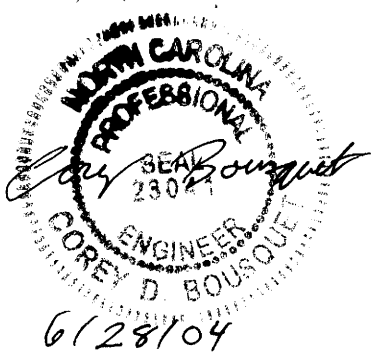

6/28/04

Project: R-3427
County: Yadkin

PROJECT SPECIAL PROVISIONS
Utility Construction

I. 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.

Lay water mains at least 10 feet laterally from existing or proposed sanitary sewers.

The depth of pipeline installation may vary 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 sewer force mains and tie-in sections of sewer force mains, the method of anchoring pipe bends, plugs, caps, tees, reducing sections, valves, and related appurtenances will be the responsibility of the Contractor. Tying into existing sewer force mains may alter such lines to the extent that these pipelines with fittings, valves, and appurtenances may also require reaction backing or restraint; 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 before any applicable sewer force mains construction. Such approval will not relieve the Contractor of his responsibility of properly anchoring the sewer force mains system.

After the installed pipe, fittings, valves, hydrants, corporation stops and end plugs are inserted and secured, the pipe line shall be subjected to a hydrostatic pressure test 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. 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 preformed 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.

Contractor shall make such arrangements, as the utility owner requires, for measuring and paying for water required to flush and test water mains.

Copies of bacteriological testing reports shall be provided to the utility owner prior to activating new water mains.

Owner and Owner's Requirements:

The existing utilities belong to the Town of Yadkinville. The Contractor shall provide access for the owner's representatives to all phases of construction. Notify the owner two weeks before commencement of any work and one week before service interruption.

Utility Locations Shown on the Plans:

The location, size, and type 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 material of the existing facilities

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.

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 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 and the detail sheets that are part of the Utility Construction Plans.

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 IV". Such prices and payments shall be full compensation for all materials, labor, equipment, compaction and shaping the bedding material in accordance with Article 300-4 of the Standard Specifications, and incidentals necessary to complete the work as required.

2. COMBINATION AIR RELEASE VALVE AND MANHOLE (Water):

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

Combination air release valves and manholes shall consist of combination air release valve, resilient wedge gate valve (flanged joint ends), tee (flanged joint outlet by mechanical joint ends), necessary fittings and connecting pieces and a 5' diameter precast flat top doghouse manhole.

The combination air release valve shall consist of a kinetic air and vacuum valve and an air release valve contained in a single body housing. The combination air release valves shall be designed to exhaust large amounts of air during filling and admit air during draining, and to release small amounts of accumulated air during operation. The air release body shall be of cast iron conforming to ASTM A126, Class B with a flanged inlet conforming to ANSI Class 125. The air release portion shall have a stainless steel leverage mechanism and float. The small orifice shall be stainless steel and have a rubber seat. Combination air release valves shall have a minimum hydrostatic pressure rating of 200 psi. The valve shall be in one body or two valves flange bolted together containing an air and vacuum valve and separate pressure valve mechanism.

The contractor will be required to install a 6" combination air release valve with a 3/16" orifice. The air release valve shall be placed at the high point along the 20" water line as shown on the profile.

The 6" Gate valves shall be resilient wedge types in accordance with ANSI/AWWA C509. Gate valves shall be furnished with non-rising stem with a wheel handle and flanged ends, ANSI Class 125. The valves shall have hydrostatic pressure rating of 200# WP.

The precast concrete doghouse manholes with flat tops shall conform to ASTM C478. Joints between precast manhole sections shall be o-ring rubber gaskets conforming to ASTM C-443 or butyl rubber gaskets conforming to AASHTO

M198. Use No. 57 stone for the manhole base as shown on plans or as directed by the Engineer.

Sewer manholes over 3 feet in depth shall have steps spaced 16" on center, of the type shown in Standard Detail 840.66. The steps shall be cast iron conforming to ASTMA48 Class 30. Steps shall be installed in accordance with the plans or standard details and shall be tested as required in ASTM C478.

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 2-1" diameter air vents.

The quantity of combination 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 "6" Combination Air Release Valve and 5' Precast Doghouse Manhole". Such prices and payments shall be full compensation for all labor, materials, excavation, backfilling, equipment, approved combination air release valve, gate valve, fittings, manhole construction, ring and cover, stone bedding materials, and incidentals necessary to complete the work as require.

3. AIR RELEASE VALVE AND MANHOLE (Sewer):

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 (2" inlet (NPT)), 2" bronze ball valves (NPT connections), 2" brass nipples, necessary fittings, and a 4' diameter precast flat top doghouse manhole.

The air release valves shall be design for sanitary sewer service. The air release valve body shall be cast iron body conforming to ASTM A126, Class B with bronze or rubber seals with stainless steel working parts. Air release valves shall have a hydrostatic pressure rating of 150# WP. The air release valves shall have a 2" inlet (NPT). The air release valve is designed to permit the automatic exhaust of large amounts of air during filling, small amounts of accumulated air during operation and admits large amounts of air under vacuum during draining.

The air release valves shall be float operated with both the air vacuum and air release functions housed in one body. All leverage mechanism parts and spherical float shall be stainless steel. Air release valves shall have an elongated body to keep solids and debris away from the valve seating mechanism.

The contractor will be required to install a 2" universal sewer air release valve with a 1/4" orifice. The air release valve shall be placed at the high point along the 6" force main as shown on the profile.

Backflushing attachments shall be supplied on all air release valves used on sewer lines. The backflushing attachment shall include a hose assembly, brass nipples, 2 brass gate valves and all necessary fittings needed to make the connections. The contractor shall contact Perry L. Williams with the Town of Yadkinville to determine what the Town's preferences are for the backflushing assemblies.

Bronze ball valves shall conform to AWWA C800 (ASTM B62) with a wheel handle. The ball valves shall open counterclockwise. The valves shall have hydrostatic pressure rating of 200# WP.

The precast concrete doghouse manholes with flat tops shall conform to ASTM C478. Joints between precast manhole sections shall be o-ring rubber gaskets conforming to ASTM C-443 or butyl rubber gaskets conforming to AASHTO M198. Use No. 57 stone for the manhole base as shown on plans or as directed by the Engineer.

Sewer manholes over 3 feet in depth shall have steps spaced 16" on center, of the type shown in Standard Detail 840.66. The steps shall be cast iron shall conforming to ASTMA48 Class 30. Steps shall be installed in accordance with the plans or standard details and shall be tested as required in ASTM C478.

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 Standard Detail 840.54B or an approved equal. Covers shall have 2-1" diameter air vents.

The quantity of 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 "2" Universal Sewer Air Release Valve and 4' Precast Doghouse Manhole". Such price and payments will be full compensation for all materials, labor, excavation, backfilling, equipment, and incidentals necessary to complete the work as required.

Revised 12-10-04

August 30,2004

PROJECT: R-3427
COUNTY: YADKIN

PROJECT SPECIAL PROVISIONS
Utility

UTILITY CONFLICTS:

General:

The following utility companies have facilities that will be in conflict with the construction of this project:

A. DUKE POWER COMPANY.
B. YADKIN VALLEY MEMBERSHIP TELEPHONE.
C. SPRINT TELECOM.
D. UNITED ENERGY.
E. TIME WARNER CABLEVISION.
F. YADKIN COUNTY 12" WATER MAIN

The conflicting facilities will be adjusted prior to the date of availability except where noted and are therefor 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.

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

Utilities Requiring Adjustment:

A. Duke Power Company
   1. See "Utility Conflict Plans" for utility conflicts.
   2. All power facilities will be relocated by May 16, 2005.

B. Yadkin Valley Membership Telephone:
   1. See "Utility Conflict Plans" for utility conflicts.
   2. All telephone facilities will be relocated by May 16, 2005.

C. Sprint Telecom
   1. See "Utility Conflict Plans" for utility conflicts

D. United Energy
   1. See "Utility Conflict Plans" for utility conflicts.
   2. All power facilities will be relocated by December 31, 2004.

E. Time Warner Cablevision
   1. Will relocate in joint use with power and telephone by June 17, 2005.

F. Yadkin County 12" Water Main
   1. See "Utility Conflict Plans" for utility conflicts.
   2. Water Main construction will be coordinated with Contractor and will be completed by May 1, 2006.