CITY AND COUNTY OF SAN FRANCISCO
Port of San Francisco

Contract No. 2852
Amador Street Infrastructure Improvements

ADDENDUM No. 02
Issued: August 9, 2024

The following clarifications, changes, additions or deletions are incorporated into the Bid Documents as if a part of the original released Bid Documents. All other terms and conditions of the Bid Documents remain in full force and effect. Respondents to the Advertisement for Bids solicitation must acknowledge receipt of this addendum in their submittal by submitting a signed and completed copy of Section 00 43 20 (Acknowledgement of Receipt of Addenda).

CHANGES TO SPECIFICATIONS:

1) **Section 00 11 13:**

   - BID EXTENSION. New bid opening date moved to 8/22/24 @ 10:00 am
   - REMOVED interim electrical work critical milestone deadline date.

2) **Section 00 73 02** – REMOVED interim electrical work critical milestone deadline date and associated liquidated damages.

3) **Section 01 11 00:**

   - Revisions to scope of work related to Sewer, Structural, and Landscape Work.
   - REMOVED interim electrical work critical milestone deadline date.
   - 1.6.D – Replaced DPW excavation permit with Port Encroachment permit.

4) **Section 33 33 00**:

   - 1.01 – Update to scope of work description.
   - 1.04 – Clarifications for testing of Class V RCP

If the Bidder has any questions regarding this addendum, please contact Noel Aquino, Project Manager, at (415) 653-9517.

PORT OF SAN FRANCISCO
TEL 415 274 0400 TTY 415 274 0587 ADDRESS Pier 1
FAX 415 274 0551 WEB sfport.com San Francisco, CA 94111

REMINDER: Bidders are required to acknowledge receipt of this addendum in Document 00 43 20.

Bids are due 08/22/24 at 10:00 A.M.

DocuSigned by:
Uday Prasad
96F54B9756EC4DD...

8/9/2024

Uday Prasad
Acting Chief Harbor Engineer, Engineering
Port of San Francisco
Pier 1, SF, CA 94111

PORT OF SAN FRANCISCO
TEL 415 274 0400 TTY 415 274 0587 ADDRESS Pier 1
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SECTION 00 11 13
ADDENDUM 02
ADVERTISEMENT FOR BIDS
CITY & COUNTY OF SAN FRANCISCO
PORT OF SAN FRANCISCO

This Document includes a facsimile of the legal notice informing all qualified Bidders of the City's intent to solicit and receive Bids for the construction of the Project covered by the Bid Documents as defined herein for Contract No. 2852.

INVITATION FOR BIDS
For
Contract No. 2852
Amador Street Infrastructure Improvements

Optional Online Only Pre-Bid Meeting: July 23rd, 2024 10:00 AM-11:30 AM,
Optional Site Visit: July 23rd, 2024 1:30 PM to 2:30PM

Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 229 608 200 089
Passcode: 7ycTQ4
Download Teams | Join on the web
Or call in (audio only)
+1 415-906-4659,,863704401# United States, San Francisco
Phone Conference ID: 863 704 401#

Bids shall be submitted via email to **constructionbids@sfport.com** prior to the due date and time with the following in the **Subject: "AMADOR STREET INFRASTRUCTURE IMPROVEMENTS: BID CONTRACT NO. 2852".**

Hard copy bids shall be postmark stamped by due date or earlier. For more details see Section 00 21 13, Article 1.14.

Bids will be opened and read in public via Microsoft Teams meeting on August 22, 2024, 10:00 AM-10:30 AM
1

Join on your computer, mobile app or room device
Click here to join the meeting
Meeting ID: 293 270 761 175
Passcode: Vy4pNn
Download Teams | Join on the web
Or call in (audio only)
+14159064659,,721043473 United States, San Francisco
Phone Conference ID: 220 134 1#

The Port of San Francisco (the "Port") announces an Invitation for Bids ("IFB") for construction on AMADOR STREET INFRASTRUCTURE IMPROVEMENTS in San Francisco, CA. The work is to perform infrastructure improvements to replace gravity sewer and storm drains, roadway pavement, landscape, the existing defunct Amador Street sanitary pump station, associated discharge force main pipe, fittings and appurtenances that end at Amador Street utility corridor, and all related and incidental work. The new sanitary pump station shall be equipped with automated, redundant instrument controls with provisions for future system expansion.

For more information, contact the Project Manager, Noel Aquino (415) 274-0526 noel.aquino@sfport.com.

Contract Estimate:	$ 9,125,000
Buy America Requirements	Refer to Section 00 73 80 for Buy America Requirements.
Time Allowed for Completion:	Substantial Completion 639 consecutive Calendar Days., beginning with and including the official date of the Notice to Proceed set by the City. ~~Critical Milestone: Interim Electrical Work (See Section 01 11 00) is a Critical Milestone in this Project; it must be completed and ready for energization no later than July 31, 2025.~~ Final Completion no later than sixty (60) consecutive calendar days after the date of City's issuance of Notice of Substantial Completion. (Refer to Section 00 73 02)
Liquidated Damages:	Varies, refer to Section 00 73 02 for details
Contract Basis:	Refer to Bid Schedule under Section 00 41 00
License Required:	Class "A" California Contractors License
Goal for Disadvantaged Business Enterprise (DBE) Subcontracting Requirement:	DBE = 22.2% Female Participation Goal = 6.9% Minority Participation Goal = 25.6%
Wage Determinations:	State Wage Determination: 2024-1 Federal Wage Determination: CA20240018 (Note: Modification number may change if contract is awarded >90 days after bid advertisement date.)
Partnering Requirements:	Partnering Level 2 Refer to Section 01 31 33 for details.

Bidders are advised that this is a federal-aid project subject to equal employment opportunity provisions and Caltrans Race Conscious Disadvantaged Business Enterprise (DBE) program. Only Caltrans certifications can be used to calculate the DBE participation. The CMD Bid Discount is not applicable to this Contract.

In addition, the Port of San Francisco seeks to promote diversity within its contracting opportunities. As such, the City recommends that Bidders consider the composition of their teams in terms of gender, age, ethnicity, and race, and to utilize teams that include a diverse mix of staff at all organizational levels

If necessary, the Port will issue bid date changes by addendum and will post current date for receiving bids on the Bids and Contracts page at the Port's website address: https://sfport.com/business/contract-opportunities.

This notice is for information only. Please refer to the bid documents for specific requirements.

Insurance Requirements: Please refer to Section 00 73 16. The winning bidder will be required to submit requisite insurance documentation within ten (10) working days after the date on which the contract is awarded.

Schedule: Contractor shall be responsible for fully understanding scheduling constraints associated with certain marine construction activities and the Port approvals and permits from applicable government agencies, including the San Francisco Bay Regional Water Quality Control Board and U.S. Army Corps of Engineers. In accordance with these requirements, in-water work is permitted only between June 15 and November 30.

Contractor Qualifications: : The Bidders for this contract must meet the following minimum qualifications to be considered:

1. Valid contractor's license for Class "A" issued by the California Contractor's State Licensing Board with at least five (5) years of experience working on related projects,
2. Contractor shall have documented experience in performing a minimum of three (3) projects involving pavement renovation in an urban environment, sewer pipeline replacement, and pump station installation.
3. Contractor shall have documented experience in performing a minimum of three (3) water and/or wastewater pump station and/or treatment facility projects of similar scope and complexity within the last five (5) years.
4. Contractor shall have documented experience in performing a minimum of three (3) water main pipeline projects within the last eight (8) years from the date of Bid opening of this contract. Each qualifying project must include installation of at least 2,000 linear feet of 8-inch or larger diameter underground ductile iron pipe with restrained push-on joints for water distribution of transmission main.
5. Contractor shall have documented experience in performing a minimum of least three (3) sewer replacement projects of pipelines up to 36-inch diameter with substantial completion dates within eight (8) years from the bid date of this contract, including satisfactory installation of at least one thousand (1,000) linear feet to 21- inch (minimum) diameter sewer pipe at a depth of at least 10 feet (includes excavation and shoring support) per project.
   or
   at least one thousand (1,000) linear feet of 12-inch (minimum) diameter sewer pipe at a depth of at least 10 feet (includes excavation and shoring support) per project for the City and County of San Francisco with substantial completion within the last three (3) years from the bid date of this contract.
6. Safety Qualification: Complete the Safety Pre-Qualification Form (Prequalify for Construction | SFPUC), and submit the required OSHA 300A forms to prequal@sfwater.org.

Bid security in the form of a corporate surety bond or an irrevocable letter of credit (or certified check if required bid security is $15,000 or less) for ten percent (10%) of the amount bid must accompany each bid. For information on the City's Surety Bond Program, call Jennifer Elmore at (415) 217-6578.

In accordance with San Francisco Administrative Code Chapter 6, no bid is accepted and no contract in excess of $1,000,000 is awarded by the City and County of San Francisco until such time as (a) the Port Commission approves the contract for award and (b) the Port Executive Director or designee then issues an order of award. Pursuant to Charter Section 3.105, all contract awards are subject to certification by the Controller as to the availability of funds.

In accordance with San Francisco Administrative Code Chapter 6, Section 6.4, Contractor shall use to the maximum extent possible, recycled content materials, rather than virgin materials.

All contractors and subcontractors who bid or work on a public works project must register and pay an annual fee to the California Department of Industrial Relations ("DIR"). No contractor or subcontractor may be listed in a bid for a public works project unless registered with the DIR as required by Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the DIR pursuant to Labor Code section 1725.5.

This Project is subject to compliance monitoring and enforcement of prevailing wage requirements by the California Department of Industrial Relations and/or the San Francisco Office of Labor Standards Enforcement.

Minimum wage rates for this project must comply with the current requirements for payment of General Prevailing Wages as determined by the State Department of Industrial Relations. Minimum wage rates other than applicable General Prevailing Wages must comply with San Francisco Labor and Employment Code, Article 111, Minimum Compensation Ordinance.

This contract utilizes federal funding, which requires that the current David-Bacon wage rates for the applicable trades for this project need to be updated as of 10 days prior to the bid date. At the time of the bid the David-Bacon wage rates in place shall remain throughout the contract. If the State of California prevailing minimum wages are higher than the David-Bacon wage rates then the higher of the two shall be used. See Section 00 52 00-5.05 and Section 00 73 73 APPA for additional details.

Pursuant to San Francisco Administrative Code Section 6.25, "Clean Construction is required for the performance of all work unless a waiver of all or part of the requirements of that Chapter has been granted under Sections 25.5 or 25.7."

The Port reserves the right to reject any or all bids and waive any minor irregularities in any bid.

By Order of the San Francisco Port Commission,

DocuSigned by:
Uday Prasad
96F54B9756EC4DD...

8/8/2024

Uday Prasad, Acting Chief Harbor Engineer
Port of San Francisco
City and County of San Francisco

END OF SECTION

SECTION 00 73 02
ADDENDUM 02
CONTRACT TIME AND LIQUIDATED DAMAGES

1.1 SUMMARY

A. This Document specifies the limits of Contract Time and amounts of liquidated damages agreed to be assessed should the Work be incomplete after the limits of Contract Time.

1.2 CONTRACT TIME

A. The Work shall be commenced within 5 calendar days from issuance of the Notice to Proceed by the City, prosecuted diligently thereafter, and brought to Substantial Completion within the time limit of **639** consecutive calendar days, beginning with and including the official date of the Notice to Proceed set by the City.

1. The date of the Notice to Proceed will be set by the City within 14 calendar days after the certification of the Contract.

2. The time allowed for achieving Substantial Completion as specified above shall include the time required for public notification, application and approval for all required permits, and submittals prior to start of construction work.

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~~Critical Milestones: Contractor shall complete Construction Work at the milestone within the Construction Time Limits as specified in paragraph [1.5] of Section 01 11 00 - Summary of Work. . Critical Milestone: Interim Electrical Work (See Section 01 11 00) is a Critical Milestone in this Project; it must be completed and ready for energization no later than July 31, 2025.~~

B. Final Completion shall occur no later than **60** consecutive calendar days after the date of Notice of Substantial Completion.

1.3 LIQUIDATED DAMAGES

A. Failure to timely achieve Substantial Completion: The City and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay the City and County of San Francisco the sum of **one thousand** dollars (**$1,000.00**) for each calendar day that transpires with the Work not Substantially Completed after the time limit for achieving Substantial Completion specified in Paragraph 1.2A.

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B. ~~Failure to timely complete Critical Milestones: The City and Contractor agree as liquidated damages for delay (but not as a penalty), that the Contractor shall pay the City and County of San Francisco the sum of **six thousand and seven hundred** dollars (**$6,700.00**) for each calendar day that transpires with the Interim Electrical Work not completed by July 31, 2025, as specifed in Paragraph 1.2A.3.~~

C. Failure to timely achieve Final Completion: In addition, Contractor shall pay the sum of **two hundred fifty** dollars (**$250.00**) for each calendar day that transpires with the Project not Finally Completed after the time limit for achieving Final Completion specified in Paragraph 1.2B.

D. See Section 00 73 03 for Additional Liquidated Damages, which summarizes, but not

limited to, the other liquidated damages included in this Contract.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

END OF SECTION

SECTION 01 11 00

SUMMARY OF WORK
ADDENDUM 02

PART 1 - GENERAL

1.1 SUMMARY

A The work to be done under this contract is located at Amador Street, City and County of San Francisco. This project is to perform infrastructure improvements to replace gravity sewer and storm drains, roadway pavement, landscape, the existing defunct Amador Street sanitary pump station and associated discharge force main pipe, fittings and appurtenances that ended at Amador Street utility corridor. The new sanitary pump station shall be equipped with automated, redundant instrument controls with provisions for future system expansion. and all related and incidental work.

1.2 SCOPE OF WORK

A Sewer Work includes, but is not limited to:

1. Mobilization and demobilization work.
2. Performing excavation and trench support work related to sewer work.
3. Constructing 6-inch diameter HDPE SDR 17 with fused joints force main and fittings on crushed rock encasement wrapped in geotextile fabric.
4. Constructing 6-inch diameter HDPE SDR 17 with fused joints force main in 10-inch diameter steel casing by pipe jacking method, and filling annular space with non-shrink grout.
5. Constructing manholes with new frame and cover.
6. Installing HDPE cleanouts.
7. Abandoning or removing existing sewers.
8. Removing existing railroad track facilities within sewer and storm drain trench.
9. Exploratory holes.
10. Modifying and reinstating existing laterals and culverts as necessary and as per City Representative to construct force main.
11. Saw cutting, removing and disposal of existing pavement.
12. Excavation, backfilling and compaction of sewer and force main trench.
13. Restoring pavement inside and outside of sewer and force main trench with 2-inch thick asphalt concrete wearing surface over 10-inch thick concrete base as necessary per excavation code.
14. Handling, transportation and disposal of hazardous excavated materials and contaminated soils, if necessary.
15. Supporting, working around and protecting certain San Francisco Water Department, Fire Department and other utility agency and company facilities in conjunction with the work under this contract; and all appurtenant work required in accordance with the Contract Documents and in accordance with San Francisco DPW Standard Specifications, latest edition.
16. Furnishing and placing of backfill material, if necessary.
17. Handling all drainage and ground water.
18. Performing incidental traffic routing and submitting Special Traffic Permit application and fee, if required.
19. Constructing 12-inch and 15-inch diameter Class V RCP on crushed rock bedding wrapped in geotextile fabric.

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B. Mechanical Work includes, but is not limited to:

1. A temporary gravity sewer shall be installed to accomplish the continuous operation of sewage pump station. The existing pump station will remain operation until the new pump station is successfully completed, start-up and commissioning. Subsequently, existing facilities can be demolished and removed.
2. Furnish and install four (4) sewage pumps (SP-1, SP-2, SP-3, & SP-4) as shown on the contract drawings. Furnish and install force main piping including but not limited to check valves, plug valves, valve boxes, air release valves, cleanout, vent pipe and necessary fittings for a complete operable sewage pump station. All piping shall be supported by stainless steel hardware.
3. Furnish and install one (1) dewatering pump (DW-1) and supply one (1) additional dewatering pump (DW-2) as spare pump as shown on contract drawings.
4. Furnish and install a permanent ladder inside the sewage sump for access per Port Plumbing Code requirements.
5. Furnish and install pump control to have two stage operation. Furnish and install all the necessary but not limited to pump control, float sensors and alarm for a complete pump control package.
6. Furnish and install gravity sewage main from existing manhole to the new sewage sump.
7. Partial or complete demolition of the existing pump station sump/sanitary collection structure and force main.

C. Structural Work includes, but is not limited to:

1. Temporary relocation of existing concrete blocks between the pump station and waste concrete dump station. Demolition of the existing concrete containment structure, slab on grade, and saw cut and demolish section of existing concrete screen wall for new opening.
2. Installation of dewatering system.
3. Installation of permanent sheet pile shoring system, and excavation within for new pump station structure.
4. Installation of torque-down piling.
5. Installation of reinforcing steel and placement of concrete for new pump station structure, and slabs on grade.
6. Installation of structural steel beams, checkered plate deck, ~~chain link fence, and rolling gate~~.
7. Demolish top portion of existing wet well and backfill abandoned wet well.

D. Electrical Work includes, but is not limited to:

1. Furnishing, installing, testing, and commissioning all elements required to establish a new 240V, 3-phase utility power system, including underground service conduits, service pedestal with transfer switch and generator connection, metering hardware, system grounding and bonding, and other items as may be required to form a complete, functional, and code compliant system.

2. Relocation of existing fuel system devices, including coordination with owner, and furnishing all required conduit, wiring, and appurtenances as required to re-establish the fuel system functionality at another location.

3. Furnishing and installing all required conduit (both encased and surface mounted), conductors, cables, conduit seals, sump termination panel, and other hardware, as shown in the E-series drawings or as required to form a complete, functional, and code compliant system.

4. Fabrication, installation, testing, programming, calibrating, and commissioning of a free-standing pump station control panel, including Programmable Controller (PLC), Human-Machine Interface (HMI), “smart” motor controllers, radar-based level sensor, sump level switches, wireless communications module, network switches, interfaces, cables, terminals, protective devices, and other elements as shown in the drawings and as required for the system to function as intended.

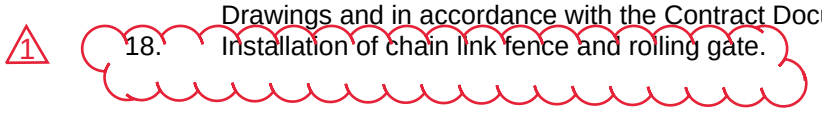
E. Paving Work includes, but is not limited to:

1. Mobilization and demobilization work.
2. Incidental traffic control work.
3. Excavating, removing and disposing of existing pavement, concrete base, parking strip, curb and sidewalk.
4. Supporting and working around existing utilities.
5. Handling all drainage or ground water.
6. Removing surplus material.
7. Cleaning project site.
8. Furnishing and placing of backfill material.
9. Full depth planning per 2-inch depth of cut.
10. Constructing 2-inch thick asphalt concrete wearing surface over 10-inch thick concrete base, concrete roadway swale,18-inch wide concrete swale, 6-inch thick concrete driveway pavement, and 6-inch wide concrete curb.
11. Removing railroad tracks.
12. Adjusting City-owned manhole frame and cover to grade.
13. Adjusting City-owned catch basin frame and casting to grade.
14. Adjusting City-owned hydrant and watermain valve box casting cover to grade.
15. Performing all related and incidental work, all where and as shown on the Drawings and in accordance with the Contract Documents.

F. Landscape Work includes, but is not limited to:

1. Excavating, removing and disposing of existing asphalt paving, baserock and soil to a depth of 18”.
2. Sawcutting existing asphalt paving and removing and disposing of paving materials, baserock and soil to a depth of 36”.
3. Sawcutting existing concrete gutter and removing and disposing of concrete, baserock and soil to a depth of 42”.
4. Installing permeable unit pavers on top of 2” thick gravel leveling course, 6” thick gravel base and 28” thick gravel reservoir on top of compacted subgrade.
5. Picking up granite curbs at City of San Francisco salvage yard and delivering to the job site without any damage occurring during hauling, handling and unloading of the curbs.
6. Installing recycled, mortared granite curbs set in concrete footings around stormwater planters.
7. Installing mortared cobble at bioretention inlets at each stormwater planter.
8. Installing structural soil to a depth of 36” at each stormwater planter.
9. Rough grading and compacting soils to compaction levels per Contract Documents.
10. Preparing planting areas in accordance with the Contract Documents including importing soils, off-hauling soils, installing cardboard mulch and other mulches in planting areas.

11. Procuring and planting 24” box trees at each stormwater planter with cardboard sheet mulch, 3” layer of crushed rock mulch and tree stakes.
12. Procuring and planting 24” box trees at property at 701 Amador Street, behind property fence.
13. Procuring and planting stormwater planters with specified plant material.
14. Procuring and planting streetscape planting areas with specified plant material.
15. Applying 3” layer of crushed rock mulch in all planting areas.
16. Performing a landscape maintenance program for the 1095-day Maintenance Period and requesting Maintenance Observations by City Representative at every specified progress maintenance milestone through Final Acceptance in accordance with the Contract Documents.
17. Performing all related and incidental work, all where and as shown on the Drawings and in accordance with the Contract Documents.
18. Installation of chain link fence and rolling gate.



1.2 CONTRACT

A The Project will be governed by a single lump sum contract under direction of a single designated Prime Contractor as described in the Agreement Forms.

B Responsibility for installation and completion of the work is upon the designated Prime Contractor with whom the City enters into a Contract for the work herein described.

1.3 CONTRACTOR’S QUALIFICATIONS

A Contractors shall have completed a minimum of 5 projects similar in scope and complexity or greater in the past 5 years. If bidder does not meet the experience requirements stated in this specification, the City may determine the bidder to be unqualified to perform the work under this contract.

1.4 SUBMITTALS, PUBLIC NOTIFICATION, AND MEETINGS BEFORE NOTICE TO PROCEED (NTP)

A. Contractor is encouraged to submit the required Traffic Control Plans as soon as possible after the date of the Award in order to ensure that the said plans get approved by the City prior to start of actual field work.

B. In addition, Contractor is encouraged to send out the required 30-Day Public Notification letters as soon as possible after the date of the Award, provided that the said notices are sent out no more than 60 calendar days before the start of work. Refer to DPW Order No. 176,707, Regulations for Excavating and Restoring Streets in San Francisco, for more details.

C. The City Representative will schedule a Pre-Construction meeting as soon as possible after the date of the Award in order to discuss schedules and sequence of operations with the Contractor.

1.5 SEQUENCING OF CONSTRUCTION

A After award and certification of the contract, a pre-construction meeting will be scheduled with the Contractor to determine the official date for commencement of the work. No fieldwork can begin prior to the Contractor’s receipt of written permission from the City Representative. The City shall have full jurisdiction and responsibility of the property until the commencement date for fieldwork.

B Contractor shall be familiar with the terms, conditions, and payment schedule required by suppliers prior to submitting bid. Any delays to the custom fabricated item procurement schedule caused by incomplete or inaccurate shop drawing submittals and/or failure to comply with these terms, conditions and payment schedule required by the material suppliers, shall be the responsibility of the Contractor.

1 C ~~An interim milestone has been set to complete the work involved related to Bid Item 34A and as described in Section 01 20 00 no later than July 31, 2025~~

1.6 WORK SCHEDULING

A Contractor shall coordinate its operations with the City and shall incorporate in its Progress Schedule activities for all special events that will require Contractor to suspend its operations at the project site.

B The Contractor's working hours shall be as specified in Section 00 72 00 – General Conditions, subparagraph 1.01A.63, except as specified otherwise in these Specifications.

C The Contractor shall not commence site work prior to receiving the Engineer's approval of the Construction Schedule. No Work shall commence prior to the approval of applicable traffic control plans, storage and parking plans, and flagger resumes and certificates. The Contractor will be levied damages, as specified in Section 00 73 03, Additional Liquidated Damages, of the Project Manual, for delay of Work.

1 D The Contractor shall not commence any excavation in the public right-of-way without a valid Encroachment permit issued by the Port of San Francisco. ~~excavation permit issued by the San Francisco Department of Public Works, Bureau of Street Use and Mapping.~~ The Contractor shall submit a copy of the encroachment permit.

1.7 CONTRACTOR USE OF SITE

A Use of Site: Limit use of the site for construction operations necessary to perform the Work indicated on the Drawings. Obtain prior written approval from the City for access to areas of the site occupied by the City. Protect and repair or restore to the existing condition surrounding areas damaged by Contractor's operations.

B Contractor's Work Area: The Contractor's work area is limited to the areas included within the limit of work as shown on the Contract Drawings and as adjusted by the temporary construction fencing.

1. Refer to Section 01 50 00 – Temporary Facilities and Controls for work area maintenance requirements.

C Additional Staging and Storage:

1. Provide additional staging and storage areas as necessary for Contractor's operations at no cost to the City.
2. Do not utilize City streets for additional staging and storage areas.
3. Do not enter upon or use any property not under control of the City until a written temporary construction easement agreement has been executed by the Contractor and the property owner, and a copy of said agreement furnished to the City Representative prior to said use. Neither the City nor the City Representative shall be liable for any claims or damages resulting from Contractor's unauthorized trespass or use of any such properties.

D Maintenance of Work Area: Maintain the work areas in a safe condition at all times. Remove all graffiti and accumulated rubbish and debris material deposited within the construction site at the end of each work day. The Contractor is responsible to maintain

the project area for the entire duration of the Contract. Clean and restore the work site at completion of the work to the condition that existed prior to the start of work.

E Security Of Contractor's Work Areas: Security of Contractor's work areas and its property, equipment, construction materials and all other items contained in Contractor's staging areas or elsewhere on the construction site shall be Contractor's sole responsibility at all times.

1.8 SPECIAL INSTRUCTIONS

A. The Contractor shall submit a Port of San Francisco (Port) Application for Encroachment Permit prior to the start of the work. Permit application is available through the link:

http://sfport.com/sites/default/files/Business/Docs/Permit%20Services/Applications/Encroachment%20Permit%20Application_060917.pdf

The Contractor shall provide a Performance Deposit of $25,000 with the Application for Encroachment Permit. The City will return the deposit fully, after the work is satisfactorily completed and approved by the City Representative.

B. The Contractor shall perform exploratory hole or pothole work prior to installation of 24-inch diameter steel casing by trenchless method. The Contractor shall notify the City Representatives of any conflicts with existing utilities and other obstructions prior to trenchless work.

C. The Contractor shall coordinate with the Port through the City Representative for requirements when working within the limits of active railroad tracks.

1.9 CITY'S USE OF EQUIPMENT PRIOR TO COMPLETION OF CONTRACT

A During the course of construction and before final acceptance of the work of the Contract, City personnel may be required to use various major systems and sub-systems installed under this Contract as provided in Paragraph 9.06 of the General Conditions.

B Such use or occupancy by City personnel will be limited to the starting and stopping of such systems, and Contractor shall be solely responsible to provide all interim repair and maintenance of such equipment as recommended by the equipment manufacturers. Contractor's responsibility for repair and maintenance shall continue from the date of beneficial use by the City of any equipment or system installed under this Contract until the date of the City's acceptance of Contractor's Application for Final Payment.

1. Submit a Certificate of Guarantee secured by Contractor's Performance Bond binding the Contractor to perform all repair and routine maintenance tasks as described above. Refer to Section 01 78 36 - Warranties.
2. Provide written endorsement from Contractor's insurance carrier and Surety to the City Representative permitting the operation of equipment by City personnel as described above.

C Use and occupancy by the City shall not be deemed to constitute a waiver of claims on behalf of the City against the Contractor.

D The City will not accept any materials, equipment, systems or sub-systems furnished under this Contract which have been used by Contractor for construction purposes during the course of the Work.

1.10 ENVIRONMENTAL, HAZARDOUS OR CONTAMINATED MATERIALS WORK

A. Work will involve working in contaminated soils and environments. The Contractor shall adhere to the following requirements as written in its specific section:

1. Available Project Information – Refer to Section 00 31 00

2. Environmental Procedures - Refer to Section 01 35 43

3. Additional Environmental Procedures - Refer to Section 01 35 50.

4. Regulatory Requirements - Refer to Section 01 41 00.

5. Health & Safety Criteria - Refer to Section 01 35 45.

5. For Stormwater, Erosion and Sediment Controls requirements - Refer to 01 35 43

6. Excavation area limits (at any given time) that shall trigger additional requirements of the San Francisco Department of Public Health (SFDPH) Dust Control Ordinance - Article 22B, and the California Code of Regulations, Title 17, Section 93105 - Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations in areas of Serpentine containing Naturally Occurring Asbestos (NOA), and Cal/OSHA. Refer to Sections 02 81 05 and 02 81 10.

7. For soil profiling, environmental training, manifest requirements, stockpiling, re-use of excavated soils, import fill criteria handling, transportation and disposal of excavated materials and contaminated soils - Refer to Section 02 81 10.

8. The Contractor is alerted that soils containing Serpentine (Naturally Occurring Asbestos) shall be encountered at the site during the excavation phase of this Contract. Refer to Sections 02 81 05 and 02 81 10.

9. For dewatering requirements during construction refer to Section 31 23 19.

10. As per the Survey report: *Asbestos Survey Report, Reinforced Concrete Structure, Amador Pump House, Envirosurvey Inc., July 2016*, the Pump Station west perimeter wall was found to contain trace (<1%) asbestos, Refer to Section 02 41 00 Demolition to handle this concrete meeting regulatory compliance.

B. The Contractor shall refer to the following environmental and geotechnical reports:
1. Geotechnical Investigation, Amador Street Sanitary Pump Station Improvements, T&R/RYCG, July 2011

2. Geotechnical Investigation, Pier 94 Backlands Improvements, T&R/RYC, July 2012

C. The Contractor is strongly advised to familiarize itself as to the actual site conditions that may be encountered during construction by all means available to it including, but not limited to, the use of USGS geologic maps.

D. If the Contractor by its means and methods disturbs, grades or excavates more than one half acre surface area (21780 sq ft) at any given time, then the Contractor shall submit a

Site-Specific Dust Control Plan (including Air Monitoring Protocols) for the review and approval from the City Representative and the San Francisco Department of Public Health, prior to start of construction. The Contractor at its own cost shall then furnish all labor, equipment, and means required to conduct the ambient and perimeter air monitoring as required by the San Francisco Department of Public Health (SFDPH) Dust Control Ordinance - Article 22B, and the Air Quality Monitoring Guidelines for San Francisco Health Code (SFHC) Article 22B, Real Time Dust Monitoring and Reporting. Refer to Section 01 57 30.

E. If the Contractor by its means and methods disturbs, grades or excavates more than one acre (43560 sq ft) of the site at any given time in an area containing Serpentine/Naturally Occurring Asbestos (NOA), then the Contractor at its own cost shall then furnish all labor, equipment, and means to comply with the BAAQMD's requirements, terms of approval of the Asbestos Dust Mitigation Plan (ADMP) and California Code of Regulations, Title 17, Section 93105. Refer to Section 02 81 05.

F. Unforeseen hazardous/contaminated material work: In the event that unforeseen hazardous/contaminated material is discovered beyond the above referenced reports, the Contractor shall immediately notify the City Representative both verbally and in writing. In the event that unforeseen Hazardous material is discovered, all work in the affected area will stop pending further direction from the City Representative. Upon receipt of such notification, the City, at its sole option, may either

1. Stop all work in the affected area pending further direction from the City Representative

2. The City Representative shall determine whether the remediation/abatement and hazard removal process requires suspension of all, none or any part of the work under this Contract.

3. The City will perform the remediation/abatement work using its own forces or using an outside contractor specializing in remediation/abatement work or

4. Direct the Contractor to perform all or any part of the remediation/abatement and hazardous materials removal work.

5. If the City Representative directs the Contractor to perform the unforeseen remediation/abatement and removal of the hazardous materials, the City Representative will do so by change order, and the Contractor must promptly provide a properly licensed and insured subcontractor (with CSLB hazardous substance removal certification and C-22 license pertinent to the task as per applicable law) to perform remediation/abatement work.

6. Refer to Section 00 73 16 – Insurance Requirements for a description of the Contractor's required insurance.

G. All work that affects intact paint with any level of lead will be performed by the Contractor or its sub contractors under the Cal/OSHA Lead in Construction Standard 8 CCR 1532.1 as well as all Federal, State, and local regulations at no additional cost. If personal exposures to the workers exceed the 8-hr Permissible Exposure Level (PEL) of 50 micrograms/cubic meter, such worker(s) must have received training as a CDPH Certified Lead Worker (as per 17 CCR Division 1, Chapter 8).

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 33 33 00

SANITARY SEWERAGE UTILITIES

ADDENDUM 02

PART 1—GENERAL

1.01 DESCRIPTION

A. The work specified in this Section shall include:

1. Constructing 6-inch diameter HDPE SDR 17 with fused joints force main and fittings on crushed rock encasement wrapped in geotextile fabric;
2. Constructing 6-inch diameter HDPE SDR 17 with fused joints force main in 10-inch diameter steel casing by pipe jacking method, and filling annular space with non-shrink grout.
3. Constructing 16-inch diameter HDPE SDR 17 with fused joints on crushed rock encasement wrapped in geotextile fabric.
4. Constructing 8-inch bell and spigot type extra strength vitrified clay pipe (VCP) sewer.
5. Constructing 10-inch diameter VCP culverts.
6. Constructing 10-inch diameter VCP culvert with concrete encasement.
7. Constructing 12-inch and 15-inch diameter Class V RCP on crushed rock bedding wrapped in geotextile fabric. 1
8. Construction of concrete manholes with new frame and cover.
9. Installing HDPE cleanouts and air valve assembly inside manholes.
10. Installing Controlled Density Fill inside manholes.
11. Furnishing and installing High Flow trash collection devices.
12. Applying mortar to the interior of existing manholes including riser.
13. Removing existing railroad track facilities within sewer and force main trench.
14. Reinstating existing laterals, roof leaders and culverts as necessary and as per City Representative to construct force main and storm drain.
15. Testing, handling, transportation and disposal of hazardous excavated materials and contaminated soils including all incidental work, if necessary.
16. Plugging and filling existing force main, sewers and sewer structures.
17. Furnishing and installing connections to and between sewers, structures and culverts.
18. Furnishing and installing pipe to pipe connections using mechanical shear band repair couplings.
19. Reconstructing pavement inside the sewer T-trench limit and outside of paving work limits under C-drawings with 10-inch thick concrete base.
20. Reconstructing pavement as per excavation code or as shown in project plans.
21. Potholing as directed by City Representative.
22. At the conclusion of the Work, cleaning existing catch basins located within the limits of Work.
23. Performing necessary Work due to unforeseen conditions related to sewer and drainage work.

B. Earthwork and pavement restoration work required for the work of this Section shall be considered incidental work.

1.02 RELATED SECTIONS

A. Section 31 23 33, Trenching and Backfilling

B. Section 32 12 16, Asphalt Paving

C. Section 33 01 30.63, Sewerage System Mortar Rehabilitation.

D. Section 33 41 00.10, Reinforced Concrete Pipe

1.03 REFERENCES

A. San Francisco Department of Public Works Standard Specifications, latest revision.

B. DPW Standard Plans, latest revision.

C. ANSI/ASTM C12, Practice for Installing Vitrified Clay Pipe (VCP) Lines.

D. ANSI/ASTM C425, Compression Joints for Vitrified Clay Pipe (VCP) and Fittings.

E. Material Designation - Plastic Pipe Institute/ASTM - PE3408.

F. ASTM F2620, D1348, D2657, D3350 - Joints for HDPE and Fittings.

G. Material Classification - ASTM D-1248 - Type III Class C.5.P34.

H. ASTM F-714 - Standard Specification for Polyethylene Plastic Pipe Based on Outside Diameter.

I. ANSI/AWWA – Standard Specifications for Ductile Iron Pipe (DIP).

1.04 SUBMITTALS

A. The Contractor shall furnish six (6) copies of the following:

1. Certified report of the actual test results for precast components of concrete manholes meeting the requirements of ASTM C478 for approval by City Representative in accordance with the requirements of Section 310 of the SFDPW Standard Specifications.
2. Certified report of the actual test results for Class V RCP pipes meeting the requirements of ASTM C76 for approval by City Representative in accordance with the requirements of Section 304.06 of the San Francisco Public Works Standard Specifications. 1
3. Certified report for manhole frame and cover meeting the requirements of ASTM A-48 for approval by City Representative.
4. Certified report for Geotextile fabric meeting the requirements of AASHTO M288 Class 2 non-woven.
5. Steel casing pipe design and fabrication detail.
6. Certified report for chemical resistant polymer epoxy coating for concrete manholes.
7. Certified report of the actual test results for HDPE pipe meeting the requirements of ASTM D-3350 for approval by the City Representative.
8. Written certification that the fusion technician has received training in the proper use of fusion equipment and manufacturer’s recommended fusion procedures.
9. 2-inch air valve and blow off assembly details.
10. Manufacturer’s product data sheets and installation instructions for wet spray mortar.
11. Independent laboratory reports proving performance properties of wet spray applied mortar mix.
12. Manufacturer’s warranty and warranty application procedures.
13. Nozzle men’s certification.
14. Detectable warning tape for sewer trench.
15. Mechanical shear band repair coupling with external stainless-steel band to be used for all 6-inch, 8-inch, and 10-inch diameter VCP pipe to pipe connections and for larger VCP main sewer repairs.

16. High flow trash collection device, crosslinked high-density polyethylene and deflective separator with new concrete manhole.

PART 2—PRODUCTS

2.01 MATERIALS

A. VCP used in this Contract shall be in accordance with the applicable requirements of Section 305 and 306 of the SFDPW Standard Specifications.

B. Mechanical shear band repair couplings with external stainless-steel bands used for VCP connections shall meet or exceed ASTM Specification C425. Pipe to pipe deflections cannot exceed allowable tolerances per manufacture recommendations to ensure watertight seal and achieve the required structural strength. Per SFDPW Standard Specifications, **no angled pipe cutting, or mitered joints** will be permitted for making VCP to VCP pipe connections. VCP elbows and fittings shall be utilized where directed in the contract documents, SFDPW Standard plans, or when directed by the City Representative.

C. VCP main sewers and fittings for pipe diameter 12-inch and larger shall be of bell and spigot type unless directed by City Representative.

D. RCP pipes used in this contract shall be constructed in accordance with Section 33 41 00.10-Reinforced Concrete Pipe and Section 304 of San Francisco Public Works Standard Specifications.

E. Manholes shall be constructed of precast Concrete Sections in accordance with ASTM C 478 or cast in place in accordance with the applicable requirements of Section 303 of the SFDPW Standard Specifications and in accordance with SFDPW Standard Drawing 87,181 and as shown on the Contract Drawings. Manhole frame and cover shall be in accordance with SFDPW Standard Drawing 87,190 or as specified on the Contract Drawings. Manhole rungs and steps are deleted from the Contract.

F. Crushed rock bedding shall comply with the requirements of Section 703.05 and 712 of SFDPW Standard Specifications.

G. Geotextile fabric shall be AASHTO M288, Class 2, Non-Woven.

H. Certified reports of 10-inch diameter steel casing with minimum 1/2-inch wall thickness.

I. HDPE pipes shall conform to ASTM Standard D-3350 and shall have nominal diameter as indicated on the contract plans and with fused joints.

J. Cast-iron water trap for catch basin shall be constructed in accordance with San Francisco Public Works Standard Drawing 87,194 meeting the requirements of ASTM A-48. Cleanout cap for cast iron water trap shall be “T” cone expandable cleanout plug S-802 of ETCO Specialty Products, Inc. from Groeniger and Co. or approved equivalent.

K. Detectable warning tape shall be 6-inch wide 5-MIL thick green metallic warning tape with words “CAUTION: BURIED SEWER”.

L. High flow removable trash collection device crosslinked high density polyethylene “Downstream Defender” by Hydro International, suitable for installation on concrete, conforming to the requirements in the Contract Plans, or approved equivalent.

M. High flow removable trash collection device with new concrete manhole “JDS72-3636 Jensen Deflective Separator”, conforming to the requirements in the Contract Plans, or approved equivalent.

N. Mortar Material shall be as specified in Section 33 01 30.63 of these Specifications.

M. Hydraulic Cement shall be premixed Portland cement based hydraulic cement consisting of Portland cement, graded silica aggregates, special plasticizing and accelerating agents. It shall not contain chlorides, gypsum, plasters, iron particles or gas forming agents, or

promote the corrosion of steel it may come in contact with. It shall be formulated at the factory and supplied in factory sealed and labeled pre-measured containers, which shall contain the complete quantity of materials required for this work. Invert patch compound shall be sued to fill minor voids and cracks, to bring substrates up to profile, to provide watertight seals at invert, lateral line and house connections. The fast setting hydraulic cement patch is designed to be troweled or knead applied and capable of providing a watertight seal when cured and shall conform to the following specifications:

Property	ASTM Test	Result
Set Time	ASTM C-191-92	3 – 5 min
Compressive Strength	ASTM C-109-91	
1 Hour		700 psi
1 Day		2,000 psi
28 Days		5,500 psi

PART 3—EXECUTION

3.01 EXAMINATION

A. The Contractor shall verify that trench is ready to receive work and excavations, dimensions and elevations are as indicated on drawings.

3.02 PREPARATION

A. Clean existing sewers to be replaced with high velocity hydrocleaning equipment before excavation, if required.

B. All high-velocity sewers cleaning equipment shall be truck-mounted for ease of operation. The equipment shall have a minimum of 500 feet of 1-inch ID high-pressure hose with a selection of cleaning nozzles.

C. The equipment shall have a minimum working pressure of 1,000 pounds per square inch. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned.

D. All sludge and dirt shall be flushed downstream within the sewer system and shall not cause line stoppage due to heavy accumulation. If removal of debris is necessary to prevent stoppage in the sewer system downstream, Contractor shall notify the City Representative immediately. Sludge, dirt, sand, or other solids shall not be removed from the sewer system unless directed by the City Representative.

E. The Contractor shall hand trim excavations to required elevations. Correct over-excavation with crushed rock.

F. The Contractor shall remove large stones or other hard matter, which could damage piping or impede consistent backfilling or compaction.

3.03 BEDDING

A. Bedding shall be crushed rock as specified in Section 31 23 33 of these specifications and shown in the contract plans.

B. Bedding material shall be placed as shown on the contract plans. Care shall be taken to completely fill all spaces under the haunches.

3.04 MANHOLES AND STRUCTURES

A. Manholes shall be constructed as detailed on the Contract Drawings and in accordance with SFDPW Standard Drawing 87,181, as shown and at the locations shown on the Contract Drawings.

B. Construction of manholes shall be in accordance with Section 310 of the SFDPW Standard Specifications. Manholes elected by Contractor to be cast-in-place shall be constructed in accordance with the applicable requirements of Section 303 of the SFDPW Standard Specifications.

C. Concrete base of new manholes shall have reinforcing steel, be allowed to set overnight, at the minimum time, and shall not be subjected to any load on the same day the concrete base was poured. No. 4 steel reinforcement is required in concrete base for Standard Drawing 87,181.

D. All new or salvaged manhole frames and covers to be used on new manholes shall be in accordance with the SFDPW Standard Drawing 87,190, or as indicated in the Contract Drawings, or as directed by the City Representative.

E. All manhole frames shall be set in cement mortar.

F. Maximum distance between the pavement and top of the manhole cone shall be 15 inches or as directed by the City Representative.

G. Side sewer connections to the manhole shall not be more than 12 inches higher than the manhole invert.

H. Dimensions of manhole base shall be increased as necessary to accommodate connections to these manholes.

I. Chemical resistant polymer epoxy coating shall be applied to the entire invert of the concrete manhole, where indicated on the Contract Drawings.

3.05 INSTALLATION OF MAIN SEWER

A. The Contractor shall have available at all times either (1) a transit and rod or (2) a sewer laser beam instrument suitable for transferring elevations from established points to the sewer work. The spirit level, taut string, and/or straight edge will not be acceptable for sewer construction work.

B. VCP main sewer and storm drain shall be installed in accordance with the requirements of Section 305.07 of the SFDPW Standard Specifications.

C. HDPE main sewer shall be installed in accordance with the requirements of Section 322 of the SFDPW Standard Specifications.

D. Lay pipe to slope gradients noted on the Contract Drawings, unless conform elevation conflicts with the slope, in which case, conformance to existing elevations takes precedence.

E. The Contractor shall not use soil mounds or any blocking to bring the pipe to grade. The Contractor shall not apply pressure to the top of the pipe, such as with a backhoe bucket, to push the pipe down to grade.

F. Refer to Section 31 23 33 for trenching, backfill, bedding and compaction requirements.

G. Refer to Section 33 41 00.10 for further detail regarding RCP installation.

H. Refer to SFDPW Standard Plan 87,195 for details on reinforced concrete encasement for vitrified clay pipe.

I. The Contractor shall furnish and install detectable warning tape as indicated in detail on contract plans.

3.06 MORTAR APPLICATION

A. Mortar shall be applied as to fully adhere while being free of voids and rebound.

B. Finishing: Steel trowel to a hard, dense surface within twenty (20) minutes of the spray-on application and/or as directed by the City Representative.

3.07 INSTALLATION OF 10-INCH DIAMETER STEEL CASING AND HDPE PIPE BY TRENCHLESS OPERATION

A. This is a system for installing underground pipe without excavation. All materials and equipment for this work shall be furnished by the Contractor. Contractor shall exercise extreme care not to cause damage to the existing structures. Any damage to existing structures because of work performed by the Contractor shall be fully repaired and restored and cleaned up to the satisfaction of the City Representative, at the Contractor's expense.

B. Excavation and backfill of pits:

1. The installation pits shall be adequately shored to safeguard the equipments and to ensure against ground movement. All pits shall at all times be adequately barricaded from public access and for the protection of workers.

2. Insertion pits shall be efficiently located so that total number of pits is minimized and footage of liner pipe installed in a single pull is maximized. Where possible, use existing trench for insertion pits.

3. Dimension of pits shall be of necessary size, shape and depth as required for sheeting and bracing and for proper performance of the work.

4. Pits shall be dug with minimum length and width dimensions and to the depth necessary for installation of HDPE pipes. The pits shall be kept dry at all times. Where the bottom is not firm, a layer of crushed rock shall be placed on the bottom to provide working surface. Where a utility goes through a pit, it shall be adequately supported and protected.

5. Backfill of pits shall be as specified for trenches.

6. The pits shall be sheeted and dewatered at all times. The Contractor shall furnish and install equipment to keep the pit free of excess water. The Contractor shall also provide surface protection during the period of construction so that surface runoff does not enter the pit. The dewatering method used shall not cause damage to adjacent structures or property due to lowering of the water table and subsequent ground settlement. In the event any damage does occur, the Contractor shall be fully responsible for correction of damage and/or settlement of any claims arising from such damage.

C. The steel casing pipe shall be 10-inch outside diameter. Contractor shall determine appropriate wall thickness, minimum 1/4-inch thick, of the steel casing pipe to accommodate the installation of the carrier pipe.

D. HDPE Pipe Insertion

The installation forces on the pipe shall be kept to a minimum.
Where a continuous length of pipeline is butt fused prior to insertion, the length of insertion pipe shall be defined below:

1. The bottom of the pit shall be horizontal and its length shall not be less than 12 times the diameter of the inserted pipe.
2. The rear sloping face of the pit shall be not less than 30 time the diameter of the pipe.

3. The radius of curvature of the inserted pipe shall not be less than 30 times the diameter of the pipe.

Maximum force to be within stress limits of the pipes.

Where a device is employed to exert force on the rear of the inserted pipe lengths, the force applied to the inserted pipe shall be evenly distributed around the wall of the pipe.

Where lengths of pipe are jointed and a device is employed to exert force to the rear of the inserted pipe lengths, precautions will be taken by the Contractor to ensure that no buckling crushing or twisting of the pipe takes place.

Where lengths of HDPE pipe are pushed, there is no relaxation time required to allow pipe to return to its original length.

E. Upstream and Downstream Manholes

At the upstream and downstream ends of the pipes, it shall be cut in an approved manner so that 2 inches of pipe protrudes into the manhole. The invert of the manhole shall be suitably prepared such that a smooth transition shall be made from the existing pipe work to the new pipe.

To seal the HDPE pipes in the manholes at the entry and exit points, the ends of the pipes are surrounded in concrete, which forms part of the manhole base. Additional methods, such as mechanical anchoring systems, may be employed for this operation.

F. Contractor shall fill the annular space between casing and carrier pipe with slurry grout. Contractor shall prevent carrier pipe from floating when filling the annular space with slurry grout. Contractor shall provide end seals (caps) at the end of the steel casing.

G. Testing

The new pipe shall be tested for acceptance following a 25 psi test procedure. Testing shall be in accordance with ASTM F2164 for hydrostatic pressure leak test of PE pressure piping systems, and as directed by City Representative.

3.08 SIDE SEWER (LATERAL) AND CULVERT T.V. INSPECTION AND ABANDONING INACTIVE SIDE SEWER (LATERAL) AND CULVERTS

A. General

All existing active side sewers interiors and culverts shall be inspected by CCTV with high resolution camera (minimum 640x480 pixels) and delivered with original resolution in MPEG format on DVD media, prior to paving, to evaluate if their structural condition warrants replacement and ensure quality and craftsmanship of assets delivered, respectively. These side sewers shall be televised either from the side sewer air vent or inside open main sewer trench. As directed by the City Representative, Contractor may be asked to televise side sewers and culverts located outside the limits mentioned but within paving contract limit. The Contractor shall record the locations and the extent of pipe defects as to leakage, bad and offset joints, constricted inside diameter, sagging lines, obstruction due to roots intrusion, broken, cracked, and collapsed pipe of each active side sewer/culvert by video and voice recording. The number and locations of existing active side sewers, roof leaders and culverts as indicated on the sewer plan and to be televised are approximate only, and may be increased, decreased or deleted as directed by the City Representative. The Contractor shall provide and furnish the City with a copy of the “T.V. Inspection Log and DVD” to the Resident Engineer.

DVD submitted by the Contractor should have a typed label on the front of the DVD providing the following information:

1. Contract ID Number (#)

2. Street Names with Limits

3. Side Sewer TV Inspection

4. Contract Title

5. Date

Each individual side sewer video file shall include the street address for the address they are in front of (e.g. Noriega_St_1234_SS) in the naming convention. If multiple side sewers serve the same property, letter modifiers will also be included in the file name in order to differentiate between each asset (e.g. Noriega_St_1234_SS-A and Noriega_St_1234_SS-B). Each individual culvert video file shall include the roadway names at the intersection and the corner location (e.g. 34th_Ave_Noriega_St_NE_Culv). When a culvert is located away from the curb return, the individual culvert video file shall be labeled with the street address where the catch basin or storm water inlet is located (e.g. Noriega_St_101_Culv). Similarly, if multiple culverts have the same address, letter modifiers will be appended to the file name to differentiate between assets. When letter modifiers(s) are included in the video file names, a pdf map with a legend and locations identifying these assets shall be provided as part of the submittal package.

B. CONDITION ASSESSMENT FOR SIDE SEWER (LATERAL) AND CULVERT REPLACEMENT

The Contractor shall perform the following for all side sewers and culverts:

1. Confirm connection points of active side sewers by dye-testing at sidewalk vents.
2. Investigate, locate, and confirm active side sewers not identified by sidewalk vents by dye-testing at building fixtures and/or rodding.

   Side sewers rodded to show lengths short of one (1) foot behind the curb shall be considered as inactive. The Contractor shall abandon these side sewers by excavating at their end points and plugging as shown on SFDPW Standard Plan 87,198. Side sewers rodded to show lengths beyond one (1) foot behind the curb are to be assumed as active and shall be connected to the new sewer.
3. Prior to connecting existing side sewer to the new main, televise side sewer with a mini camera from the connection at the main sewer to the vent location on the sidewalk. If there is no vent or sidewalk, terminate side sewer television inspection at the property line. If desired these inspections can be performed in the opposite direction from the vent to the connection at the sewer main.
4. Television inspection of side sewers and culverts shall be performed by personnel who are trained to identify cracks and other defects in these pipes. The video equipment used to perform this inspection shall provide clear and well-focused video (minimum 640x480 resolution) along with footage counters to give accurate measurement of locations where defects are identified, and identify the street address of property or location of the intersection return. If Contractor encounters debris inside active side sewers and culverts, Contractor shall flush all debris out prior to re-televising in order to ensure a clear and complete television recording.
5. Record locations of active side sewers and culverts and their conditions shall be provided by the Contractor in the form of a log and drawing markup.

C. POST CONSTRUCTION QUALITY ASSURANCE FOR ACCEPTANCE

1. Televising of newly constructed side sewer shall be performed from the farthest practicable upstream location to the connection to the main sewer line. In no case may the television inspection exclude more than 10% of the expected finished pipe length; and as such, this exclusion will only be allowed from the uppermost portion of the run. Side sewer TV inspection shall be completed, submitted, and accepted prior to substantial completion. Side sewer inspection should be

performed after necessary back fill and compaction of 90% of lower lateral. **The inspection video** shall **show the backfilled lower lateral and a context shot of the surrounding landmarks (for a location reference) before the camera is inserted into the sewer lateral for the remainder of the inspection.**

2. Post construction video inspection will be reviewed by the City Representative to validate contractor workmanship of the new pipeline facilities, installed in place after necessary backfill and compaction of the trench excavation has been completed. Video inspections of newly laid pipeline facilities performed prior to necessary backfill and compaction of the trench excavation, or lacking evidence thereof, will not be accepted or used by the City Representative to validate contractor workmanship. Further, CCTV inspections shall include video of the surrounding landmarks for location reference and a shot proving the sewer lateral has been backfilled before the camera is inserted into the pipe; any inspection not showing the backfill at the time of inspection will be rejected. All subsequent CCTV inspection, repairs, and replacement shall be completed at no cost to the City.
3. Contractor shall furnish a copy of the side sewers and culvert DVD(s) and log(s), at the same time as the post construction main sewer DVD(s) are furnished, to the City Representative. If side sewer and culvert TV inspection DVD(s) and log(s) are not furnished, then the respective progress payment shall be withheld.
4. CCTV inspection camera quality shall be minimum 640x480 pixel resolution with adequate lighting to illuminate the sewer lateral interior wall 6 feet ahead of the camera. Inspection speed shall be reduced so that insertion of the camera does not exceed 1 foot per second.
5. All CCTV inspection videos shall be accurately reflected on construction drawings by the Contractor, certified by the City Representative.

3.09 SIDE SEWER CONNECTION

A. The sewer plan indicates side sewer connections at all side sewer vent locations or at least one lateral for each property. The number and locations of these connections are approximate only.

C. The Contractor shall confirm that each property has been provided with a satisfactory connection for all its side sewers and roof leaders per Section 316.06 of the San Francisco Public Works Standard Specifications.

D. This item includes any necessary side sewer or roof leader extensions to make the proper connection.

E. Side sewer connections at manholes shall not be higher than twelve (12) inches above manhole invert.

3.10 REPAIR OR REPLACEMENT OF 6 OR 8-INCH DIAMETER SIDE SEWER (LATERAL) AND CULVERT

A. The Contractor is responsible to coordinate and make TV inspection DVD available to the City Representative for review as soon as possible after TV inspection has been performed, and obtain City Representative's approval prior to reconnecting the side sewer to the main.

B. The City Representative shall review the television inspection of the each side sewer/roof leader/culvert, and evaluate its structural condition.

C. If existing side sewer or culvert has defects stated in section “T.V. INSPECTION OF EXISTING SIDE SEWERS, ROOF LEADERS, AND CULVERTS AND ABANDONING INACTIVE SIDE SEWER”, then side sewer, roof leader, or culvert shall be repaired or replaced as necessary by the Contractor with the City Representative's approval.

D. All locations, invert elevations and slopes of side sewers shall be conformed unless otherwise directed by the City Representative.

3.11 INSTALLATION OF VCP CULVERTS

A. VCP culverts shall be installed in accordance with the requirements of Section 306.06 of the San Francisco Public Works Standard Specifications.

3.12 CAST IRON WATER TRAP FOR CATCH BASIN

A. After cleaning existing catch basins, the Contractor shall check the condition of existing water trap if one exists. If existing catch basin does not have cast iron water trap or existing water trap is not in good condition or according to our standards, the Contractor shall furnish and install new cast-iron water trap including cleanout cap per San Francisco Public Works Standard Plan 87,194.

B. If existing water trap is in good condition but does not have a specified cleanout cap, the Contractor shall furnish and install cleanout cap including all incidental work at no cost to City. All work shall be done as directed by City Representative.

3.13 PRE AND POST CONSTRUCTION MAIN SEWER VIDEO INSPECTION

A. CCTV-General

Existing main sewer and newly constructed storm sewer interiors shall be inspected by CCTV with a minimum 1080p resolution (1920x1080 pixels) camera delivered with original resolution in MPEG format on DVD media to detect active connections prior to plugging and filling the sewer and to evaluate the Contractor's quality of workmanship after constructing a new sewer facility.

All pipes shall be thoroughly cleaned prior to inspection, and inspections must be conducted in accordance with version 6 of National Association of Sewer Service Companies (NASSCO) Pipeline Assessment & Certification Program (PACP). **Personnel on the job are required to be trained and NASSCO PACP certified. Minimum PACP guidelines for any sewer main CCTV inspection will be enforced. Inspections** shall **not exceed 0.5 feet per second and** shall **stop, pan and zoom all around all joints, lateral connections, culvert connections, and any visible irregularities or defects. Video quality** shall **be minimum 1080p resolution (1920x1080 pixels) with adequate lighting to illuminate the pipe interior wall.**

The Contractor shall record by color video picture and voice recording, the main sewer and locations of the side sewer connections. **The video** shall **have the project name, limits of the sewer being televised, Maximo Asset ID, and the upstream and downstream manhole numbers (the Start_Node and End_Node fields from the pipe’s GIS) superimposed on the beginning of each inspection.** The camera shall travel through the sewer at a speed of a half of a foot (0.5 feet) per second. A continuous counter in feet measurement shall be superimposed at the bottom of the screen to show the distance from the starting manhole or a reference point to an exit manhole or reference point. The date of the video recording shall be superimposed on the screen and/or audio recording. There shall be sufficient artificial light in the interior of the sewer to produce a clear and well focused picture and illuminate the pipe interior wall.

The DVD shall have a label with the project name, specification number and limits including the date of the television inspection. The Main Sewer TV Inspection Log shall have the locations measured in feet of the side sewer connections from the commencement point of the camera, a sketch showing the project limits and the direction the camera was run through the sewer. The Contractor shall provide and furnish the City with a copy of the "Main Sewer TV Inspection Log and TV DVD" to the Resident Engineer.

Within one week following the pre-construction meeting, the City Representative will provide the Contractor electronically the following files for performing main sewer inspections:

1. For pre-construction inspection, a shape file of existing sewer lines and nodes for manholes and non-manhole junctions with current asset ID's

2. For post-construction inspection, a shape file of newly constructed sewer lines and nodes with new asset ID's.

3. A shape file of City base map consisting of right-of-way/blocks and streets

Contractor will:

1. Import sewer line shape file to sewer inspection software such as Pipelogix, POSM, WinCan or others.

2. Select the corresponding pipe record to be inspected by identifying upstream manhole ID from pipe list. Enter the MXASSETNUM field from the pipe's GIS into the NASSCO Pipe_Segment_Reference field, use the Start_node field from the pipe's GIS in the NASSCO Upstream_MH field and the End_Node field from the pipe's GIS for the Downstream_MH field.

3. Begin inspection

4. Stop the tractor, pan and zoom at defects and irregularities in or on the pipe surface. Irregularities are defined as anything other than a uniform pipe wall material and includes scuffs, cobwebs, discoloration, or any NASSCO defined observation code.

5. Pause and turn camera view at each lateral/culvert connection point.

6. Code all observations such as defects, locations of lateral connections, change in pipe alignment, unusual conditions, and other discernible features, as defined in the NASSCO PACP defect codes.

7. End inspection at FINISH manhole or other non-manhole junction (connection to another main sewer or change in pipe size per sewer line shape file).

8. Prepare one video file for each individual inspection from manhole to manhole or node.

9. Export inspections to NASSCO Exchange Database format for delivery to the City.

If counts or locations of main sewer assets (pipes and manholes) built differ from plan drawings then the contractor shall communicate these changes to the City immediately so that the City can provide new asset ID's and GIS maps before CCTV inspection begins. All assets shall have city provided ID's before CCTV inspection begins. The Contractor should expect a **minimum** of one full workday for the City to provide new/updated asset ID's and GIS maps.

Database file, DVD & Log:

Contractor shall submit database files, video files in MPEG format with minimum 1080p resolution (1920x1080 pixels) on DVDs, and digital inspection logs in PDF format. All main sewer inspection data will be standardized per PACP guidelines and in NASSCO Exchange Database format.

DVD submitted by the Contractor should have a typed label on the front of the DVD providing the following information:

1. Contract ID Number (WW #)
2. Street Names with Limits
3. Main Sewer Post-Construction TV (or Pre-Construction)
4. Contract Title
5. Date

The Contractor shall submit the post-construction main sewer video DVDs within five (5) calendar days after the completion of the sewer work at each location for review. Post construction video inspection will be reviewed by the City Representative to validate contractor workmanship of the newly constructed main sewer facilities, installed in place after necessary backfill and compaction of the trench excavation has been performed. Video inspections of newly constructed main sewer facilities performed prior to necessary backfill and compaction of the trench excavation will not be accepted or used by the City Representative to validate contractor workmanship. If post-construction main sewer TV inspection DVDs are not furnished, the respective progress payment shall be withheld.

3.14 HIGH FLOW REMOVABLE TRASH COLLECTION DEVICE

A. Trash capture devices shall be for partially or totally submerged saltwater applications, be saltwater-resistant, and be constructed of rust-preventative materials.

B. Contractor shall verify exact diameter of existing pipe connections and dimensions of existing manholes prior to ordering the new trash collection devices.

C. Installation of all parts shall be done by the contractor in a workmanlike manner and in accordance with the manufacturer's instructions. It shall be the contractor's responsibility to handle, store and install the trash collection devices in strict accord with the manufacturer's drawings and recommendations.

D. Trash collection device work will be impacted by tide levels. The Contractor shall review San Francisco Tide Chart prior to performing the work, and shall plan and adjust the work schedule accordingly.

E. Incidental work shall include, but not limited to, inspection of existing manhole structures, and cleaning of existing storm drain pipe pre- and post- trash collection device installation. Cutting of protruding pipe flush inside existing manholes prior to trash collection device installation shall be considered as incidental work.

3.15 CORRECTION OF DEFECTS IN SEWER FACILITIES CONSTRUCTED IN THIS CONTRACT

A. The Contractor will provide warranty of three (3) year period, following the date of acceptance of the work, for all the sewer and drainage facilities constructed under this contract.

B. The City will inspect the sewer interior by television prior to expiration of the 3-year post-construction period, following the date of acceptance of the work.

C. Adjacent pipes at each joint shall be concentric. Maximum allowable eccentricity is 1 percent of pipe I.D. or 3/16 inch, whichever is greater. Greater eccentricity shall be corrected.

D. Any defects shall be corrected by the Contractor at no expense to the City. Representative.

3.16 DRAINAGE MAINTANANCE

A. Contractor shall be responsible for maintaining and keeping in operation all storm water inlets and catch basins throughout the entire project site, both inside and outside the phased construction work area, for the duration of the project, including during the performance of the punch list, until Final Acceptance.

B. Contractor shall check and remove all debris from the storm water inlets and catch basins prior to the rainy season and clear clogged inlets and catch basins during the rainy season.

C. Prior to the final inspection and acceptance, the Contractor shall check the storm water inlets and catch basins for debris and remove debris.

D. Contractor is advised that during rainy weather the sewer system may flow full or overflowing. Therefore, Contractor shall schedule, sequence and protect its work accordingly. If Contractor plans to perform sewer work during rainy seasons, Contractor shall submit construction procedure for approval. The submittal shall include description of work to be done, proposed schedule and mitigation measures to keep the sewer functioning during rainy weather, and to minimize impacts to the public.

3.17 SEWAGE SYSTEM MAINTENANCE

A. Contractor shall take adequate measures to prevent the impairment of the operation of the sewer system. It shall prevent construction material, pavement, concrete, earth, or other debris from entering a sewer, sewer structure, catch basin, or storm water inlet.

3.18 UNDERGROUND UTILITIES

A. To safeguard existing underground utilities, Contractor shall notify Underground Service Alert (U.S.A.), so that utility companies and City Departments having underground utilities in the area may be advised of the work and may field mark or otherwise protect and warn the Contractor of their utility lines; (U.S.A.), 4090 Nelson Avenue, Suite A, Pleasant Hill, CA 94520, 800-227-2600.

B. Contractor shall notify the San Francisco Fire Department, 2245 Jerrold Avenue, San Francisco, CA 94124, (415) 558-3557, Attention Mr. Bill Gunn, Facsimile (415) 647-8502, to have their facilities field marked.

C. Contractor shall notify the San Francisco Street Lighting Department, Attention Mr. Herb Meier at (415) 554-1844, to have its facilities field marked.

D. Contractor shall perform all work, including dewatering operations, in such a manner as to avoid damage to existing fire hydrants, power poles, railroad tracks, lighting standards, and

all other existing utilities, facilities and structures, public or private. Contractor will be held responsible for damage due to its failure to exercise due care.

E. All broken concrete and debris shall be immediately removed from the project site as the Contractor's property and shall be disposed of in a legal manner.

F. The Contractor shall exercise due care to avoid damage to existing pipe and coating, wrapping, sewers, conduit, or other existing facilities and structures. Should the Contractor damage or displace any of the above, Contractor shall repair same to the satisfaction of the City Representative, and all expenses in connection therewith shall be borne solely by the Contractor.

3.19 RECORD DRAWINGS

A. Prior to acceptance of the work for warranty, the Contractor shall furnish the City Representative one neatly and legibly marked, in red pencil, set of full size record drawings showing all changes in the Contract Drawings as specified in Section 01 78 39, Project Record Documents. Changes shall include, but not be limited to the field changes or adjustments in the final location or dimensions of the Contract work; changes due to requests for information, changes due to Change Orders, and changes to reflect the actual existing conditions. Marking of the drawings shall be accurate and current, and be done at the time work is performed. These drawings shall be furnished within 5 calendar days after the completion of the sewer work at each location to the City Representative for review.

B. Each completed Record Drawing shall be signed by the Contractor, and Construction Manager shall indicate it has reviewed the drawings for completeness. Each completed Record Drawing shall be transmitted to the City Representative as soon as the work on that drawing is completed.

C. If record drawings are not furnished, the respective progress payment will be withheld.

3.20 CLEANING EXISTING CATCH BASINS LOCATED WITHIN PROJECT LIMIT

A. At the conclusion of all the work under this contract, Contractor shall clean all existing catch basins and storm water inlets located within the project limit as specified on the contract drawings. Cleaning shall include but not limited to removal of sediments and other debris in the barrels and cast iron traps. The Contractor shall notify the City Representative at least 24 hours in advance before cleaning the existing catch basins. After cleaning catch basins, the Contractor shall get approval of City Representative for satisfactory work performance.

3.21 SIDE SEWER FLOW DIVERSION

A. The Contractor shall contact and notify the residents affected by his sewer work 72 hours in advance. The Contractor shall provide pumps and adequate drainage system at each side sewer locations as directed by the City Representative.

B. Failure to provide sufficient pumps will result in a liquidated damage of Five Hundred Dollars ($500.00) per occurrence per calendar day where flooding or overflowing occurs due to lack of side sewer flow diversion. Liquidated damages will not be assessed if the pumps are in operation at all times prior to flooding or overflowing. Mechanical breakdown will not be considered as valid cause for non-assessment.

3.22 CONTRACTOR SHALL NOT ALLOW DEBRIS TO ENTER THE SEWAGE SYSTEM

A. The Contractor shall take adequate measures to prevent the impairment of the operation of the sewer system. He shall prevent construction material, pavement, concrete, earth, or other debris from entering a sewer, sewer structure, catch basin, or storm water inlet.

3.23 HANDLING AND DISPOSAL OF SEEPAGE, STORM WATER, AND SEWAGE

A. Contractor shall protect the work from water damage; shall keep excavations dry; shall dispose of water from all sources; shall do all necessary pumping; and shall install suitable conduits to remove and divert all sanitary, ground water, tidewater, storm water flow, and unforeseen sub-drain, so as to prevent back-up, by-passing to the San Francisco Bay, flooding damage to property, and damage to City's Right Of Way in accordance with the requirements of Sections 301 and 700.08 of SFDPW Standard Specifications and the requirements as set forth in this Section.

B. Contractor shall not impede or obstruct wet weather flow anywhere in the sewer system. Backing up of flow is not allowed. Contractor shall be cautioned that a sudden storm can cause heavy flow in the sewer system that could reach ground level. The bypassing sewer flow system shall be adequate to handle a 5-year storm routinely and heavy flow that could reach ground level during the period of construction, and as required in the Contract Plans.

C. Contractor is hereby informed that the work inside existing sewers or sewer trench involves contact with raw sewage, sludge, and grease. Hydrogen sulfide may also be present. Contractor shall provide all safety equipment including gas-monitoring devices to detect the presence of toxic gases. OSHA health and safety requirements will be strictly enforced.

D. Contractor shall take adequate measures to prevent the impairment of the operation of the sewer system. Contractor shall prevent construction material, pavement, concrete, earth, paints, thinner, solvents, and other debris or toxic material from entering a sewer or sewer structure including surface flow collection system, such as catch basins and culverts.

E. Contractor shall provide for the transfer and disposal of sanitary and storm flow around the section or sections of pipe that are to be installed. The bypass shall be made for diversion of the flow at an existing upstream access point and gravity or pumping the flow into a downstream access point of adjacent system. The pump and bypass lines shall be of adequate capacity and size to handle the flow. The flow height shall not exceed 1 foot above the crown of any active sewer pipe access point.

F. The bypass pumping shall be scheduled for 24-hour continuous duty from the start of the operation with backup equipment available for periods of maintenance and refueling. Contractor shall obtain a night noise permit for work between the hours of 8:00 pm and 7:00 am, as specified in Section 2908 of the Police Code.

3.24 REMOVAL OF EXISTING CONCRETE SLURRY

A. The Contractor shall notify the City Representative immediately upon discovering concrete slurry within the sewer trench. The City Representative will arrange appropriate authority to witness the slurry material.

B. The Contractor shall remove existing concrete slurry when encountered within the trench width limit including all incidental work.

C. Concrete slurry removal from the trench shall be disposed of as Contractor’s property in a legal manner.

END OF SECTION