long term structural properties listed in Table 1 and Table 2 below. Prior to installation, the Contractor shall submit to the Engineer, for acceptance, verification that the CIPP liner to be used meets or exceeds these requirements and has the proper internal diameter.

Table 1
CIPP Liner Minimum Flexural Requirements

Type of Polyester Resin ¹	Flexural Modulus (E) (Initial ² , psi)	Flexural Modulus (EL) (Long Term ³ , psi)	Flexural Strength (psi)
Enhanced	400,000	200,000	4,000
Standard	300,000	150,000	4,500

- 1 Only one type of resin shall be used for this project.
- 2 The initial flexural modulus is defined in ASTM D790.
- 3 The long term flexural modulus is defined as fifty years and is determined by ASTM D2990 Test Method.

Table 2
CIPP Minimum Liner Wall Thickness Requirements

Type of Polyester Resins	6-inch Diameter VCP Thickness
<u>Enhanced</u>	2.9 mm
<u>Standard</u>	3.2 mm

The Engineer may, at any time prior to installation; direct the Contractor to obtain cured samples and test them in accordance with the appropriate ASTM standards.

3.1.3 Chemical Resistance. –The CIPP liner furnished shall meet the chemical resistance requirements of ASTM D5813. The CIPP liner shall also meet the chemical resistance requirements of ASTM F1216 or ASTM F1743, depending upon the method of installation. The Contractor shall submit to the Engineer verification that the CIPP liner complies with the ASTM testing requirements. Verification of compliance shall be in written form of a finalized, signed and dated independent laboratory report. The date on this report shall constitute the date of compliance.

3.1.4 Installation

The resin impregnated tube shall be inserted through an existing manhole or other access acceptable to the Engineer, by the application of hydrostatic head, compressed air, pulled-in-place method or other means sufficient to fully extend the liner to the next designated manhole or termination point. The Contractor shall designate a location where the felt tube will be impregnated (“wetted out”) with resin.

If the pulled-in-place method of insertion is used, a flexible and impermeable calibration hose shall be used to inflate the resin-impregnated tube using hydrostatic inversion. Calibration hose materials which are to remain as part of the completed CIPP liner installation shall be compatible with the resin system used, shall bond permanently with the CIPP liner tube, and shall be translucent to facilitate post-installation inspection.

The resin-impregnated tube shall not be exposed to ultraviolet light or experience excessive bubbling or wrinkling during the installation process.

The installed CIPP liner shall make a tight seal at the manhole walls. An end seal shall be applied at all CIPP termination points which shall consist of a resin mixture compatible with the liner/resin system and shall be applied in accordance with the manufacturer’s specifications. The method and materials shall be submitted to the Engineer for acceptance.

Hot water and steam or hot air are acceptable methods for CIPP liner curing. Contractor shall use all necessary precautions to protect the public and workers from hot water or steam exposure during the CIPP curing process. The curing method and the process of disposing heated water or steam shall be submitted to the Engineer for review.

Curing temperatures and durations shall be in accordance to the manufacturer’s requirements and submitted to the Engineer. The heat source shall be fitted with suitable monitors to gauge the temperature of incoming and outgoing water or steam supply. Additional gauges shall be placed between impregnated tube and invert of the original pipe at the manholes to monitor outside liner temperatures during resin curing process. Heating shall continue uninterrupted until the desired temperature is achieved. For each inversion/run, temperatures at both ends shall be measured and recorded hourly in a logbook. The Contractor shall submit a copy of the logbook to the Engineer at the completion of each inversion.

The Contractor shall submit installation procedures, equipment details, and an insertion location plan to the Engineer for review. The insertion location plan shall show the specific manhole locations used to introduce the liner into the host pipe.

3.1.5 Sampling

For each inversion run, the Contractor shall provide two samples of the installed and cured CIPP liner.

First sample shall be prepared in accordance with the following method:

1. A sample shall be fabricated from material taken from the tube and resin/catalyst system used and cured in a clamped mold placed in the downtube when circulating heated water is used and in the silencer when steam is used. The sample shall be large enough to allow for proper identification tagging and to provide a minimum of five (5) specimens each for flexural testing.

The second sample shall be prepared in accordance with one of the following methods:

2. The samples shall be cut from a section of CIPP liner which has been inverted through a like diameter pipe in the intermediate manholes and has been held in place by a suitable heat sink, such as sand bags. The sample shall be large enough to allow for proper identification tagging and to provide a minimum of five (5) specimens each for flexural testing and thickness verification, or
3. A sample shall be cut from a section of the installed liner within the host pipe between the 10:00 o'clock and 2:00 o'clock positions. The sample shall be large enough to allow for proper identification tagging and to provide a minimum of five (5) specimens each for flexural testing and thickness verification. An epoxy compatible with the liner resin system shall be used to repair the area where the sample was taken. The epoxy repair method and material shall be submitted to the Engineer for acceptance.

All material sampling shall be performed in the presence of the District's project inspector. Each sample shall be tagged with a District supplied plastic seal. The seal shall be attached through a Contractor installed drilled hole through each sample. The independent third party test report shall include documentation of color and number of the seal, in addition to, indication whether the sample was received with the seal intact and attached or broken. Third party test reports which do not indicate this information or if the seal was received broken will be deemed unacceptable and re-sampling per Method 3 above will be required at no additional cost to the District.

3.1.6 Repair and Rejection

The installed, cured liner pipe shall be free from visual defects including foreign inclusions and dry spots. No lifts or wrinkles shall be allowed from the invert to the springline of the host pipe. Lifts or wrinkles above the springline of the host pipe which reduce the effective pipe diameter by more than five (5) percent are unacceptable. All unacceptable sections shall be repaired by the Contractor, using the same material as the CIPP liner and a method acceptable to the Engineer, at the Contractor's sole expense. CCTV inspection of all installed CIPP liner and any subsequent repairs shall be performed in accordance with Section 1307-3, "Television Inspection", of these Special Provisions. A DVD copy of the CCTV inspection shall be submitted to the Engineer for acceptance. DVD recordable shall be "DVD-R" not "DVD+R" and the video file format shall be mpg.

The Contractor shall provide independent third-party testing for the flexural properties and the wall thickness of the installed CIPP liner. The independent third party shall be experienced in testing and inspecting CIPP liner. The Contractor shall submit qualifications of the independent third party to the Engineer for acceptance.

For each inversion run, the independent third party shall test the CIPP liner wall thickness per ASTM D3567 using the section of cured CIPP liner prepared in method stated above. A minimum of eight

measurements shall be made at evenly spaced intervals around the circumference of the section. The average wall thickness shall be calculated from the measurements taken. The independent third-party laboratory report of the average wall thickness for each inversion run shall be submitted to the Engineer for acceptance.

The independent third party shall test specimens prepared from both samples for the initial tangent flexural modulus of elasticity and flexural strength in accordance with ASTM D790. The flexural property test results for both samples shall meet or exceed the criteria listed in Table 1 above. The independent third-party laboratory shall submit the test results to the Engineer for acceptance.

Prior to installing CIPP liner, the Contractor shall submit an infrared spectrography chemical fingerprint of the type of resin to be used for the project. During construction, inversions will be randomly selected by the Engineer, and the approved third-party testing laboratory shall acquire samples of the resin being used during the impregnation process and run an infrared spectrography chemical fingerprint. The infrared spectrography chemical fingerprint of the samples shall be of the same scale as the pre-construction analysis. The third-party laboratory shall compare this with the pre-construction fingerprint to verify the resin used is the same resin submitted and submit a report to the Engineer for review. Pipe liner installed with unapproved resin shall be removed and replaced at the Contractor's sole expense.

The independent third-party testing laboratory shall submit the final report concurrently to both the District and Contractor. The final report shall include the summary of sampling witnessed and all laboratory test results. The report shall be mailed directly to:

Ben Porter – District Engineer,
Burbank Sanitary District
20863 Stevens Creek Blvd. Suite 100, Cupertino CA.

3.1.7 Service Connections

Reinstatement of active sewer laterals shall be done internally using an internal robotic cutting method. The reinstated lateral opening shall be neat, smooth, and without any hanging fibers. The invert of the service connection shall match the invert of the reinstate service opening. Additionally, the service opening shall be reinstated to 95 percent minimum and 100 percent maximum of the original service connection opening, and the opening's edge shall be smooth and free of loose or abraded material.

3.1.8 Field Measurements

Contractor shall measure the distance from manhole rim to invert level of the pipe being surveyed and record this information to the database. Measurements shall be the vertical distance from the invert of the manhole to the center of the manhole rims. A straight-edge or approved equivalent method may be needed to achieve this requirement. Measurement shall be recorded in feet and tenths of a foot (i.e. 11.4 feet).

PART IV MEASUREMENT AND PAYMENT

4.1 MEASUREMENT

Measurement for cured-in-place (CIPP) pipe lining will be measured in actual length of cured-in-place (CIPP) lining installed. Lateral reinstatements will be measured by EACH.

4.2 PAYMENT

The contract unit price paid per foot of CIPP shall include all labor, equipment, and materials required to perform the work, including, but not limited to sampling, independent wall thickness testing, independent flexural strength testing, independent infrared spectrography testing, transition sections, diversion of sewers, cutting lateral openings, and all other items necessary to perform the work, as specified in the Standard Specifications, these Special Provisions, the project plans, and as directed by the Engineer.

END OF DOCUMENT 03400