

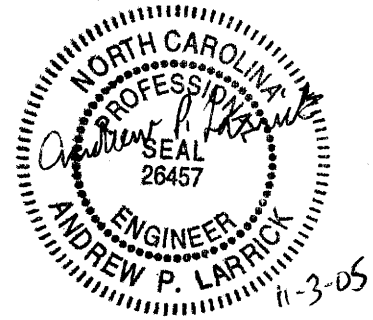
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Project: B-3652
County: Guilford

PROJECT SPECIAL PROVISIONS
Utility Construction



I. GENERAL CONSTRUCTION REQUIREMENTS

Specifications:

The proposed utility construction shall meet the applicable requirements of the North Carolina Department of Transportation's "Standard Specifications for Roads and Structures" dated January 2002, and the following provisions.

The Contractor is herein forewarned as to the possibility of having to vary the depth of pipeline installation to achieve minimum clearance of existing or proposed utilities or storm drainage while maintaining minimum cover specified (whether existing or proposed pipelines, conduits, cables, mains, and storm drainage are shown on the plans or not).

Water mains shall be laid at least 10 feet laterally from existing or proposed sanitary sewers. Minimum separation between proposed water mains and existing or proposed storm sewers shall be 12 inches.

The Contractor shall coordinate with Piedmont Natural Gas regarding installation of the proposed 12-inch water line and the proposed 6-inch gas line that will be installed parallel to each other, 2 feet apart in the same trench, along the southern right-of-way line of the project. See Utility Construction plans and Utilities By Others plans and specifications for further details.

The Contractor shall locate all existing water services and relocate, connect, or reconnect as directed by the Engineer. New water services shall be installed as indicated on the plans and/or as directed by the Engineer.

Payment for the cutting and plugging of existing water and sewer lines to be abandoned shall be considered incidental to other pay items in the contract.

"Gate Valves" as noted on the plans shall be resilient-seat type valves conforming to ANSI/AWWA C509.

Owner and Owner's Requirements:

The existing water distribution and sewer collection facilities belong to the Town of Jamestown. The existing raw water mains belong to the City of High Point. The

Contractor shall provide access for the owner's representatives during all phases of construction. The owners shall be notified two weeks prior to commencement of any work and one week prior to service interruption. For work involving Town of Jamestown facilities, contact the Town Hall at (336) 454-1138 or the Public Works Department at (336) 454-1914. For work involving City of High Point facilities, contact the City of High Point Service Center at (336) 883-3111 or the City of High Point Water and Sewer Administration at (336) 883-3166.

If the water level in High Point's City Lake is below the top of the dam, the City of High Point can adjust flow within the channel of Deep River through the use of valves at the dam structure to the north of the bridge project, which will help to facilitate installation of the proposed 12" water main and 6" gas main under Deep River. The Contractor should contact the City of High Point to initiate this process. If water is overtopping the dam at City Lake, the Contractor shall utilize coffer dams to control water flow in the channel while installing the proposed water main and gas main. The cost of the coffer dams shall be incidental to other pay items in the contract.

After the installed pipe, fittings, valves, hydrants, corporation stops, and end plugs are inserted and secured, the pipeline shall be subjected to a hydrostatic pressure of 200 PSI (only 150 PSI required for City of High Point raw water main) for 2 hours by pumping the section full of clean water using an approved pressure pump. Cross connection for flushing and chlorination shall be made by means of a temporary connection from the supply pipe with an approved backflow prevention device. Taps for the cross connection piping shall be made to the portion of the existing water main that will be removed from service. The proposed water main shall be laid to within one pipe length of the point of final connection prior to flushing and testing. All flushing and chlorination work shall be performed in accordance with AWWA C651-99. All fittings, valves, and backflow prevention devices required for chlorination and testing shall be incidental to the cost of the proposed pipe being tested.

Any cracked, damaged, or defective pipe, fittings, valves, hydrants, or other attachments discovered as a result of the pressure test, shall be removed and replaced with sound material. The tests shall be repeated until test results are satisfactory.

After the pressure test is complete, the Contractor shall make a leakage test. Such leakage test shall last at least 2 hours at a pressure of 200 PSI (only 150 PSI required for the City of High Point raw water main).

The pressure test and leakage test may be performed concurrently.

All valves on the lines being sterilized shall be opened and closed several times during the chlorination period. The pipeline shall then be flushed with clean water

until the residual chlorine is reduced to 1.0 ppm or at the same level as in the existing water mains. Samples of water shall be taken at representative points along the pipeline by the Contractor in approved containers and submitted to a certified testing laboratory for bacterial and chlorine content.

Connections made to the existing water system for the purpose of loading and testing new water mains shall also be large enough to provide adequate flushing velocity. Water mains 12" and larger will also require a hydrant (temporary if one is not designated) for the purpose of flushing the water main. This shall be considered incidental to other pay items in the contract.

All work involving pipe restraint for connecting new water mains to the existing water mains shall be coordinated with the respective utility owner.

Existing water meters, fire hydrants, and related appurtenances which are removed from service shall become property of the Contractor, and the Contractor shall properly dispose of these items. This shall be considered incidental to other pay items in the contract.

The respective utility owners shall witness all tests performed on their water and sewer facilities. Test results shall be provided to the Town of Jamestown and to City of High Point for any tests involving their respective facilities.

It shall be the Contractor's responsibility to notify customers affected by necessary shut downs of the existing water system at least 24 hours in advance.

The owners shall be notified in advance of any interruption of water service with ample time to make arrangements. Interruption of water service on main lines shall be limited to a maximum of four (4) hours or as approved by the Engineer.

Utility Locations Shown on the Plans:

The location, size, and type of material of the existing utilities shown on the plans are from the best available information. The Contractor will be responsible for determining the exact location, size, and type of material of the existing facilities necessary for the construction of the proposed utilities and to avoid damage to existing utilities.

II. COMPENSATION:

No direct payment will be made for utility construction work required by the preceding provisions, which are general requirements applying to utility construction, and all of the requirements stated will be considered incidental work, paid for at the contract unit prices of the various utility items included in the contract.

1. DUCTILE IRON RESTRAINED JOINT WATER PIPE:

Ductile Iron Restrained Joint Water Pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans and/or as directed by the Engineer.

Ductile Iron Restrained Joint Water Pipe shall be of the pressure class shown on the utility plans and shall conform to ANSI A21.51 (AWWA C151) Push-on joints for such pipe shall be in accordance with ANSI A21.11 (AWWA C111). Pipe thickness shall be designed in accordance with ANSI A21.50 (AWWA C150) and based on laying conditions and internal pressures as stated on the plans. Cement mortar lining and seal coating for pipe shall be in accordance with ANSI A21.4 (AWWA C104). Bituminous outside coating shall be in accordance with ANSI A21.51 (AWWA C151).

All Ductile Iron Restrained Joint Water Pipe shall be installed in accordance with laying condition Type 2 as stated in ANSI A21.51 (AWWA C151) unless otherwise shown on the plans or directed by the Engineer.

Ductile Iron Restrained Joint Water Pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end, with no deductions for fittings and valves, and paid for at the contract unit price per linear foot for, "___ Inch DI Restrained Joint Water Pipe, PC ___". Such prices and payments will be full compensation for all materials, including pipe accessories, excavation, labor, pressure testing, sterilization, backfilling, and incidentals necessary to complete the work as required.

2. BUTTERFLY VALVE AND VALVE BOX:

Butterfly valves and valve boxes shall be installed as shown on the plans, as required by the provisions herein, and/or as directed by the Engineer.

Butterfly Valves shall be of the tight-closing, rubber-seat type with rubber seats that are securely fastened to the valve body. No metal-to-metal seating surfaces shall be permitted. Valves shall be bubble-tight at rated pressures with flow in either direction,

and shall be satisfactory for application involving throttling service and/or frequent operation and for applications involving valve operation after long period of inactivity. Valve discs shall rotate 90 degrees from the full open position to the tight shut position.

Valves through 48" diameter for working pressure up to 150 psi shall meet the full requirements of AWWA C504 for Class 150B service. Valve bodies shall be constructed of cast iron ASTM A126 Class B. Body thickness shall be in accordance with AWWA C504.

Valve discs shall be constructed of ductile iron per ASTM A536. The disc shall be furnished with a 316 stainless steel seating edge to mate with the rubber seat on the body.

Valve shafts shall be constructed of Type 304 or Type 316 stainless steel. Shaft diameters must meet minimum requirements established by AWWA Standard C504 for Class 150B. Shaft seals shall be standard self-adjusting V-type packing.

Valve seats shall be Buna-N rubber, and shall be retained in the valve body by mechanical means without the use of metal retainers or other devices located in the flow stream. Valve seats shall not be retained on the valve disc.

Valves shall be fitted with sleeve-type bearings. Bearings shall be corrosion resistant and self-lubricating. Bearing load shall not exceed 1/5 of the compressive strength of the bearing or shaft material.

Valves shall have a manual actuator with 2 inch operating nut. Manual actuators shall be of the traveling nut, self-locking type and shall be designed to hold the valve in any intermediate position between fully open and fully closed without creeping or fluttering. Operators shall be equipped with mechanical stop-limiting devices to prevent over travel of the disc in the open and closed positions. Valves shall close with a clockwise rotation of the manual actuator.

Buried valves shall have mechanical joint ends meeting the requirements of AWWA C111. Valves shall have an asphaltic varnish interior and exterior coating not less than 5 mils DFT.

The valves shall be installed with an approved valve box, normally flush with the ground or pavement. Valve boxes shall be of the screw or slip type with a base to fit the valve yoke and removable plug cap with the word "WATER" cast therein. Valve boxes shall be made of cast iron conforming to ASTM A48, Class 25, unless otherwise shown on the utility plans and/or as directed by the Engineer.

The quantity of butterfly valves and valve boxes, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per each for "___ Inch Butterfly Valve and Valve Box". Such prices and payments will be full compensation for all materials, labor, installation, excavation and backfill, testing and sterilization, and incidentals necessary to complete the work as required.

3. BEDDING MATERIAL

Bedding material for utility lines shall be installed in accordance with the applicable utility provisions herein, as shown on the utility construction plans, and/or as directed by the Engineer.

Bedding material shall meet the requirements of Article 1016-3 of the Standard Specifications. Bedding material shall be installed in accordance with Articles 300-6 and 300-7 of the Standard Specifications and the detail sheets which are part of the Utility Construction Plans.

Bedding material installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per ton for "Bedding Material, Utilities Class ____". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and shaping the bedding material in accordance with Article 300-4 of the Standard Specifications, and incidentals necessary to complete the work as required.

PROJECT: B-3652
COUNTY: GUILFORD

PROJECT SPECIAL PROVISIONS

Utility

UTILITIES BY OTHERS:

General:

The following utility companies have facilities that will be in conflict with the construction of this project.

- A. Duke Energy Corporation (Power)**
- B. Time Warner CATV**
- C. North State Communications (Telephone)**
- D. Piedmont Natural Gas**

The conflicting facilities of these concerns will be adjusted prior to the date of availability, unless otherwise noted and are therefore listed in these special provisions and shown on the Utilities By Others for the benefit of the Contractor. The utility owners will do all utility work listed herein. All utilities are shown on the plans from the best available information. For utility relocations see the Utilities By Others Plans.

The Contractor's attention is directed to Article 105.8 of the Standard Specifications.

A. Duke Energy Corporation (Power)

1. After the temporary bridge has been completed Duke Energy will install a temporary power pole line, with cable tv attached, left and right of Line-L- between Sta.17+45 and Sta.26+25. Duke Energy will require one (1) week notice prior to the completion of the temporary bridge and five (5) weeks to complete their work. Once the project has been completed, Duke Energy will install their permanent power pole line, with cable tv attached, along the original alignment located left of Line-L- between Sta.17+45 and Sta.26+35. Duke Energy will require sixty (60) days notice prior to the completion of the permanent bridge.
2. See Utilities By Others Plans for relocation details.

B. Time Warner CATV

1. Time Warner CATV is attached to Duke Energy Corporation power poles and will be relocated with Duke Energy. Time Warner will require a one-week notice prior to the completion of Duke Energy's temporary relocation and two (2) weeks to complete their temporary relocation work. After completion of the project, Time Warner CATV will attach their permanent line to Duke Energy poles. Time Warner will require sixty (60) days notice prior to the completion of the permanent bridge.

2. See Utilities By Others Plans for relocation details.

C. North State Communications (Telephone)

1. All existing buried cables located within the limits of the project will remain in place and be adjusted as necessary. All pedestals will be adjusted as required.

2. See Utilities By Others Plans for relocation details.

D. Piedmont Natural Gas

1. The existing six (6) inch gas line located left and right of Line-L- between Sta.18+85 and Sta.25+80, and attached to the existing bridge, will be abandoned after a new 6" gas line has been installed further right of Line-L- and installed in the same trench as the proposed water line. The Contractor will coordinate the installation of the proposed water line with the gas company's installation of the proposed gas line. The gas company will require two weeks notice before they will need to begin work and ten calendar days to complete their work.

2. Note: All other existing buried gas lines located within the limits of this project will remain in place and be adjusted if necessary.

3. See Utility Construction Plans for proposed water line construction and Utilities By Others Plans for gas relocation details.