



**REQUEST FOR QUOTE
PUBLIC WORKS DEPT
Manhole Repair 2014
RFQ #1056**

ADDENDUM # 1 (11-21-13)

The City of Springfield is hereby amending the above mentioned Request For Quote. The original document can be found on the City's website at www.springfield-or.gov. By selecting the hyperlink and *Purchasing/Contracts* from the menu on the left side of the home page, interested parties will be linked to the RFP/ITB/RFQ page.

1. Change in quantity of manholes from 21 to 19 (only change).

Replace page 3 "Statement of Work" with revised page 3 "Statement of Work".

Replace "Attachment 1, Section B of Special Provisions" with "Attachment 1, Section B of Special Provisions 11/20/13" (5 pages)

2. Questions/Clarifications

1. *What is the engineering estimate for this project?* **There is no engineer's estimate**
2. *Are you trying to stay below \$50,000?* **Yes**
3. *What are the depths of each manhole?* **They vary**
4. *What is the pipe diameter size for all lines coming into the manholes?* **They vary (8" is most common)**
5. *Are there pictures and/or video available for review related to the manholes needing repair?* **No**
6. *Are there manhole evaluation/inspection reports available for review identifying the issues needing repair?* **No**
7. *Is it possible to do an on-site evaluation of the manholes?* **YES**
8. *Any significant traffic control issues/locations to be aware of?* **YES (all locations, light to moderate, residential neighborhoods)**
9. *What is the access/availability of water for use during the project?* **Access to water will vary per location. Contact Springfield Utility Board (SUB) 541-726-2396 Tel**
10. *Is a city hydrant meter permit required?* **Contact Springfield Utility Board (SUB) 541-726-2396 Tel**
11. *Is there a "wash-out" location available to utilize at the end of the work day to spray down the mortar rehab unit?* **There are no city sites, the location(s) will need to be arranged by the contractor prior to commencement of work. Disposal must comply with Federal, State and Local codes.**
12. *Is the use of Strong Seal High Performance Mix of Strong Seal MS2A allowed as a final coating?* **Yes**

In the event that it is necessary to further amend, revise or supplement any part this RFQ, additional addenda will be posted on the City's website at <http://www.springfield-or.gov> (select the *Purchase Contracts* hyperlink **Addendum #- (date)**). As stated in the original solicitation, City will make a reasonable effort to provide the addenda to all Proposers to whom City provided the initial RFQ. This addendum shall be considered part of the specification of the Request For Quote. The City is not responsible for any explanation, clarification, interpretation or approval made or given in any manner except by written addenda issued by City.

THOSE SUBMITTING QUOTES SHOULD ACKNOWLEDGE AND INCLUDE THIS ADDENDUM AS PART OF THEIR SUBMITTAL PACKAGE.

**RFQ 1056
ATTACHMENT 1
Section B**

SPECIAL PROVISIONS 11/20/13

P21091 MANHOLE REPAIRS 2014

B1. DESCRIPTION

The CONTRACTOR shall be responsible for furnishing all labor, supervision, materials, equipment, and testing required for the completion of repairs of manhole defects and joints in accordance with the Contract Documents.

The project shall initially include 19 manholes at various locations. Locations for the initial 19 manholes are indicated by the attached drawings. Additional manhole work may be added at a later date.

B2. SCOPE OF WORK

This section describes work and materials required for the chemical grouting of manhole defects. Manholes or sections of manholes with active leaks shall be repaired.

The scope of work shall include the sealing/repairing of existing in place manholes as identified. This shall include;

- an inspection to determine area(s) of repair
- an inspection report indicating nature of repair(s) and locations
- traffic control
- temporary protection and safety measures
- pressure washing/cleaning
- patching holes, voids and cracks
- Priming & sealing affected surfaces
- Topcoat application

B3. SPECIFICATIONS PRODUCTS AND SERVICES

1.0 Introduction:

This specification defines the approved methodology and materials for the repair of concrete structures. This includes waterproofing, sealing, structural enhancement, and corrosion protection. The structures include, but are not limited to, new and existing sewer manholes (base, walls, corbel/cone, and chimney). The system used will effectively recondition the manhole surface to create a high strength, high build, and corrosion resistant impermeable structural bond with the internal substrate.

Additional specifications will apply according to specific product manufacturers. They shall govern where applicable.

2.0 General:

Manhole grouting shall not be performed until the repair of the manhole frame and grade rings or any other structural manhole repairs are complete.

The rehabilitation will include four (4) phases.

- A. Cleaning: Proper cleaning is critical for the successful rehabilitation of the manhole.
- B. Patching: All holes, voids and cracks shall be filled stopping all leaks.

- C. Sealing - Priming: All surfaces shall be coated according to product manufacturer specifications.
- D. Top Coat: Applied to product manufacturer specifications.

2.1 Description:

Product(s) shall be applied as to the product manufacturer's specifications, or as required by a qualified design engineer, to both dry and wet substrates. Many factors determine the optimum thickness such as the condition of the existing manhole, depth, groundwater pressure, and traffic loads. The approved products are to be applied as directed to the internal substrates of a damaged or leaking manhole.

Grouting to a manhole may include corbel, wall, pipe seals, manhole joints, well to flattop joint, and/or bench/trough.

2.2 Drilling and Injection

- A. Injection holes shall be drilled through the manhole wall at locations as recommended by the manufacturer.
- B. Grout shall be injected through the holes under pressure with a suitable probe. Injection pressure shall not cause damage to the manhole structure or surrounding surface features. Grout shall be injected through the lowest holes first. The procedure shall be repeated until the manhole is externally sealed with grout.
- C. Grouting from the ground surface shall not be allowed.
- D. Grout travel shall be verified by observation of grout to defects or adjacent injection holes. Provide additional injection holes, if necessary to ensure grout travel.
- E. Injection holes shall be cleaned with a drill and patched with a waterproof quick setting mortar for brick and concrete manholes.

3.0 Product(s):

Product type, system(s), specifications, installation requirements & procedures, and cut sheets shall be submitted with quote.

The products of preference shall include "Avanti AV-100 and Dayton Superior 29 minute-set cementous grout". Other products recommended shall meet or exceed specifications and/or qualities of the above mentioned preferences and shall be submitted for approval with the quote.

The following items shall be submitted for the Manhole Interior Coating product:

- A. Technical data sheet on each product used, including ASTM test results indicating that the product conforms to and is suitable for its intended use per these specifications.
- B. Material Safety Data Sheets (MSDS) for each product used.
- C. Project specific installation guidelines and recommendations including properties and mix ratios.
- D. Applicator Qualifications:
 - 1. Manufacturer certification that Applicator has been trained and approved in the handling, mixing and application of the products to be used.
 - 2. Certification that the equipment to be used for applying the products has been manufactured or approved by the protective coating manufacturer and Applicator personnel have been trained and certified for proper use of the equipment.
 - 3. **Three (3)** recent (within the last 24 months) references of Applicator (projects similar size and scope) indicating successful application.
 - 4. Proof of any necessary federal, state or local permits or licenses necessary for the project.
- E. Quality Assurance Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE and SSPC standards and the protective coating manufacturer's recommendations.

3.1 Site Conditions

- A. Applicator shall conform to all local, state and federal regulations including those set forth by OSHA, RCRA and the EPA and any other applicable authorities.
- B. Method statements and design procedures are to be provided to the Owner when confined space entry, flow diversion or bypass is necessary in order for Applicator to perform the specified work.
- C. The contractor shall document the locations, type of repair and extent of work needed to make the repair.

4.0 Manufacturer's Specifications:

4.1 Resin:

Resins shall be thermosetting epoxy containing zero grams per liter VOC'S. The system will achieve superior bond strength to the substrate under both dry and wet conditions in both warm and cold climates.

4.2 Materials:

The material required for the rehabilitation project must be designed for manhole rehabilitation and specific application in which they are used. Products must provide a protective coating material specifically designed to protect concrete and steel surfaces of manholes and structures subjected to municipal wastewater service conditions, including associated abrasive physical attack and chemical attack mechanisms related to hydrogen sulfide and organic acids generated by microbial sources.

The material shall be delivered to the site in undamaged, unopened containers bearing the manufacturer's original label and stored in an area that will insure the materials maintain a temperature not to exceed manufacturer's recommendations and specifications. The material must be mixed and applied in accordance with written instructions and **not altered in any way**. All materials shall be rejected for failure to meet the requirements of this specification.

The contractor shall provide all accessory components such as primers or other compounds as recommended by the manufacturer for maximum protective coating adherence to substrate, and long-term service performance.

The CONTRACTOR shall completely identify the types of grout, mortar, sealant, and/or root control chemicals used and provide case histories of successful use or defend the choice of grouting materials based on chemical and physical properties, ease of application, and expected performance, to the satisfaction of the Engineer.

4.3 Alternative Materials:

No alternative materials shall be employed without qualification by the manufacturer and written approval from the Engineer.

5.0 Chemical and Corrosion Resistance:

The rehabilitated manhole must be chemically resistant to withstand internal exposure to domestic sewage and meet the standards for domestic sewage resistance in accordance with testing as outlined by the American Society of Testing and Materials ASTM D 543.

5.1 Mechanical and Physical Properties:

The cured product shall be resistant to biogenetic corrosion and aggressive soil conditions and must meet the mechanical and physical properties in accordance with testing as outlined by the American Society of Testing and Materials, ASTM C 297 Tensile Strength of Flat Sandwich Constructions in Flatwise Plane, ASTM D 638 Tensile Properties of Plastics, ASTM D 790 Flexural Properties of Unreinforced and Reinforced Plastics, ASTM D 648 Deflection Temperature of Plastics Under Flexural Load and ASTM D 2240 Test Method For Rubber Property.

The following properties shall be exhibited by the grout.

- A. Documented service of satisfactory performance in similar usage.
- B. Controllable reaction times and shrinkage through the use of chemicals supplied by the same manufacturer. The minimum set time shall be established so that adequate grout travel achieved.
- C. Resistance to chemicals; to most organic solvents. Mild acids and alkali.
- D. The chemical shall be essentially non-toxic in a cured form.
- E. Sealing material shall not be rigid or brittle when subjected to dry atmosphere. The material shall be able to withstand freeze/thaw and moving load conditions.
- F. Acrylate grouts may not be used.

5.2 MIXING AND HANDLING

Mixing and handling of chemical grout, which may be toxic under certain conditions shall be in accordance with the recommendations of the manufacturer and in such a manner to minimize hazard to personnel. It is the responsibility of the CONTRACTOR to provide appropriate protective measures to ensure that chemicals or gels are handled by authorized personnel in the proper manner. All equipment shall be subjected to the approval of the Engineer. Only personnel thoroughly familiar with the handling of the grout material and additives shall perform the grouting operations.

5.3 ADDITIVES

Grout conditioners may be utilized for catalyzing the reaction, inhibiting the reaction, buffering the solution, lowering the freezing temperature of the solution, acting as filler, providing strength or for inhibition of root growth as directed by the manufacturer.

6.0 Safety:

Prior to entering access area an evaluation of the atmosphere to determine the presence of toxic or flammable vapors or lack of oxygen must be undertaken in accordance with local, state or federal safety regulations. Safety shall be in strict accordance with all applicable OSHA standards.

7.0 Documentation:

Documentation of the observed defects during the inspection shall be documented with the use of a digital or CCTV camera and be made available along with the inspection logs as part of the report.

10.0 Substrate Preparation:

Cleaning shall consist of the removal of all loose material and substrate contaminants and shall be accomplished by pressure washing (min. 3000 psi). The use of muriatic, hydrochloric or other acids for cleaning the substrate is not recommended.

Precautions must be taken to prevent debris and foreign material from entering active lines. Any large solid protrusions on the substrate, such as mortar lumps, shall be cut back flush with the existing wall, or as near as possible, using a small sledge or chipping hammer.

10.1 Grouting Material Usage

Grouting to a manhole may include corbel, wall, pipe seals, manhole joints, well to flattop joint, and/or bench/trough.

10.2 Patching

All loose or disintegrated material shall be removed from the substrate that is to be patched exposing a sound substrate. Patching, filling and repairing of holes, cracks, breaks, broken bricks and irregular surfaces will be repaired with an appropriate approved product.

10.3 Sealing/Primer

The contractor shall apply a penetrating sealer that is designed to penetrate the concrete, block and brick pore structures of the manhole (base, wall, corbel/cone). The penetration depth depends on several factors including moisture content and the porosity of the substrate. In general the penetration depth will range from 1.5mm to 8.5mm. The penetrating sealer/primer shall be applied to the manufacturer's specifications.

10.4 Drilling and Injection

- A. Injection holes shall be drilled through the manhole wall at locations as recommended by the manufacturer.
- B. Grout shall be injected through the holes under pressure with a suitable probe. Injection pressure shall not cause damage to the manhole structure or surrounding surface features. Grout shall be injected through the lowest holes first. The procedure shall be repeated until the manhole is externally sealed with grout.
- C. Grouting from the ground surface shall not be allowed.
- D. Grout travel shall be verified by observation of grout to defects or adjacent injection holes. Provide additional injection holes, if necessary to ensure grout travel.
- E. Injection holes shall be cleaned with a drill and patched with a waterproof quick setting mortar for brick and concrete manholes.

10.5 Coating

All topcoat applications must be applied with in approved application methods, or as required by a design engineer. Final thickness will increase in areas of major damage. The coating must be applied monolithically. The finished topcoat shall be uniform in color and exhibit superior bond strength to the substrate beneath the coating. No pinholes, blistering or other defects will be accepted.

10.6 Gel Time/Cure Time Verification

A sample shall be taken prior to actual application of the top coat. The measured gel/cure time is used as the basis for determining the required coating/application time.

11.0 Final

Acceptance criteria shall be based on properly completed rehabilitation of the manhole and in accordance with this specification. The continuity of the dry but uncured coating shall be checked with a nondestructive holiday detector at 100 volts per mil or as otherwise specified by the manufacturer as an approved method. Any leakage or defects in the work shall be corrected by the contractor within an agreed upon time at no additional cost to the owner. Final acceptance also involves documentation of the completed repair.

12.0 Warranty

The applicator/manufacturer shall warrant that the products that are required and supplied for manhole rehabilitation are produced in conformity within its written specifications and formulas and within recognized tolerances and are free of adulterations or contaminations. The applicator/manufacturer shall further warrant that the product will perform in accordance with its published literature and technical data sheets when properly applied in strict conformance with its written instructions and applied to a properly prepared substrate. Applicator shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during a two year warranty period from the time of completion, and any damage to other work caused by such defects or the repairing of same, at his own expense and without cost to the Owner.

END OF SECTION