

Proposed changes to current Town of Pittsboro Standard Specifications, and Details

Monday, November 09, 2015

Proposed changes to Standard Specification Section 4 Sewer System Construction

Current	New
<p>01. Materials, I. and J. (added verbiage)</p>	<p>I. Tracer Wire: Tracer wire shall be installed on all sewer mains, services, and up the side of manholes (taped to the pipe crown, and side of manholes). Tracer wire shall be installed as outlined in the standard detail. Tracer wire shall be minimum 18 gauge copper wire, green plastic coated. During installation, electrical continuity shall be maintained between valves. If a wire is cut or otherwise requires splicing, the ends of the wire shall be bared, twisted together and connected with an electrical "twist cap".</p> <p>J. Locator Tape: Locator tape shall be installed above all water mains. Locator tape, green in color, shall bear the words: "Warning – Sanitary Sewer Main Below". Locator tape shall be installed as outlined in the standard detail.</p>
<p>02. Installation and Execution C. Pipe Installation, 1. For Ductile Iron Sewer Pipe, a. (added verbiage)</p>	<p>P. Polyethylene Wrap shall be used on all buried ductile iron pipe, fittings, gate valves and other appurtenances that are subject to corrosion either in the soil, or surrounding condition. Shall either be wrapped with a Columbia green polyethylene membrane conforming to ANSI A21.5, or installed in accordance with AWWA C105. The polyethylene sheets shall be 10 mils thick, minimum.</p> <p>The Town of Pittsboro shall determine on a case by case if polyethylene wrap is required. Soil corrosion is a geologic hazard that affects buried metals and concrete that is in direct contact with soil or bedrock. Soil corrosion is a complex phenomenon, with a multitude of variables involved. Pitting corrosion and stress-corrosion cracking (SCC) are a result of soil corrosion, which leads to underground oil and gas transmission pipeline failures. The corrosivity of soils can be estimated by measuring soil resistivity. Sandy soils are high on the resistivity scale and therefore considered the least corrosive. Clay soils, especially those contaminated with saline water are on the opposite end of the spectrum. Factors that influence soil corrosion are:</p> <ul style="list-style-type: none"> • Porosity (aeration) • Electrical conductivity or resistivity • Dissolved salts, including depolarizers or inhibitors • Moisture • pH <p>Each of these variables may affect the anodic and cathodic polarization characteristics of a metal in soil. The most corrosive soils have high content of:</p> <ul style="list-style-type: none"> • Moisture • Electrical conductivity • Acidity • Dissolved salts <p>In cases where metallic steel and ductile iron pipelines or encasement pipes are planned for installation in close proximity to any potential sources of stray current or aggressive soils, a field analysis consisting of stray current evaluation and soil testing shall be conducted by an experienced technician, as certified by the National Association of Corrosion Engineers, (NACE), to determine the potential for external corrosion at no additional cost to the Town of Pittsboro. In cases where stray current conditions and/or aggressive soils are prevalent, a corrosion specialist certified by the NACE or other applicable certification board shall be consulted regarding the design of pipeline protection measures.</p> <p>At a minimum, all stray current protection systems should include bonded joints and sacrificial anodes with a 50-year or longer design life and test facilities in lieu of polyethylene encasement, unless otherwise approved by the Town of Pittsboro. The cathodic protection element of the pipeline design package shall be sealed by Professional Engineer licensed in the State of NC.</p> <p>Full impressed current cathodic protection shall only be utilized when extreme corrosion potential has been proven and/or as otherwise directed by the Town of Pittsboro Engineering Department and the certified corrosion engineer of record.</p>
<p>02. Installation and execution, E Services (verbiage change)</p>	<p>Laterals shall be constructed with a wye and vertical clean-out shall be located at the right-of-way line or the easement boundary line, and one (1) on the private property per the North Carolina Plumbing Code. The clean-out stack and the stub end of the service shall each be equipped with a watertight brass cap. Service lateral piping and fittings shall be installed and joined per manufacturer's recommendations to create a watertight joint. Inspectors shall verify the installation of plugs prior to backfilling laterals. Laterals must be installed prior to pressure testing of sewer mains.</p>