ADDENDUM #3
CIPP REHABILITATION OF SANITARY SEWERS FOR SEWER BASIN NO. 24
CITY OF DULUTH
PROJECT 0983SN
BID No. 12-0340
June 27, 2012

NOTICE

This Addendum is issued to modify, explain or correct the original drawings, specifications and/or previous addenda and is hereby made a part of the Contract Documents. Please note receipt of this Addendum on the Request for Bid. The Bid Opening date is Wednesday, July 18, 2012, 2:00 PM.

SPECIFICATIONS

SPECIAL PROVISIONS

Delete SP-8 (2503) Lateral Sealing Connection in its entirety and replace with the attached Lateral Sealing Connection specification.

END OF ADDENDUM

SP-8 (2503) LATERAL SEALING CONNECTION

SP-8.1 System Description

To provide for the rehabilitation of a service lateral connection by the installation of a one piece resin impregnated, flexible non-woven felt tube cured-in-place full circle main to lateral connection lining by air inversion with no overlapping materials. Curing shall be accomplished by use of heat cure. Service lateral connections may be a combination of tees, wyes or break-in taps of varying size and angle from 30 to 90 degrees and may include over-cut openings. The resin shall be cured to transform the flexible insert into a hard impermeable seal around and in the lateral connection. The lateral sealing connection shall extend from the mainline three feet into the lateral to form a tight fitting, watertight pipe-within-a pipe and shall eliminate any leakage between the lateral and the mainline. The one piece CIPP main to lateral lining will incorporate gasket sealing technology and the use of compressible materials in the main. Collar type systems, two piece systems and CIPP connection systems that are based on adhesion will not be allowed. The main to lateral service lining connections shall comply with ASTM F2561 "Standard Practice For Rehabilitation Of A Sewer Service Lateral And Its Connection To The Main Using A One Piece Main And Lateral Cured-In-Place-Liner".

SP-8.2 SUBMITTALS

1. Product data of lateral sealing connection materials including resin, tube and catalysts.
2. Certified test reports that the product was manufactured and tested in accordance with ASTM Standards specified or referenced herein.
3. Contractor and product qualifications/references.

SP-8.3 QUALIFICATIONS

1. The manufacturer of lateral sealing connection system must be able to document a minimum of 10,000 successful installations in the United States within the past five years.
2. The installer must be able to document a minimum of 1,000 successful installations, of the type to be used on this project, in the United States within the past five years.
3. Acceptable manufacturers for the lateral seal connection include LMK Enterprise's T-liner, Shorty system, or equal.
4. Other manufacturer's need to submit information regarding their lateral sealing connection system for approval as equal, fourteen days before bid opening.

SP-8.4 GUARANTEE

All lateral seal connections placed shall be guaranteed by the Contractor and Manufacturer for a period of five years from the date of final acceptance. If within this warranty period the connections are not acceptable due to leakage or any other defect, the Contractor shall repair or replace the affected portion at no cost to the City. Grouting as the method of repair is unacceptable.

SP-8.5 PRODUCTS

SP-8.5.1 General

1. The finished sewer lateral connection product shall be fabricated from materials when cured will be chemically resistant to domestic sewage.
2. All constituent materials will be suitable for service in the environment intended. The final product will not deteriorate, corrode or lose structural strength that will reduce the projected product life.
3. The service lateral connection product shall be compatible with the lining system in the main sanitary sewer line.

SP-8.5.2 Materials/Product

1. Tube and resin shall meet the requirements of ASTM F1216 and ASTM D5813.
2. ASTM standard that are made part by reference include
   a) ASTM F1216 – Standard Practice For Rehabilitation Of Existing Pipelines And Conduits By The Inversion And Curing Of A Resin-Impregnated Tube.
   b) ASTM D5813 – Standard Specification For Cured-In-Place-Pipe Thermosetting Resin Sewer Piping Systems.

3.A flexible non-woven felt tube shall be fabricated to a size that when installed will key into the internal surface irregularities of the lateral joint and neatly fit tight fit to the circumference of the lateral.
4.The insert shall seal to the inside wall the full circle of the sewer main, a minimum five inches around the lateral opening and to the lateral wall and extend a minimum of 30 inches up into the lateral pipe from the main.
5.The installer shall furnish a specially designed polyester, vinyl ester or epoxy resin and catalyst system compatible with the sewer lateral connection process that provides cured physical strengths similar to the maim line and lateral.
6. A hydrophilic sealant on the backside of the brim and end of the liner stubbed up the lateral or hydrophilic compression gasket sealing system (4 on the main line and 1 at the end of lateral stub) shall be used.

SP-8.5.3 Physical Properties

1.No cured-in-place-pipe technology that requires bonding to the existing pipe for any part of its structural strength will be permitted.
2. If reinforcing materials (fiberglass, etc.) are used, the reinforcing material must be fully encapsulated within the resin to assure that the reinforcement is not exposed, either to the inside of the pipe or at the interface of the CIPP and existing pipe.
3. The resin/liner system shall conform to ASTM D5813, Section 8.2.2 – 10,000 hour test.
4.The resin shall produce CIPP, which comply with the structural and chemical resistance requirements of ASTM F1216 listed below:

Flexural Stress	ASTM 0790	4,500 psi
Flexural Modulus of Elasticity	ASTM0790	250,000 psi

SP-8.6 EXECUTION

SP-8.6.1 Preparation

1.The contractor shall identity (size and location), video document each service to be sealed.
2.Prior to installing the seal connection, the area around the main and lateral shall be inspected. waste product build-up, hard scale, roots, lateral cutting debris or resin slugs must be removed using high pressure water jetting or in line cutters.
3.Break-in connection and lateral pipe protruding into the mains shall be ground back to no more than a 1/8 inch protrusion into the main line.
4.Built up deposits on the main and lateral pipe walls shall be removed. The removal shall reach at least one foot beyond connection product to allow the bladder to inflate tightly against the pipe walls ensuring a smooth transition from the seal connection to the existing pipe wall.
5.In relined pipes the lateral must be opened 95 percent or more and edges shall be brushed finished.
6.The contractor will be responsible for by passing of sewage during the installation of the sewer lateral connection product.
7.The Contractor shall notify all property owners that their sewer service will be interrupted and discontinued while the connection seal is installed and cured.

SP-8.6.2 Installation

1.The resin impregnated seal connection product shall be located on the applicator apparatus attached to a robotic devise and positioned in the mainline pipe at the service connection that is to be rehabilitated. The robotic device together with a television camera must be used to align the seal connection product with the service connection opening. Air pressure supplied to the applicator shall be used to insert the resin impregnated connection repair product into the lateral pipe. The inserted product will then be inspected using a TV camera to confirm the product is correctly positioned and centered in the lateral opening prior to curing. The insertion pressure will be adjusted to fully deploy the connection seal into the lateral connection and hold the product tight to the main and lateral walls.
2.The pressure apparatus shall include a bladder of sufficient length in both the main and lateral such the inflated bladder extends beyond the ends of the segments, pressing the end edges flat against the internal walls thus forming a smooth transition from the seal connection to pipe walls without a step, ridge or gap
3.After inversion is completed , recommended pressure must be maintained on the impregnated seal
. connection for the duration of the curing process.

4. A heat cure is required. The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming or outgoing air/steam or water supply. Fluid temperatures during the cure period shall be recommended by the resin manufacturer. Note: No UV cure systems will be allowed.
5. The curing of the seal connection must take in account the existing pipe material, the resin system, and ground conditions (temperature, moisture level and thermal conductivity of the soil).

SP-8.6.3 Quality Control

1.The finished product shall be a watertight connection seal at the mainline and extend continuous over the entire length of the rehabilitated service lateral and be free of dry spots, lifts, ridges, steps and delamination.

2.The installed connection shall not inhibit video inspection or cleaning operations of the mainline and service lateral pipes.

3.After the work is completed the Contractor shall provide the City with a CD or DVD and identifying the location and showing the restored condition of all the connections.

4.During the warranty period, all defects with the seal connection shall be repaired at the Contractor's expense in a manner acceptable with the City.

SP-8.7 Measurement And Payment

1.All costs of furnishing and installing the lateral seal connection, including pre televising inspection and taping, cleaning and removal of roots, lateral connection preparation to remove sharp edges, installation and curing, bypass pumping and post connection DVD and documentation. Work required to complete this item shall be paid for at the contract unit price each lateral connection sealing.