

## Detailed Specifications

CITY OF SAVANNAH UTILITY DEPARTMENT  
INSTALLATION OF WATERLINE  
BY HORIZONTAL DIRECTIONAL DRILLING METHOD  
BURNT CHURCH ROAD BRIDGE OVER LITTLE TURKEY CREEK

1. Scope

The work described at this Section of these Detailed Specifications consists of the furnishing of all labor, equipment and services necessary for the installation of HDPE water line by horizontal directional drilling (HDD). Bid shall be per linear feet with all costs included, and payment will be made per linear feet as installed.

The length of the bore shall be based on the horizontal distance with no correction for vertical variations, they will be based on the stationing as shown on the plans.

2. Subsurface Conditions

Subsurface conditions in the project area are unknown.

3. Pre-Work Preparations

The installer of the piping and horizontal directional drilling (HDD) system, through the Contractor, shall submit a step by step written work plan to the City of Savannah (owner) as a shop drawing for approval prior to beginning work. No pipe installation work shall be undertaken without an approved work plan.

Installers of HDD systems shall provide written evidence that they are licensed as an installer by the HDD system manufacturer whose system is being used.

The Contractor shall pot-hole existing utilities prior to beginning work.

4. Waterline (HDPE) Pressure Pipe Installed Using Horizontal Directional Drilling Procedure (Length of Bore on the City of Savannah Utility Department Drawing is estimated at 250 feet or as adjusted in the field installation). Minimum depth below stream is 6 feet.

a. Pipe Material

All materials to be installed will be provided by the owner City of Savannah Utility Department.

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### b. Joining Method

Sections of HDPE pressure pipe shall be joined to each other in the field by the thermal butt fusion technique in strict accordance with the pipe manufacturer's recommendations and thermal butt fusion machine PER manufacturer's printed instructions.

### c. Pipe Joining Adapter

Sections of polyethylene (HDPE) pressure pipe shall be joined to other pipe materials, such as Polyvinyl Chloride (PVC) or ductile iron (DI), utilizing a special adapter that enables the PE pipe to be fitted with a bell end in order to accept PVC or DI pipe. The special adapter shall be joined to the HDPE pressure pipe as described at Paragraph 5.b. of this Section. Components of the special adapter shall be as depicted on the accompanying Drawings.

## 5. Alignments and Grades

Unless otherwise approved by the Owner, alignments and grades for pipelines installed by HDD methods shall conform to those depicted on the accompanying Drawings.

## 6. Protection of Potable Water Pipelines

The Contractor(s) shall protect new water lines that cross existing pipelines by providing 18-inch minimum separation between the proposed water line and the existing natural gas lines. When this vertical separation cannot be achieved, the water line shall be relocated to provide this separation.

## 7. Waterline Installation of Polyethylene (HDPE) Pressure Pipe by Horizontal Directional Drilling Methods, (Length of Bore estimated on City of Savannah Utility Department Drawing is 250 feet or as adjusted in the field installation). Minimum depth below stream is 6 feet.

HDPE water pipelines shall be installed in accordance with the requirements at the latest revision of ASTM Standard F1962.

The maximum horizontal or vertical bending allowed in PE pipe shall not exceed a radius 20 times the nominal PE pipe size or the bending radius allowed in the PE pipe manufacturer's written installation instructions if more restrictive.

Horizontal directional drilling (HDD) procedures for installing pressure pipelines shall include boring a small, horizontal hole (pilot hole) with a continuous string of steel drill rod; then, when the bore head emerges on the opposite end of the

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bored hole, pulling a special cutter, called a “back reamer”, through the pilot hole to bore out the hole then, forcing a “drilling mud” such as fluid bentonite clay through the hole to stabilize the hole and remove soil cuttings; then, pulling the entire pipeline length in one segment through the “drilling mud” along the reamed-hole pathway.

Any rock encountered in the HDD procedure shall be the responsibility of the contractor based on actual cost or per foot installed. No additional compensation will be made for drilling thru rock or bore conditions.

The Contractor shall be fully equipped and experienced in the installation of pipelines using HDD procedures. The Contractor shall be responsible for repairs, necessary to suite the requirements of the Owner, at any right-of-way or permanent utility easement resulting from any settlement of the ground surface which occurs as a result of this work.

Location tracer wire (12 gauge) shall be fastened to all HDPE pressure pipe installed by horizontal directional drilling and shall be stubbed-up at all air release valves and valve boxes.

### Drug Free Workplace

Any contractor shall provide written Certifications of compliance to a Drug Free Workplace environment.

### Insurance and Bonds

Any contractor shall provide a Certificate of Insurance coverage with the Bid Submittal.

Project Schedule of all Work to be completed is 45 Calendar Days.

Any contractor shall submit a 5% Bid Bond enclosed with their Bid Documents.

Upon any awards the contractor will be required to provide a Performance and Payment Bond to the Owner.