

ADDENDUM NO. 1
SEWER SYSTEM IMPROVEMENTS
CONTRACT 19-01
CRUTCHER ROAD SEWER EXTENSION
CHAPEL HILL, TENNESSEE
WAUFORD PROJECT NO. 2097

Date of Addendum: Tuesday, October 8, 2019
Bid Opening: Thursday, October 24, 2019, 2:00 P.M. Central Time

1. Detailed Specifications, Section 4. Force Mains and Appurtenances, Paragraph 3. Pipe Materials for Force Mains, Subparagraph c. Ductile Iron Pipe, Item (4) Ductile Iron Pipe and Fittings with Special Lining and Item (5) Procedures for Sealing Cut Ends and Preparing Field-damaged Areas of Specially Lined Pipe and Fittings, Page DS 4-4:

Revise the items as follows:

- (4) Ductile Iron Pipe and Fittings with Special Lining

All ductile iron piping and fittings shall be manufactured with a special corrosion resistant lining as specified herein.

All specially lined pipe requires special handling from the outside of the pipe with straps or chains. No forks or hooks shall be used inside the pipe after the lining is applied. Field unloading shall be carefully performed, likewise, stenciled notations (at least 4 per pipe joint and 2 per fitting) shall note these handling limitations.

This specification allows U.S. Pipe or American pipe with factory applied Induron Protecto 401™ **or Permox-CTF** ceramic epoxy lining.

Induron Protecto 401™ **or Permox-CTF** ceramic epoxy shall be an amine cured Novalec epoxy containing at least 20 percent by volume ceramic quartz pigment. Coupons from factory lined DIP shall undergo the following tests:

- ASTM B 117 Salt spray (scribed panel)
- ASTM G 95 Cathodic Disbondment (1.5 volts @ 77 F) maximum 0.5 mm undercutting after 30 days.

- ASTM D714 Inversion Testing
 - 20 percent sulphuric acid - no effect two years
 - 140°F - 25 percent sodium hydroxide - no effect two years.
 - 160°F - distilled water - no effect two years.
 - 120°F - tap water - no effect two years
- Abrasion resistance - less than 3 mils loss after one million cycles using European Standard EN 5981 Section 7.8 Abrasion Resistance.

Surfaces to be lined with Protecto 401™ or *Permox-CTF* shall be cleaned of oil and grease with a solvent using the guidelines for DIPRA-1 solvent cleaning and then abrasive blasted to remove rust and loose oxides and the lining applied within 8 hours. If rust reappears, re-blast the rusted area.

All surfaces to be lined shall be cleaned to a minimum near-white metal finish as applied to ductile iron pipe and fittings. All surfaces to be lined shall be completely free of moisture, dust, grease, or any other deleterious substances, at the time the lining is applied.

The lining shall cover the inside surface of the pipe and fittings from the spigot end to the gasket socket. The coating in pipe and in fittings shall be 40 mils nominal thickness. Minimum lining thickness shall be 30 mils. Coating thickness on sealing areas in the bell socket and on the spigot may be decreased to 6 mils nominal.

Thickness determinations using a TYPE 1 magnetic thickness gauge shall be conducted in accordance with Steel Structures Painting Council SSPC-PA2 Specification as applied to ductile iron pipe and fittings.

Holiday inspection as per ASTM G-62 Method B shall be conducted using a non destructive 2,500 volt spark test. In accordance with the coating manufacturer's recommendation, holiday testing may be conducted any time after the coating has reached sufficient cure.

(5) Procedures for Sealing Cut Ends and Preparing Field-damaged Areas of Specially Lined Pipe and Fittings

- (a) Remove burrs caused by field cutting of ends or handling damage and smooth out edge of the lining if it is rough and remove loose liner.
- (b) Remove all traces of oil, grease, dust, dirt, *etc.*
- (c) With the area to be repaired absolutely clean and suitably roughened, apply a coat of Protecto Joint Compound **or equal** using the following procedure:

Protecto Joint Compound is a 7 to 1 (7:1) mix ratio. When mixed, it should contain seven parts of the black activator and one part of the translucent blending resin. This can be accomplished by using the same container to dip out seven containers from the large can and pouring one contained from the small can which contains the resin. This is the simplest and most accurate means for field mixing less than the kit provided. After the blending resin is added to the activator, the mixture should be thoroughly agitated. All activated material must be used within 45 minutes of mixing.

After the material has been thoroughly mixed in a 7 to 1 (7:1) ratio, it can be applied to the prepared surface by brush. Brushing is best due to the fact that the areas to be repaired are usually small. Practices conducive to a good coating are contained in the technical data sheet for Protecto Joint Compound.

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