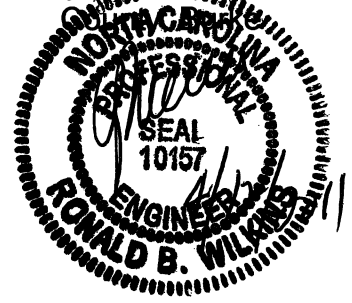


146

PROJECT SPECIAL PROVISIONS
Utility Construction



All proposed utility construction shall meet the applicable requirements of the NC Department of Transportation's "Standard Specifications for Roads and Structures" dated July 2006. Division 15 of the Standard Specifications is revised as follows:

Page 15-1, Paragraph 4

Provide access for Department personnel and the owner's representatives to all phases of construction. Notify Department personnel and the utility owner two weeks prior to commencement of any work and one week prior to service interruption. Keep utility owner's representatives informed of work progress and provide opportunity for inspection of construction and testing. *The water and sewer lines on this project belong to the City Morganton. The contact person for the City of Morganton is Mr. Mark Young, PE, and he can be reached by phone at (828) 438-5263. All work on these lines must be coordinated through the Engineer and the utility owner before beginning.*

The electrical conduit system is shown on the Utility Construction plan sheets based on information provided by the City of Morganton. The size, location, and type of conduit as well as the electrical junction boxes were also provided by the City of Morganton. All equipment associated with the conduit system/duct bank will be provided by the Contractor with the exception of the conductor and the junction boxes. Junction boxes will be provided by the City of Morganton and installed by the Contractor. The conductor will be provided and installed by the City of Morganton once the conduit system has been installed and accepted.

The Contractor shall schedule and notify owners and customers in advance of any planned interruptions of water service allowing ample time for the owner to make necessary arrangements. Service interruptions in service shall be limited to a maximum of 4 hours unless otherwise required or approved by the Engineer. The Contractor shall provide temporary connections as needed. Other utility work may be planned on nights, weekends or other times when demand for water service is lower.

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.

UTILITY FALSE BOTTOM MANHOLE WITH OUTSIDE DROP

Sanitary sewer manholes with false bottoms and outside drops shall be installed in accordance with the utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer

Sanitary sewer manholes with false bottoms shall be precast concrete conforming to ASTM C478 as shown on the plans.

Joints between precast manhole sections shall be installed with O-ring rubber gaskets conforming to ASTM C-443 or butyl rubber gaskets conforming to AASHTO M198.

Connection of pipe to manholes for cored or precast holes shall be by a resilient connector conforming to ASTM C923.

Sewer manholes with false bottoms over 3 feet in depth shall have steps, spaced 16 inches on center, of the type shown in Standard Detail 840.66. Cast iron shall be ASTM A48 Class 30. Steps shall be installed in accordance with the plans and standard details, and shall be tested as required in ASTM C478.

The concrete used for the false bottoms shall conform to Standard Specification Section 1000 for Class B concrete.

Sanitary sewer manholes with false bottoms shall be constructed with invert channels, as shown on the plans or standard details, to confine and direct the flow through the manhole. The invert channels shall be finished smooth, and shaped to provide an easy transition from inlet to outlet. The benches or shelves shall be finished to a non-slip texture and shall be sloped toward the invert channel.

Manhole frames and covers shall be of cast iron conforming to ASTM A48 Class 30, shall be traffic bearing, and shall have machined contact surfaces. Manhole frames and covers shall be as shown on plans or an approved equal. Covers shall have 2 air vents, 1 inch in diameter unless manholes are shown with watertight manhole rings and covers.

The sanitary sewer manhole located at approximate Station 18+11 -L-, 168.91 feet left of -L- shall be provided with false bottom and outside drop assembly as noted on the sewer line profile. The outside drop shall be incidental in accordance with Subsection 1525-4 of the Standard Specifications.

148

Measurements will be made for the appropriate diameter of manhole and the actual number constructed as required and accepted.

Sanitary sewer manholes with false bottoms measured as provided above and accepted will be paid for at the contract unit price per each for "___' Diameter Utility False Bottom Manhole With Outside Drop, 0-6 Foot Depth" Such prices and payments will be compensation in full for all materials, labor, equipment, excavation, backfill, and incidentals, including outside drops, necessary to complete the work as required.

DUCT BANK.

Duct bank, constructed in accordance with the Utility Construction plans, will be measured and paid for on a linear foot basis for the appropriate type and size of duct bank installed and accepted. Typical duct bank arrangements/configurations are shown on the utility construction plans. Transition sections of duct bank shall be measured and paid for on a linear foot basis for the larger of the two typical cross sections of duct bank. The acceptable length of transitions between two cross sections of duct shall be approved by the Engineer prior to construction and measurement. All excavation, trench preparation, foundation conditioning material, rock removal, blasting, compaction and backfilling associated with duct bank construction will be incidental to this pay item. Payment will be made for "Duct Bank – Type _____".

ELECTRICAL JUNCTION BOXES/CATV BOXES:

Electrical junction boxes and CATV boxes shall be constructed in accordance with the Utility Construction plans and Section 1411 of the Standard Specifications, except that these boxes will be provided by the City of Morganton.

Electrical junction boxes and CATV boxes will be measured and paid for at the contract unit price per each for "Electric J-Box" or "CATV Box" All trenching and excavation, compacting and associated fittings, miscellaneous wiring and labor shall be incidental to this pay item.

STEEL H-PILE PIERS:

Steel pile piers shall be furnished and installed as shown on the plans, as described in the provisions herein and in the contract and/or as directed by the Engineer

Pier locations as shown on the plans shall be considered a guide only, with the final determination made at the time of construction by the Engineer Pier spacing center to

149

center will be shown on the plans, but all pier locations may be adjusted by the Engineer due to field conditions.

Piers will be placed parallel to the flow of the creek unless otherwise directed by the Engineer

The work covered by this section consists of furnishing and driving piles, as indicated on the plans, the standard details, and as approved by the Engineer, in conformity with the specifications and to the bearing and penetration required.

Installation: General - The pilings shall be driven to obtain a bearing capacity of 10 tons based on the Standard Specifications and to a minimum depth of 10 feet in undisturbed earth below the bottom of the creek channel or existing ground when not adjacent to the creek. Steel pile piers shall be of the size and configuration noted on the utility construction plan sheets.

Piles Lengths: Full length piles shall be used where practicable and not more than 2 pieces (1 splice) of steel pile will be permitted in making up one full length pile unless approved by the Engineer. Splices, where necessary and approved by the Engineer, shall be made as to maintain the true alignment and position of the pile sections. Both pieces of a spliced pile shall be the same shape.

Splices should develop not less than 100 percent of the bending strength of the pile and not less than 100 percent of the axial load strength of the pile. All welded splices will be of butt weld type with back-up plates welded to the flanges and web of the steel piles. All welding of structural steel in the shop or in the field shall meet the requirements of the AWS and be done by qualified welders. Certification of welders and welds will be required by the Engineer in accordance with the AWS Code.

Painting Steel Piers: Unless otherwise directed, all steel in the piers shall have a coal tar epoxy coating consisting of two coats of coal tar epoxy as specified. All surfaces of the steel to one foot below the disturbed ground shall receive the coating system and shall be thoroughly sand blasted prior to application to remove rust, dirt, grease, and other foreign material and to provide a clean surface to receive the coating. Each coat of paint shall be approved by the Engineer prior to application of the next coat. The total dry film thickness shall be at least 16 mils. Areas with coatings less than 16 mils shall be recoated as required to provide the specified film thickness.

Testing and Inspection: The Engineer will provide inspection and will determine bearing capacity of the driven piles. The Contractor shall submit the required hammer information as specified in the Standard Specifications to the Engineer

150

Test piles which are not to be incorporated in the completed structure shall be removed to at least 2 feet below the surface of the ground or the stream bed, and the remaining hole backfilled with earth or other suitable material.

Pipe cradle shall be welded to steel plate as noted on the utility construction plan sheet details; spacing shall be sufficient to cradle pipe without lifting pipe from steel plate. Pipe cradle shall be welded to the steel piles. All welds shall be fillet welds and in conformance with the applicable AWS Structural Welding Code.

Straps and bolts shall be galvanized steel and straps shall be hot asphalt dipped. Straps shall be a 2" wide and 1/2" thick. Radius shall be 1/2 outside diameter of pipe.

Holes shall be drilled in strap and shall be 1/16" larger than bolt diameter. Bolts shall be 3/4" diameter, 4" long, fully threaded, with flat washers top and bottom, and 3/4" nuts. All steel shall be ASTM A36 steel.

Pipe cradles, straps, bolts, nuts and washers shall be considered incidental to steel pile piers.

Steel pile piers furnished and installed as required and accepted will be measured and paid for at the contract unit price per linear foot for "Steel H-Pile Pier", such price and payments will be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

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 – Power (Distribution)
- B) City of Morganton – Power (Distribution)
- C) Telics/Bellsouth – Telephone
- D) CoMPAS – Cable and Internet
- E) Piedmont Natural Gas – 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 for the benefit of the Contractor. All utility work listed herein will be done by the utility owner. 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) Duke Energy - Power (Distribution)
 - 1) See Utilities by Others Plans.
 - 2) Contact person is Mr. Fred J. Liles (828-323-2773/ 828-850-2371).
- B) City of Morganton – Power (Distribution)
 - 1) See Utilities by Others Plans and Utilities Constructions plans. New conductor will be installed inside the new conduit system. City of Morganton will need 3 weeks notice from the Contractor prior to completion of conduit installation and 2 weeks to complete installation of conductor.
 - 2) Contact person is Mr. Mark A. Young, P.E. (828-438-5263(o))
- C) Telics/Bellsouth – Telephone
 - 1) See Utilities by Others Plans. The existing underground telephone line will be abandoned.
 - 2) Contact person is Mr. Steve Mode (704-276-3197/ 704-617-6525)
- D) CoMPAS – Cable and Internet

1

152

- 1) See Utilities by Others Plans and Utilities Constructions plans. New cable will be installed inside new conduit system. CoMPAS will need 3 weeks notice from the Contractor prior to completion of conduit installation and 2 weeks to complete the installation of conductor.
 - 2) Contact person is Mr. Randy Loop(828-438-5227)
- E) Piedmont Natural Gas – Gas
- 1) See Utilities by Others Plans.
 - 2) Contact person is Mr. Richard Lawrence (828-304-8011/ 828-312-3128).

NOTE: All other utilities will remain in place and will be adjusted as necessary