Asotin County Public Utility District
1500 Scenic Way, Clarkston WA 99403

Dated: January 10, 2024

Project: 2023 Sewer Main Replacement Project

From: Craig Riehle, Director of Operations

ADDENDA NO. 3

The following changes, additions, and/or deletions are hereby made a part of the Bidding Requirements and Contract Documents. Bidders shall acknowledge receipt of this addenda in the Bid Form.

STANDARD TECHNICAL SPECIFICATIONS AND DRAWINGS

Revised Section 230 Pipe Bursting of STANDARD TECHNICAL SPECIFICATIONS AND DRAWINGS.

- Clarification 1: Regarding pipe relaxation time and lateral reinstatement. We have updated Section 230, Part 3.8 to allow lateral reinstatement to occur within the working day of pipe burst section. The Contractor will need to monitor laterals to ensure that they do not back up and should have a means to pump them out if a backup is occurring.

- Clarification 2: Regarding connections to manholes outside of the manhole. We have updated Section 230. Part 3.7 E to allow connections outside of the manhole by use of Electro-Fusion couplings only.

ATTACHMENTS

- Revised STANDARD TECHNICAL SPECIFICATIONS AND DRAWINGS (Revised Sections Listed Below).
    - Revised Specification Section 230 Pipe Bursting

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Craig Riehle, Director of Operations

Asotin County Public Utility District

SECTION 230

PIPE BURSTING FOR GRAVITY SEWER AND STORM DRAIN

PART 1 GENERAL

1.1 SECTION INCLUDES

A. "Pipe Bursting" gravity sewer or storm drain pipe repair/rehabilitation method including materials, installation and testing.

1.2 REFERENCES

A. ASTM F 714: Polyethylene Plastic Pipe Based on Outside Diameter

B. ASTM D 1248: Polyethylene Plastics Molding and Extrusion Materials

C. ASTM D57: Standard Practice for Heat Fusion Jointing of Polyethylene Pipe and Fittings

D. ASTM D 3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings

E. ASTM D 3350: Extra High Molecular Weight, High Density Polyethylene Pipe

F. AWWA C 906: High Density Polyethylene Pipe for Water Distribution

1.3 SUBMITTALS

A. Submit the following information for ENGINEER's review prior to work:

1. Qualifications of the Pipe Bursting Contractor

a. Name, business address and telephone number of the Pipe Bursting Contractor including certification by the Pipe Bursting System Manufacturer that the Contractor is a licensed installer of their system, and the designated installer has been trained on the fusion equipment required for the Work.

b. Name(s) of all supervisory personnel to be directly involved with pipe bursting for the project.

c. Sign and date the information provided and certify that to the extent of his knowledge, the information is true and accurate, and that the supervisory personnel for the pipe bursting method will be directly involved with and used on the project. Substitutions of personnel and/or methods are not allowed without written authorization of the ENGINEER.

d. The Pipe Bursting Contractor shall have experience with projects of similar size and complexity as this project, minimum of 10,000 feet of pipe bursting within the last 5 years, or otherwise allowed prior to bid acceptance. Experience shall apply if footage installed was of a diameter within two standard pipe sized of the proposed pipe, no smaller than six-inch diameter.

2. Construction Procedures

   a. Written descriptions of the construction method(s), materials, and equipment to be used and pit dimensions and locations required for equipment and material access.

   b. Written descriptions of the construction method(s) and equipment to be used to penetrate blockages and/pr partially collapsed sections of the host conduit. Such work to be accomplished without excavation from the surface unless written authorization is obtained from the ENGINEER for surface excavations to remove blockages.

   c. Detailed descriptions of the methods of modifying existing manholes to accept bursting head and pipe.

   d. Descriptions of methods for making a water-tight seal between new pipe and existing manholes.

3. Submit traffic control plans and obtain permits as required by local jurisdiction.

4. Submit a sewage bypass plan that complies with Section 240, Sewage Bypass Systems

1.4 QUALITY ASSURANCE

A. Quality assurance of the pipe shall include certified laboratory data confirming that the tests have been performed on a sample of the pipe provided or on pipe from the production run. Tests must show that satisfactory results were obtained prior to installation of the pipe.

1.5 WARRANTY

A. The CONTRACTOR shall provide a warranty to be in force and effect for a period of one year from the date of final acceptance. The warranty shall cause the CONTRACTOR to repair or replace the new HDPE pipe should failure result from faulty materials or installation.

1.6 PROJECT RECORD DOCUMENTS

A. Accurately record actual location of constructed pipelines and service reconnections in relation to existing permanent benchmarks.

B. Submit drawing showing accurate dimensions, elevations, details of pipe and appurtenances including reconnection locations to the ENGINEER within 30 days of completion of the project.

1.7 DELIVERY, STORAGE AND HANDLING

A. Unload, store and load pipe and ancillary items in a manner which prevents shock, damage or excessive exposure to sunlight and weather.

PART 2 PRODUCTS

2.1 PIPE BURSTING EQUIPMENT

A. Equipment for mainline pipe bursting equipment shall be either:

1. Constant tension, variable speed winch and pneumatic hammer; or

2. Static hydraulic system with use of steel rods. Systems using chain or cable are not allowed for mainline work.

2.2 PIPE SIZE, TYPE AND STRENGTH

A. Comply with pipe size, type, and strength classifications indicated in the Contract Documents.

B. Notify the ENGINEER if installation conditions, such as soils not matching conditions contemplated by the Contract Documents.

2.3 PIPE BURSTING PIPE

A. Pipe for pipe bursting shall be Solid Wall High Density Polyethylene (HDPE) per the requirements of Section 303

2.4 SEWER LATERALS

A. Unless otherwise indicated in the Contract Documents, service line replacement pipe to be PVC conforming to ASTM D 3034.

B. Inserta Tee, or approved substitution.

C. Heat Fusion weld saddle/tee may be used with ENGINEER approval.

D. Size to match existing service line.

2.5 MANHOLE CONNECTIONS

A. See Standard Drawings.

PART 3 EXECUTION

3.1 NOTIFICATIONS/PERMITS

A. Notify ENGINEER at least two working days (48 hours) in advance of mobilizing to a line segment for pipe bursting.

B. Notify Local One Number Locator Service at least two working days (48 hours) in advance of any excavation.

C. If access to provide property will be impacted, notify affected property owner(s) at least two working days (48 hours) in advance of mobilizing to a line segment for repair. Make suitable arrangements for property owner access to property.

D. Obtain all necessary permits including right-of-way permits.

3.2 PIPE JOINING

A. Prepare pipe per Section 303.

3.3 EXAMINATIONS

A. Verify utility locations, existing piping locations, and structure where pipe bursting is to be made prior to beginning work. Notify the ENGINEER if field conditions are different from the Contract Documents. If necessary, allow 4 hours for the ENGINEER to modify the design without the Asotin County PUD incurring increased project cost.

B. Verify that trench conditions and shoring, sheeting, and bracing protect workers and meet the requirements of OSHA.

C. Examine Pipe and Fittings.

D. Verify pipe, fittings and materials delivered to the site meeting the requirements of the Contract Documents.

3.4 SEGMENT MOBILIZATION/DEMOBILIZATION

A. Place construction traffic control devices in accordance with the Traffic Control Plan.

B. Move necessary equipment and materials to the site.

C. After completion of pipe bursting, perform surface restoration, remove equipment and excess material from site. Dispose of any removed materials at the CONTRACTOR’s designated disposal site. Provide final clean up of the site. Remove construction traffic control devices.

3.5 SEWAGE BYPASS SYSTEMS

A. Prior to pipe bursting, implement bypass flow procedures in accordance with Section 240, Sewage Bypass Systems.

3.6 PRE-PIPE BURSTING OPERATIONS

A. Location of Sewer Laterals

1. Existing active sewer laterals shall be marked in the field for the sewer main section to be burst. The CONTRACTOR shall work with the Asotin County PUD to assist in verifying the status (active or inactive) of any sewer laterals if there is uncertainty as to its status.

2. Where indicated on the Drawings, the CONTRACTOR shall provide dye testing to verify active laterals.

B. Pre-Excavation of Sewer laterals

1. Conduct pre-excavation of sewer laterals only when specifically required in the Contract Documents.

   a. Locate, excavate and expose all sewer laterals before pipe bursting operations commence.

   b. Do not reconnect service to the replacement pipe until installation and testing are complete.

C. Existing Manholes

1. If the pipe bursting tool and the replacement pipe is to traverse any existing manhole which is to remain in-place without interruptions during the pipe bursting operation (as shown on the Drawings), open the conduit entrances and exits to the manhole to the required dimensions and modify the manhole invert before the pipe bursting operations commence.

D. Cleaning and CCTV

1. Clean the host conduit per Section 220, Sanitary Sewer Main Cleaning and TV Inspection, prior to commencing pipe bursting operations.

2. Provide CCTV of the existing line per Section 220, Sanitary Sewer Main Cleaning and TV Inspection, and verify location of services.

E. Point Repairs or Removal of Line Obstructions

1. Point repairs or removal of obstructions shall be performed by the CONTRACTOR where video inspections reveal heavy solids, dropped or offset joints, or collapsed pipe that cannot be removed by conventional sewer cleaning

equipment and may prevent the proper completion of the pipe bursting process. The work shall include verifying the location of the point repair, locating all interfering utilities, temporary flow bypassing, traffic control, excavation, shoring, dewatering, pipe repairs or replacements, connections to the existing pipe, backfilling and surface restoration. If such repairs are not previously indicated on the drawings or elsewhere in the contract documents, then the work will constitute extra work when approved by the ENGINEER.

F. Sags in Existing Sewer Mains

1. Sags in existing sewers are to be corrected by the CONTRACTOR and will be identified by the ENGINEER in the field. After the sewer has been cleaned and inspected using CCTV the ENGINEER will review the video and determine which portions of sewer main lines need sag removal. Sags will be remedied by the excavation around and removal of the existing host pipe in the vicinity of the sag. The new HDPE sewer pipe will then be routed through the open excavation thereby eliminating the sag. Once the new HDPE pipe is in place, bedding and backfill is to be placed under the pipe per Section 102.

G. Relief Pits

1. Where indicated on the Drawings, provide a relief pit by exposing crossing utilities to a depth of a minimum of 1-foot below the invert of the utility and support in accordance with purveyor requirements. Protect all utilities unless otherwise noted.

3.7 PIPE BURSTING OPERATIONS

A. General

1. Carry out operations in strict accordance with all applicable OSHA Local, and State Safety Standards.

2. Do not change any material, thickness, design values or procedural matters stated in the submittals, without the prior knowledge and approval of the ENGINEER.

3. At the receiving manhole, verify that the existing manhole can withstand the winching force needed for operation of the pipe bursting tool.

B. Pit Locations

1. If the locations of pits are shown on the Drawings, submit any proposed revisions to the planned locations and reasons for relocation to the ENGINEER for review, prior to construction. Include any appropriate sketches deemed necessary by the ENGINEER.

2. If pit locations are not shown on the Drawings, submit proposed locations and dimensions to the ENGINEER for review prior to construction.

3. Obtain all necessary permits for work on the final pit locations.

C. Staging

1. If not indicated on the Drawings, delineate the proposed staging areas and submit to the ENGINEER for review.

2. Secure required approvals and permits for assembly and storage of pipe materials in the staging areas.

3. Transport pipe materials to the job site and assemble as close to the work area as practicable. Provide protection to pipe if dragging more than 300 feet to the insertion point. Replace pipe that has been damaged in the opinion of the ENGINEER.

D. Operation of Pipe Bursting Machine and Installation of Replacement Pipe

1. Install the specific type of replacement pipe material in the locations as shown on the Drawings. Allow for expansion and shrinkage to provide the correct length of pipe from manhole to manhole.

2. Limit vibrations transmitted to the surrounding soils to a peak particle velocity at ground of 0.5 inches per second.

3. As the pipe bursting tool is advanced through the host conduit, advance the replacement pipe directly behind the tool to fill the void left by the fragmented host conduit.

4. Limit the length of continuous replacement pipe assembled on the surface and pulled into the insertion to a maximum of three hundred (300) feet, or provide countermeasures to reduce the amount of length the pipe is to be dragged, or provide calculations that show additional length can be installed without damage to the pipe or receiving manhole. When requested, provide measurement information to the ENGINEER documenting compliance with this requirement.

5. Fuse pipe segments together per ASTM D 2657 or use heat fusion coupling as approved by the ENGINEER.

6. Remove internal bead so weld is flush with pipe interior surface.

E. Connections to Manholes

1. Allow main line to acclimate to new temperature for a time recommended by the pipe manufacturer but not less than four hours prior to final trimming of pipe ends and finishing of manhole connections.

2. The connection to the manhole shall be per the Standard Drawings. The Contractor may make connection to manholes using and HDPE pipe stub and Electro-Fusion coupling after the main line acclimation period. No other pipe connection method outside the manholes is allowed. The Contractor shall note use of Electro-Fusion coupling on the Record Drawings. Costs shall be included in the pipe bursting costs.

3. Contractor shall reinstate manhole bases by installing non-shrink grout per Specification Section 210 to return manhole channels to a smooth surface that promotes laminar flow of water. Contractor shall ensure that post construction manhole transitions from pipe to manhole and back to pipe are smooth and void of irregular surfaces.

3.8 SEWER LATERALS

A. Reconnect all active existing service lines, as indicated on the Drawings or as identified in CCTV taping, after the replacement pipe has been completely installed and tested.

B. Allow main line to acclimate to new temperature for a time recommended by the pipe manufacturer but not less than four hours prior to reconnecting any service lines.

1. Service interruptions as specified in Section 240 may be increased and the Contractor shall have services reestablished within the same workday of the pipe bursting section. The Contractor shall monitor sewer laterals for potential backup and provide vactor pumping, bypass or other means to mitigate the risk of backup as needed.

C. Provide couplings as required to make a watertight connection between the tee and the service line. Refer to Section 200, PVC Pipe for Storm Drainage & Sanitary Sewer.

3.9 FIELD QUALITY CONTROL

A. Testing

1. General

a. Testing is required after the replacement pipe has been installed but before it has been sealed in place at the manholes and any service reconnections have been made. The Purpose of this test is to check the integrity of the joints that have been made and to verify that the replacement pipe has not been damaged during installation.

2. Testing

    a. After manhole-to-manhole section of the existing host conduit has been replaced, and prior to any service lines being connected to the replacement pipe, test pipe per Section 303.

    b. If test fails, make necessary repairs and retest at no additional cost to the Asotin County PUD.

3.10 CLEANING AND SURFACE RESTORATION

A. Upon completion of the pipe bursting operations, restore all areas disturbed by operations in accordance with the Drawings. If not specifically indicated, restore all areas to pre-project conditions.

END OF SECTION

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