



INVITATION TO BID #2018-65
Hoodland Water Resource Recovery Facility (WRRF)
Modernization Project
ADDENDUM NUMBER 2
August 7, 2018

On July 12, 2018, Clackamas County ("County") published Invitation to Bid #2018-65 ("BID") and Addendum #1 on August 2, 2018. The County has found that it is in its interest to amend the BID through the issuance of this Addendum #2. Except as expressly amended below, all other terms and conditions of the original BID and subsequent addenda shall remain unchanged.

1. ADVERTISEMENT FOR BIDS

The Bid Opening date is hereby changed from August 8, 2018 at 2:00PM to August 14, 2018 at 2:00PM.

2. BID FORM SECTION 00 41 13

REPLACE Unit Bid Item 5.3.6 Dewatering, Complete title from "Dewatering, Complete" to "External Dewatering, Complete".

3. SPECIFICATION SECTION 01 22 20, UNIT PRICE MEASUREMENT & PAYMENT

REPLACE Section 01 22 20, Unit Price Measurement & Payment in its entirety with Section 01 22 20, Unit Price Measurement & Payment, hereby attached and incorporated by reference to this Addendum #2.

4. SPECIFICATION SECTION 03 64 24, EPOXY ADHESIVE INJECTION OF CONCRETE MEMBERS

REPLACE Section 03 64 24, Epoxy Adhesive Injection of Concrete in its entirety with Section 03 64 24, Adhesive Injection of Concrete, hereby attached and incorporated by reference to this Addendum #2.

5. SPECIFICATION SECTION 31 23 19, DEWATERING

REMOVE AND REPLACE Paragraph 1.1 Summary with the following:

1.1 SUMMARY

- A. This Section includes installation, operation and maintenance, and removal of temporary dewatering and surface water control systems for open excavations and utility trenches.
- B. Groundwater is known to be above the meter vault and drain excavation elevation during certain periods of the year. It is anticipated that ground water will be encountered and will need to be controlled by sump pumping and/or an external dewatering system to excavation to grade and stabilized trench walls.

- C. The CONTRACTOR shall first attempt to control ground water by means of surface water control methods using a 2-inch sump pump in the excavation. If the CONTRACTOR demonstrates that this method does adequately stabilize the trench walls, the ENGINEER will authorize installing external dewatering wells or well points system before proceeding with further excavation.
- D. If authorized by the ENGINEER, the contractor shall develop and install an external dewatering system that includes the use of wells or well points placed outside of the excavation to lower the ground water to an elevation that is two or more feet below the bottom of excavation. These are installed and developed prior to continuing excavation. Accessory equipment and materials such as pumps, piping, and power source are included in the system.
- E. If the CONTRACTOR does not encounter ground water or is able to control the ground water with a sump pump as described above, the external dewatering system will not be authorized by the ENGINEER and no payment will be made for the External Dewatering System bid item.
- F. The CONTRACTOR shall provide an 18,000-gallon weir tank for detention and settlement of solids. Provide outfall piping to the storm sewer in Bright Avenue.
- G. For basis of bidding for the lump sum amount, the CONTRACTOR shall provide surface water control as defined in Paragraph 1.2 using a 2-inch sump pump and water treatment and disposal as defined in Paragraph F.
- H. For basis of bidding for the lump sum amount the installation and operation of an external dewatering system, the CONTRACTOR should anticipate installing either well points or dewatering wells. Assume a spacing of 5 ft in between vacuum well points and 30 feet in between dewatering wells to the excavation of the meter vault and vault drain that extends to the existing wet well. The dewatering system shall include all pumps, piping, and fittings for a complete installation capable of developing a flow rate of 200 gpm or less plus any additional water treatment facilities required to discharge the water to the storm sewer in Bright Avenue.

6. SPECIFICATION SECTION 31 23 19, DEWATERING

REMOVE AND REPLACE Paragraph 1.2 Definitions with the following:

1.2 DEFINITIONS

- A. External Dewatering includes the following:
 - 1. Lowering of ground water table and intercepting horizontal water seepage to prevent ground water from entering excavations, trenches, tunnels, and /or shafts.
 - 2. Reducing piezometric pressure within strata to prevent failure or heaving of excavations, trenches, tunnels, and /or shafts.
 - 3. Treating and disposing of removed water.

B. Surface Water Control includes the following:

1. Protecting excavation from water entering the excavation.
2. Removal of water accumulating on the surface of an open excavations.
3. Treating and disposal of removed water.

**7. SPECIFICATION SECTION 33 01 30.19 SEWAGE FORCE MAIN PIGGING
REMOVE AND REPLACE Paragraph 1.1B with the following:**

B. The CONTRACTOR shall use the proposed pig launch assembly for pigging work. The pig shall be pushed from the below grade pig launch, using water provided by the CONTRACTOR per Section 3.3. The CONTRACTOR shall utilize flow values from the proposed flow meter for determination of system performance during the pigging activities.

**8. SPECIFICATION SECTION 33 01 30.19 SEWAGE FORCE MAIN PIGGING
REMOVE AND REPLACE Paragraph 3.3 D with the following:**

C. Repairs must be approved by OWNER in advance of carrying out any further pigging services. Once repair is made, CONTRACTOR shall continue pigging until desired results are achieved. CONTRACTOR shall be responsible for all costs associated with removing stuck pigs and repairing the force main unless the stuck pig is caused by a collapsed pipe or a physical obstruction found in the pipe that obstructs more than 25 percent of the pipe area. Payment for removing the pig and repairing the force main due to collapsed pipe or physical obstruction greater than 25 percent of the pipe area shall be negotiated as a change of conditions.

**9. SPECIFICATION SECTION 40 90 00, COMMUNICATION CABLING
ADD entire Section 40 90 00, Communication Cabling, hereby attached and incorporated by reference to this Addendum #2.**

**10. SPECIFICATION SECTION 40 91 23, FLOW PROCESS MEASUREMENT DEVICES
REMOVE AND REPLACE Paragraph 2.2I Meter Housing, with the following:**

Meter Housing: Rated for NEMA 6P/IP67 for submergence conditions for below grade or vault installation.

**11. SPECIFICATION SECTION 40 91 23, FLOW PROCESS MEASUREMENT DEVICES
REPLACE Paragraph 2.3B Housing, Replace with the following:**

Transmitter Housing: NEMA 6P/IP67.

12. SPECIFICATION SECTION 43 21 39, SUBMERSIBLE LIQUID PUMPS

ADD the following to Paragraph 2.2J Lifting Devices:

5. Pump Manufacturer shall provide a grip ring system to grab the chain and lift the pump from the wet well.

This Addendum is hereby made a part of the Contract Documents to the same extent as though it were originally included therein.

Bidders must acknowledge receipt of all addenda on the Bid Proposal Form. Bid Proposals that fail to acknowledge all addenda may be considered irregular and may be rejected.

End of Addendum #2

SECTION 01 22 20

UNIT PRICE MEASUREMENT AND PAYMENT

PART 1 GENERAL

Measurement and payment will be on a unit price basis in accordance with the prices set forth in the proposal for individual work items. Where work is required but does not appear as a separate item in the proposal, the cost for that work shall be included and absorbed in the unit prices named in the proposal. CONTRACTOR shall make a careful assessment when preparing the bid.

1. Lump Sum Bid Price: Lump sum payment under this item shall cover all elements of the project, whether or not specifically or specially identified, as specified herein, in the contract documents and as shown on the plans, except for work included separately under separate bid items.

Payment shall be full and complete compensation for all labor, equipment (excluding major equipment included under separate bid items), and materials needed to complete the work shown in the drawings and as specified for a complete and usable facility. This shall include, but may not be limited to, temporary bypass pumping system, site improvements, building expansion and improvements, addition of meter and pigging vault, concrete sealing, force main pigging, furnishing and operating a temporary generator, installing temporary wiring to maintain facility operations, mandrel testing of existing conduit to be reused, and startup and testing of the facility. Payment shall also include furnishing of all required record drawings, operation and maintenance manuals, and other documents, certifications and reporting specified herein.

Payment for trench dewatering under this bid item shall include the use of a 2-inch sump pump to control water in excavations and discharge to a treatment tank as specified in Section 31 23 19. Payment for installing and operating an external dewatering system as defined in Section 31 23 19 shall be paid under other bid items.

The Contractor shall provide a breakdown of contract price as required by Section 01 33 00, Submittal Procedures.

2. Granular Fill, per Cubic Yard: Payment per cubic yard to place and compact crushed rock for imported granular fill will be provided where required to raise the existing ground to the subgrade elevation below proposed concrete walks. Granular fill will also be paid to transition from proposed concrete walk or meter vault finish grades to the existing ground surface where noted on the plans or as directed. Measurement for Granular fill will be based on the actual volume of material placed as measured in a hauling vehicle or equipment bucket.
3. Subgrade Stabilization: Payment for extra excavation and trench foundation stabilization by installing select foundation material will only be considered as approved and directed by

ENGINEER. When such pre-approval is obtained, payment will be made on a cubic yard basis, including but not limited to excavation, loading, hauling, disposal, excavation support systems and dewatering that may be required for unsuitable foundation conditions and the placement, compaction, and testing of select foundation material. Measurement for trench foundation stabilization shall be for the approved length, from 6-inches below the pipe invert to the approved excavated depth at the pay width of the nominal pipe diameter plus 12-inches on each side of the pipe. Pay limits for vaults and other structures shall be from 6-inches below the vault or other structure to the approved excavated depth and to a maximum of 12-inches beyond the outside walls of the vault or structure.

4. External Dewatering System, Complete: Lump sum payment under this item shall cover all work to prepare an external dewatering plan, install, operate, and abandon a dewatering system as specified in Section 31 19 23 Dewatering. The CONTRACTOR shall provide a breakdown of contract price as required by Section 01 33 00, Submittal Procedures.
5. Major Equipment Schedule: Lump sum payment under this item shall cover all work to furnish and install major equipment included in the Bid Form in Section 00 41 13. The CONTRACTOR shall provide a breakdown of contract price as required by Section 01 33 00, Submittal Procedures.

END OF SECTION

SECTION 03 64 24

ADHESIVE INJECTION OF CONCRETE MEMBERS

PART 1 GENERAL

1.1 DESCRIPTION

The CONTRACTOR or his SUBCONTRACTOR shall furnish all materials, tools, equipment, appliances, transportation, labor and supervision required to repair cracks by the injection of an chemical grout adhesive.

1.2 QUALIFICATIONS

- A. Preparation and injection shall be performed by a certified applicator.
- B. CONTRACTOR'S/SUBCONTRACTOR'S OPERATOR engaged in the injection process shall have satisfactory operator experience in the methods of restoring concrete structures utilizing the approved products. OPERATOR'S experience shall include previous repairs of cracked or damaged concrete structures, the technical knowledge of correct material selection and use, and the operation, maintenance and trouble shooting of equipment.

PART 2 MATERIALS & EQUIPMENT

2.1 CHEMICAL GROUT ADHESIVE FOR INJECTION

Injection adhesive grout shall be a 100% solids 2-part water insensitive low-viscosity system. The system shall be suitable for grouting both dry and damp cracks and shall develop a minimum tensile strength (ASTM D3574) of greater than 165 psi. Product shall be DeNeef Flex LV PURE, as manufactured by GCP, Cambridge, MA, or equivalent.

2.2 SURFACE SEAL

- A. The surface seal material is that material used to confine the injection adhesive in the fissure during injection and cure.
- B. The surface seal material shall have adequate strength to hold injection fittings firmly in place and to resist injection pressures adequately to prevent leakage during injection.

2.3 EQUIPMENT FOR INJECTION

- A. The equipment used to meter and mix the two injection adhesive components and inject the mixed adhesive into the crack shall be portable, positive displacement type

pumps with interlock to provide positive ratio control of exact proportions of the two components at the nozzle. The pumps shall be electric, or air powered and shall provide in-line metering and mixing.

- B. The injection equipment shall have automatic pressure control capable of discharging the mixed adhesive at any pre-set pressure up to 200 psi plus or minus 5 psi and shall be equipped with a manual pressure control override.
- C. The injection equipment shall have the capability of maintaining the volume ratio for the injection adhesive prescribed by the manufacturer of the adhesive within a tolerance of plus or minus 5 percent by volume at any discharge pressure up to 200 psi.

PART 3 EXECUTION OF WORK

3.1 PREPARATION

- A. Surface adjacent to cracks or other areas of application shall be cleaned of dirt, dust, grease, oil, efflorescence or other foreign matter which may be detrimental to the integrity of the bond between the grout and the injection surface. Acids and corrosives shall not be permitted.
- B. Entry ports shall be provided along the crack at intervals of not less than the thickness of the concrete at that location.
- C. Surface seal material shall be applied to the face of the crack between the entry ports. For through cracks, surface seal shall be applied to both faces.
- D. Enough time for the surface seal material to gain adequate strength shall pass before proceeding with the injection.

3.2 ADHESIVE INJECTION

- A. Injection of adhesive shall begin at lower entry port and continue until there is an appearance of adhesive at the next entry port adjacent to the entry port being pumped.
- B. When adhesive travel is indicated by appearance at the next adjacent port, injection shall be discontinued on the entry port being pumped the injection shall be transferred to the next adjacent port where adhesive has appeared.
- C. Adhesive injection shall be performed continuously until cracks are completely filled.
- D. If port to port travel of adhesive is not indicated, the work shall immediately be stopped and the ENGINEER notified.

- E. Ports shall be removed upon completion of the injection operations.

3.3 FINISHING

- A. When cracks are completely filled, adhesive shall be cured to sufficient time to allow removal of surface seal without any draining or runback of material from cracks.
- B. Surface seal material and injection adhesive runs or spills shall be removed from concrete surfaces.
- C. The face of the crack shall be finished flush, per Section 03 01 30.71.11, to the adjacent concrete showing no indentations or protrusions caused by the placement of entry ports.

3.4 PRESSURE TEST

- A. The mixing head of the injection equipment shall be connected and the equipment run until clear uniformly mixed material flows into the purge pail. The OPERATOR shall engage the equipment shut-off nozzle valve and subsequently bump the on-off switch while monitoring pressure on psi gauge until the pressure reaches 200 psi. Pressure gauge shall be monitored for one minute. If pressure is maintained between 190-200 psi, check valves shall be considered to be functioning properly and the injection may proceed. If pressure drops below 190 psi, CONTRACTOR shall be required to have new seals installed on the check valves and the equipment shall be subsequently retested.
- B. The pressure test shall be run for each injection unit at the beginning and after meal break of every shift that the unit is used in the work of crack repair.
- C. The adequacy and accuracy of the equipment shall be solely the responsibility of the CONTRACTOR.

3.5 RATIO TEST

1. The mixture ratio shall be monitored continuously while injecting by placing a strip of masking tape on the sides of the A & B container full height. After filling wet well, the A & B levels shall be marked and monitored while running injection machine into purge pail for a period of one minute.
2. The ratio test shall be run for each injection unit at the beginning and after meal break of every shift that the unit is used in the work of crack repair.

3.6 PROOF OF RATIO AND PRESSURE TEST

- A. At all times during the course of the work the CONTRACTOR shall keep complete and accurate records available to the ENGINEER of the pressure and ratio tests specified above.

- B. In addition, the ENGINEER at any time without prior notification of the CONTRACTOR, may request the CONTRACTOR to conduct the tests specified above in the presence of the ENGINEER.

END OF SECTION

SECTION 40 90 00
COMMUNICATION CABLING

PART 1 GENERAL

1.1 THE REQUIREMENT

- A. General: The CONTRACTOR shall furnish and install all fiber optic cabling and connectors, in accordance with the Contract Documents.

1.2 CONTRACTOR SUBMITTALS

- A. General: Product data sheet shall be submitted in conformance with Section 01 33 00 - Contractor Submittals.

1.3 MANUFACTURER'S REPRESENTATIVE SERVICES

- A. General: None required for this section

1.4 PRODUCT HANDLING

- A. General: Product shall be properly crated/protected to prevent damage and moisture intrusion during shipping and handling.
- B. Cabling shall be shipped on reels in lengths as required for the installation.

PART 2 PRODUCTS

2.1 GENERAL:

- A. All devices specified herein shall conform to the requirements of the Contract Documents.

2.2 SINGLE MODE FIBER OPTIC CABLE

- A. Fiber optic cable shall be rated for the environment that it is installed.
- B. CHARACTERISTICS:
 - 1. Type 8.3/250, Backbone Single-Mode Fiber Optic Cable for Underground Conduit and Building Riser Installation, with NEC/UL OFNR Listing
 - 2. Individual Fibers: 8.3/125/250 microns.

3. Assembly: Nonmetallic gel-filled, loose-tube fiber core with dielectric- strength member enclosed by a nonmetallic cross-ply sheath; requires buffer tubing.
 4. Underground cable, including cable installed in conduits or duct banks, shall contain an additional moisture barrier in the form of a flooding compound
 5. Minimum 12 individual fiber strands
- C. MANUFACTURER: Cable shall be as manufactured by:
1. Corning: Optical Fiber Backbone Cable
 2. Commscope
 3. ENGINEER approved equal.
- D. SCOPE OF SUPPLY
1. As shown on plans for install in existing conduit between Arrah Wanna Pump Station and Hoodland Water Resource Recovery Facility.

2.3 INTERCONNECT UNITS AND DISTRIBUTION SHELVES

- A. Modular in design and used in fiber optic interconnection, cross-connection, and splicing applications.
- B. Wall mountable
- C. Accept 12-strand, 24-strand or 48-strand terminations
- D. Approved industry standard connector, SC type.

PART 3 EXECUTION

3.1 GENERAL:

- A. CONTRACTOR shall ensure that the maximum pulling tensions of the specified distribution cables are not exceeded and cable bends maintain the proper radius during the placement of the facilities. Failure to follow the appropriate guidelines shall require the CONTRACTOR to provide in a timely fashion the additional material and labor necessary to properly rectify the situation. This shall also apply to any and all damages sustained to the cables by the CONTRACTOR during the implementation.
- B. CONTRACTOR shall terminate fibers on fiber termination units
- C. CONTRACTOR shall test each pair or strand of every cable prior to acceptance. (100% PASS)

- D. CONTRACTOR shall supply all of the required test equipment used to conduct acceptance tests
- E. CONTRACTOR shall leave minimum 10 feet service loop at each termination point.

END OF SECTION