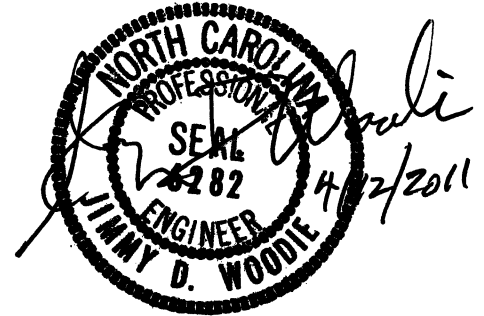




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Project: B-3656 County: Haywood

PROJECT SPECIAL PROVISIONS
Utility Construction



I. GENERAL CONSTRUCTION REQUIREMENTS:

Specifications:

The proposed utility construction shall meet the applicable requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006, the Town of Canton's specifications, and the following provisions.

The Contractor shall be responsible for field verifying location, size, type and elevation of all underground utilities, as well as reconnecting any water and/or sanitary sewer services disturbed during construction, even if they are not shown on the plans. The water line shall be installed as to provide a minimum of 3 feet of coverage above the top of pipe from finished grade, unless shown differently on plans.

The Contractor is herein forewarned as to the possibility of having to vary the depth of the 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, storm drainage are shown on the plans or not).

All gate valves 12" and smaller for the Town of Canton shall be resilient-seat type valves conforming to ANSI/AWWA C-509. The direction of rotation of the handwheel or wrench nut to open the valve shall be to the left (counterclockwise) and be so marked.

Double strap tapping saddles shall be installed for all new/relocated service lines 1" and smaller in diameter.

All valve box covers and sanitary sewer manhole covers shall be cast to indicate "WATER" or "SEWER", as the case may be with the appropriate utility owner's special cover verbiage cast into the cover.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval of restraining all pipe, pipe bends, valves and other related appurtenances. Anchoring will be the responsibility of the Contractor. Connecting to existing water mains may alter such lines to the extent that these

pipelines with existing pipe bends, valves and other related appurtenances may also require reaction blocking; this is also the responsibility of the Contractor

Water lines and Valves:

The existing water lines belong to the Town of Canton. The Contractor shall provide access for the Owner's representatives to all phases of construction. Notify the Owners two weeks before commencement of any work and one week before service interruption. Interruption of water service on main lines shall be limited to a maximum of four (4) hours. Individual service connection interruptions shall be scheduled between regular working hours. Water services shall be restored within the same working day.

All valves shall be Resilient-Seat Gate Valves unless otherwise indicated herein. All valves shall meet the specification as shown in the NCDOT Standard Specifications for Roads and Structures. All service lines shall be PE (Polyethylene), SDR 9.

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 for a period of 2 hours, by pumping the section full of clean water using an approved pressure pump.

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 and be approved by Owners. 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.

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 chlorinating period. The pipeline shall then be flushed with clean water until the residual chlorine is reduced to less than 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 a certified testing laboratory and tested for chlorine residual and coliform bacteria.

Force Main Sewer:

The existing sewer lines belong to the Town of Canton. The Town shall be notified two weeks in advance before the Contractor begins work and one week in advance of any interruptions of sewer service with ample time to make arrangements. Contractor shall be aware that the sewer lines being relocated are active at this time.

The applicable provisions of Section 300 of the Standard Specifications and the Rules and Regulations of the North Carolina Department of Environment, Health, and Natural Resources, Division of Environmental Management shall apply to the construction of sanitary sewer lines, except as otherwise provided below. All pipe and fittings shall be laid true to the alignment given and in accordance with the instructions of the Engineer

Installation:

The bottom of the trench shall be shaped to give substantially uniform circumferential support to the lower fourth of each pipe. Pipe laying shall proceed upgrade with the spigot ends pointing in the direction of flow. Each pipe shall be laid in such a manner as necessary to form a close concentric joint with the adjoining pipe and to prevent sudden offsets of the flow line. As the work progresses, the interior of the sewer shall be cleared of all foreign materials. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed. Trenches shall be kept free from water until backfilled and pipe shall not be laid when the condition of the trench or the weather is unsuitable for such work.

Any fittings or saddles necessary to connect service lines to the sewer main will be considered incidental to the pipe.

The Contractor shall do all that is necessary, including temporary pumping, in order to keep all existing sewers active for either the duration of this contract or until the Engineer authorizes connections.

Testing: Force Main Sewers

All new sewer force mains shall be hydrostatically tested at 200 psi. The pipeline should be filled slowly and care should be exercised to vent all high points and expel all air. Vents should remain open until water flows from them at a steady flow. In addition, all fittings should be properly anchored before the test is made. After the air is expelled from the line, pressure should be applied by means of a hand pump, a gasoline pump, or some type pumping equipment approved by the Engineer

After the main has been brought up to the required pressure, the test shall be held for a period of 2 hours, and the make-up water measured with a displacement meter or by pumping the water from a vessel of known volume as approved by the Engineer. If possible the pipe and joints should be inspected thoroughly while under test pressure, and any leak or excessive moisture at the joints should be corrected. No piping installation will be accepted until the leakage is less than the number of gallons per hour as determined by the formula $W = 0.000106 LD$ in which W equals the allowable leakage in gallons per hour; L

is the length of pipe tested; and D is the nominal diameter of the pipe, in inches. Should test of any pipe laid disclose leakage greater than that specified above, the defective joints shall be repaired until the leakage is within the specified amount.

Connections:

Final connections of the proposed sewer work to the existing system shall be made where indicated on the drawings, as required to fit the actual conditions, or as directed by the Engineer. The completed work shall meet the approval of the Engineer.

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.

Owners and Owner's Requirements:

The existing water utilities belong to the Town of Canton. The existing sewer utilities belong to the Town of Canton. The Contractor shall provide access for the owner's representatives to all phases of construction. The owners shall be notified two weeks prior to commencement of any work and one week prior to service interruption.

Contacts:

Town of Canton Director of Public Utilities: Dale Inman
(828) 646-3407

1. UTILITY VAULT:

Utility vaults shall be installed at the locations shown on the utility plans or as directed by the Engineer. All components, materials, and methods of installation shall be in accordance with the applicable sections of the 2006 Standard Specifications and these provisions.

Utility vaults shall be placed with the top six inches above finished grade and at the edge of the NCDOT rights-of-way. The top of the utility vault shall not be labeled. The vaults and tops shall meet the material requirements of Section 1411-2. Logos, ground rods and similar items required by Section 1411-2 of the Standard Specifications shall not be required or provided. The utility vaults shall

be installed at the ends of the proposed water and sewer lines and shall be 6'x 4' (nominal) or as directed by the Engineer

Utility vaults installed and accepted will be paid for at the contract price per each for "Utility Vault" Such price and payment will be full compensation for all labor, excavation, new vault, new top connection to the proposed piping, backfilling, and incidentals necessary to complete the work as required.

2. 10" 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 thickness class and pressure rating 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.

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, "10" DI Restrained Joint Water Pipe, PC 350" 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. The existing 10" water line on the existing bridge shall be capped and abandon. The payment for this work shall be incidental to the pay item for installing the "10" Ductile Iron Restrained Joint Water Pipe, PC 350".

3. 8" DUCTILE IRON RESTRAINED JOINT FORCE MAIN SEWER PIPE:

Ductile Iron Restrained Joint Force Main Sewer 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 Force Main Sewer Pipe shall be of the thickness class and pressure rating 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.

All Ductile Iron Restrained Joint Force Main Sewer 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.

Ductile Iron Restrained Joint Force Main Sewer 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, "8" DI Restrained Joint Force Main Sewer Pipe, PC 350". 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. Also, this will include washing and cleaning the abandoned sewer line from any debris. The payment for this cleaning will be incidental to the pay item for installing the "8" D.I. Restrained Joint Force Main Sewer Pipe".

PROJECT SPECIAL PROVISIONS
Utilities

UTILITY CONFLICTS:

General:

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

- A. Progress Energy
- B. AT&T
- C. PSNC Energy
- D. Town of Canton
- E. Charter Communications

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 for the benefit of the Contractor. All utility work listed herein will be done by the utility owners. All utilities are shown on the plans from the best available information.

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

Utilities Requiring Adjustment:

A. Progress Energy

- 1. See "Utilities By Others Plans" for utility conflicts.
- 2. The contact for Progress Energy is Mr. Robert Metcalf. Mr. Metcalf can be reached by telephone at (828) 271-3596.
- 3. All facilities shown on plan sheets UO-2 and UO-3 will be relocated by the date of availability.

B. AT&T

- 1. See "Utilities By Others Plans" for utility conflicts.
- 2. The contact for AT&T is Mr. Scott Addington. Mr. Addington can be reached by telephone at (828) 258-7138.
- 3. All facilities shown on plan sheets UO-2 and UO-3 will be relocated by October 3, 2011.

C. PSNC Energy

1. See "Utilities By Others Plans" for utility conflicts.
2. The contact for PSNC Energy is Mr. Ken Owenby. Mr. Owenby can be reached by telephone at (828) 670-3527.
3. All facilities shown on plan sheets UO-2 and UO-3 will be relocated by the date of availability.

D. Town of Canton

1. See "Utilities By Others Plans" for utility conflicts.
2. The contact for the Town of Canton is Mr. Richard Hodge, Assistant Director of Public Utilities. Mr. Hodge can be reached by telephone at (828) 648-2363.
3. The 54" diameter RCP crossing Penland Street (-Y#-) south of -L- will be installed by the Town of Canton.
4. All facilities shown on plan sheets UO-2 and UO-3 will be relocated by the date of availability.

E. Charter Communications

1. All relocated lines will follow the Progress Energy pole line.
2. The contact for Charter Communications is Mr. John Grindstaff. Mr. Grindstaff can be reached by telephone at (828) 209-2291.
3. All facilities shown on plan sheets UO-2 and UO-3 will be relocated by the date of availability.