



PROJECT SPECIAL PROVISIONS
Utility Construction

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 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).

On new force main sewers or water lines, and tie in sections of existing force main sewers or water lines, the method of anchoring pipe bends, valves, and related appurtenances will be the responsibility of the Contractor. Tying in to existing force main sewers or water lines may alter such lines to the extent that these pipelines with existing pipe bends, valves and related appurtenances may also require reaction backing; this work shall also be the responsibility of the Contractor.

The Contractor shall submit his proposed method of anchoring to the Engineer for review and approval prior to any applicable force main sewer construction. Such approval will not relieve the Contractor of his responsibility of properly anchoring the force main sewers. Concrete thrust blocking and/or thrust collars shall be installed as noted on the utility construction plans and details, and as directed by the Engineer, and shall be incidental to the pipe being anchored.

Owner and Owner's Requirements:

The existing waterline belongs to the Town of Tryon. The contact person for the Town of Tryon is Mr. Joel Burrell, Public Works Director. Mr. Burrell can be reached at (828)859-6655. The Contractor shall provide access for the owner's representatives to all phases of utility construction. The owners shall be notified two weeks prior to commencement of any utility work and one week prior to service interruption.

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. 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. Cross connection and blowoff piping shall be 2" in diameter for mains 8" in diameter and smaller, and 4" in diameter for mains greater than 8" but less than 16" in diameter. 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, 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. 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 by the Contractor at points along the pipeline in approved containers and submitted to a certified testing laboratory for bacterial and chlorine content. The Contractor will provide copies of the certified test reports to the Engineer who will in turn provide certified copies to the Town of Tryon.

Water meters that require relocation shall be relocated as shown on the utility construction plans. Relocation of the water meters shall be paid for as noted in the Standard Specifications. Should backflow prevention devices be present on the existing water meters, relocation of such devices shall be incidental.

The owners shall be notified in advance of any interruptions of water or sewer service with ample time to make arrangements. Interruption of water service on main lines shall be limited to a maximum of 4 hours unless approved by the Engineer. This is extremely important due to the fact that customers along this project have specific water supply requirements.

Utilities and Utility Locations Shown on the Plans:

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

existing facilities. The Contractor shall locate all active sewer laterals being served by the existing sewer line which is to be replaced. All existing laterals and cleanouts shall be located and clearly identified prior to beginning sewer line construction. The Contractor shall also verify that lateral elevations are compatible with the proposed sewer line elevations prior to ordering materials or beginning construction on the relocated sewer line.

All water lines shall be installed with a minimum of three feet of cover. Installation that requires more than six feet of fill over the proposed line shall be evaluated by the Engineer on a case by case basis.

NOTE: The Contractor is advised that existing manhole "D1" is located 150' west of the beginning of construction on -Y-. Work on this portion of the sewer system shall be closely coordinated through the Resident Engineer and the Town of Tryon.

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. 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.

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 the Standard Specifications, and incidentals necessary to complete the work as required.

2. REMOVE ABANDONED PIPE:

The existing sewer pipe shown on the utility construction plans sheets as being removed shall be unearthed, removed from the trench, and the trench backfilled with select material to existing grade as directed by the Engineer.

Abandoning the line in place is not an option for the sewer pipe noted on the utility construction plans as Remove Abandoned Pipe. The pipe shall be removed from the jobsite and properly disposed of by the Contractor. No additional payment will be made for removal of laterals, cleanouts or other appurtenances associated with the line to be removed.

The quantity of existing pipe to be removed will be measured and paid for at the contract unit price per linear foot for "Remove Abandoned ____" Pipe". Such price and payment will be full compensation for all labor, excavation, removal, disposal, backfilling, and incidentals necessary to complete the work as required.

3. FIRE HYDRANT EXTENSION:

Fire hydrant vertical extensions shall be installed in accordance with the applicable utility provisions herein as shown on the utility plans, and/or as directed by the Engineer.

Hydrant extensions furnished shall be those manufactured in lengths of six inches, twelve inches, eighteen inches, and twenty-four inches. Lengths greater than twenty-four inches must be approved by the Engineer before installation. All extensions must be installed with the use of proper gaskets, nuts and bolts.

Fire hydrant vertical extensions, 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 "Fire Hydrant Extension". Such prices and payments will be full compensation for all materials, labor, excavation, rods, installation, backfilling, and incidentals necessary to complete the work as required.

4. PRECAST CONCRETE FALSE BOTTOM MANHOLE

Sanitary sewer manholes with false bottoms 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 the 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. 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.

Sanitary sewer manholes will be measured on a per each basis.

Measurements will be made for the appropriate diameter of manhole on 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 Precast Concrete False Bottom Manhole, 0-6 Foot Depth". Such prices and payments will be compensation in full for all materials, labor, equipment, excavation, backfill, and incidentals necessary to complete the work as required.

5. DUCTILE IRON RIGID RESTRAINED JOINT SEWER PIPE:

Ductile Iron Restrained Joint Sewer Pipe shall be installed in accordance with the applicable utility provisions herein, from the false bottom manhole "B1" to manhole "A1" as indicated on the utility construction plans, and/or as directed by the Engineer.

Ductile Iron Rigid Restrained Joint 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). 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 Rigid Restrained Joint Sewer Pipe shall be installed in accordance with the laying condition Type 2 as stated in ANSI A21.51 (AWWA C151) unless otherwise shown on the plans or for aerial installation. Pipe shall be installed with rigid restrained joints as noted on the utility plans. Rigid restrained joints are required where minimal or no movement is allowed.

Bolts for such joints shall be high strength, low alloy steel. Such pipe and joints shall be of a type recommended by the manufacturer for use in long span aerial crossings.

Ductile Iron Rigid Restrained Joint Sewer Pipe, installed in accordance with the plans and provisions herein and accepted, will be measured along the pipe from end to end and paid for at the contract unit price per linear foot for, "_____" DI Rigid Restrained Joint Sewer 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.

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 Corp. - Power Distribution
- B) Charter Communications – Cable TV
- C) Alltel - Telephone

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 Corp. - Power Distribution
 - 1) Duke Energy Corp. will relocate its overhead lines and poles outside of the Project Limits at the locations shown on the Utilities by Others Plans by June 26, 2006.
 - 2) Contact person for Duke Energy Distribution is Mr. Bob Mabry at 828-698-2055.
- B) Charter Communications - Cable TV
 - 1) Mediacom Cable TV will relocate its overhead lines to poles outside of the Project Limits at the locations shown on the Utilities by Others Plans by June 26, 2006.
 - 2) Contact person for Charter Communications is Ms. Karen Fisher at 864-598-0816
- C) Alltel - Telephone

- 1) Alltel has underground and overhead telephone lines within the project limits as shown on Utilities by Others Plans. Overhead telephone lines will be move to locations as shown on Utilities by Others Plans by June 26, 2006.
- 2) Contact person for Alltel is Mr. Ray Garrett at 828-859-9118.