



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 Fayetteville PWC. The contact person for Fayetteville PWC is Mr. Joe Glass, PE and he can be reached by phone at (910) 223-4740. Any work on these lines must be coordinated through the Engineer and the utility owner before beginning.*

Page 15-9 Section 1515-2

In addition to the water line materials specified under Section 1036, the water line can be High Density Polyethylene (HDPE) pipe conforming to AWWA C906 with an SDR of 9 and a pressure rating of 200 psi.

Ductile iron water pipe shall be of the thickness and pressure rating class shown on the utility plans and shall conform to ANSI A21.51 (AWWA C151). Pipe shall be either mechanical joint or push-on-joint and installed with rubber gaskets in accordance with ANSI A21.11 (AWWA C111). All water pipe shall be provided and installed in accordance with Articles 1036 and 1510 of the Standard Specifications. All water pipe on this project shall be ductile iron unless otherwise specified on the utility construction plans.

Ductile iron sewer pipe shall meet the requirements of ANSI A21.51/AWWA C151. Ductile iron sewer pipe shall be PC 350. Joints shall be mechanical joint or rubber ring gasket slip joint, each conforming to ANSI A21.11/AWWA C-111. The pipe and fittings shall have an asphaltic exterior coating as specified in AWWA C151. Interior of the pipe joints shall be coated with ceramic epoxy to produce a minimum dry film thickness of 40 mils. Calcium aluminate mortar lining of the ductile iron pipe shall also be acceptable.

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All water services being installed or relocated shall be provided with copper tubing. PE tubing or piping will not be used on this project. Valves on water mains that are being abandoned shall either be removed, or closed and the top of the valve box removed and backfilled in accordance with NCDOT standards.

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.

BREAK DOWN AND REBUILD MANHOLE:

Manholes that will require rebuilding shall have the frame and cover removed, the manhole taper removed, and necessary manhole wall removed. Reconstruction shall include rebuilding manhole wall, manhole taper, and replacing frame and cover. All work shall be approved by the Engineer.

Manhole construction shall also conform to the applicable requirements of Section 840 of the Standard Specifications.

Payment for removing and replacing manhole frame and cover, removing and rebuilding manhole taper and removing and rebuilding manhole wall will be based on a unit price for each manhole.

The quantity of sewer manholes rebuilt and accepted will be measured and paid for at the contract unit price each for "Break Down and Rebuild Manhole". Such price and payments will be full compensation for all labor, materials, breaking down manhole, new manhole construction, steps, excavation, backfilling, and incidentals necessary to complete the work as required.

BREAK DOWN MANHOLE AND CONNECT PIPE:

Existing manholes that require breakdown and removal shall have the frame and cover removed, the manhole taper removed, and necessary manhole wall removed and the manhole base removed. All work shall be approved by the Engineer.

Once the existing manhole has been broken down and removed, the remaining ductile iron pipe (outlet side) shall be connected to the upstream manhole with ductile iron

sewer pipe using necessary fittings/sleeves. Ductile iron sewer pipe will be paid for elsewhere.

The Contractor shall be responsible for handling the normal sewage flow in the section of line to be replaced. This shall be accomplished by tanker truck, bypass pumping or other means approved by the Engineer, and shall be considered incidental to this work. All sewage collected during removal of the existing manhole and replacement of the ductile iron pipe shall be properly disposed of in the sanitary sewage system or as directed by the Engineer.

The quantity of sewer manholes broken down and new ductile iron pipe connected will be measured and paid for at the contract unit price per each for "Breakdown Manhole and Connect Pipe". Such price and payments will be full compensation for all labor required for breaking down manhole, removal of manhole, excavation, backfilling, and incidentals necessary to complete the work as required.

TEMPORARY BYPASS:

Temporary bypasses shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans and/or as directed by the Engineer.

Locations of the temporary bypasses are noted on the Utility Construction plan sheets from approximate Station 44+20 to 47+80 -L- and from approximate Station 59+50 to 63+20 -L-. The procedure for installation of the bypasses is covered on Utility Construction plan sheet UC-7 and shall be coordinated with the Traffic Control Plan. Testing and sterilization of the bypass piping shall be the same as the requirements for permanent water piping installed on the project.

Piping for the bypass installations shall be provided by the Contractor and shall remain in place until the traffic switch in the vicinity of the bypasses has been completed. Once traffic has been rerouted onto the newly completed section of roadway the bypass piping shall be removed from the project site.

The quantity of temporary bypasses installed and removed will be measured and paid for at the contract unit price per each for "Temporary Bypass". Such price and payments will be full compensation for all labor required for construction of the bypass, removal of bypass, excavation, backfilling, and incidentals necessary to complete the work as required. No payment shall be made for the piping material or fittings necessary to install the bypasses.

WATER METER ASSEMBLY

Water meter assemblies (2") are to be installed at the locations shown on the plans and/or as directed by the Engineer.

Water meter assemblies shall consist of an angle valve, expansion connector, yoke bar, backflow preventer and meter box. The water meter assembly does not include the water meter.

Meter boxes shall be placed with the top of the meter box flush with finished grade of the project.

Water meters shall be furnished and installed by PWC of Fayetteville.

The quantity of new 2" water meter assemblies installed and accepted will be measured and paid for at the contract unit price per each for "Water Meter Assembly". Such price and payment will be full compensation for all labor, materials, equipment, excavation, installing, backfilling, and incidentals necessary to complete the work as required.

DUCTILE IRON GRAVITY SANITARY SEWER:

Ductile iron sewer pipe shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, or as directed by the Engineer.

Ductile iron sewer pipe shall meet the requirements of ANSI A21.51/AWWA C151. Nominal pipe laying length shall be twenty feet. Joints shall be mechanical joint or rubber ring gasket slip joint, each conforming to ANSI A21.11/AWWA C-111. The pipe and fittings shall have an asphaltic exterior coating as specified in AWWA C151. Interior of the pipe joints shall be coated with ceramic epoxy to produce a minimum dry film thickness of 40 mils. Calcium aluminate mortar lining of the ductile iron pipe shall also be acceptable.

All ductile iron 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 sewer pipe shall be furnished and installed as required and accepted will be measured and paid for at the contract unit price per linear foot for "____" DI Sanitary Gravity Sewer". Such price and payments will be compensation in full for all materials, labor, equipment and incidentals necessary to complete the work.

RESTRAINED JOINT DUCTILE IRON SEWER:

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Restrained Joint Ductile Iron 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.

Restrained Joint Ductile Iron Sewer Pipe shall be pressure class as 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 Restrained Joint Ductile Iron 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 or directed by the Engineer. The pipe shall meet the requirements stated in Section 1034 of the Standard Specifications for Roads and Bridges, and be installed in accordance with Section 1520.

Restrained Joint Ductile Iron 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, " _____ " Restrained Joint Ductile Iron Sewer". 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.

STEEL ENCASEMENT PIPE:

Steel encasement 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. Steel encasement pipe may be of the following types: spiral welded steel pipe in accordance with ASTM A211; circular black or galvanized steel pipe in accordance with ASTM A53 or A589; high strength smooth wall steel casing in accordance with API-5L, Grade B, or other grades; or other steel pipe of acceptable quality and meeting the approval of the Engineer.

Steel encasement pipe shall be installed with leak proof joints. The joints shall be butt-welded by a certified welder using approved techniques and materials.

The carrier pipe shall be installed as noted on the plans, inside the encasement pipe by use of skids or spiders appropriately spaced to support the carrier pipe from deflection. Skids or spiders shall be sized to raise the carrier pipe bells above the encasement pipe

and to restrict excessive radial movement. Skids or spiders shall be securely attached to the carrier pipe and shall be approved by the Engineer.

After the carrier pipe is installed and tested, the ends of the encasement pipe shall be plugged or capped with concrete, brick or other approved materials. The plug or cap shall have a one-inch diameter weep hole at the bottom to facilitate drainage of the encasement pipe.

Steel encasement 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 "_____" Steel Encasement Pipe, _____" Thick, by Open Cut". Such prices and payments will be full compensation for all materials, excavation, equipment, labor, installation, grouting, backfilling, and incidentals necessary to complete the work as required.

SANITARY SEWER MANHOLE INSIDE DROP ASSEMBLY:

Sanitary sewer manhole inside drop assemblies shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans and/or as directed by the Engineer.

Transition piping (if required) other than SDR 35 or SDR 26 shall be installed outside the manhole wall using an approved full body mechanical joint sleeve. Connection to the manhole wall shall be by using a flexible boot connected to the manhole with stainless steel expansion ring sealed with non-shrink grout or as approved by the Engineer. The PVC drop pipe shall be anchored to the manhole wall using 1"x 1/8" stainless steel straps with stainless steel bolts and wedge anchors. Strap spacing shall not exceed 36" vertically with a minimum of two straps installed per manhole drop structure. All manholes that will have inside drops installed shall be a minimum of five feet in diameter with a dimension of 12" clear above the top of the drop structure. A tee shall be installed into the manhole.

Inside drop assemblies, installed in accordance with the plans and provisions herein and accepted, will be measured along the length of the vertical section of pipe from top to bottom and paid for at the contract unit price per linear foot for "_____" Sewer Manhole Inside Drop Assembly". Such prices and payments will be full compensation for all materials, excavation, equipment, labor, installation, grouting, backfilling, and incidentals necessary to complete the work as required.

RESTRAINED JOINT DUCTILE IRON WATER LINE:

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

Restrained Joint Ductile Iron Water Line shall be pressure class as shown on the utility plans and shall conform to ANSI A21.51 (AWWA C151). All joints for such pipe shall be in accordance with ANSI A21.11 (AWWA C111). Pipe thickness shall be in accordance with ANSI A21.50 (AWWA C150) and based on laying conditions and internal pressures 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).

Restrained Joint Water Line, 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, "___" Restrained Joint Ductile Iron Water Line". 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.

FOUNDATION CONDITIONING MATERIAL:

Foundation conditioning material for utility lines shall be installed in accordance with the applicable utility provisions herein, Section 1505-3 of the Standard Specifications and as shown on the utility construction plans, or as directed by the Engineer.

Foundation conditioning material shall meet the requirements of Section 1016 of the Standard Specifications, and the classifications shall be Class VI in accordance with Article 1016-3. Foundation conditioning material shall be installed in accordance with Articles 300-4 and 300-7 of the Standard Specifications.

No direct payment will be paid for undercut excavation for utility installation. Payment at the contract unit price for Select Material, Class VI will be full compensation for all work of pipe undercut excavation.

Foundation conditioning 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 "Select Material, Class VI". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and installing the foundation conditioning

material in accordance with the Standard Specifications, and incidentals necessary to complete the work as required.

DUCTILE IRON FITTINGS:

Ductile iron pipe fittings 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 bends and tees shall be in accordance with applicable requirements of ANSI A21.10 (AWWA C110). Joints for such bends and tees shall be in accordance with ANSI A21.11 (AWWA C111) and be epoxy lined. All ductile iron pipe fittings shall have a minimum working pressure of 250 PSI.

The quantity of ductile iron pipe fittings, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price per pound for "Ductile Iron Fittings". Such price and payment will be full compensation for all materials, including pipe accessories, labor, installation, 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) City of Fayetteville Public Works Commission (PWC) - Power (Distribution)
- B) Centurylink - Telephone
- C) Deltacom - Communications
- D) Time Warner Cable - CATV

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) City of Fayetteville Public Works Commission (PWC) - Power (Distribution)
 - 1) Fayetteville PWC will relocate its power facilities within the project limits to the locations shown on the Utilities by Others Plans. Fayetteville PWC will complete the relocation of their power facilities by August 1, 2010.
 - 2) Contact person for Fayetteville PWC is Mr. David Willis at (910) 223-4518.
- B) Centurylink - Telephone
 - 1) Centurylink will relocate its telephone facilities within the project limits to the locations shown on the Utilities by Others Plans. The contractor shall notify Embarq two weeks prior to completing clearing and grubbing and shall allow them 16 weeks to complete the relocation of their telephone facilities.
 - 2) Contact person for Centurylink is Mr. Wayne Hall (910) 980-2229.

C) Deltacom – Communications

- 1) Deltacom will relocate its communication facilities within the project limits to the locations shown on the Utilities by Others Plans prior to the date of availability.
- 2) Contact person for Deltacom is Mr. Scott Temple at (919) 291-0813.

D) Time Warner Cable - CATV

- 1) Time Warner Cable TV will abandon its underground lines starting at approximate Station 11+ 25 -L- and relocate them in joint use with Fayetteville PWC's aerial and buried power facilities at the locations shown on the Utilities by Others Plans. Time Warner Cable will complete the relocation of their CATV facilities by September 1, 2010. All other buried CATV facilities will be adjusted as necessary. The contractor shall give Time Warner three weeks notice of any conflict and allow them three weeks to make the adjustment.
- 2) Contact person for Time Warner Cable is Ms. Chris Colbourne at (910) 308-1939.