

BID SOLICITATION



City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

BID OPENING DATE AND TIME:

25-APR-18 at 2:00 PM

BID NUMBER: 305069

SEALED BIDS

Mail or submit two (2) signed copies of bid form to this office in the enclosed envelope. Retain one copy for your file.

BUYER:

PHONE #: (423) 643-7230

DELIVERY REQUIRED:

V
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City of Chattanooga
101 East 11th Street, Suite G13
Chattanooga, TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
<p>Requisition No.: 168101 Ordering Dept.: Waste Resources Buyer: Geoffrey Hipp 423-643-7233 *****</p> <p>DESCRIPTION: This shall be a twelve (12) month blanket contract for Manhole Rehabilitation Services for the Waste Resources Division. The contract may be renewed for two (2) additional twelve (12) month terms under the same Terms and Conditions by Mutual Agreement. The City of Chattanooga and the Contractor may bilaterally extend the contract by Written Confirmation by both parties at least 30 days prior to the contract's current expiration date into any successive term as provided herein. *****</p> <p>ATTACHMENTS: - Specifications - Iran Divestment Act - Affirmative Action Plan - Standard Terms and Conditions: (http://www.chattanooga.gov/purchasing/standard-terms-and-conditions) *****</p> <p>*** BIDS MUST BE RECEIVED NO LATER THAN *** ***** 2:00 PM ON APRIL 25, 2018 ***** *****</p> <p>PLEASE SUBMIT BIDS IN DUPLICATE INDICATING BID NUMBER (305069) ON OUTSIDE PACKAGING *</p> <p>ALL ITEMS MUST BE QUOTED F.O.B. DESTINATION, FREIGHT ALLOWED. *****</p> <p>NOTE: All bids received are subject to the terms and conditions contained herein and as listed in the above referenced website. The undersigned Bidder acknowledges having received, reviewed, and agrees to be bound to these terms and conditions, unless specific written exceptions are otherwise stated.</p> <p>The City of Chattanooga reserves the right to reject any and/or all bids, waive any informalities in the bids received, and to accept any bid which in its opinion may be for the best interest of the city.</p> <p>The City of Chattanooga will be non-discriminatory in the purchase of all goods and services on the basis of race, color, or national origin. *****</p> <p>PRICE ESCALATION CLAUSE: All prices under this contract shall remain fixed during each twelve (12) month contract period. If as a result of a general change in prices or discounts, the contractor has changed prices to all of its customers, then, at the time of contract renewal, the price under this contract may be adjusted accordingly after acceptance. All price increases must be justified by providing a copy of the prevailing labor wage or material cost increases. Prompt notice of price changes (increases or reductions) must be furnished to the Purchasing Agent at least 30 days prior to the requested effective date and the prices for these services/materials shall remain firm for twelve (12) months. The effective date of price increases shall be the date the Purchasing Agent accepts the price changes or the effective date of increase stated by contractor's notice to Purchasing Agent, whichever is later. *****</p> <p>PLEASE PROVIDE US WITH THE FOLLOWING INFORMATION:</p> <p>Company Name _____</p> <p>Address _____</p> <p>Phone/Toll-Free No. _____</p> <p>Fax No. _____</p> <p>E-Mail Address _____</p>					

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VENDOR

RFQ

MAIL TO

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101 East 11th Street, Suite G13
Chattanooga, TN 37402

Item	Class-Item	Quantity	Unit	Unit Price	Total
Contact Person's Name _____					
Estimated Delivery _____					
Minority-Owned Business ____ Small Business ____ Veteran ____					
Minority Woman Owned Business ____ Disabled Veteran ____					
Women-Owned Business ____					

NOTE: ALL BIDS RECEIVED ARE SUBJECT TO THE TERMS AND CONDITIONS

ALL BIDS MUST BE SIGNED – The undersigned offers the above quoted prices under the conditions contained herein.

The City is Exempt from all Federal and State Tax.
Bids will be received at the above mentioned address.

COMPANY: _____

TERMS OF PAYMENT: _____

SIGNATURE: _____

TELEPHONE NUMBER: _____

NAME AND TITLE: _____

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[illegible]

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**SPECIFICATIONS FOR MANHOLE REHABILITATION
FOR THE WASTE RESOURCES DIVISION
CITY OF CHATTANOOGA, TENNESSEE**

Part 1 General

1.01 Scope

The Scope of Services included in these Specifications includes requirements for furnishing all labor, material and equipment to provide for the reconstruction of existing manholes, manhole benches and inverts using an approved method of non-disruptive rehabilitation within an existing structure, which has generally maintained its original shape. The locations will be determined by the Engineering Manager or designee and authorization for each Sub-Project shall be released to the Vendor at a time decided by the City of Chattanooga.

Supply all products and perform all work in accordance with applicable American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), or other recognized standards. Latest revisions existing on advertisement date of all standards are applicable. Where discrepancies exist between this Specification and referenced product/process standards, this Specification shall govern.

It is the responsibility of each bidder to visit both the Moccasin Bend Wastewater Treatment Plant and the related WASTE RESOURCES DIVISION facilities to determine the types, sizes, and quantities of manholes in the City of Chattanooga ISS as well as the associated work areas and conditions, the sizes and types of equipment and parts, the safety requirements, and any other circumstances associated with the provision of these services.

Any questions or comments related to these specifications may be directed to the City Of Chattanooga, 101 East 11th Street, Suite G-13, Chattanooga, Tennessee 37402, purchasing@chattanooga.gov.

1.02 Specialty Subcontractor and Qualifying Superintendent Experience

- A. The Specialty Subcontractor performing the work shall be fully qualified, experienced and equipped to complete this work expeditiously and in a satisfactory manner. The Specialty Subcontractor shall be an approved installer as certified and licensed by the manufacturer. All Personnel involved in installation shall be certified by the manufacturer that they have successfully completed training in handling, applying, and finishing materials used. The Vendor must certify that the proposed product/process to be used is the exact system for which any and all submittals and certifications were made. No substitutions will be allowed, and misrepresentations or omissions may be grounds for Contract termination with the Vendor waiving any and all claims against the Owner for work performed or costs incurred.

- B. On-Site Field Superintendent: The proposed qualifying superintendent of the Specialty Subcontractor for the work under this Section shall have successfully installed a manhole lining product of the type specified in a minimum of 2,000 vertical feet of manhole rehabilitation and 300 manholes/structures over the last five years as documented by verifiable Owner references. The Owner must approve both the Specialty Subcontractor and the Qualifying Superintendent to perform this work. The approved superintendent shall be on-site during the execution of all lining operations including prep work and vacuum testing. The lining installation and/or vacuum testing shall cease whenever the superintendent is not on-site. The Vendor shall remove the onsite Field Superintendent at the request of the City at any point during the contract. The Superintendent shall be replaced with other qualified personnel.

1.03 Storage, Handling and Protection

Care shall be taken in shipping, handling and storage to avoid damaging the lining materials. Any lining product damaged in shipment, showing deterioration, or which has been exposed to any other adverse storage condition that may have caused damage, even though no such damage is evident, shall be marked as rejected and removed at once from the job site. While stored, the lining products shall be adequately packaged, protected and stored in accordance with the manufacturer's recommendations.

1.04 Submittals

- A. The Vendor shall submit for all products to be installed under this section of the Specifications the following:
1. Description, layout, and application sequencing plan.
 2. Rehabilitation system application requirements including material handling and storage requirements, mixing and proportioning requirements (as applicable), maximum pot life, film/coating thickness, curing, testing and certification requirements of all rehabilitation materials. Product Material Safety Data Sheets (MSDS).
 3. Detailed instructions and methodology for finishing all pipe and manhole connections to rehabilitated manholes to prevent infiltration and exfiltration.
 4. Wastewater Flow Control/Bypassing Plan.
 5. Confined Space Entry Plan/Permit.
 6. Emergency plan detailing procedures followed in event of health and safety emergency, pump failures, overspray, chemical spills, sewer overflows, service

backups, and sewage spillage. Maintain copy on site for duration of project.

7. Plan for capturing extraneous debris during rehabilitation processes and debris disposal.
 8. Liner and vacuum test results.
- B. The Vendor shall submit evidence of meeting the requirements of Article 1.02 above.
 - C. The Vendor shall provide bond strength data on the cured cementitious lining based on ASTM test methods referenced in this Specification.
 - D. The Vendor shall provide test data on shrinkage of the cured cementitious lining based on ASTM test methods referenced in this Specification.
 - E. The Vendor shall submit complete shop drawings of the manhole lining system(s) to demonstrate compliance with these Specifications, materials and detailed installation procedures. Testing procedures and quality control procedures shall also be submitted. Certifications that the lining system was manufactured in accordance with these Specifications and the applicable ASTM standards shall be submitted with each material shipment.

1.05 General Conditions and Instructions to Bidders

The Vendor shall comply with rules and conditions found in the City of Chattanooga Purchasing Department's "General Conditions and Instructions to Bidders" that are a part of the invitation to Bid for the equipment or services specified herein.

1.06 Length of Contract

The Contract for services described herein shall be for a period of one (1) year beginning the effective date of the award of the Contract. The Vendor shall provide the attached bid tabulation for the first year of the Contract.

The City shall have the option of extending the Contract for two (2) additional one (1) year periods at the Vendor's unit prices.

1.07 Insurance

Vendor shall purchase and maintain during the life of this Agreement, insurance coverage which will satisfactorily insure Vendor against claims and liabilities which arise because of the execution of this Agreement, with the minimum insurance coverage as follows:

- a. Commercial General Liability Insurance, with a limit of \$1,000,000 for each occurrence and \$2,000,000 in the general aggregate.

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Water Resources Division

- b. Automobile Liability Insurance, with a limit of \$1,000,000 for each accident, combined single limit for bodily injury and property damage.
- c. Worker's Compensation Insurance and Employer's Liability Insurance, in accordance with statutory requirements, with a limit of \$500,000 for each accident.
- d. Professional Liability Insurance, with a limit of \$1,000,000 for each claim and aggregate.

If any of the above cited policies expire during the life of this Agreement, it is the Vendor's responsibility to forward renewal Certificates within ten (10) days after the renewal date containing all the aforementioned insurance provisions. Certificates must specifically cite the following provisions:

- i. City of Chattanooga, its agents, representatives, officers, directors, officials and employees must be named an Additional Insured under the following policies:
 - a) Commercial General Liability
 - b) Auto Liability
 - c) Worker's Compensation Insurance and Employer's Liability Insurance
 - d) Professional Liability Insurance
- ii. Vendor's insurance must be primary insurance as respects performance of subject contract.
- iii. All policies, except Professional Liability Insurance, if applicable, waives rights of recovery (subrogation) against City of Chattanooga, its agents, representatives, officers, directors, officials and employees for any claims arising out of work or services performed by Vendor under this Agreement.

1.08 Warranty

The coatings/linings manufacturer shall warranty the entire project to include any and all aspects of the surface preparation, base material installation and protective coating/lining applications for a period of ten (10) years from the date of acceptance by the Owner. The warranty shall make no distinction between installation practices and material performance and shall not be prorated with respect to elapsed time for the entire warranty period. Manufacturer shall, within a reasonable period of time after receipt of written notice thereof by the Owner, period not to exceed sixty (60) calendar days, repair defects in materials or workmanship during said ten (10) year period, and any damage to other work caused by such defects or repairing of same at his own expense and without cost to the Owner.

1.09 Failure to Provide Services and Termination of Contract

In the event the Vendor:

- a. Fails to initiate services on the date specified or otherwise agreed to;
- b. Fails to provide all of the required documentation for his personnel, insurance, and any other documentation required by these Specifications at the specified times;
- c. After having begun services, abandons them for any reason;
- d. Suspends or refuses to continue services; or
- e. Defaults in any manner in the performance under the terms of the Contract for a period of two (2) consecutive working days (unless the Vendor is prevented from continuing for reasons beyond its control);

The City of Chattanooga shall have the right to terminate the Contract immediately upon the written notification by the City for the reasons listed above and the City shall complete the Contract or have the services completed by another vendor in any reasonable manner at the Vendor's expense.

The City shall have the right to terminate the Contract after giving a thirty-day (30) written notice to the Vendor.

Part 2 Products

2.01 Manhole Seals

- A. Manhole Frame-Chimney Seal – Frame seals shall be designed to prevent leakage of water through the frame-chimney joint area of brick and block manholes and the entire chimney area of precast, fiberglass and plastic manholes throughout a 50-year design life. The seal shall remain flexible throughout this period, allowing repeated vertical movements of the frame of not less than 2-inches and/or repeated horizontal movement of not less than 1/2-inch, at rates not greater than 1/10-inch per minute. Frame seals shall consist of a flexible rubber sleeve, extensions and stainless steel expansion bands, all conforming to the following requirements:

1. Rubber Sleeve and Extension - The flexible rubber sleeve and extensions shall be extruded or molded from a high grade rubber compound conforming to the applicable material requirements of ASTM C923, with a minimum 1,500 psi tensile strength, maximum 18% compression set and a hardness (durometer) of 48+5. The rubber sleeve shall be double, triple or quadruple pleated with a minimum unexpanded vertical height of 8-inches, 10-inches or 13-inches respectively and a minimum thickness of 3/16 inches. The top and bottom section of the sleeve that compresses against the manhole frame casting and the chimney/cone shall have an integrally formed expansion band recess and a series of sealing fins to facilitate a watertight seal. These sealing fins shall have teardrop holes or air pockets to allow the sealing area to conform to minor surface irregularities that may be encountered. The top section of the extension shall have a minimum thickness of 3/32-inches and shall be shaped to fit into the bottom band recess of the sleeve under the bottom chimney seal band and

the remainder of the extension shall have a minimum thickness of 3/16-inches. The bottom section of the extension shall contain an integrally formed expansion band recess and multiple sealing fins matching that of the rubber sleeve. Any splice used to fabricate the sleeve and extension shall be hot vulcanized and have a strength such that the sleeve shall withstand a 180 degree bend with no visible separation.

2. Expansion Bands - The expansion bands used to compress the sleeve against the manhole shall be integrally formed from 16 gauge stainless steel conforming to the applicable material requirements of ASTM A240, Type 304, with no welded attachments and shall have a minimum width of 1-3/4-inches. The bands shall have a minimum adjustment range of 2-1/2 diameter inches and the mechanism used to expand the band shall have the capacity to develop the pressures necessary to make a watertight seal. The band shall be permanently held in place with a positive locking mechanism which secures the band in its expanded position after tightening.
3. Size - The Vendor shall be responsible for obtaining the exact field measurements so that the proper sized frame-chimney seal can be ordered and installed in each manhole as required by the plans.
4. Acceptable Manufacturers are Cretex Specialty Products or Pre-Approved Equal.

2.02 Polymer Resin-Based Linings

- A. Type 1 Polymer resin-based liners shall be 100% solids by volume, volatile organic compound (VOC) free and shall conform to the minimum physical properties listed in the following table:

Compressive Strength	ASTM D695	10,500 psi
Tensile Strength	ASTM D638	7,000 psi
Flexural Strength	ASTM D790	12,000 psi
Flexural Modulus (Initial)	ASTM D790	730,000 psi
Density		87 ± pcf
Bond		Exceed tensile strength of substrate

- B. The structures lined with polymer resin-based liners shall be resistant to corrosion caused by:
1. Hydrogen Sulfide
 2. 20% Sulfuric Acid
 3. 17% Nitric Acid

4. 5% Sodium Hydroxide
5. All common ingredients normally associated with sanitary sewer environments and an environment of pH of 0.5 or higher.
- C. The finished liner shall have long-term (50-year) flexural modulus of elasticity value of 500,000 psi and shall be certified by independent third-party testing.
- D. Polymer resin-based linings shall be compatible with existing thermal conditions in the manhole.
- E. The final product shall not deteriorate, corrode, or lose structural strength in any manner.
- F. The system shall be designed to operate at ambient temperatures up to 140 degrees F with excellent abrasion resistance.
- G. The Type 1 Polymer resin-based lining system shall be a resin-based lining system applied with a minimum 250 mil (1/4-inch) finished thickness meeting the requirements of paragraph 2.02 above and shall be one of the following products:
 1. Spraywall or Sprayshield as manufactured by Sprayroq, Inc.
 2. S-301 Epoxy Spray System as manufactured by Warren Environmental, Inc.
 3. Dinjer SG Mastic as manufactured by Pilgrim Permocoat Inc.
 4. Raven 405 as manufactured by Raven Lining Systems
 5. SLS-60™ by Citadel Technologies
 6. Cor+Gard FC as manufactured by APM Permaform
- H. The Type 2 Polymer resin-based lining system shall be a multi-layer lining system in accordance with the following requirements:
 1. Lining system shall be Spectrashield as manufactured by CCI Spectrum, Inc.
 2. The liner system shall be a multi-component stress skin panel liner system as described below:

<u>Layer</u>	<u>Material</u>	<u>Minimum Thickness</u>
Moisture Barrier	Modified Polymer	100 mils
Surfacer	Polyurethane/Polymeric blend foam	500 mils
Corrosion barrier	Modified Polymer	150 mils
Total Installation		750 mils
 3. The modified polymer shall be spray able, solvent free, two-component polymeric, moisture/chemical barrier specifically developed for the wastewater environment with the following physical properties:

<u>Parameter</u>	<u>Method</u>	<u>Value</u>
Tensile Strength, psi	ASTM D412	>2,400
Elongation, %	ASTM D412	>300
Tear Strength, PSI	ASTM D624	>500
Shore A Hardness	ASTM D2240	>96
Flexural Modulus	ASTM D522	>2,400

4. The polyurethane/polymeric blend foam shall be a rigid structure foam, low viscosity two-component blend with the following physical properties:

<u>Parameter</u>	<u>Method</u>	<u>Value</u>
Density, lbs/ft ³	ASTM D1622	4-10
Compression Strength, psi	ASTM D1621	90-150
Closed Cell Content, %		>95
Shear Strength, psi	ASTM C273	225-250

Part 3 Execution

3.01 General

- A. The Vendor shall notify all property owners who discharge sewage directly into the manhole being rehabilitated at least 48 hours in advance, giving contact information, the starting date, estimated completion time/date for the work being conducted and any anticipated impact to the property owner. Notification shall consist of a door hanger and/or letter. All customer notification documentation and procedures shall meet the requirements of the City and be submitted to the Engineer for review and approval.
- B. Vendor shall be responsible for locating all manholes utilized for any portion of work related to the contract.
- C. The Vendor shall be the responsibility of the vendor bypass pump sewage flows around the manhole being rehabilitated while the work is being performed. A detailed bypass plan shall be submitted to the Engineer for approval before any work shall take place.
- D. Traffic Control: The Vendor shall be responsible for traffic control during the course of each phase of the Work. Prior to beginning Work, Vendor shall provide approved traffic control plans from TDOT, or CDOT for any instance where traffic control is required. It is the intent that this Work is to be accomplished with as little disturbance to traffic, private property, and the public as is reasonably possible, consistent with timely completion thereof. The traffic control plan shall reflect such requirements where applicable. Signs, signals, and detours shall conform to the local and state requirements for streets and highways. The Vendor shall have and maintain on site a sufficient supply of traffic cones and other traffic signaling devices, including trained and properly equipped flagmen, to safely control all traffic through the work zone(s). Road closures and / or detours will require advance scheduling and prior approval by the Engineer.

- E. Covers or plugs shall be placed over all pipe openings to prevent excess material from entering the wastewater collection system.
- F. Manhole walls and benches shall be monolithically coated to the required thickness by spray-on methods in a single pass or application. Sprayed cementitious linings shall be trowelled smooth after application.
- G. All invert channels shall be coated with grout or cementitious mortar to build up the invert to the invert elevations of new liner pipes (if applicable and as directed by the Engineer); to fill all cracks, voids, holes, etc.; and to form a smooth flow channel. The entire channel shall be coated with the channel coating being a minimum ¼-inch thick.
- H. A complete watertight seal shall be provided at the pipe and manhole wall connections. The Vendor shall submit details of how watertight connections shall be made to the Engineer for approval prior to performing any work.
- I. Manhole lining shall not be installed until all required mainline sewer rehabilitation and/or other manhole work is completed.
- J. Application of the spray applied material must be completed in one mobilization in order to minimize the disruption and cost of bypass pumping, pipeline plugging, traffic control and other ancillary services.
- K. The finished manhole may be returned to service immediately upon completion of the spray application.
- L. Appropriate personal protection equipment shall be used with supplied air being utilized to the spray technician and other personnel in direct contact with the spray environment.
- M. The spray shall be applied so that the entire structure receives a structurally sound, monolithic liner. The finished invert surfaces shall be smooth, free of ridges and bumps and will be sloped in the direction of flow. Special care shall be taken to ensure a smooth transition between the new manhole invert and intersecting pipeline inverts so that flow will not be impaired.
- N. The cured surfacing thickness shall be smooth, even (without ridges or bumps) and continuous with proper sealing connections to any non-rehabilitated areas.
- O. The monolithic lining shall completely cover the interior of the existing manhole including the benches and invert unless otherwise directed by the Engineer. The lining shall effectively seal the interior surfaces of the manhole and prevent any penetration or leakage of ground water infiltration.
- P. The Vendor shall adhere to all of the lining manufacturer's installation requirements including environmental conditions (ambient temperature, moisture, etc.) and curing times.

3.02 Surface Preparation (All Lining Systems)

- A. The Vendor shall clean each sewer manhole to be restored and shall dispose of any debris or resulting material in a manner and place suitable to the Owner. No debris shall remain in the manhole, or be allowed to enter the system. Cleaning shall be performed using a high-pressure jet wash at a minimum of 3,500 psi water pressure to remove all dust, biological growths, grease, oils or any other surface contaminants or coatings.
- B. The Vendor shall immediately notify the Engineer of any coatings that cannot be removed or substrates which cannot be cleaned and, upon the approval of the Engineer, may use a blast abrasive in these area(s) to rough up the surface sufficient to obtain and ensure adequate bonding of the liner. Roots shall be removed by manually cutting them from inside the manhole.
- C. The Vendor shall conduct a visual inspection of each manhole after it is cleaned. All active leaks shall be plugged or sealed with an appropriate grout compatible with the lining. Injection grouting may be required to seal active leaks including existing leaks in invert channels and benches. All loose mortar and rubble of existing benches, walls and inverts shall be removed.
- D. The Vendor shall prepare the manhole to receive lining as necessary by reshaping and repairing benches, inverts and walls where required including smoothing out irregular shaped corbel and chimney sections prior to any spray application. All interior surfaces shall be prepared as recommended by the lining system manufacturer. Minimum requirements of the Specification are as follows:
 - 1. All cracks and voids must be repaired and filled with suitable non-shrinking cements, sealants or grouts, including all voids between existing sewer pipes and manhole walls. All patch repairs shall be smooth and even with the manhole wall.
 - 2. All voids around existing manhole rungs, steps and anchors shall be filled.
 - 3. All surfaces shall be suitably prepared for the required bonding of the liner as recommended by the manufacturer and acceptable to the Engineer.
- E. Prior to lining, the Engineer shall inspect and approve the surface preparation work. The Vendor shall notify the Engineer when the manholes are ready for inspection. The Vendor shall take digital photographs of the invert, bench and pipe openings and present them to the Engineer in order to document the readiness of the manhole for lining application in these areas. The manhole lining shall be performed immediately after the Engineer's inspection or the manhole may need to be re-cleaned and dried prior to lining application to remove accumulated debris on walls and benches.

3.03 Emergency Mobilization

An Emergency Mobilization charge, as outlined in the bid schedule, will be reserved

for an instance where the city requires lining services immediately. The City anticipates that Emergency jobs would consist of 1000 linear feet or less. Once Emergency Mobilization has been requested by the City, the following conditions shall apply:

- A. Mobilization of personnel, equipment, material, and set up of by-pass pumping within 48 hours.
- B. Liquidated Damages: For each day past the 48-hour schedule for an emergency job, liquidated damages shall be assessed in the amount of \$1,500 per day.

3.04 By-Pass Pumping

- A. By-Pass Pumping shall be the responsibility of the vendor, and requirements will be agreed upon at each sub-project meeting. All by-pass pumping shall be sufficient to meet or exceed the capacity of the existing collection system.
- B. The installation methodology contemplated requires the temporary blocking and back-ups of sewers and sewage. Vendor shall be responsible to limit the extent and duration of such blockages and back-ups so that overflows and spillage onto public or private property and into storm sewers, waterways, and streets does not occur. In the event that such spillage or overflows do occur during the course of or as a result of the Work, the Vendor performing the Work shall immediately report the spillage or overflow to the Engineer or designee, as well as, eliminate the spillage or overflow and, as necessary, remove the blockage and eliminate the back-up. On elimination of the spillage or overflow, the Vendor is to clean up and disinfect the area. Work to stop or contain such events is to be deemed emergency in nature and sufficient justification for total mobilization of resources, the use of overtime or double time, and any other reasonable measures to assure correction of the problem without delay. Damages arising from blockages, back-ups, spillage, or overflows of sewage during the course of the Work or because of the Work shall be the sole responsibility of the Vendor.

3.05 Additional Requirements for Polymer Resin-Based Lining Systems

- A. Application of the liner shall not be made unless the ambient temperature inside the structure is 50 degrees F or higher and expected to be the same or rise during the next 72 hours.
- B. The liner shall be manually sprayed to all surfaces by a factory-certified, trained technician experienced in the application of a spray applied resin.
- C. No other products such as grouts, cements or sealants may be considered as part of the structural restoration. However, said products may be used as part of the repair and surface preparation process as specified in Section 3.02 of this Specification.
- D. The wall of the Polymer resin-based system shall be structurally designed to withstand the hydraulic load generated by the groundwater table.

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Water Resources Division
3.06 Acceptance Testing

A. Field Acceptance

1. Field acceptance of manhole lining and manhole chimney/frame seals and inflow dish inserts shall be based on the Engineer's field inspection and evaluation of the appropriate installation and curing test data. The lining shall provide a continuous monolithic surfacing with uniform thickness throughout the manhole interior. If the thickness is not uniform or is less than specified, it shall be repaired or replaced at no additional cost to the Owner.
2. Manhole frame seals shall be visually inspected after installation to insure that the seal is properly positioned, tight against the manhole and frame surfaces, that no voids or leakage points exist and that the bands are securely locked in place. Any seals failing this test shall be reworked as necessary and retested at no additional cost to the owner. Any seals not passing this visual inspection may, at the Vendor's option, be tested for leakage using a method approved by the Engineer.
3. If the Engineer has to enter the manhole to inspect the work, the Vendor shall provide forced air ventilation, gas monitors, harnesses, lights, confined space entry, etc., for the Engineer to enter the manhole and perform the inspection in strict and complete accordance with OSHA requirements at no additional cost to the Owner.

B. Spark Arrestor (Holiday) Testing (Polymer Resin-Based Lining Manholes)

1. All polymer resin-based manhole linings shall be spark tested prior to being placed in service. Spark testing shall be required of the entire surface area of the manhole (field and joint) and shall be conducted in accordance with the liner system manufacturer's recommendations.
2. Results of the spark tests will be logged in duplicate and a copy of this log submitted to the Engineer.
3. Equipment systems used to perform spark testing shall be compatible with the materials to be tested. Spark testing equipment shall provide a visual as well as audible indicator to identify pinholes or splits in the liner system.
4. Spark testing shall be performed in accordance with ASTM D4787. Vendor shall maintain calibration records certifying the spark testing equipment has been calibrated within 12 months of the current date.

C. Adhesion Testing (Polymer Resin-Based Lining Manholes)

1. The adhesion tests shall be performed on a minimum of one or 20% of all polymer resin-based rehabilitated structures, whichever is greater.
2. Adhesion testing shall be conducted after the lining or coating system has cured

per manufacturer instruction and in accordance with ASTM D4541 (Steel) or ASTM 7234 (Concrete). A minimum of one 20 mm dolly shall be affixed to the lined surface of the structure at the upper section or cone area, mid-section and at the bottom, unless otherwise specified or directed by the Engineer. Each testing location shall be identified by the Engineer.

3. Selection of the adhesive used to attach the dollies to the liner shall be the Vendor's responsibility. Adhesive shall be rapid setting with tensile strength in excess of the liner material, suitable for the environmental conditions anticipated in a sanitary sewer manhole, and permitted to cure in accordance with manufacturer recommendations. The lining material and dollies shall be adequately prepared to receive the adhesive.
4. Prior to pull test, the Vendor shall utilize a scoring device to cut through the coating until the substrate is reached. Extreme care shall be required while scoring to prevent micro cracking in the coating, since cracks may cause failures at diminished strengths.
5. Failure due to improper dolly adhesive or scoring shall require retesting. The pull tests in each area shall meet or exceed 200 psi and shall include subbase adhered to the back of the dolly or no visual signs of coating material in the test hole.
6. Pull tests with results between a minimum 150 psi and 200 psi shall be acceptable if more than 50% of the subsurface is adhered to the back of the dolly. A test result can be discarded, as determined by the Engineer, if there is a valid non-statistical reason for discarding the test results as directed by Sections 8.4 and 8.5 of ASTM D4541 and ASTM D7234.
7. If any test fails, a minimum of three additional locations in the section of the failure shall be tested, as directed by the Engineer. If any of the retests fail, the structure shall be deemed to have failed. All loosely adhered or unadhered liner in the failed area, as determined by the Engineer, shall be removed and replaced at the Vendor's expense.
8. The mil thickness will be measured and confirmed with the scored and pulled test samples. If the measured thickness of any adhesion test samples is under the specified value, a minimum of three additional locations in the same structure shall be tested, as directed by the Engineer. All areas found to be less than the specified thickness shall be corrected through additional application of lining material.
9. If a structure fails the adhesion test based on adhesion value or mill thickness, one additional structure or 10% of the initial number of structures selected for testing, whichever is greater shall be tested at the discretion of the Engineer.
10. The liner shall be repaired at all pull test locations following testing.
11. The Engineer shall be present for all adhesion testing.

12. Adhesion testing shall be performed as the work progresses. If adhesion testing has not been performed on a minimum of 20% manholes lined to date at any given time, Engineer may prohibit the continued application of manhole lining until the required adhesion testing is completed.
13. For Type 2 polymer resin-based lining systems, adhesion testing shall be performed on the complete three layer lining. For the purpose of thickness verification, additional core samples shall be taken from the outer corrosion barrier layer for every base layer adhesion test performed.

D. Finished Lining Systems

1. There shall be no groundwater infiltration or other leakage (active or previously active) through the manhole walls, benches, inverts or pipe connections at the manhole after it has been lined.
2. If leakage is detected, it shall be eliminated with an appropriate, grout or sealant as recommended by the manufacturer, over coated with epoxy or approved polymer-based lining material and approved by the Engineer at no additional cost to the Owner. Injection grouting may be required to stop leaks around or in invert channels, pipe connections and benches.
3. The Engineer's decision regarding acceptable repair methods for defective linings shall be final. If any lining is found to be defective after it has been installed or during the warranty period, it shall be repaired or replaced in a manner satisfactory to the Engineer and at no additional cost to the Owner.

3.07 Daily Work Schedule

The City's project manager will be contacted at the beginning of every working day to discuss the work schedule. Prior approval must be obtained from the Engineer if work is to be performed at night or on weekends to minimize traffic disturbance. In some instances, it may be necessary to bypass effluent from service connections.

3.08 Payment of Services

The City will make payment to the Vendor no later than the 30th of the month for the preceding month's service provided invoices are received by the first day of the month. Once the Engineer reviews the final payment request and feels the Vendor has met the requirements of the contract, the 5% retainage amount will be awarded, this will signify the close out of the project. Payment requests should be submitted to the Moccasin Bend Wastewater Treatment Plant, 455 Moccasin Bend Road, Chattanooga, Tennessee 37405.

- A. No separate payment shall be made for clearing and constructing access roads to sewers.
- B. The cost of moving and reestablishing landscape features, including labor and materials, shall be included in the unit price bid for the item to which it pertains.

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- C. No separate payment shall be made for the cost incurred to repair damaged property. This includes concrete or asphalt driveways, except where payment is authorized for Same Trench Sewer Replacement.
- D. Construction along Highways, Streets and Roadways: No separate payment shall be made for traffic control or maintaining highways, streets, roadways and driveways.
- E. No additional payment will be made for replacement of defective materials.
- F. All costs related to the implementation of the easement and permit stipulations shall be included in the unit price bid for the item to which it pertains.
- G. No separate payment will be made for clean-up and testing. Any cost for labor, materials and equipment required for clean-up shall be included in the unit price bid for the item to which it pertains.
- H. No separate or additional payment will be made for any special or unique method, means, techniques or equipment necessary for the Vendor's compliance with these Specifications, regulatory requirements, permits, laws or regulations which govern this Project.

No Contact/No Advocacy

Notice Receipt

City of Chattanooga

Purchasing Division

For Submission with Sealed Bid Solicitation Responses:

_____ (Vendor Agent name), states that:

(1) He/She is the owner, partner, officer, representative, or agent of _____

_____ (Business name), the Submitter of the

attached sealed solicitation response to Solicitation # _____, and said

Business has taken notice, and will abide by the following No Contact and No Advocacy clauses:

NO CONTACT POLICY: After the posting of this solicitation, a potential submitter is prohibited from directly or indirectly contacting any City of Chattanooga representative concerning the subject matter of this solicitation, unless such contact is made with the Purchasing Division.

NO ADVOCATING POLICY: To ensure the integrity of the review and evaluation process, companies and/or individuals submitting sealed solicitation responses, as well as those persons and/or companies formally/informally representing such submitters, may not directly or indirectly lobby or advocate to any City of Chattanooga representative.

Any business entity and/or individual that does not comply with the No Contact and No Advocating policies may be subject to the rejection or disqualification of its solicitation response from consideration.

Submitter Signature:

Printed Name:

Title: _____

Date: _____

Chapter No. 817 (HB0261/SB0377). "Iran Divestment Act" enacted.

Vendor Disclosure and Acknowledgement

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to § 12-12-106.

(SIGNED) _____

(PRINTED NAME) _____

(BUSINESS NAME) _____

(DATE) _____

For further information, please see website:

https://www.tn.gov/assets/entitles/generalservices/cpo/attachments/List_of_persons_pursuant_to_Tenn._Code_Ann._12-12-106,_Iran_Divestment_Act-July.pdf

Affirmative Action Plan

The City of Chattanooga is an equal opportunity employer and during the performance of this Contract, the Contractor agrees to abide by the equal opportunity goals of the City of Chattanooga as follows:

1. The Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
3. The Contractor will send to each labor union or representative of workers with which he/she has a collective bargaining agreement or other contract or understanding, a notice advising said labor union or workers' representatives of the Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. During the term of all construction contracts or subcontracts in excess of \$10,000 to be performed for the City of Chattanooga, the following non-discriminatory hiring practices shall be employed to provide employment opportunities for minorities and women:
 - a. All help wanted ads placed in newspapers or other publications shall contain the phrase "Equal Employment Opportunity Employer".
 - b. Seek and maintain contracts with minority groups and human relations organizations as available.
 - c. Encourage present employees to refer qualified minority group and female applicants for employment opportunities.
 - d. Use only recruitment sources which state in writing that they practice equal opportunity. Advise all recruitment sources that qualified minority group members and women will be sought for consideration for all positions when vacancies occur.

5. Minority statistics are subject to audit by City of Chattanooga staff or other governmental agency.
6. The Contractor agrees to notify the City of Chattanooga of any claim or investigation by State or Federal agencies as to discrimination.

(Signature of Contractor)

(Title and Name of Company)

(Date)