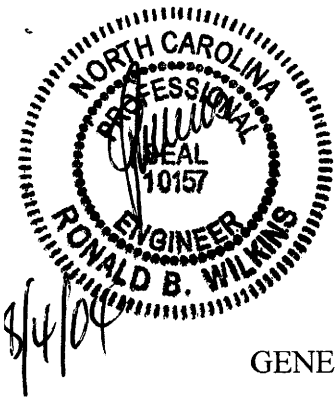


PROJECT SPECIAL PROVISIONS
Utility Construction



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 water and sewer lines belong to Robeson County Public Works Department. The contact person for the owner is Mr. Henry Harris with the Robeson County Public Works Department. Mr. Harris can be reached by telephone at (910) 671-3485. 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.

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 1.38 MPa (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 50mm (2 inches) in diameter for mains 200mm (8 inches) in diameter and smaller, and 100mm (4 inches) in diameter for mains greater than 200mm (8 inches) but less than 400mm (16 inches) 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 1.38 MPa (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 Robeson County Public Works Department representatives points along the pipeline in approved containers and submitted to a certified testing laboratory for bacterial and chlorine content. The Robeson County Public Works Department will provide copies of the certified test reports to the Engineer who will in turn provide certified copies to the Contractor for his records.

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.

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. Information used by the Department to determine acceptability of the existing lines indicates that the existing water line is constructed of PVC pipe, SDR 26. This line is

being replaced as noted on the Utility Construction Plans with PVC pipe, SDR 21. The Contractor shall verify that the existing pipe is actually SDR 26 prior to initiating replacement of the water line. The Engineer shall be notified of the Contractor's findings regarding material type and condition as soon as this information is obtained.

Proposed water lines shown on the Utility Construction Plans shall be installed as noted, as close to the right-of-way line as possible. Lines have been shown on the plans as being nominally 1.5 meters inside the right-of-way. This dimension may vary according to field conditions. However, changes from locations noted on the plans must be specifically approved by the Engineer prior to construction.

All water lines shall be installed with a minimum of one-meter of cover. Installation that requires more than two-meters of fill over the proposed line shall be evaluated by the Engineer on a case by case basis.

Gate Valves and Butterfly Valves:

All butterfly valves and gate valves shall conform to the requirements of ANSI/AWWA C504 and/or ANSI/AWWA C509. The direction of rotation of the handwheel or wrench nut to open the valve shall be to the left or counterclockwise.

The Contractor's attention is directed to the encased waterline that crosses -Y3- at approximate Station 11+16 +/- . This waterline is encased in a 400mm (16 inches) diameter steel encasement. The encased section of waterline is to remain in place as noted on Utility Construction Plan Sheet UC-10 and the proposed sections of new waterline connected as shown.

Encasement Pipes Crossing the Project:

Encasement pipes shown on the utility construction plan sheets installed by open cut (noted elsewhere in these provisions) shall be installed with no slope on the pipe and at a depth of not less than 1.0 meter below the bottom of the proposed adjacent ditches and/or median. The encasement pipe shall be installed concurrently with drainage pipe installation, and in accordance with the approved traffic control plans.

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 metric 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. PE WATER TUBING:

Polyethylene plastic water tubing 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.

PE water tubing shall conform to ASTM D2239 or AWWA C901. PE tubing materials shall be either PE 2406, PE 3406 or PE 3408 depending upon the required pressure class and dimension ratio (SDR) specified on the plans. PE water tubing shall meet the requirements of the National Sanitation Seal of Approval for potable water.

The ends of the plastic water tubing shall be connected using approved compression type couplings and/or compression type fittings. Such couplings and fittings shall have been approved by the Engineer.

PE water tubing, 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 or couplings, and paid for at the contract unit price per linear meter for "____ mm PE Water Tubing, SDR 7, PC 1.38 MPa". Such prices and payments shall be full compensation for furnishing all labor, equipment, materials, couplings and fittings, excavation, chlorination, backfilling, and incidentals necessary to complete the work as required.

3. REMOVE EXISTING WATER METER:

The existing water meters to be removed at the connection to the existing service piping and stockpiled in an area accessible by truck or as directed by the Engineer.

After the water meters are removed and stockpiled, the Contractor shall contact the Robeson County PWC and arrange for county maintenance forces to receive and remove the water meters from the jobsite.

The quantity of fire hydrants removed, stockpiled, and accepted, will be measured and paid for at the contract unit price per each for "Remove Existing Water Meter". Such price and payment will be full compensation for all labor, excavation, removal, stockpiling, and incidentals necessary to complete the work as required.

4. STEEL ENCASUREMENT 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 ends of the encasement pipe shall be temporarily plugged or capped with concrete, brick or other approved materials as approved by the Engineer. 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 meter for "_____mm Steel Encasement Pipe, _____mm Thick, by Boring and Jacking", or "_____mm Steel Encasement Pipe, _____mm 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.

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) Progress Energy - Power (Distribution)
- B) BellSouth - Telephone
- C) Carolina Cable Partners - 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) Progress Energy - Power (Distribution)
 - 1) Progress Energy will complete their relocations by January 1, 2005.
 - 2) See Utilities by Others Plans.
- B) BellSouth - Telephone
 - 1) See Utilities by Others Plans.

NOTE: Contractor shall complete clearing and grubbing and shall give two (2) weeks notice and two (2) weeks for relocation of buried phone line by BellSouth between Sta. 00+00 +/- -SR5- and Sta. 24+05 +/- . Two (2) weeks notice and two weeks construction shall also be given for relocation by BellSouth between Sta. 10+05 +/- -Y- and Sta. 19+70 +/- -Y-.

C.) Carolina Cable Partners – CATV

- 1) See Utilities by Others Plans.

NOTE: Carolina Cable Partner's buried cable shall be adjusted as necessary during construction. Contractor shall give one (1) week notice and two (2) days for Carolina Cable Partners to adjust cable that parallels SR 1157 (Henry Berry Road).

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) Progress Energy - Power (Distribution)
- B) Lumbee River EMC – Power (Distribution)
- C) City of Lumberton Electric – Power
- D) Schoollink - Communication
- E) BellSouth - Telephone
- F) Time Warner- CATV
- G) Carolina Cable Partners -CATV
- H) NC Natural Gas Corporation – 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 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) Progress Energy - Power (Distribution)
 - 1) See Utilities by Others Plans.

- B) Lumbee River EMC – Power (Distribution)
 - 1) See Utilities by Others Plans.

- C) City of Lumberton Electric
 - 1) See Utilities by Others Plans.

D) Schoollink – Communication

- 1) See Utilities by Others Plans

NOTE: Schoollink's fiber optic cable will follow Progress Energy and City of Lumberton poles on Hilly Branch Road and cable will be buried along -Y-5 from Sta. 10+80 to Sta. 14+00 -RT-.

E) BellSouth - Telephone

- 1) See Utilities by Others Plans.

NOTE: Contractor shall complete clearing and grubbing and shall give one (1) month notice and two (2) months for BellSouth to relocate buried cable.

F) Time Warner - CATV

- 1) See Utilities by Others Plans.

NOTE: Time Warner's buried cable will be adjusted during construction along -Y-8- and NC 41. (Parcels 51 and 52). Contractor shall give 1 (one) week notice and three (3) days for Time Warner to adjust cable.

G) Carolina Cable Partners – CATV

- 1) See Utilities by Others Plans.

H) NC Natural Gas Corporation – Natural Gas

- 1.) See Letter from NC Natural Gas Corporation

NOTE: NC Natural Gas Corporation's valve box will be adjusted as necessary during construction along -Y3-B at Sta. 11+40 +/- . Contractor shall give 1 (one) week notice prior to preliminary grading and 1 (one) week for NC Natural Gas Corporation to adjust valve box.