

ADDENDUM NO. 2
2022 SEWER SYSTEM IMPROVEMENTS
CITY OF WAVERLY
HUMPHREYS COUNTY, TENNESSEE

SPECIFICATIONS

Section 01 11 10 Summary of Work:

1. Article 1.01, add paragraph D, "Estimated flows in the existing Airport Road Pump Station basin average day 4,000 gal/day based on water usage data."

Section 01 29 00 Measurement and Payment:

1. Article 1.05, add paragraph E, "The lump sum price bid for the new Pump Station shall also include all temporary piping, flow diversion, and bypass pumping."

Replace Section 40 05 51 Common Requirements for Process Valves with the revised section included with this addendum.

SECTION 40 05 51

COMMON REQUIREMENTS FOR PROCESS VALVES

PART 1 -- GENERAL

1.01 THE REQUIREMENT

- A. The Contractor shall furnish and install, complete with all assemblies and accessories, all valves shown on the Drawings and specified herein including all fittings, appurtenances and transition pieces required for a complete and operable installation.
- B. All valves shall be constructed of first quality materials which have strength, wearing, and corrosion resistance characteristics entirely suitable for the types of service for which the individual valves are designated. Unless noted otherwise, valves shall conform to the latest revision of the following AWWA Standards, or other AWWA standard applicable to that valve type:

AWWA Standard	Valve Type
C512	Air Release, Air/Vacuum, and Combination Air Valves
C507	Ball Valves
C517	Plug Valves, Eccentric - Resilient Seated, Cast Iron
C508	Swing Check Valves

- C. Cast iron valve bodies and parts shall meet the requirements of the latest revision of ASTM Designation A-126, "Standard Specifications for Gray Iron Castings for Valves, Flanges, and Pipe Fittings, Class B."
- D. All valve body castings shall be clean, sound, and without defects of any kind. No plugging, welding, or repairing of defects will be allowed.
- E. Valves shall have flanged ends for exposed service and mechanical joint ends for buried service, unless otherwise shown on the Drawings or specified herein. Flanged ends shall be flat-faced, with same or greater pressure rating as the adjacent piping. American Standard unless otherwise shown or specified in accordance with ANSI B16.1. All bolt heads and nuts shall be hexagonal of American Standard size. The Contractor shall be responsible for coordinating connecting piping. Valves with screwed ends shall be made tight with Teflon tape. Unions are required at all screwed and solvent welded joint valves.
- F. Where possible, valves shall be installed with stems vertically above pipe, except the following shall be installed with stems horizontal: butterfly valves, aboveground gate valves, globe valves, ball valves, angle valves, and plug valves with gear operators.
- G. Interior non-working surfaces of all valves (except for bronze or stainless steel) shall be lined (in the shop) with fusion bonded epoxy or high solids epoxy (2 coats, 10 mils minimum thickness each) as compatible with service. Exterior of all exposed valves shall be shop primed and field coated per Section 09 90 00. Exterior of all buried valves shall be coated with two coats of coal tar epoxy. Coatings and preparation shall be as specified

in Section 09900. If adjoining buried pipe is specified to be wrapped in polyethylene, also wrap valve. All linings and coatings shall be rated for valve service temperature. Internal linings shall also meet requirements of NSF/ANSI Standard 61. Epoxy shall meet AWWA C550 requirements.

1.02 SUBMITTALS

- A. The Contractor shall furnish to the Owner, through the Engineer, a Performance Affidavit where required in individual valve specifications, utilizing the format specified in Section 40 05 00. Performance tests shall be conducted in accordance with the latest revision of AWWA C500 and affidavits shall conform to the requirements of the Specifications.
- B. Shop Drawings conforming to the requirements of Section 01 33 00, Submittals, are required for all valves, and accessories. Submittals shall include all layout dimensions, size and materials of construction for all components, information on support and anchoring where necessary, pneumatic and hydraulic characteristics and complete descriptive information to demonstrate full compliance with the Documents.
- C. Operation and maintenance manuals and installation instructions shall be submitted for all valves and accessories in accordance with the Specifications. The manufacturer(s) shall delete all information which does not apply to the equipment being furnished.

PART 2 -- PRODUCTS

(NOT USED)

PART 3 -- EXECUTION

3.01 INSTALLATION

- A. Except where noted otherwise herein, all valves shall be installed and tested in accordance with the latest revision of the applicable AWWA standard (see Paragraph 1.01.B of this Section for reference). Before installation, all valves shall be lubricated, manually opened, and closed to check their operation and the interior of the valves shall be thoroughly cleaned. Valves shall be placed in the positions shown on the Drawings. Joints shall be made as directed under the Piping Specifications. The valves shall be so located that they are easily accessible for operating purposes and shall bear no stresses due to loads from the adjacent pipe. The Contractor shall be responsible for coordinating connecting piping.
- B. All valves shall be tested at the specified test pressure. Any leakage or "sweating" of joints shall be stopped, and all joints shall be tight.
- C. Provide valves in quantity, size, and type with all required accessories as shown on the Drawings.
- D. Install all valves and appurtenances in accordance with manufacturer's instructions. Install suitable corporation stops at all points shown or required where air binding of pipelines might occur. Install all valves so that operating handwheels or wrenches may

be conveniently turned from operating floor but without interfering with access, and as approved by Engineer. Unless otherwise approved, install all valves plumb and level. Valves shall be installed free from distortion and strain caused by misaligned piping, equipment, or other causes.

- E. Valve boxes shall be set plumb and centered with the bodies directly over the valves so that traffic loads are not transmitted to the valve. Earth fill shall be carefully tamped around each valve box to a distance of 4 feet on all sides of the box, or to the undisturbed trench face, if less than 4 feet.

3.02 SHOP AND FIELD TESTING

- A. Shop and field testing of valves shall be as follows:

1. Certified factory testing shall be provided for all components of the valve and operator system. Valves and operators shall be shop tested in accordance with the requirements in the latest revision of the applicable AWWA standard (see Paragraph 1.01.B of this Section for reference), including performance tests, leakage test, hydrostatic tests, and proof-of-design tests. The manufacturer through the Contractor shall submit certified copies of the reports covering the test for acceptance by the Engineer.
2. The Contractor shall conduct field tests to check and adjust system components, and to test and adjust operation of the overall system. Preliminary field tests shall be conducted prior to start-up with final field tests conducted during start-up. The factory service representative shall assist the Contractor during all field testing and prepare a written report describing test methods, and changes made during the testing, and summarizing test results.
3. All costs in connection with field testing of equipment such as energy, light, lubricants, water, instruments, labor, equipment, temporary facilities for test purposes, etc. shall be borne by the Contractor. The Contractor shall be fully responsible for the proper operation of equipment during tests and instruction periods and shall neither have nor make any claim for damage which may occur to equipment prior to the time when the Owner formally takes over the operation thereof.
4. Preliminary field tests shall be conducted prior to start-up and shall include a functional check of the entire valve operator system and all system components. Preliminary field tests shall demonstrate that the valve operator system performs according to specifications and that all equipment, valves, controls, alarms, interlocks, etc., function properly. The preliminary field test report must be approved by the Engineer prior to conducting final field acceptance tests. Based on results of preliminary field tests, the Contractor shall make any adjustments required to settings, etc., to achieve the required valve closing time and operation specified or otherwise directed by the Engineer.
5. Final field acceptance tests shall be conducted simultaneously with the start-up and field testing of the pumps, air compressors, process air blowers, etc. Field

tests shall be conducted for the full range of operating modes and conditions specified and as directed by the Engineer. Each of the valves shall be tested at minimum, maximum, and normal head/flow conditions, and under all specified conditions of opening and closing.

- END OF SECTION -