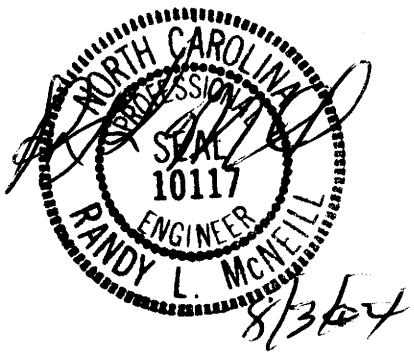

PROJECT SPECIAL PROVISIONS
Utility Construction

I. GENERAL CONSTRUCTION REQUIREMENTS

Specifications:

The proposed utility construction shall meet the applicable requirements of the North Carolina 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).

Water mains shall be laid at least 3.05 meters laterally from existing or proposed sanitary sewers. Minimum separation between proposed water mains and existing or proposed storm sewers shall be 305 millimeters.

The Contractor shall locate all existing water and sewer services and relocate, connect, or reconnect as directed by the Engineer. New water and sewer services shall be installed as indicated on the plans and/or as directed by the Engineer.

Payment for the cutting and plugging of existing water and sewer lines to be abandoned shall be considered incidental to other pay items in the contract.

"Gate Valves" as noted on the plans shall be resilient-seat type valves conforming to ANSI/AWWA C509.

Owner and Owner's Requirements:

The existing utilities belong to the City of High Point. The Contractor shall provide access for the owner's representatives during all phases of construction. The owners shall be notified two weeks prior to commencement of any work and one week prior to service interruption. Contact City of High Point Service Center at (336) 883-3111 or the City of High Point Water & Sewer Administration at (336) 883-3166.

It shall be the Contractor's responsibility to notify customers affected by necessary shut downs of the existing water system at least 24 hours in advance.

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 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. 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, and 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 chlorination period. The pipeline shall then be flushed with clean water until the residual chlorine is reduced to 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 the Contractor in approved containers and submitted to a certified testing laboratory for bacterial and chlorine content. Test results shall be provided to the City of High Point.

City of High Point water and sewer inspectors shall witness all tests performed on water and sewer facilities. All test results for water and sewer facilities shall be provided to the City of High Point.

Connections made to the existing water system for the purpose of loading and testing new water mains shall also be large enough to provide adequate flushing velocity. Water mains 300mm and larger will also require a hydrant (temporary if one is not designated) for the purpose of flushing the water main. This shall be considered incidental to other pay items in the contract.

All work involving pipe restraint for connecting new water mains to the existing water mains shall be coordinated with the City of High Point water and sewer inspectors.

All new fire hydrants shall receive a final coat of paint, after installation, according to the City of High Point's standard color scheme for fire hydrants.

Existing water meters, fire hydrants, and related appurtenances which are removed from service shall become property of the Contractor, and the Contractor shall properly dispose of these items. This shall be considered incidental to other pay items in the contract.

The owners shall be notified in advance of any interruption of water service with ample time to make arrangements. Interruption of water service on main lines shall be limited to a maximum of four (4) hours or as approved by the Engineer.

Utility Locations Shown on the Plans:

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

II. 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. RESTRAINED RETAINER GLANDS

Restrained retainer glands shall be installed in accordance with the applicable provisions herein, as shown on the plans and/or as directed by the Engineer.

Restrained retainer glands shall be heavy duty ductile iron conforming to ASTM A536. Restrained retainer glands shall meet the specifications for ANSI A21.11 (AWWA C111). Restrained retainer glands shall be capable of restraining mechanical joints for a minimum working pressure of 1.72 MPa with a minimum factor of safety of 2:1, using hardened ductile iron set screws or ductile iron wedges. Twist-off nuts shall be used to insure proper torquing of retaining devices, and shall require the same torque in all sizes.

Restrained retainer glands, 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 "____mm Restrained Retainer Gland". Such prices and payments will be

full compensation for all materials, labor, excavation and backfilling, installation, testing and incidentals necessary to complete the work as required.

2. #67 BEDDING STONE

#67 Bedding Stone shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

The quantity of bedding material to be paid for will be the actual number of metric tons of material, other than local material, weighed in trucks on certified platform scales or other certified weighing devices, which has been used for shaping the pipe foundation.

#67 Bedding Stone, 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 "#67 Bedding Stone". Such prices and payments will be full compensation for all materials, labor, excavation and backfilling, installation, and incidentals necessary to complete the work as required.

3. AIR RELEASE VALVE AND MANHOLE

Air release valves and manholes shall be installed in accordance with the applicable utility provisions herein, as shown on the utility plans, and/or as directed by the Engineer.

Air release valves and manholes shall consist of an air release valve, flanged connecting pipe, isolation valves, necessary fittings and connecting pieces, and precast concrete manhole. The air release valve shall be of the type which releases accumulated air from the pipe line when the line is under pressure. Air release valves shall be iron body with bronze or rubber seals and bronze or stainless steel working parts. Air release valves shall have a hydrostatic pressure rating of 1.03 MPa. Air release valves for use on water mains shall conform to ANSI/AWWA C512.

The manholes to house the air release valves shall be precast concrete conforming to ASTM C478. The manhole ring and cover shall be of an approved type and traffic bearing.

Air release valves and manholes, installed in accordance with the plans and provisions herein and accepted, will be measured and paid for at the contract unit price each for "____mm Air Release Valve and Manhole". Such prices and payments shall be full compensation for all labor, materials, excavation, backfilling, equipment, approved air release valve, isolation valves, pipe, fittings, manhole construction, ring and cover, and incidentals necessary to complete the work as required.

4. 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 pressure class 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 or directed by the Engineer.

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 meter for, "____mm DI Restrained Joint Water 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.

5. WATER METER AND METER BOX

Proposed water meters and meter boxes shall be installed at the locations shown on the utility plans, or as directed by the Engineer.

Water meter installation shall consist of installation at the appropriate location of the water meter, meter yoke, meter valve, and meter box. Any fittings necessary to connect the meter to the water line will be considered incidental. Any pipe necessary to connect to the water line will be paid for as provided elsewhere in these provisions.

All work shall be in accordance with the applicable plumbing codes, as shown on the plans, and as directed by the Engineer.

Water meter boxes shall be placed with the top of the meter box flush with finish grade of the project.

The quantity of water meters and meter boxes installed and accepted will be measured and paid for at the contract unit price each for "__ mm Water Meter and Meter Box". Such price and payment will be full compensation for all labor, excavation, and installing the meter and box, backfilling, and incidentals necessary to complete the work as required.

6. RELOCATE WATER METER VAULT

The existing water meters with vaults that are to be relocated shall be installed at the locations shown on the utility plans, or as directed by the Engineer.

The relocation of water meters with vaults shall consist of the removal and installation at the appropriate location of the water meter, meter yoke, meter valve, piping, and isolation valves inside the existing meter vault, as well as furnishing and installing a new meter vault. Any fittings necessary to reconnect the relocated meter to the water line will be considered incidental. Any pipe necessary to complete the relocation will be paid for as provided elsewhere in these provisions.

Meter vaults shall meet the requirements of Section 1000 of the Standard Specifications. Such vaults shall have been approved by the Engineer. The meter vaults shall be placed as shown on the utility plans and as directed by the Engineer. For a 100mm water meter, the meter vault shall have minimum inside dimensions of 1.22m wide x 2.44m long x 1.22m deep. The vault shall have a concrete traffic bearing top, and shall have an aluminum lockable traffic bearing access hatch with minimum dimensions of 900mm x 900mm. The meter vault shall have a concrete floor, and a drain opening with minimum dimensions of 300mm x 300mm.

All work shall be in accordance with the applicable plumbing codes, as shown on the plans, and as directed by the Engineer.

Relocated meter vaults shall be placed with the top of the meter vault flush with finish grade of the project.

The quantity of water meters and meter vaults relocated and accepted will be measured and paid for at the contract unit price each for "Relocate ___mm Water Meter Vault". Such price and payment will be full compensation for all labor, excavation, removing, installing and reconnecting the meter and appurtenances, furnishing and installing a new meter vault, backfilling, and incidentals necessary to complete the work as required.

7. RELOCATE BACKFLOW PREVENTER VAULT

The existing backflow preventers with vaults that are to be relocated shall be installed at the locations shown on the utility plans, or as directed by the Engineer.

The relocation of backflow preventers with vaults shall consist of the removal and installation at the appropriate location of the backflow preventer assembly, piping, and isolation valves inside the existing vault, as well as furnishing and installing a new vault. Any fittings necessary to reconnect the relocated backflow preventer to the water line will be considered incidental. Any pipe necessary to complete the relocation will be paid for as provided elsewhere in these provisions.

Backflow preventer vaults shall meet the requirements of Section 1000 of the Standard Specifications. Such vaults shall have been approved by the Engineer. The vaults shall be placed as shown on the utility plans and as directed by the Engineer. For a 200mm backflow preventer, the vault shall have minimum inside dimensions of 1.52m wide x 3.05m long x 1.52m deep. The vault shall have a concrete traffic bearing top, and shall have an aluminum lockable traffic bearing access hatch with minimum dimensions of 1200mm x 900mm. The meter vault shall have a concrete floor, and a drain opening with minimum dimensions of 300mm x 300mm.

All work shall be in accordance with the applicable plumbing codes, as shown on the plans, and as directed by the Engineer.

Relocated backflow preventer vaults shall be placed with the top of the vault flush with finish grade of the project.

The quantity of backflow preventers and vaults relocated and accepted will be measured and paid for at the contract unit price each for "Relocate ___mm Backflow Preventer Vault". Such price and payment will be full compensation for all labor, excavation, removing, installing and reconnecting the backflow preventer and appurtenances, furnishing and installing a new vault, backfilling, and incidentals necessary to complete the work as required.

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PROJECT : U-2717

COUNTY: Guilford

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 Transmission
B. Duke Energy - Power Distribution
C. City of High Point Electric – Power Distribution
D. North State Communications - Telephone
E. Piedmont Natural Gas
F. Time Warner - 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 owners. All utilities are shown on the plans from the best available information. For utility relocations, see the Utilities By Others Plans.

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

Utilities Requiring Adjustment:

A) Duke Energy – Power Transmission

1. Station 16+16± Line -L-
   An existing power transmission line crosses Line -L- near Station 16+16±. The existing metal tower right of Line -L- will be replaced by a monopole, further right of Line -L-. This work will be complete by March 31, 2005.
2. See Utilities By Others Plans for details.

B) Duke Energy – Power Distribution

1. This work will be complete by March 31, 2005.
2. See Utilities By Others Plans for details.

C) City of High Point Electric – Power Distribution

1. This work will be complete by March 31, 2005.
2. See Utilities By Others Plans for details.

D) North State Communications – Telephone

1. This work will be complete by May 31, 2005.
2. See Utilities By Others Plans for details.

E) Piedmont Natural Gas

1. Station 9+85± to Station 39+30± Line -L-
   After rough grading and at the proper stage of construction, a new gas line will be installed right of Line -L- between Station 9+85± and Station 39+30±, and the existing gas line will be abandoned. Installation of the new gas line shall follow installation of the proposed 400mm water line, which will also be installed right of Line -L- between Station 10+38± and Station 26+26±. The Contractor shall coordinate installation of the new water line and the new gas line. Minimum horizontal separation between the water line and the gas line shall be 3 feet The Contractor will give the gas company fourteen (14) calendar days notice and sixty (60) calendar days to complete this work.
2. See Utilities by Others plans for details.

F) Time Warner - CATV

1. Station 10+50± to Station 43+00± Line -L-
   The existing aerial CATV line attached with telephone to power poles located left and right of Line -L- between Station 10+50± and Station 43+00± will be dismantled and removed after installation of a new power pole line with CATV and telephone attached further left and right of Line -L- between the same Stations. This work will be complete by May 31, 2005.
2. See Utilities by Others plans for details.