

**CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS  
Wastewater Management Division**

<b>CONTRACT NO. CE90667 PROJECT NAME: 2009 SANITARY MASTER PLAN IMPLEMENTATION CIPP</b>
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**ADDENDUM NO.   1   TO CONTRACT DOCUMENTS**

Bidders are hereby instructed that the drawings, specifications, and other contract documents are modified, corrected, supplemented and/or superseded for the above mentioned project as hereinafter described in the following attachments:

**BID DOCUMENT PACKAGE**

- BDP-3, Official dates of advertising are changed from October 5, 6, 7, 2009 to **October 6, 7, 8, 2009.**

**SPECIFICATIONS / DRAWINGS**

- None


**SUPPLEMENTAL INFORMATION**

- City and County of Denver, Department of Safety, Fire Department. Hazardous Material Reporting. Denver Fire Department requires a permit for the storage, dispensing, use and/or handling of Hazardous Materials. Therefore you must disclose all hazardous materials used/stored in your facility. See attached Hazardous Materials Reporting sheet – 1 page.
- R.O.W. Permit-Cover Sheet Note Revision.

Prior to the issuance of the Right-of-Way Street Occupancy Permit (RSOP), the permittee must arrange a preconstruction meeting with Public Works – Construction Engineering (PWCE) to determine work areas and boundaries for permitting. The Contractor must complete all lining work in a determined location before advancing to the next location. Subcontractors can work in a separate location of the General Contractor, but must also complete all associated work in the determined location before advancing to the next location. . Work durations and locations may be negotiated with PWCE.

- Traffic Control Letter update/clarification: The traffic letter only restricts work between peak rush hours. Work is allowed to be conducted between 7pm and 6am on weekdays and between 7:00 pm on Friday and 6:00 am Monday in accordance with the noise ordinance.
- Specification 15.1. Poly-Triplex Liner is an allowed Sanitary Manhole Rehabilitation Product. (5 pages attached)

This **ADDENDUM** shall be attached to, become a part of, and be returned with the Bid Proposal.

  
\_\_\_\_\_  
Lesley B. Thomas  
City Engineer

10/21/09  
\_\_\_\_\_  
Date

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The undersigned bidder acknowledges receipt of this Addendum. The Proposal submitted herewith is in accordance with the stipulations set forth herein.

\_\_\_\_\_  
Contractor

**ADDENDUM NO.**   1  

**DATE:** \_\_\_\_\_



**DENVER**  
THE MILE HIGH CITY

**CITY AND COUNTY OF DENVER**  
Department of Safety  
Fire Department  
Fire Prevention and Investigation Division

P.O. Box 40385  
Denver, CO 80204  
p: 720.913.3474  
f: 720.913.3587

## Hazardous Materials Reporting

Occupancy ID #:

Dear Current Occupant or Business Owner:

As you know, Hazardous Materials can pose a potential physical and/or health hazard. It is our objective to protect people and property from the consequences of unauthorized discharge, fires or explosions involving hazardous materials. The Denver Fire Department requires a permit for the storage, dispensing, use and/or handling of Hazardous Materials; therefore, you must disclose all hazardous materials used/stored in your facility. We have updated our system to allow for an electronic filing of the Hazardous Material Inventory Statement (HMIS). Forms can be sent on a disk or e-mailed to [dfdhmis@denvergov.org](mailto:dfdhmis@denvergov.org). If your company has Hazardous Materials, you will need to go to our web site at: [www.denvergov.org/dfd](http://www.denvergov.org/dfd) Select: **Fire Prevention Information** Select: **Hazardous Material Inventory Forms**. Follow the directions on how to file. Any questions should be directed to 720-913-8248 or 720-913-8232.

If your facility has batteries only you are required to obtain a Battery Permit. This can be done by calling 720-913-8232 and requesting a policy/application be faxed or mailed to you.

If your business has LPG, Flammable/Combustible Liquids, and/or welding, contact us at 720-913-8219 **PRIOR** to filing the HMIS.

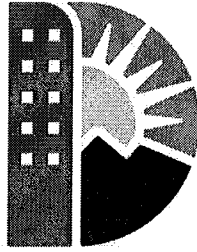
After visiting the web site, and it is determined your company is under the amount that requires a permit, you will be required to submit a disclosure form in writing for our records. The disclosure form can be faxed to 720-913-8217 Attention: Hazardous Materials Division. An inspection will be conducted to determine if you can be exempt from filing.

The Denver Fire Department, Fire Prevention Bureau is offering classes to assist in completing the HMIS reporting. The classes are every Thursday from 09:00 to 11:00 at 280 14<sup>th</sup> Street. If your company is interested in sending a representative, please call 720-913-8248. The classes are first come, first serve.

This notice does not relinquish your responsibility to submit a Tier II report to any other agency.

Thank you for your time and cooperation.

*"Everyone Comes Home"*



# DENVER

## THE MILE HIGH CITY

CITY AND COUNTY OF DENVER  
DEPARTMENT OF PUBLIC WORKS | ENGINEERING DIVISION

### **Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications**

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**Approved for Specific Capital Projects Only - Product Must Be  
Specifically Noted In the Contract Documents at Time of Bid**

#### **15.1 Cured-In-Place Fiberglass/Epoxy Resin Liner**

##### **15.1.1 General**

The work described within this specification details a complete manhole rehabilitation using a cured-in-place, fiberglass reinforced epoxy resin liner system. The complete system will provide a corrosion resistant liner to rehabilitate deteriorated manholes and prevent any further deterioration from hydrogen sulfide and other corrosive gases/acids caused by the wastewater stream. The completed system will also eliminate all ground water infiltration into the existing manholes.

##### **15.1.2 Referenced Standards**

ASTM D63860 – Tensile Strength

ASTM D69554 – Compressive Strength

ASTM D79058T – Flexural Strength

ASTM D63860 – Ultimate Elongation

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ASTM D2240 – Standard Test Method for Rubber Property-Durometer Hardness.

### 15.1.3 Submittals

1. A Denver Fire Department permit (Hazardous, Flammable, Hot Work, Confined Space) must be obtained by the contractor prior to beginning any work; with any material.
2. A letter to the City's Construction Project Manager requesting use of the product/system for a specific Capital Project, must be approved in writing prior to product use.
3. Product Data: Technical data sheet for each product used; Material Safety Data Sheet (MSDS); design thickness.
4. Design Variations: Description of variations from application procedures, surface preparation, application equipment, or testing.
5. Quality Assurance/Control: Submit certifications as required under Article 1.4 – Quality Assurance.

### 15.1.4 Quality Assurance

1. Provide certification from product manufacturer that contractor is a certified, licensed installer of the product.
2. Provide certification that the equipment to be used has been manufactured or approved by the product manufacturer.

### 15.1.5 Delivery, Storage, and Handling

Handle and store materials in accordance with manufacturer's recommendations and MSDS. Keep epoxy away from excessive heat to prevent premature curing.

### 15.1.6 Materials

1. Cured-in-Place Fiberglass Reinforced Resin Liner System: The Liner Manufacturer shall be as noted below, or an approved equal:

Poly-Triplex Liner  
Union Station  
1701 Wynkoop Street, Suite 250  
Denver, CO 80202  
Phone: 303-893-3100  
Fax: 303-893-3102  
[www.Poly-triplex.com](http://www.Poly-triplex.com)

2. The PTL5-5600 series is a three-layered composite system with a total pre-saturated fabric weight of 56-ozs. Per square yard. Layer #1 is 18-oz. structural fiberglass impregnated with a modified epoxy resin and bonded to the existing substructure. Layer #2 is a 20-oz. non-porous membrane of special synthetic materials bonded to layer #1 and layer #3. Layer #3 consists of 18-oz. structural fiberglass saturated with epoxy and bonded to the nonporous membrane, forming a smooth interior wall to the host structure.
3. Where active infiltration flows are more severe, pressure grouting may be required. The material for pressure grouting shall be Avanti A-220, DeNeef or approved substitute.

### 15.1.7 Equipment

Equipment used shall be as recommended by the liner manufacturer and adequate in size and capacity to accomplish the rehabilitation work in a timely manner.

### 15.1.8 Execution

1. Application shall be in strict accordance with the manufacturer's instructions (Refer to manufacturer's application instructions for additional details and recommendations not included herein). This shall include re-grouting all inlet and outlet lines and benches as needed, plus the preparation, installation, curing and finishing operation.
2. Use only skilled workmen who are trained and experienced in the installation of cured-in-place fiberglass reinforced epoxy resin liners for manhole rehabilitation. Contractor shall identify qualified personnel and ensure that these people are on site during each liner installation from start to finish.
3. All liner installations shall utilize bypass pumping. The use of flow-thru plugs and channel platforms shall only be allowed with prior approval from the Construction Engineer. Contractor shall provide individual flow diversion plans for each pumping setup.
4. No application shall be made to frozen surfaces or if freezing is expected to occur within 24 hours after application of product. No liners will be installed if outside air temperature exceeds 95 degrees F.
5. Do not allow extraneous material from entering sewer lines. Contractor will be fully responsible for any damage caused due to debris entering the sewer line during preparation work and/or liner installation activity.
6. Clean surfaces to be rehabilitated with high-pressure water spray (minimum 3500psi) to remove loose concrete or brick, biological growths, and other

contaminants. If surface cannot be cleaned sufficiently with high-pressure water spray, then use means necessary, as recommended by manufacturer. Surfaces may require the application of a 10% solution of muriatic acid or the use of a detergent or degreaser. If an acid or detergent solution is used, the surface shall be thoroughly rinsed and neutralized prior to the installation of the liner system. All surfaces shall be clean and structurally sound. Loose and protruding brick, mortar, concrete and roots shall be removed.

7. Repair mortar shall be used to fill voids, structurally reinforce or rebuild surfaces. Rebuild bench and channel areas after cleaning using mortar or other approved material to ensure adequate surface prior to liner installation.
8. Stop all active hydrostatic infiltration with cementitious grout. Excessive infiltration may require the use of pressure grout and/or heavier liner.
9. Remove manhole steps by cutting flush with vertical face of manhole wall prior to liner installation.
10. Contractor shall make a reasonable effort to minimize odors emitting from open manholes during preparation work, liner installations, and inspections.

#### **15.1.9 Installation**

1. Rehabilitate manholes as identified on the drawings. Proper equipment shall be used at all times. Contractor shall observe OSHA confined space and safety requirements during all manhole entries.
2. Liner shall extend one (1) foot into pipelines where appropriate, to ensure adequate overlap with pipe materials unless otherwise indicated on the drawings.
3. The liner shall be installed and cured in place via a pressurization blower system with steam heat injection or equivalent process. Pressure shall be approximately 500 to 1000 lbs. per sq. ft. and steam at approximately 250 degrees Fahrenheit. Curing time shall be a minimum of two (2) hours or as recommended by the manufacturer. Liner may be rejected at the sole discretion of City's Construction Project Manager if curing process fails to meet manufacturer recommended procedures, or if installation bladder fails more than once during curing process.
5. Do not install cured-in-place fiberglass epoxy resin liners in no-round structures. Alternative lining methods will be required for the rehabilitation of vaults, diversion structures, or rectangular shaped manholes.

**15.1.10 Testing**

Contractor shall perform visual inspection. Hollow spots, holes, tears, or delaminations shall be promptly repaired using mastic epoxy. Repair any other defects and irregularities.