



"A City for All Ages"

City of Port St. Lucie Electronic Bid ("eBid")

**Event Name: Rehabilitation of City Sewer Structures, Manholes & Lift Station Wet Wells
eBid (Event) Number: 20200104**

1. Introduction

1.1. Purpose of Procurement

Pursuant to the [City of Port St. Lucie Code of Ordinances, Sec. 35.05](#), this electronic ("eBid") is being issued to establish a contract with one or more qualified Contractors who will provide Rehabilitation of City Sewer Structures, Manholes & Lift Station Wet Wells to the City of Port St. Lucie (hereinafter, "City") as further described in this eBid.

A descriptive overview of the City of Port St. Lucie can be found at <https://www.cityofpsl.com/discover-us/about-psl> . Please visit the City's website to familiarize yourself with how our city is structured and operates. Please contact the Issuing Officer with any questions.

1.2. eBid Scope of Work

It is the intent of the City to enter into a unit price contract with one (1) qualified Contractor for the rehabilitation of City sewer structures, manholes & lift station wet wells. The Contractor shall supply all labor, materials, equipment, supervision, tools, transportation, warranties and other incidentals required for each project in accordance with the Technical Specifications shown in Attachment B. Projects will be issued on an as needed basis as budget allows. The Contract period will be two (2) years with an option to renew for two (2) additional two (2) year periods upon satisfactory performance.

The Contractor must have all the required licenses and certifications necessary to perform the work. The approved license for this project is a State of Florida General Contractor with a State of Florida Underground Utility & Excavation license being an added benefit. The General Contractors must be certified by the liner systems manufacturers that they propose to use. It is the Contractor's responsibility to verify with the City of Port St. Lucie Building Department that their current license allows them to perform the work prior to submitting a bid.

1.3. Overview of the eBid Process

The objective of the eBid is to select one or more qualified Contractors (as defined by Section 1.1 "Purpose of the Procurement") to provide the goods and/or services outlined in this eBid to the City. This eBid process will be conducted to gather and evaluate responses from Contractor for potential award. All qualified Contractors are invited to participate by submitting responses, as further defined below. After evaluating all Contractor's responses received prior to the closing date of this eBid and resolution of any contract exceptions, the preliminary results of the eBid process will be publicly announced, by the City Clerk's office, including the names of all participating Contractors and the evaluation results. Subject to the protest process, final contract award(s) will be publicly announced thereafter.

NOTE TO CONTRACTORS: The general instructions and provisions of this document have been drafted with the expectation that the City may desire to make one award or multiple awards. For example, this document contains phrases such as "contract(s)" and "award(s)". Please refer to Section 1.1 "Purpose of

the Procurement” and Section 6.4 “Selection and Award” for information concerning the number of contract awards expected.

1.4. Schedule of Events

The schedule of events set out herein represents the City’s best estimate of the schedule that will be followed. However, delays to the procurement process may occur which may necessitate adjustments to the proposed schedule. If a component of this schedule, such as the close date, is delayed, the rest of the schedule may be shifted as appropriate. Any changes to the dates up to the closing date of the eBid will be publicly posted prior to the closing date of this eBid. After the close of the eBid, the City reserves the right to adjust the remainder of the proposed dates, including the dates for evaluation, award and the contract term on an as needed basis with or without notice.

Description	Date	Time
Release of eBid	As Published on DemandStar	N/A
Deadline for written questions sent via email to the Issuing Officer referenced in Section 1.5.	February 16, 2021	5:00 p.m. ET
Bidders/Offerors' Conference Location: City Hall, Building A, Room 366, 121 SW Port St. Lucie Blvd., Port St. Lucie, Florida 34984 Attendance is not mandatory	February 12, 2021 1:30 PM RSVP is mandatory	As Published on DemandStar
Responses to Written Questions	February 22, 2021	5:00 p.m. ET
Bids Due/Close Date and Time	As Published on DemandStar	See DemandStar
Finalize Contract Terms	2 to 3 Weeks after Closing	N/A
Notice of Intent to Award* [NOIA] (on or about)	3 Weeks after Closing to be Published by the <u>City Clerk’s Office</u>	N/A
Notice of Award [NOA] (on or about)	Date of Issued Purchase Order to Contractor	N/A

*In the event the estimated value of the contract is less than \$75,000, the City reserves the right to proceed directly to contract award without posting a Notice of Intent to Award.

1.5. Official Issuing Officer (Procuring Agent)

Name: Robyn Holder, CPPB
Email: rholder@cityofpsl.com

1.6. Definition of Terms

Please review the following terms:

Contractor(s) – companies desiring to do business with the City (Also called “Bidder”, “Proposer”, or “Offeror”.)

City of Port St. Lucie (City) – the governmental entity identified in Section 1.1 “Purpose of Procurement” of this eBid.

Immaterial Deviation- does not give the contractor a substantial advantage over other contractors.

Material Deviation- gives the contractor a substantial advantage over other contractors and thereby restricts or prevents competition

Procurement Management Division (PMD)- The City department that is responsible for the review and possible sourcing all publicly sourced solicitations.

Responsible- means the contractor, whether a company or an individual, has appropriate legal authority to do business in the City, a satisfactory record of integrity, appropriate financial, organizational and operational

capacity and controls, and acceptable performance on previous governmental and/or private contracts, if any.

Responsive- means the contractor, whether a company or an individual, has submitted a timely offer which materially conforms to the requirements and specifications of the solicitation.

Sourcing Platform- [DemandStar](#)

Any special terms or words which are not identified in this eBid Document may be identified separately in one or more attachments to the eBid. Please download, save and carefully review all documents in accordance with the instructions provided in Section 2 "Instructions to Contractors" of this eBid.

1.7. Contract Term

The initial term of the contract(s) is for two (2) years from the date of the Contract. The City shall have two (2) additional two (2) year option(s) to renew, which options shall be exercisable at the sole discretion of the City. Renewal will be accomplished through the issuance of a contract amendment from the City's Procurement Management Division. In the event that the contract(s), if any, resulting from the award of this eBid shall terminate or be likely to terminate prior to the making of an award for a new contract for the identified products and/or services, the City may, with the written consent of the awarded Contractor(s), extend the contract(s) for such period of time as may be necessary to permit the City's continued supply of the identified products and/or services. The contract(s) may be amended in writing from time to time by mutual consent of the parties. Unless this eBid states otherwise, the resulting award of the contract(s) does not guarantee volume or a commitment of funds.

2. Instructions to Contractors

2.1. General Information and Instructions

2.1.1. Familiarity with Laws and Regulations

Responding Contractors are assumed to be familiar with all Federal, State and local laws, ordinances, rules and regulations that may affect the work. Ignorance on the part of the Awarded Contractor will in no way relieve them from contract responsibility.

2.1.2. Restrictions on Communicating with Staff

From the issue date of this eBid until a City generated Purchase Order is submitted to the contracted contractor (or the eBid is officially cancelled), contractors are not allowed to communicate for any reason with any City staff or elected officials except through the Issuing Officer named herein, or during the Bidders/Offerors' conference (if any), or as defined in this eBid or as provided by existing work agreement(s). This is commonly known as a cone of silence during the procurement process as identified in the [City Code of Ordinances, Section 35.13](#). Prohibited communication includes all contact or interaction, including but not limited to telephonic communications, emails, faxes, letters, or personal meetings, such as lunch, entertainment, or otherwise. The City reserves the right to reject the response of any contractor violating this provision. Further information of this topic can be found on the Cone of Silence and eBid Communication Document.

2.1.3. Submitting Questions

All questions concerning this eBid must be submitted in writing via email to the Issuing Officer identified in Section 1.5 "Issuing Officer" of this eBid. No questions other than written will be accepted. No response other than written will be binding upon the City. All Contractors must submit questions by the deadline identified in the Schedule of Events for submitting questions. Contractors are cautioned that the City may or may not elect to entertain late questions or questions submitted by any other method than as directed by this section. All questions about this eBid must be submitted in the following format:

Company Name

Question #1 Question, *Citation of relevant section of the eBid*

Question #2 Question, *Citation of relevant section of the eBid*

2.1.4. Attending Bidders/Offerors' Conference

The Bidders/Offerors' Conference or any other information session (if indicated in the schedule of events) will be held at the offices referred to in Section 1.4 "Schedule of Events" of this eBid. Unless indicated otherwise, attendance is not mandatory, although Contractors are strongly encouraged to attend. However, in the event the conference has been identified as mandatory, then a representative of the Contractor must attend the conference in its entirety to be considered eligible for contract award. The Contractor is strongly encouraged to allow ample travel time to ensure arrival in the conference meeting room prior to the beginning of any mandatory conference. The City reserves the right to consider any representative arriving late to be "not in attendance." Therefore, all contractors are strongly encouraged to arrive early to allow for unexpected travel contingencies.

2.1.5. The City's Right to Request Additional Information – Contractor's Responsibility

Prior to contract award, the City must be assured that the selected contractor has all of the resources to successfully perform under the contract. This includes, but is not limited to, adequate number of personnel with required skills, availability of appropriate equipment in sufficient quantity to meet the on-going needs the City, financial resources sufficient to complete performance under the contract, and experience in similar endeavors. If, during the evaluation process, the City is unable to assure itself of the contractor's ability to perform, if awarded, the City has the option of requesting from the contractor any information deemed necessary to determine the contractor's responsibility. If such information is required, the contractor will be so notified and will be permitted approximately seven business days to submit the information requested.

2.1.6. Failing to Comply with Submission Instructions

Responses received after the identified due date and time or submitted by any other means than those expressly permitted by the eBid will not be considered. The Contractor's response must be complete in all respects, as required in each section of this eBid.

2.1.7. Rejection of Proposals; The City's Right to Waive Immaterial Deviation

The City reserves the right to reject any or all responses, to waive any irregularity or informality in a Contractor's response, and to accept or reject any item or combination of items, when to do so would be to the advantage of the City. The City reserves the right to waive mandatory requirements provided that all of the otherwise responsive proposals failed to meet the mandatory requirements and/or doing so does not otherwise materially affect the procurement of requested commodities and/or services. It is also within the right of the City to reject responses **that do not contain all elements and information requested in this eBid**. A Contractor's response will be rejected if the response contains any defect or irregularity and such defect or irregularity constitutes a material deviation from the eBid requirements, which determination will be made by the City on a case-by-case basis.

NOTE: The City may not accept proposals from firms, that have had adversarial relationships with the City or firms that have represented entities that have had adversarial relationships with the City. This includes the firm, employees and financial or legal interests. The City will not enter into a contract or conduct business with any firm or any personnel that is listed on the Federal, State, or other local government agencies' Excluded Parties List, Suspended List or Debarment List. Please see [Florida Statute 287.133](#) for further information regarding business transactions with companies that have been convicted of public entity crimes.

2.1.8. The City's Right to Amend and/or Cancel the eBid

The City reserves the right to amend this eBid. All revisions must be made in writing prior to the eBid closing date and time. If a responding entity discovers any ambiguity, conflict, discrepancy, omission

or other error in the eBid, they shall immediately notify the City of such error in writing and request modification or clarification of the document. Any modification made to this eBid will be issued as an addendum. Written notice will be posted to DemandStar without divulging the source of the request. If a responding entity fails to notify the City prior to the date and time fixed for submission of an error or ambiguity in the eBid known to them, or an error or ambiguity that reasonably should have been known to them, they shall not be entitled to additional time by reason of the error/ambiguity or its late resolution. By submitting a response, the contractor shall be deemed to have accepted all terms and agreed to all requirements of the eBid (including any revisions/additions made in writing prior to the close of the eBid whether or not such revision occurred prior to the time the contractor submitted its response) unless expressly stated otherwise in the contractor's response. **THEREFORE, EACH CONTRACTOR IS INDIVIDUALLY RESPONSIBLE FOR REVIEWING THE REVISED eBID AND MAKING ANY NECESSARY OR APPROPRIATE CHANGES AND/OR ADDITIONS TO THE CONTRACTOR'S RESPONSE PRIOR TO THE CLOSE OF THE eBID.** All Notice(s) of Intent to Award (NOIAs) will be posted as referenced in Section 6.7 of this document. **Contractors are encouraged to frequently check the solicitation documentations and embedded URLs for additional information. Finally, the City reserves the right to amend or cancel this eBid at any time.**

2.1.9. Use of Subcontractor

Except as may be expressly agreed to in writing by the City, Contractor shall not subcontract, assign, delegate or otherwise permit anyone other than Contractor or Contractor's personnel to perform any of Contractor's obligations under this Contract or any of the work subsequently assigned under this Contract. No subcontract which Contractor enters into with respect to performance of obligations or work assigned under the Contract shall in any way relieve Contractor of any responsibility, obligation or liability under this Contract and for the acts and omissions of all Subcontractors, agents, and employees. All restrictions, obligations and responsibilities of the Contractor under the Contract shall also apply to the Subcontractors. Any contract with a Subcontractor must also preserve the rights of the City. The City shall have the right to request the removal of a Subcontractor from the Contract with or without cause.

2.1.10. Proposal of Addition Services

If a Contractor indicates an offer of services in addition to those required by and described in this eBid, these additional services may be added to the original contract at the sole discretion of the City.

2.1.11. Protest Process

Proposers should familiarize themselves with the procedures set forth in [City Ordinance 20-15 Sec. 35.14.](#)

2.1.12. Costs for Preparing Responses

Each Contractor's response should be prepared simply and economically, avoiding the use of elaborate promotional materials beyond those sufficient to provide a complete presentation. The cost for developing the response and participating in the procurement process (including the protest process) is the sole responsibility of the Contractor. The City will not provide reimbursement for such costs.

2.1.13. Public Access to Procurement Records

Solicitation opportunities will be publicly advertised as required by city ordinances and state and federal laws. Any material that is submitted in response to this eBid, including anything considered by the Contractor to be confidential or a trade secret, will become a public document pursuant to [Chapter 119 of the Florida Statutes](#). Any claim of confidentiality is waived upon submission, effective after the City's opening of the proposals pursuant to Section 119.07, Florida Statutes. Therefore, the Contractor is hereby cautioned to NOT submit any documents that the Contractor does not want to be made public. The City is allowed to assess a reasonable charge to defray the cost of reproducing documents. A City employee must be present during the time of onsite inspection of documents. PLEASE NOTE: Even though information (financial or other information) submitted by a

Contractor may be marked as "confidential", "proprietary", etc., the City will make its own determination regarding what information may or may not be withheld from disclosure. Contractors should review [Chapter 119 of the Florida Statutes](#) for all updates before requesting exceptions from Florida Statutes Chapter 119.

2.2. Submittal Instructions

Submittal Instructions to DemandStar

Listed below are key action items related to this eBid. The Schedule of Events in Section 1.4 identifies the dates and time for these key action items. This portion of the eBid provides high-level instructions regarding the process for reviewing the eBid, preparing a response to the eBid and submitting a response to the eBid.

2.2.1. eBid Released

The release of the eBid is only communicated through the posting of this eBid as an event in [DemandStar](#). This eBid is being conducted through DemandStar an online, electronic tool, which allows a contractor to register, logon, select answers and type text in response to questions, and upload any necessary documents. Each contractor interested in competing to win a contract award must complete and submit a response to this eBid using [DemandStar](#). Therefore, each contractor MUST carefully review the submittal instructions on DemandStar's website and following the submittal guidance that is provided in Section 2.2 of this eBid document.

2.2.2. eBid Review

The eBid (or "Sourcing Event") consists of the following: this document, entitled "City's eBid Document", and any and all information included in the Sourcing Event, as posted to DemandStar, including any and all documents provided by the City as attachments to the Sourcing Event or links contained within the Sourcing Event or its attached documents.

Please carefully review all information contained in the Event, including all documents available as attachments or available through links. Any difficulty accessing the Event or opening provided links or documents should be reported immediately to the Issuing Officer (See Section 1.5). Attached documents may be found as follows:

2.2.3. Preparing a Response

When preparing a response, the Contractor must consider the following instructions:

1. Use the provided worksheets to prepare your response. Enter your responses directly into the worksheet. Unless otherwise directed, do not insert "see attached file" (or similar statements) in the worksheet to reference separate documents.
2. Answer each question in sufficient detail for evaluation while using judgment with regards to the length of response.
3. Proofread your response and make sure it is accurate and readily understandable.
4. Label any and all uploaded files using the corresponding section numbers of the eBid as specified by the City.
5. Use caution in creating electronic files to be uploaded. If the City is unable to open an electronic file due to a virus or because the file has become corrupted, the Contractor's response may be considered incomplete and disqualified from further consideration.
6. Use commonly accepted software programs to create electronic files. The City has the capability of viewing documents submitted in the following format: Microsoft Office 2007 and portable document format file (PDF). Unless the eBid specifically requests the use of another type of software or file format than those listed above, please contact the Issuing Officer prior to utilizing another type of software and/or file format. In the event that the City is unable to open an electronic file because the City does not have ready access to the software utilized by the contractor, the contractor's response will be considered incomplete and disqualified from further consideration.

2.2.4. Reviewing, Revising or Withdrawing a Submitted Response

After the response has been submitted, the contractor may view and/or revise its response by logging into DemandStar. Please take note of the following:

1. REVIEW AND REVISE. In the event the Contractor desires to revise a previously submitted response, the Contractor may revise the response. If the revisions cannot be completed in a single work session, the Contractor should save its progress." Once revisions are complete, the Contractor **must resubmit** its corrected response. Please permit adequate time to revise and then resubmit the response. Please note submission is not instantaneous and may be affected by several events, such as the contractor temporarily losing a connection to the Internet.
2. WITHDRAW. A Contractor may withdraw the proposal by removing all documents from DemandStar prior to the deadline. In the event a Contractor desires to withdraw its response after the closing date and time, the Contractor must submit a request in writing to the Issuing Officer.

3. General Insurance, Bonding, and Permit Requirements

This section contains general business requirements. By submitting a response, the Contractor is certifying its agreement to comply with all of the identified requirements of this section and that all costs for complying with these general business requirements are included in the Contractor's submitted pricing.

3.1. Standard Insurance Requirements

The Contractor shall, on a primary basis and at its sole expense, agree to maintain in full force and effect at all times during the life of this Contract, insurance coverage, limits, including endorsements, as described in the City's Standard Contract. The requirements contained herein, as well as City's review or acceptance of insurance maintained by the Contractor are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor under the Contract.

The parties agree and recognize that it is not the intent of the City of Port St. Lucie that any insurance policy/coverage that it may obtain pursuant to any provision of this Contract will provide insurance coverage to any entity, corporation, business, person, or organization, other than the City of Port St. Lucie and the City shall not be obligated to provide any insurance coverage other than for the City of Port St. Lucie or extend its sovereign immunity pursuant to Section 768.28, Florida Statutes, under its self-insured program. Any provision contained herein to the contrary shall be considered void and unenforceable by any party. This provision does not apply to any obligation imposed on any other party to obtain insurance coverage for this project, any obligation to name the City of Port St. Lucie as an additional insured under any other insurance policy, or otherwise protect the interests of the City of Port St. Lucie as specified in this Contract.

- 3.1.1. Workers' Compensation Insurance & Employer's Liability: The Contractor shall agree to maintain Workers' Compensation Insurance & Employers' Liability in accordance with Section 440, Florida Statutes. Employers' Liability and must include limits of at least \$100,000.00 each accident, \$100,000.00 each disease/employee, \$500,000.00 each disease/maximum. A Waiver of Subrogation endorsement shall be provided. Coverage shall apply on a primary basis.
- 3.1.2. Commercial General Liability Insurance: The Contractor shall agree to maintain Commercial General Liability insurance issued under an Occurrence form basis, including Contractual liability, to cover the hold harmless agreement set forth herein, with limits of not less than:

Each occurrence	\$1,000,000
Personal/advertising injury	\$1,000,000
Products/completed operations aggregate	\$2,000,000
General aggregate	\$2,000,000
Fire damage	\$100,000 any 1 fire
Medical expense	\$10,000 any 1 person

- 3.1.3. **Additional Insured:** An Additional Insured endorsement **must** be attached to the certificate of insurance and must include coverage for on-going and Completed Operations (should be ISO CG2037 & CG2010) under the General Liability policy. Products & Completed Operations coverage to be provided for a minimum of five (5) years from the date of possession by the City or completion of contract. Coverage is to be written on an occurrence form basis. Coverage shall apply on a primary and non-contributory basis. A per project aggregate limit endorsement should be attached. Defense costs are to be in addition to the limit of liability. A waiver of subrogation shall be provided in favor of the City. Coverage for the hazards of explosion, collapse and underground property damage (XCU) must be included when applicable to the work performed. No exclusion for mold, silica or respirable dust or bodily injury/property damage arising out of heat, smoke, fumes, or hostile fire shall apply. Coverage shall extend to independent contractors and fellow employees. Contractual Liability is to be included. Coverage is to include a cross liability or severability of interests' provision as provided under the standard ISO form separation of insurers clause.

Except as to Workers' Compensation and Employers' Liability, said Certificate(s) and policies shall clearly state that coverage required by the Contract have been endorsed to include the City of Port St. Lucie, a municipality of the State of Florida, its officers, agents and employees as Additional Insured added to its Commercial General Liability policy and Business Auto policy. The name for the Additional Insured endorsement issued by the insurer shall read "**City of Port St. Lucie, a municipality of the State of Florida, its officers, employees and agents and shall include Contract #20200104 – Rehabilitation of City Manholes, Lift Stations & Wet Wells shall be listed as additionally insured.**". The Policies shall be specifically endorsed to provide thirty (30) day written notice to the City prior to any adverse changes, cancellation, or non-renewal of coverage thereunder. In the event that the statutory liability of the City is amended during the term of this Contract to exceed the above limits, the Contractor shall be required, upon thirty (30) days written notice by the City, to provide coverage at least equal to the amended statutory limit of liability of the City. Copies of the Additional Insured endorsements including Completed Operations coverage shall be attached to the Certificate of Insurance.

- 3.1.4. **Automobile Liability Insurance:** The Contractor shall agree to maintain Business Automobile Liability at a limit of liability not less than \$1,000,000.00 each accident covering any auto, owned, non-owned and hired automobiles. In the event, the Contractor does not own any automobiles; the Business Auto Liability requirement shall be amended allowing Contractor to agree to maintain only Hired & Non-Owned Auto Liability. This amended requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto Coverage form. Certificate holder must be listed as additional insured. A waiver of subrogation shall be provided. Coverage shall apply on a primary basis and non-contributory basis.
- 3.1.5. **Waiver of Subrogation:** The Contractor shall agree by entering into this Contract to a Waiver of Subrogation for each required policy. When required by the insurer, or should a policy condition not permit an Insured to enter into a pre-loss Contract to waive subrogation without an endorsement then Contractor shall agree to notify the insurer and request the policy be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This Waiver of Subrogation requirement shall not apply to any policy where a condition to the policy specifically prohibits such an endorsement, or voids coverage should Contractor enter into such a Contract on a pre-loss basis.
- 3.1.6. **Deductibles:** All deductible amounts shall be paid for and be the responsibility of the Contractor for any and all claims under this Contract. Where an SIR or deductible exceeds \$5,000, the City of Port St. Lucie reserves the right, but not obligation, to review and request a copy of the bidder's most recent annual report or audited financial statement.

It shall be the responsibility of the Contractor to ensure that all independent Contractors and/or subcontractors comply with the same insurance requirements as listed herein, including Products &

Completed Operations coverage for a minimum of five (5) years from the date of possession by City or completion of contract. It will be the responsibility of the Contractor to obtain Certificates of Insurance from all contractors and subcontractors listing the City as an Additional Insured, without the language when required by written contract. If contractor, independent contractor or subcontractor maintain higher limits than the minimums shown above, the City requires and shall be entitled to coverage for the higher limits maintained by contractor/independent contractor/subcontractor.

The Contractor may satisfy the minimum limits required above for either Commercial General Liability, Business Auto Liability, and Employers' Liability coverage under Umbrella or Excess Liability. The Umbrella or Excess Liability shall have an Aggregate limit not less than the highest "Each Occurrence" limit for either Commercial General Liability, Business Auto Liability, or Employers' Liability. When required by the insurer, or when Umbrella or Excess Liability is written on Non-Follow Form," the City shall be endorsed as an "Additional Insured."

The City, by and through its Risk Management Department, reserves the right, but not obligation, to review, modify, reject, or accept any required policies of insurance including limits, coverages or endorsements, herein from time to time throughout the term of this contract. All insurance carriers must have an AM Best rating of at least A:VII or better.

Within ten (10) business days of award, the awarded Contractor must procure the required insurance and provide the City with two (2) Certificates of Insurance, and applicable endorsements. Certificates must reference the contract number and the City as the Additional Insured as described in Section 3.1.3 of the Contract. The Contractor's submitted pricing must include the cost of the required insurance. No contract performance shall occur unless and until the required insurance certificates and endorsements have been provided.

A failure on the part of the contractor to execute the contract and/or punctually deliver the required insurance, and other documentation may be cause for annulment of the award.

Contractor must review the City's Standard Contract for further details and coverage requirements.

3.2. Bonds and/or Letter of Credit

Bid Bond

Each responding Contractor must supply a Bid Bond or Bid Deposit (certified check, cashier's check, bank money order, bank draft of any national or state bank), in the amount of one thousand (\$1,000.00) dollars made payable to the City of Port St. Lucie. As a **Mandatory Requirement**, the Bid Bond or Bid Deposit must be scanned and uploaded into [DemandStar](#) along with all other required documents, thus showing evidence that a Bid Bond or Bid Deposit was obtained. Responding Contractors must send the Original Bid Bond or Bid Deposit to the City within five (5) days after the eBid Due Date as reflected above in Section 1.4. The responding Contractor's bid will be considered non-responsive if the Bid Bond or Bid Deposit is not received within the specified time frame. Responding Contractors must submit a Bid Bond or Bid Deposit made payable to the City in a sealed envelope to:

Robyn Holder, CPPB
Attn: Procurement Management Department
121 S.W. Port St. Lucie Blvd.
Port St. Lucie, FL 34984

Bid Bonds must be issued by a Surety authorized to do business in the State of Florida, in order to guarantee that the contractor will enter into a contract to deliver products and/or related services outlined in this solicitation, strictly within the terms and conditions stated in the contract.

Payment Bond – Not required.

Performance Bond/Letter of Credit – Not required.

3.2.1 Proposal Certification

By responding to this solicitation, the Contractor understands and agrees to the following:

1. That this electronically submitted proposal constitutes an offer, which when accepted in writing by the City, and subject to the terms and conditions of such acceptance, will constitute a valid and binding contract between the Contractor and the City; and
2. That the Contractor guarantees and certifies that all items included in the Contractor's response meet or exceed any and all of the solicitation's identified specifications and requirements except as expressly stated otherwise in the Contractor's response; and
3. That the response submitted by the Contractor shall be valid and held open for a period of **one hundred and twenty (120) days** from the final solicitation closing date and that the Contractor's offer may be held open for a lengthier period of time subject to the Contractor's consent; and
4. That the Contractor's response is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and is in all respects fair and without collusion or fraud. Contractor understands and agrees that collusive bidding is a violation of city ordinance, state and federal laws and can result in fines, prison sentences, and civil damage awards.

3.3. Permits

The selected Contractor shall be responsible for obtaining all permits, licenses, certifications, etc., required by federal, state, county, and municipal laws, regulations codes, and ordinances for the performance of the work required in these specifications and to conform to the requirements of said legislation. Certain aspects of construction may not be allowed to occur until after these permits have been obtained. All building permits, licenses and certificates of inspection issued in connection with the work shall be delivered to the Engineer and the City with successful Contractor(s) application for final payment. All permit fees shall be included in the contract amount and paid by the successful Contractor(s). Permit fees are listed on the City's website at <https://www.cityofpsl.com/government/departments/building/permit-fees> .

4. eBid Bid Factors

This section contains the detailed technical requirements and related services for this Sourcing Event. The City has determined that it is best to define its own needs, desired operating objectives, and desired operating environment. The City will not tailor these needs to fit a particular solution a contractor may have available; rather, the Contractors shall propose to meet the City's needs as defined in this eBid. All claims shall be subject to demonstration. Contractors are cautioned that conditional responses/bids, based upon assumptions, may be deemed non-responsive.

Unless requested otherwise, all responses must be provided within the provided forms/Excel worksheets included with this Sourcing Event. Except as otherwise indicated, all requested forms and documents must be submitted electronically via the sourcing tool as an uploaded document to the contractor's response.

4.1. Introduction

All of the items described in this section are service levels and/or terms and conditions that the City expects to be satisfied by the selected Contractor. Each Contractor must indicate its willingness and ability to satisfy these requirements in the Contractor's submitted response.

Unless otherwise specified, references to brand name or trade name/mark products are intended to be descriptive, but not restrictive, and are used to indicate the quality and characteristics of products that may be offered. Other products may be considered for award if such products are clearly identified and are determined by the City to meet its needs in all respects. Each Contractor's response must indicate the brand

name and model, or series number of the product offered and include such specifications, catalog pages, or other data that will provide an adequate basis for determining the quality and functional capabilities of the product offered.

4.2. Contractor's General Information

Each contractor must complete all of the requested information in the electronic purchasing system entitled **Mandatory Questions** for inclusion with their bid response.

4.3. Mandatory Requirements

As noted in the preceding section, this eBid contains mandatory requirements (e.g. product specifications, service or quality levels, staff requirements, experience or license requirements, etc.) which must be met by the Contractor in order for the Contractor to be considered "responsive" and, therefore, eligible for contract award. These mandatory requirements will be defined in one or more of the following ways:

1. Requirements in this eBid document
2. Requirements contained in any attachment to the Sourcing Event, such as a Mandatory Requirements Worksheet and the cost worksheet

A Pass/Fail evaluation will be utilized for all mandatory requirements. Please review the Sourcing Event and its attachments carefully and respond as directed.

Some requirements may require a "Yes" or "No" response. Ordinarily, to be considered responsive, responsible and eligible for award, all requirements identified as mandatory must be marked "YES" to pass. There may be rare instances in which a response of "NO" is the correct and logical response in order to meet the mandatory requirement (e.g. responding "NO" that the Contractor does not possess any conflicts of interest). Otherwise, any mandatory questions marked "NO" will fail the technical requirements and will result in disqualification of the Contractor's response, except as otherwise provided in Section 6 "Evaluation and Award" of this eBid. Please note some requirements may require the Contractor to provide product sheets or other technical materials.

It is strongly encouraged that all Contractor's review all documents that are electronically attached to this eBid. Reviewing the documentation ensures that Contractor understands the full scope of the City's request.

5. Cost/Pricing

Each Contractor is required to submit pricing as part of its response. (Attachment D – Schedule A)

5.1. General Pricing Rules

By submitting a response, the Contractor agrees that it has read, understood, and will abide by the following instructions/rules:

1. The submitted pricing must include all costs of performing pursuant to the resulting contract; and
2. All quantities and/or estimates are for information or tabulation purposes only and;
3. No warranty or guarantee is expressed or implied on the volume of products and/or services that the City may require through the negotiated contract period and;
4. Bids containing a minimum order/ship quantity or dollar value, unless otherwise called for in the eBid, will be treated as non-responsive and may not be considered for award; and
5. The Contractor is required to provide net prices. In the event there is discrepancy between a Contractor's unit price and extended price, the unit price shall govern;
6. In the event there is a discrepancy between (1) the Contractor's pricing as quoted on an uploaded, detailed cost sheet such as an Excel Worksheet (if any) and (2) the Contractor's pricing as quoted by the Contractor in one or more single line entries directly into the Sourcing Event screen, the former shall govern; and
7. The prices quoted and listed in the response shall be firm throughout the term of the resulting contract, unless otherwise noted in the eBid or contract; and

8. Unless otherwise specified in any terms and conditions attached to the eBid, all product deliveries will be F.O.B. destination and all shipping charges must be included in the quoted cost; and
9. Unless expressly permitted by the eBid, responses containing provisions for late or interest charges cannot be awarded a contract. Contractors must "strikethrough" any such provisions in printed forms and initial such revisions prior to submitting a response to the City; and
10. Contractor responses requiring prepayment and/or progress payment requirements may be determined non-responsive unless otherwise permitted by the eBid; and
11. Unless permitted by the eBid, responses requiring payment from the City in less than thirty (30) days will be considered non-responsive; and
12. The City is exempt from certain taxes and no provision for such taxes should be included in the contractor's response.

5.2 Cost Structure and Additional Instructions

The City's intent is to structure the cost format in order to facilitate comparison among all Contractors and foster competition to obtain the best market pricing. Consequently, the City requires that each Contractor's cost be structured as directed in the eBid. Additional alternative cost structures will not be considered. Each Contractor is hereby advised that failure to comply with the eBid instructions, submission of an incomplete offer, or submission of an offer in a different format than the one requested may result in the rejection of the Contractor's response.

Enter all information directly into the cost sheet(s). Enter numbers on each cost sheet in "number" (two-place decimal), not "currency" or other format unless otherwise stated. That is, omit dollar signs, commas, and any other non-essential symbols. (e.g., \$7.90 should be entered as 7.90) Prices must be in US Dollars. Enter "n/a" to indicate not available or "0" if there is no charge. Cells left blank will be interpreted as "no offer".

Download the cost worksheet (if any), complete the worksheet and then upload the worksheet by following the instructions in DemandStar.

5.3 Payment by City's Visa Card Program

The City currently utilizes the State of Florida [Visa Program](#). The awarded Contractor can take advantage of this program and in consideration, receive payment within several days instead of NET 30 terms. Any percentage off the quoted bid price for the acceptance of payment by Visa will be taken into account for consideration of the best value to the City. If no percentage is provided in the cost proposal, the City shall assume zero (0) percent discount applies.

6. Evaluation and Award

All timely responses will be evaluated in accordance with the following steps. The objective of the evaluation process is to identify the most competitive bid. Once the evaluation process has been completed, the apparent successful Contractor(s) will be required to enter into discussions with the City to resolve any exceptions to the City's contract. The City will announce the results of the eBid as described further in Section 6.7 "Public Award Announcement."

6.1. Administrative/Preliminary Review

First, the responses will be reviewed by the Issuing Officer to determine compliance with the following requirements:

1. Response was submitted by deadline via in accordance with Section 2
2. Response is complete and contains all required documents

6.2. Evaluating Bid Factors (Section 4)

If the Contractor's response passes the Administrative/Preliminary Review, the Contractor's responses to Section 4 "eBid Bid Factors" will be evaluated. Responses to mandatory requirements will be evaluated on a pass/fail basis. If a response fails to meet a mandatory requirement, the City will determine if the deviation

is material. A material deviation will be cause for rejection of the response. An immaterial deviation will be processed as if no deviation had occurred.

6.3. Evaluating Cost

The City may utilize lowest cost, lowest total cost, and total cost of ownership (TCO) or greatest savings to determine the most competitive pricing. Submitted pricing may be evaluated/scored on an overall basis or at the category/subcategory/line level (as applicable) relative to other responses/bids.

6.4. Selection and Award

The City reserves the right to: (a) waive minor irregularities, variances or non-material defects in a response; (b) reject any and all responses, in whole or in part; (c) request clarifications from Contractors; (d) request resubmissions from all Contractors; (e) award in whole, in part; or by line item and (f) take any other action as permitted by law.

Single or Multiple Award

Any contract award(s) resulting from the eBid will be made to the Responsive and Responsible Contractor(s) that exhibit the best value as evaluated in Section 6.3, that meet all required specifications, and with whom the City has reached agreement on all contract terms and conditions. The City reserves the right to select one or more contractors for award and to award all items to one or more contractors, individual line items to one or more contractors, or subcategories of products/services to one or more contractors when to do so is in the best interests of the City.

6.5. Local Preference in Purchasing or Contracting (Sec. 35.12, Ord. No. 10-26)*

Except where otherwise provided by federal or state law or other funding source restrictions or as otherwise set forth in the purchasing policy. The City of Port St. Lucie shall give preference to local businesses in the following manner:

1. In purchasing of, or letting of contracts for procurement of, personal property, materials, contractual services, and construction of improvements to real property or existing structures for which a request for proposals is developed with evaluation criteria, a local preference of the total score may be assigned as follows:
 - a. Local businesses which meet all of the criteria for a local business as set forth in this section, shall be given a preference in the amount of five percent (5%) of the total quoted price of the local business.
 - b. The City Procurement Management Division shall have the sole discretion to determine if a Contractor meets the definition of a "local business."
2. Limitations:
 - a. The provisions of this section shall apply only to procurements which are above the formal bid threshold as set forth in the City Code and the City of Port St. Lucie Purchasing Manual.
 - b. The provisions of this ordinance shall not apply to any purchase exempted from the provisions of the City of Port St. Lucie Purchasing Manual.
 - c. The provisions of this ordinance shall not apply to contracts made under the Contractors Competitive Negotiation ACT (CCNA), Section 287.55, Florida Statutes.

*** Please review (Sec. 35.12, Ord. No. 10-26) for the full governing ordinance**

6.6. Site Visits, Samples, and Oral Presentations

The City reserves the right to conduct site visits, request product/work samples, or to invite Contractors to present their product(s) and or service solutions to the evaluation team. Samples of items, when required, must be furnished free of expense and, if not destroyed, will upon request, be returned at the Contractor's expense. Request for the return of samples must be made within thirty (30) days following opening of bids.

Each individual sample must be labeled with Contractor's name, bid number, and item number. Failure of Contractor to either deliver required samples or to clearly identify samples as indicated may be reason for rejection of the bid. Unless otherwise indicated, samples should be delivered to the Procurement Management Department.

6.7. Public Award Announcement

The preliminary results of the evaluation will be announced through the public posting of a Notice of Intent to Award by the City Clerk's Office, pending final approval by the City Council at a publicly noticed meeting. The Notice of Intent to Award ("NOIA") is not notice of an actual contract award; instead, the NOIA is notice of the City's expected contract award(s) pending resolution of the protest process period pursuant to City Code of Ordinances, Section 35.14. The NOIA (if any) will identify the apparent successful contractor(s), unsuccessful contractor(s), and the reasons why any unsuccessful contractors were not selected for contract award. **NO CONTRACTOR SHOULD ASSUME PERSONAL NOTICE OF THE NOTICE OF INTENT TO AWARD ("NOIA") WILL BE PROVIDED BY THE CITY. INSTEAD, ALL CONTRACTORS SHOULD FREQUENTLY CHECK THE CITY CLERK'S WEBSITE FOR NOTICE OF THE NOIA DURING A CITY COUNCIL MEETING.**

7. Contract Terms and Conditions

The contract that the City expects to award as a result of this eBid will be based upon the eBid, the successful Contractor's final response as accepted by the City and the contract terms and conditions, which terms and conditions can be downloaded from [DemandStar](#). The "successful Contractor's final response as accepted by the City" shall mean: the response submitted by the awarded Contractor, written clarifications, and any other terms deemed necessary by the City, except that no objection or amendment by a Contractor to the eBid requirements or the contract terms and conditions shall be incorporated by reference into the contract unless the City has explicitly accepted the Contractor's objection or amendment in writing.

Please review the [City's contract terms and conditions](#) prior to submitting a response to this eBid. Contractors should plan on the contract terms and conditions contained in this eBid being included in any award as a result of this eBid. Therefore, all costs associated with complying with these requirements should be included in any pricing quoted by the Contractors. The contract terms and conditions may be supplemented or revised before contract execution and are provided to enable Contractors to better evaluate the costs associated with the eBid and the potential resulting contract.

Exception to Contract

By submitting a response, each Contractor acknowledges its acceptance of the eBid specifications and the contract terms and conditions without change except as otherwise expressly stated in the submitted proposal. If a Contractor takes exception to a contract provision, the Contractor must state the reason for the exception and state the specific contract language it proposes to include in place of the provision. Any exceptions to the contract must be uploaded and submitted as an attachment to the Contractor's response. Proposed exceptions must not conflict with or attempt to preempt mandatory requirements specified in the eBid.

In the event the Contractor is selected for potential award, the Contractor will be required to enter into discussions with the City to resolve any contractual differences before an award is made. These discussions are to be finalized and all exceptions resolved within the period of time identified in the schedule of events. Failure to resolve any contractual issues will lead to rejection of the Contractor's response. The City reserves the right to proceed to discussions with the next best ranked Contractor.

The City reserves the right to modify the contract to be consistent with the apparent successful offer, and to negotiate other modifications with the apparent successful Contractor. Exceptions that materially change the terms or the requirements of the eBid may be deemed non-responsive by the City, in its sole discretion, and rejected. Contract exceptions which grant the Contractor an impermissible competitive advantage, as determined by the City, in its sole discretion, will be rejected. If there is any question whether a particular contract exception would be

permissible, the Contractor is strongly encouraged to inquire via written question submitted to the Issuing Officer prior to the deadline for submitting written questions as defined by the Schedule of Events.

This eBid and the proposal response documents submitted shall be incorporated into the final contract by reference. Therefore, all requirements in the eBid not specifically addressed in an exception statement in the proposal and accepted in the contract documents, shall stand as contractual responsibilities of the proposal respondent. The Contract shall be the controlling document over the Proposal response and the eBid; the eBid shall be the ruling document over the Proposal response for all requirements in the eBid not specifically addressed in an exception statement in the proposal. Statement and requirements in the eBid shall rule over the Proposal document.

Order of Preference

In the case of any inconsistency or conflict among the specific provisions of the executed contract (including any amendments accepted by both the City and the Contractor attached hereto), the eBid (including any subsequent addenda and written responses to bidders' questions), and the Contractor's Response, any inconsistency or conflict shall be resolved as follows:

- (i) First, by giving preference to the specific provisions of the executed contract.
- (ii) Second, by giving preference to the specific provisions of the eBid.
- (iii) Third, by giving preference to the specific provisions of the Contractor's Response, except that objections or amendments by a contractor that have not been explicitly accepted by the City in writing shall not be included in this Contract and shall be given no weight or consideration.

8. Payment

To ensure proper payment the awarded Contractor must:

1. The City shall have not less than 30 days to pay for any products and/or services.
2. Invoices must clearly show the description of products and/or services to include the number of each product or line item fulfilled.
3. All invoices must reference the Contract Number as established by the City.
4. Under no circumstance, will interest of any kind be required as payment to the Awarded Contractor.
5. All charges, e.g., set up costs, must be included in the cost proposal. No charges will be allowed unless specified in the eBid and agreed upon by the City.
6. Any discrepancies noted by the City must be corrected by the Awarded Contractor within 48 hours.
7. The payment amount due on invoices shall not be altered by the City personnel. Once disputed items are resolved, the Awarded Contractor must submit an amended invoice, or a credit memorandum for the disputed amount.
8. The City will not make partial payments on an invoice where there is a dispute.
9. The City will only make payments on authorized transactions.
10. All invoices must be sent to: apnotifications@cityofpsl.com

9. List of eBid Attachments

The following documents make up this eBid. Please see Section 2.2.2 "eBid Review" for instructions about how to access the following documents. Any difficulty locating or accessing the following documents should be immediately reported to the Issuing Officer.

- A. PSL eBid (this document)
- B. Technical Specifications (Attached)
- C. Cone of Silence and Communication Document from Section 2.1.2 of this eBid (Mandatory Document)
- D. Cost Worksheet - Schedule A from Section 5 of this eBid- Must be uploaded to DemandStar (Mandatory Document)
- E. PSL Sample Contract from Section 7 "Contract Terms and Conditions" of this eBid (Attached)
- F. E-Verify Form (Mandatory Document)
- G. Non-Collusion Affidavit (Mandatory Document)

- H. Drug Free Workplace Form (Mandatory Document)
- I. Mandatory Questions (Mandatory Document)
- J. Trench Safety Compliance form (Mandatory Document)
- K. Contractor's Code of Ethics (Mandatory Document)
- L. Contractor's Information / Verification form (Mandatory Document)
- M. W-9 form (Mandatory Document)

****Any documents indicated in Section 4.3 of this eBid must be returned in the system as a part of the response by the Contractor. Failure to supply the completed document(s) will deem the Contractor as non-responsive.**

**ATTACHMENT B
E-BID 20200104**

**TECHNICAL SPECIFICATIONS
REHABILITATION OF CITY SEWER STRUCTURES, MANHOLES, LIFT
STATIONS AND WET WELLS**

Part 1 – GENERAL

1.1 SCOPE OF WORK

The contract work includes rehabilitation of manholes, lift stations and other sewer structures as directed by the City. The major elements of the proposed project work are summarized as follows: Furnish all labor, materials, and equipment necessary to rehabilitate the interior surface areas of existing sewer manhole structures and lift stations including:

- (1) Elimination of infiltration into the manhole/lift station by sealing, plugging and patching
- (2) Elimination of infiltration into the manhole/lift station by pressure injected grout
- (3) Manhole/lift station patching and invert reconstruction
- (4) Manhole bench reconstruction
- (5) Manhole/sewer structure lining and structural enhancement using a spray applied structural cementitious liner system,
- (6) Manhole/sewer structure lining using an epoxy lining system
- (7) Manhole/sewer structure relining using a composite liner system utilizing both cementitious and epoxy systems.
- (8) Manhole/sewer structure relining using a cementitious-polymer liner system

The work for manholes, lift stations, wet wells, and sewer structures includes mobilization, pre-rehabilitation video log and post rehabilitation video log, bypass pumping, safety equipment, traffic control, surface preparation, cleaning and removal of any existing coatings and structural pieces, preparation of substrate and elimination of infiltration by patching and plugging of structures to be lined, furnishing and applying the specified coating materials to the interior surface areas of the manholes/lift station and testing, clean-up, restoration of site, and demobilization for a complete, operational and infiltration leak free manhole, lift station and/or sewer structure.

1.2 SAFETY

It is the responsibility of the Contractor to provide for the safety of all project personnel under his direct supervision, including subcontractor and any personnel providing materials, equipment or services of any kind to the Contractor, for all phases of this project work. It is the responsibility of the Contractor to follow all federal, state and local laws, statutes and ordinances regarding worker safety and

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environmental protection, including, but not necessarily limited to, confined space entry, material handling, material disposal, maintenance of traffic, and project site access.

1.3 LOCATION OF THE PROJECT AND SITE ACCESS

Project work sites shall be as directed by the City and may be allocated at any of the existing sanitary sewer manholes and lift stations that are a part of the City of Port St. Lucie Utility Systems Department (USD) collection and pumping system.

The Contractor's attention is directed to the fact that accessibility to the project work sites varies, as manholes and lift stations may be located in streets, alleys, utility easements, parking lots, residential backyards, and various other locations. Accessibility to all manholes and lift stations and traffic control shall be the responsibility of the Contractor, and all expenses associated with work site shall be included in the bid pricing. Damage to existing pavement surfaces and base courses, and/or other surface improvements, as a result of the Contractor's activities, shall be restored to like-new condition by the Contractor at his sole expense. The Contractor shall implement all required measures to provide USD personnel and equipment with complete access to all work site areas during the entire course of performing work for this project.

1.4 INSPECTION OF THE WORK

The City of Port St. Lucie Utility Systems Department (USD) will provide construction observation services to monitor project quality and determine conformance of the work with these specifications. All aspects of the work described herein are subject to inspection and acceptance by the USD prior to proceeding with subsequent phases of the work. Management of the contractor's personnel and his subcontractors is the complete responsibility of the contractor.

1.5 MATERIALS AND EQUIPMENT

All materials, equipment, construction labor and workmanship shall be in accordance with these Technical Specifications, the City's Utility Standard's Manual (latest edition), the City's Qualified Product's List (latest edition) and as directed and allowed by the City. All project work shall conform to the requirements of all applicable federal, state and City laws, ordinances, and codes.

All materials and equipment proposed to be incorporated into the work shall be new, unused, and properly designed for the use intended. Materials and/or equipment which, in the opinion of USD, are inferior or of a lower grade than specified, or required, will not be accepted and shall be removed immediately from the project site at no expense to the City.

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1.6 EQUIVALENT PRODUCTS AND MATERIALS

For products, material, or equipment submitted by the Contractor for consideration as “Or Equal” to that specified herein, it is the Contractor’s responsibility to provide to the USD all written information, product data, and certifications as requested by the City to demonstrate that the material or equipment conforms to the Contract Document requirements and determination of a proposed product as being “Equal To”. The City shall be the sole judge as to whether or not such material or equipment is “Equal To” that specified or required herein. The City reserves the right to reject any proposed product.

Upon rejection of any material or equipment submitted as the equivalent of that specifically named in the Contract, the Contractor shall furnish the specified material or equipment at no additional cost to the USD.

Neither the approval by USD of alternate material or equipment as being equivalent to that specified, nor the furnishing of the material or equipment specified, shall in any way relieve the Contractor of responsibility for failure of the material or equipment, due to faulty design, material, or workmanship, to perform the functions required by the Contract Documents.

1.7 MATERIAL AND EQUIPMENT DELIVERY AND STORAGE

The Contractor shall deliver material in sufficient quantities to ensure the most timely and uninterrupted progress of the work. All materials and equipment shall be stored in strict accordance with the manufacturer’s recommendations. Products shall also be stored and handled according to their Safety Data Sheets (SDS).

1.8 SPILL OR DISCHARGE OF WASTEWATER

The discharge of wastewater into the environment is prohibited. All spills or discharges of wastewater shall be immediately reported to USD staff. Contacts at USD shall include Danny Sequi, Timothy Richards, or Jeffrey Labigang at 772.873.6400.

The Contractor also shall immediately control, contain, and stop the spill or discharge and shall repair any damage at no additional cost to USD.

The Contractor is solely responsible for all fines and labor, materials, and equipment costs incurred by USD associated with wastewater spills or discharges to the environment resulting from the Contractor’s actions or the Contractor’s negligence for this project.

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1.9 REFERENCES

- A. ASTM C109 – Compressive Strength of Hydraulic Cement Mortars
- B. ASTM C293 – Flexural Strength of Concrete
- C. ASTM C321 – Bond Strength of Chemical Resistant mortars
- D. ASTM C666 – Resistance of Concrete to Rapid Freezing / Thawing
- E. ASTM C596 – Drying Shrinkage of Mortar Containing Cement
- F. AASHTO – T277 – Rapid Chloride Permeability of Cement
- G. ASTM C1244 – Concrete Sewer Manholes by Negative Air Pressure (Vacuum) Test
- H. ASTM D638 – Tensile Properties of Plastics.
- I. ASTM D790 – Flexural Properties of Unreinforced and Reinforced Plastics
- J. ASTM D695 – Compressive Properties of Rigid Plastics.
- K. ASTM D4541 – Pull-off Strength of Coatings Using a Portable Adhesion Tester
- L. ASTM D2584 – Volatile Matter Content
- M. ASTM D2240 – Durometer Hardness, Type D
- N. ASTM D543 – Resistance of Plastics to Chemical Reagents
- O. ACI 506.2-77 – Specifications for Materials, Proportioning, and Application of Shotcrete
- P. ASTM C579 – Compressive Strength of Chemically Setting Silicate and Silica Chemical Resistant Mortars
- Q. NACE 6/SSPC SP13 – Joint Surface Preparation Standard – Surface of concrete
- R. ASTM – The Published Standards of the American Society for Testing and Materials, West Conshohocken, PA
- S. NACE – The Published Standards of National Association of

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Corrosion Engineers (NACE International), Houston, TX

- T. SSPC – The Published Standards of the Society of Protective Coatings, Pittsburgh, PA
- U. Los Angeles County Sanitation District – Evaluation of Protective Coatings for Concrete

1.10 SUBMITTALS

The contractor shall furnish the City with the following information:

- A. The contractor shall submit a detailed description of the equipment, materials, an operational procedures to accomplish the manhole/lift station sealing and lining, including, but not limited to, plugging mixture design, sealant mixture design, patching material mixture design, coatings, liner materials, application patching/lining procedures, samples and test data. Contractor's submittal information shall include the manufacturers' recommended surface preparation procedures.
- B. The contractor shall submit a detailed description of the equipment, materials, and operational procedures to accomplish the manhole/lift station invert construction including, but not limited to concrete or grout mixture design, prefabricated inverts, samples and test data. Contractor's submittal information shall include the manufacturers' recommended surface preparation procedures.
- C. Product Data:
 - (1) Technical data sheet on each product proposed to be furnished demonstrating compliance with these specifications including independent ASTM test results indicating the product conforms to these technical specifications.
 - (2) Safety Data Sheets (SDS) for each product proposed by the contractor to be furnished under this contract.
- D. Application Guidelines
 - (1) Manufacturer's guidelines and recommendations for storage and application of the product.
 - (2) Project specific guidelines and recommendations.

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- (3) Proof of any required federal, state or local permits or licenses necessary for the project. All permits and certifications shall be current for the year of the project.
- (4) Design details for any ancillary systems and equipment to be used in site and surface preparation, application and testing.
- (5) Written Warranty from the Contractor and the materials manufacturer. See Part 1.12 Warranty.

E. Certifications:

Submit all Applicator Qualifications specified in Part 1.10 a Part 1.11 Quality Assurance.

- F. "Or Equal" Submittal: In order to be considered as an equal product, said product shall meet the minimum physical properties of the approved products as referenced in Paragraph 2.4 as measured by the applicable ASTM standards referenced in Paragraph 1.8. Testing results must be performed and presented by a third-party testing laboratory.

"Or Equal" products shall be submitted to USD a minimum of two (2) weeks prior to bid date. For a product to be considered "equal" the submitted product must receive written approval via addendum to the current bid documents prior to the bid date. Only applicators that have been trained and certified by the approved coating system manufacturer are allowed to install the manhole restoration methods specified herein.

It is the responsibility of the Contractor to submit all data, certifications, and product information requested by the City for the purposes of evaluation of a proposed product as to being "Equal to". The City reserves the right to accept or reject any product proposed as "Equal to".

1.11 QUALITY ASSURANCE

The Contractor shall submit applicator qualifications including:

- (1) The 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 cement or

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epoxy coating manufacturer and Applicator personnel have been trained and certified for proper use of the equipment.

- (3) Applicator shall initiate and enforce quality control procedures consistent with applicable ASTM, NACE and SSPC standards and the epoxy coating manufacturer's recommendations.
- (4) The installer/applicator shall submit a list of at least five (5) project references including project name, location, work performed, contract amount, completion date, contact person and phone number, where similar work as specified herein has been performed.
- (5) The Contractor shall inform the City immediately if materials being used are not producing required results or need modification. The City has the right to stop the use of any material at any time.

1.12 WARRANTY

The Applicator shall warrant all work against defects in materials and workmanship for a period of one (1) year, unless otherwise noted, from the date of final acceptance of the project. Applicator shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during said one (1) year period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without additional cost to the USD.

PART 2 – MANHOLE AND LIFT STATION CONDITION ASSESMENT

2.1 GENERAL

- A. The following Condition Assessment criteria shall be used to determine the appropriate and selected repair method for any specific manhole and lift station structure.
- B. Condition Assessment and determination of the appropriate and selected manhole and lift station repair/rehabilitation method shall be determined by the USD prior to commencement of work. The Contractor shall apply the repair/rehabilitation method as directed by the USD.

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**2.2 MANHOLE, LIFT STATION AND/OR SEWER STRUCTURE
CONDITION ASSESSMENT GUIDE**

A. Condition 1 Manholes and Lift Stations

The manhole or sewer structure is either a newly installed pre-cast, like new, or poured in place concrete structure in like-new condition. The structure shall have a smooth and uniform interior surface profile and shall exhibit no signs of active groundwater infiltration or corrosion mechanics.

B. Condition 2 - Manholes, Lift Stations and Sewer Structures

The manhole or lift station is considered fundamentally sound with no indication of settlement, cracking, or other signs of structural fatigue. The structure may exhibit evidence of some minor corrosion in brick mortar joints and/or on pre-cast substrate areas. Rate of corrosion should be less than 0.25 in. for every 10 years of service life. The structure may also exhibit signs of infiltration or exfiltration through pre-cast joints, mortar joints, or around pipe connections. The existing manhole and lift station structure should be sufficient to sustain and support both soil and live loading.

C. Condition 3 - Manholes, Lift Stations and Sewer Structures

The manhole or lift station may exhibit any or all elements identified under condition 2. Further, the Structure is exhibiting early signs of structural fatigue evidence by minor cracks, loss of mortar or brick, and evidence of moderate to severe sulfide corrosion attack. Rate of corrosion should be greater than 0.25 in. for every 10 years of service life. The manhole or lift station may exhibit minor cross-sectional distortion; however, the structure is still supporting the soil and live loads. The structure exhibits signs of active infiltration or exfiltration through pre-cast joints, mortar joints, access chimney, and/or around pipe connections.

D. Condition 4 - Manholes, Lift Stations and Sewer Structures

The manhole or lift station may exhibit any or all elements identified under Condition 3. Further, the structure is exhibiting signs of severe structural fatigue and potential collapse and/or structural failure. Conditions indicating this degree of structural deterioration would be corrosive degradation greater than 1.0 inch in the mortar joints and precast surface areas. The structure may exhibit loose and/or missing brick, exposed rebar or wire mesh

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reinforcement, and/or distortion of the original manhole or lift station dimensions.

2.3 APPROPRIATE CONDITION BASED REPAIR METHODS

- A. All structures identified as **Condition 1** shall receive a stand-alone application of the specified protective epoxy coating at a minimum thickness of **150 mils** or a coating system as directed by the City and specified herein.
- B. All structures identified as **Condition 2** shall receive a stand-alone application of the specified calcium aluminate cementitious liner material at a minimum thickness of **1-inch** or a coating system as directed by the City and specified herein.
- C. All structures identified as **Condition 3** shall receive a stand-alone application of the specified prescribed composite liner system, a cementitious liner system or a coating system as directed by the City and specified herein.
- D. All structures identified as **Condition 4** shall receive a composite liner system, a coating system as directed by the City and specified herein or replacement, as directed by the City.
- E. For all manhole conditions and repair methods, liner materials shall be applied only after proper surface preparation and wall repairs that are in accordance with the manufacturer's recommendations.
- F. For all manhole conditions, infiltration and leaks shall be patched and plugged and eliminated to the satisfaction of the City and shall be included in the cost for the liner system.
- G. Structural deterioration of chimneys, walls, inverts and benches shall be repaired in accordance with the materials specified in section 3.2 Cementitious and Epoxy Coating Manufacturers.
- H. Major infiltration and active leaks may be repaired in accordance with section 5.6 Chemical Grouting. Manhole benches and inverts if deteriorated shall be rebuilt in accordance with section 5.4 Rebuilding Existing Manhole Bench and Invert Channels.
- I. Based on the condition of the structure and as directed by the City, additional materials in excess of the aforementioned appropriate condition based repair methods, the desired thickness of either the cementitious and/or epoxy materials may be increased incrementally per the line item for supplemental materials in the contract unit price

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bid in the itemized Proposal for each square foot of cementitious and/or epoxy that is installed. Any use of supplemental materials must receive approval from USD prior to commencement of work.

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CONDITION/DEFECT-REPAIR SUMMARY TABLE

Rehabilitation Method	Manhole or Sewer Structure Condition/Defect	Infiltration and/or Exfiltration (Active or	Repair Method
All liner systems	Condition 1 - Like New	Not present	Epoxy liner 150 mils thickness or a coating system as directed by the City.
Cementitious liner systems	Condition 2 – The structure is basically sound (walls and ceiling support dead and live loads) with some interior deterioration	Signs of infiltration or exfiltration through pre-cast joints, mortar joints, or around pipe connections. Infiltration may be active depending on ground water table.	Patch walls and plug leaks and rebuild deteriorated areas. Calcium aluminate cementitious liner material at a minimum thickness of 1-inch or a coating system as directed by the City and specified herein.
Composite liner system Cementitious-polymer liner systems	Condition 3 - The manhole or lift station may exhibit any or all elements Identified under condition 2 plus the structure is exhibiting early signs of structural fatigue evidence by minor cracks, loss of mortar or brick, and evidence of moderate to severe sulfide corrosion attack.	Signs of infiltration or exfiltration through pre-cast joints, mortar joints, or around pipe connections. Active infiltration likely present, depending on ground water table.	Patch walls and plug leaks. Fill cracks and voids. Rebuild deteriorated areas. A cementitious and epoxy composite liner system, a cementitious-polymer liner system, or a coating system as directed by the City
Composite liner system Cementitious-polymer liner systems Sewer Structure Replacement	Condition 4 – The structure may exhibit any or all elements identified under Condition 3. Further, the structure is exhibiting signs of severe structural fatigue and potential collapse and/or structural failure. The structure may exhibit loose and/or missing brick, exposed rebar or wire mesh reinforcement, and/or distortion of the original manhole or lift station dimensions.	Signs of infiltration or exfiltration through pre-cast joints, mortar joints, or around pipe connections. Active infiltration likely present, depending on ground water table.	Patch walls and plug leaks. Fill cracks and voids. Rebuild deteriorated areas. A cementitious and epoxy composite liner system, a cementitious-polymer liner system, or a coating system as directed by the City

Notes

Contractor shall properly prepare all surfaces in accordance with coating system manufacturer's recommendations prior to initiating any repair methods.

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PART 3 – PRODUCTS

3.1 GENERAL

- A. It is the intent of this technical specification that the materials and products used shall be designed, manufactured and intended for manhole and sewer structure rehabilitation and the specific application in which they are used. The materials shall be delivered to the project sites in original, unopened packages and containers and shall be clearly labeled with the manufacturer's identification and printed instructions. All material shall be stored and handled by the contractor in accordance with recommendations of the manufacturer and the American Concrete Institute.
- B. Prior to application of any product, the Contractor shall prepare the surface and remove existing coatings prior to application of the new product. The Contractor and applicator shall maintain strict adherence to all manufacturer's recommendations with regard to proper surface preparation, removal of unsound material, rebuilding substrate and compatibility with existing and proposed coatings.

3.2 SEWER STRUCTURE RECONSTRUCTION SYSTEMS

- A. Cementitious Coating: Strong Seal High Performance by Strong Company, Inc. of Pine Bluff, Arkansas. or Sewper Coat by LaFarge Calcium Alumgrates, Inc., Lafarge Calcium Aluminates of Chesapeake, VA, or equal.
- B. Epoxy Liner Systems: For non-structural manhole rehabilitation applications Raven405 by Raven Lining Systems.
- C. Composite Liner Systems: Strong Seal Composite System by Strong Company, Inc. of Pine Bluff, Arkansas, or equal.
- D. Active Infiltration Control Materials (Plugging): Active infiltration control materials furnished shall be fast setting type, designed to be applied directly to active leaks under hydrostatic pressure in manholes or related structures. Materials shall consist of rapid setting cements, siliceous aggregates, and various accelerating agents. Material shall not contain chlorides, gypsum, or metallic particles. Approved infiltration control material shall be Quadex Quad-Plug as manufactured by Quadex, Inc., Little Rock, Arkansas, Strong-Plug by Strong Company, Inc., Pine Bluff, Arkansas, Instaplug F-180 by Sauereisen, Octoplug by IPA Systems or equal.

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- E. Very Active Infiltration Control Materials: Chemical grouts may be used for very active leak control and shall be mixed and applied in accordance with the manufacturer's recommendations.

- F. Wall Patching and Invert Repair: All material furnished shall be designed to fill voids and to repair or reconstruct where no hydrostatic pressure exists. Material shall consist of rapid setting cements, high-density non-absorptive aggregates, and various accelerating agents. Material shall not contain chlorides, gypsum, or metallic particles. Approved invert repair and patching material shall be Quadex Hyperform as manufactured by Quadex, Inc., Little Rock, Arkansas, Strong-Seal QSR by Strong Company, Inc., Pine Bluff, Arkansas, Drycon SM/SMF by IPA Systems, Octocrete by IPA Systems Inc., Restokrete F121 Substrate Resurfacer by Sauereissen or equal.

- G. Cementitious-polymer Liner Systems: Cementitious-polymer liner Systems shall be one-component blend for uniform application and results with a high early and ultimate compressive, flexural and bond strengths. Cementitious-polymer liner systems shall be resistant to acid attack in wastewater streams with pH as low as 1.0. The lining material may be centrifugally cast, manually sprayed or hand troweled. The Contractor shall submit proof of that he is a certified applicator and has the manufacturer's approved equipment for all applications proposed for the City of Port St. Lucie prior to commencement of work. The Cementitious-polymer lining material shall be a micro-fiber reinforced ultra-dense cement-polymer material. This material shall provide a high strength fiber reinforced mortar specifically designed for ease of mechanical pumping, spraying and spin casting and shall be applied in thicknesses as recommended by the manufacturer. Cementitious-polymer lining materials shall be Quadex GeoKrete as manufactured by Quadex, SewerGard 210 by Sauereissen or equal.

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3.3 PATCHING AND PLUGGING MATERIALS

Prior to application, if infiltration is present, it shall be repaired and eliminated by the contractor prior to application of the liner material.

Patching and Plug Materials

Property	Standard	Limit
Compressive Strength	ASTM C109	>800 psi, 1 hr >1800 psi, 24 hrs
Bond	ASTM C882	>1600 psi, 28 days
Calcium Aluminate Cement		Sulfate Resistant
Applied Density		105 pcf +/- 5 lbs
Skrinage	ASTM C596	0% @ 90% R.H.
Placement Time		5-10 Minutes
Set Time		15-30 Minutes

Plug material shall be rapid setting cementitious product specifically formulated for leak control, shall be used to stop minor water infiltration and shall be mixed and applied to manufacturer's recommendations and shall have the following minimum requirements:

Plug Materials

Property	Standard	Limit
Compressive Strength	ASTM C109	>1000 psi, 1 hr >2500 psi, 24 hr
Sulfate Resistance	ASTM C267	No weight loss after 15 cycles @ 2000 ppm
Freeze/Thaw	ASTM C666 "Method A"	100 Cycles
Pull Out Strength	ASTM C234	14,000 pounds
Placement Time		<1.0 minute

3.4 CEMENTITIOUS LINER MATERIAL

- A. Cementitious manhole and lift station liner products shall be used to form a structural monolithic liner covering all interior substrate surfaces. Material shall be a fiber-reinforced pure-fused (100%) calcium aluminate cement and calcium aluminate aggregate and shall be wet mixed and applied in strict accordance with manufactureer's recommendations. The material shall be specially formulated to withstand hydrogen sulfide bacterial carrions and abrasion in wastewater environments with a pH of 1 or greater. The mix shall be low-pressure spray applied to a manhole and lift station walls to form the structural/structurally enhanced monolithic cementitious liner. The applied liner material shall cover all interior manhole and Lift station surfaces. Liner material shall have the following Minimum requirements:

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Cementitious Liner Material

Property	Standard	Minimum Time	Limit
Comprehensive Strength	ADTM C109	1 day 28 days	>8000 psi >9000 psi
Tensile Strength	ASTM C496	28 days	>800 psi
Flexural Strength	ASTM C293	12 hr 28 days	>1000 psi >1200 psi
Shrinkage @ 90% R.H.	ASTM C490	28 days	0%
Bond	ASTM C882	28 days	>2000 psi
Density	When Applied	N/A	145 +/- 5 lbs/ft ³
Freeze/Thaw	ASTM C666	N/A	100 cycles no visible damage

3.5 COMPOSITE LINER SYSTEM

A. Composite liner Systems for Manhole and Lift station Repair and Rehabilitation: Includes manholes, lift stations and other structures identified as requiring rehabilitation with a composite liner system, and identified as having a pH of 1 or less or at locations as directed by the USD. Composite manhole and lift station liner products shall be used to form a structural liner system covering all interior substrate surfaces. The system shall be used to construct and repair entire manholes and entire lift stations including voids, active leaks, bench and inverts, walls and ceilings. Composite manhole and lift station liner systems shall include cementitious corrosion resistant patching material, grout material, calcium aluminate, cementitious liner material, epoxy-based liner material. All components of composite liner systems shall be compatible with each other and shall be manufactured or supplied by a single company regularly engaged in the fabrication and supply of materials for repair and rehabilitation of manholes and lift stations. All components shall be prepared and applied in strict accordance with the recommendations of the manufacturer/supplier of the composite system.

B. Patching material shall be a quick setting corrosion resistant cementitious material, shall be used as a patching material to fill voids and to repair inverts, is to be mixed and applied according to the manufacturer's recommendations, and shall have the following minimum requirements:

Liner material shall be a pure (100%) fused calcium aluminate, acid resistant cementitious product to be used for building back deteriorated substrates to original dimensions, to restore structural integrity, enhance corrosion protection and provide a smooth surface for applying the epoxy material and shall have the following minimum requirements:

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Cementitious Material

Property	Standard	Limit	Time
Compressive Strength	ASTM C109	>8000 psi	28 days
Tensile Strength	ASTM C496	>600 psi	28 days
Flexural Strength	ASTM C293	>900 psi	28 days
Shrinkage @ 90% R.H.	ASTM C490	0%	28 days
Bond	ASTM C882	>2000 psi	28 days
Density, when applied	N/A	135 +/- 5 lbs/ft ³	28 days

Epoxy Liner System shall have the following minimum requirements:

Epoxy Liner Material

Property	Standard	Limit
Compressive Strength	ASTM D695	>8800 psi
Tensile Strength	ASTM D638	>7700 psi
Flexural Strength	ASTM D790	>12,400 psi
Pull off Strength	ASTM D4541	>350 psi
VOC	ASTM D2584	0%
Durometer Hardness Type D	ASTM D2240	Shore D-70
Moisture Absorption	ASTM C413	.003%

3.6 EPOXY COATING

Epoxy liner products shall be a solvent-free ultra high-build epoxy System meeting the following requirements:

Product Type	Standard	Amine cured epoxy
Solids Content (vol%)		100%
Compressive Strength	ASTM D695	>18000
Tensile Strength	ASTM D638	>7500
Tensile Elongation	ASTM D790	1.5
Flexural Strength	ASTM C580	Minimum 4,600 psi
Flexural Modulous	ASTM D790	>6000,000
Flexural Modulous	ASTM D790	>13,000
Adhesion to Conctrete	ASTM D4541	Substrate (concrete) Failure
Chemical Resistance	(ASTM D543/G20)	All types of service a. Municipal Sanitary sewer b. Sulfuric acid, 30% c. Sodium hydroxide, 5%
VOC Content	ASTM D2584	0%
Minimum Thickness		60 mils spray on epoxy 125 mils rotary spray on epoxy

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Epoxy liners for manhole rehabilitation shall be Raven 405 epoxy coating system by Raven Liner Systems Solutions Inc., Broken Arrow Oklahoma, or equal.

3.7 CEMENTITIOUS LINING APPLICATION EQUIPMENT

Manufacturer approved low-velocity cementitious wet spray system (no gunite) or centrifugal spin-cast system shall be used in the application of the specified cementitious liner material. System shall consist of a batch style mixer and progressive cavity (rotor/stator) style mortar pump.

3.8 EPOXY COATING APPLICATION EQUIPMENT

Contractor shall use manufacturer approved equipment and methods shall be used in the application of the specified epoxy coating.

PART 4 – EXECUTION

4.1 APPLICATOR QUALIFICATIONS

- A. All materials used for the project work must be applied by a certified Applicator of the product manufacturer and according to manufacturer specifications.
- B. As part of mobilization the Contractor shall make a video report of the manholes and sewer structures to be rehabilitated. The video report shall include the manhole interiors as well as above ground conditions of all sewer structures involved in the project work. Location and structure identification shall be clearly shown in the video. Copies of the video shall be turned over to the City prior to commencement of work.

4.2 SURFACE PREPARATION

- A. Preparation of all sewer structure surfaces shall be in accordance with the procedures recommended by the manufacturer of the product to be applied.
- B. Applicator shall inspect all specified surfaces prior to surface preparation. Applicator shall notify Owner of any noticeable disparity in the surfaces that may interfere with the proper preparation or application of the specified repair materials.
- C. Applicator personnel shall directly perform all aspects of surface preparation and shall not subcontract any element of surface preparation.

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- D. All contaminants including oils, grease, deteriorated or incompatible existing coatings, waxes, form release, curing compounds, efflorescence, sealers, salts, or other contaminants shall be entirely removed.
- E. All brick, concrete or mortar that is not sound, that is loose, that is deteriorated or has been damaged by chemical exposure shall be removed to a sound concrete or substrate surface.
- F. Leaks active and passive shall be plugged to the satisfaction of the City.
- G. Voids, gaps, cracks shall be filled and repaired prior to application of a coating or liner system.
- H. Surface preparation method(s) should be based upon the conditions of the substrate, service environment and the requirements of the appropriate condition-based repair method to be applied. Surfaces to receive repair materials shall be cleaned and abraded to produce a sound surface with adequate profile and porosity to provide a strong bond between the repair materials and the substrate.
- I. For all manhole conditions, infiltration shall be stopped by using a material that is compatible with the appropriate and selected condition-based repair method. All costs associated with minor infiltration control at any location in the manhole and wall repairs shall be considered inclusive with the cost of the application of the appropriate cement and/or epoxy application. Moderate to severe infiltration control may require the use of chemical injection grouting. If warranted, chemical injection grouting will involve a separate Payment item based on the contract unit price bid in the Itemized Proposal for each grouting application.
- J. The Contractor shall make all surfaces available for examination by the City's inspector both during and after preparation and before the repair material is applied.
- K. At no time during any phase of the project work, shall soil, sand, debris or runoff be allowed to enter sewer system

4.3 APPLICATION OF CEMENTITIOUS LINER MATERIAL

- A. For each bag of product, use the amount of water required per manufacturer's recommendations following mixing procedures noted on product container and using the approved equipment for mixing and material application. The cementitious liner material will require only the addition of potable water during mixing. No other materials will be added during the mixing process without prior written consent from the material manufacturer.

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- B. Once materials have been mixed to an appropriate Consistency, caution should be taken as to not over mix the Mortar material.
- C. The surface prior to application of the cementitious liner shall be clean and free of all foreign matter (ref. Section 4.3) and shall be damp without noticeable free water droplets or running water, but totally saturated just prior to application of the liner material. No application shall be made to a dry surface.
- D. Wooden covers and/or any other Owner approved shielding Mechanism shall be placed over the manhole or lift station Invert channel prior to application in order to prevent extraneous materials from entering the sewer lines.
- E. Spraying the cementitious liner material shall be performed by starting at the junction of the manhole or lift station wall and bench and progressing up the structure wall to the corbel and chimney areas. The material shall be applied in a consistent manner to create a minimum uniform thickness of 1 inch should the reconstruction process require thickness greater than 1 inch, the material can be applied up to 3 inches in thickness in multiple single lift applications.
- F. Troweling of the liner material shall begin immediately following the spray application. Troweling shall be in an upward motion, compressing the material into any voids in the structure wall, and creating a relatively smooth finish on the surface of the liner material. Precautions should be taken not to over trowel the material.
- G. The wooden invert covers shall be removed at this time and the bench area sprayed with materials. The materials are to be sprayed on the bench in such a manner that a gradual slope is produced from the walls to the invert with the thickness of the material at the edge of the invert to be no less than 1 inch using the trowel, the wall/bench intersection is then rounded to a uniform radius the full circumference of the intersection. The Material on the bench area should be finished in such a manner as to provide for proper drainage without ponding.
- H. Immediately upon completion of the troweling phase, a wet-Brush finish shall be applied to all surface areas of the cementitious liner material.
- I. The cementitious liner material shall be cured in accordance with ACI recommendations. A water-based curing compound may be used when necessary.

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- J. The liner material, once placed, shall have a minimum of 8 hours cure time before being subjected to active flow of surcharge.
- K. In high traffic areas, the manhole should be barricaded, and traffic withheld for a minimum of 12 hours after application is complete.
- L. Caution should be taken to minimize exposure of applied product to sunlight and air movement. If application of additional materials is to be longer than 15 minutes, the structure shall be covered. At no time should the finished product be exposed to sunlight or air movement for longer than 15 minutes before covering or closing access. In extremely hot and arid climates, the structure shall be shaded while reconstruction is in process. In environments where humidity level is below 70%, it shall be necessary to keep finished product damp for the first 72 hours.
- M. No application shall be made to frozen surfaces or if freezing expected to occur within the substrate within 24 hours after the application. Precautions shall be taken to keep the mix temperature, at time of the application, below 90 degrees F. Mix water temperature shall not exceed 80 degrees F. Mix water may be chilled with ice if necessary.
- N. Payment will be made on the basis of the contract unit price bid in the Itemized Proposal for each square foot of cementitious liner material that is successfully installed.

4.4 APPLICATION OF EPOXY COATING MATERIAL

- A. Application procedures shall conform to the recommendations of the epoxy coating manufacturer, including material handling, mixing, and environmental controls during application, safety, and spray.
- B. The spray equipment shall be specifically designed to accurately ratio and apply the specified epoxy coating materials and shall be regularly maintained and in proper working order.
- C. Testing for soundness of substrate: upon completion of initial surface preparation, Applicator shall make a visual examination of the surfaces that were prepared to identify areas requiring additional preparation. A screwdriver shall be used to scratch the surface. Should the screwdriver easily remove or dig into any portion of the surface, further preparation shall be required. Retest until a screwdriver cannot scratch the surface.
- D. Testing for contaminants: a water drop test shall be used to test the surface for the presence of hydrophobic contaminants. Applicator shall place a drop of water on the surface in at least four representative locations in the structure and its wetting behavior shall be observed. If the water droplet

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flattens out and “wets out” the surface, it is likely the surface is not contaminated. If the water droplet beads up and does not “wet out” the surface, it is likely the surface is contaminated. To remove hydrophobic contaminants, the Applicator shall either add an epoxy coating manufacturer approved degreaser to the water blasting process and rewash the interior of the structure, or utilize another process such as steam cleaning, sodium bicarbonate injection, or abrasive blasting for removal of the contaminants. If contaminants are found and removed, retest the contaminants areas using the water drop test until the contaminants are gone.

- E. Ambient conditions: Applicator shall record air temperature inside the structure and prevailing weather conditions at the time of coating application.
- F. Specified and properly prepared surfaces shall be coated by roller or spray application of a moisture tolerant, solvent-free, 100% solids, epoxy primer as further described herein.
- G. During application, Applicator shall regularly perform and record epoxy coating thickness readings with a wet film thickness gage, such as those available through Paul N. Gardner Company, Inc., meeting ASTM D4414-Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gauges, to ensure uniform thickness during application.
- H. Top coating or additional coats of the epoxy coating should occur as soon as the prior coat becomes tack free, but no later than the recoat window for the specified products (24 hours). Additional surface preparation procedures will be required if this recoat window is exceeded.
- I. Installation of the epoxy coating shall not commence until the concrete substrate has properly cured in accordance with these specifications.
- J. Payment will be made on the basis of the contract unit price bid in the Itemized Proposal for each square foot of epoxy coating material that is successfully installed.

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PART 5 – ANCILLARY MANHOLE / LIFT STATION REPAIR ITEMS

5.1 BYPASS PUMPING

- A. If warranted to facilitate any aspect of the manhole or lift station restoration process, the Contractor shall provide a bypass pumping system that is capable of handling a minimum flow of 500 GPM at 50 psi. The Contractor shall also provide a secondary or standby pump system that is capable of handling similar flows in the event that the primary pump system experiences flows greater than 500 GPM, or if the first pump fails. Both pumping units shall be provided with the following items: sound reduction compartments, floatation sensors, automatic dialers and internal & external check valve assemblies.
- B. Any requirement for bypass pumping shall be submitted by the Contractor, to USD for review, and approval prior to commencement of actual sewer bypass. USD shall have sole discretion in determining the necessity for any bypass pumping. No bypass pumping shall be executed without prior approval of USD.
- C. Payment will be made on the basis of the contract unit price bid in the Itemized Proposal for any specific structure that requires bypass pumping. Payments for manhole bypass pumping will be limited to one installment per manhole. Any subsequent or additionally required bypass pumping will be at the sole responsibility and expense of the Contractor.

5.2 RESETTING OF EXISTING MANHOLE COVER FRAME ASSEMBLY

- A. If warranted and specified by USD, some manholes will require the Contractor to perform a grade adjustment and/or resetting of the existing manhole cover frame assembly, prior to manhole liner installation. This work shall involve both unpaved and paved areas.
- B. All materials, equipment, and work required to reset existing frames and covers in unpaved or paved areas shall be provided by the Contractor.
- C. This item shall include saw-cutting existing asphalt or concrete and disposing of material (in paved areas only), and required excavation, manhole wall and frame preparation, removal and off-site disposal of existing materials, backfilling and compaction per USD specifications and details, accessing manholes as specified, traffic control, coordination with and location of existing utilities, complete restoration

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of thereto for which separate payment is not provided under other bid items.

- D. Payment will be made on the basis of the contract unit price bid in the Itemized Proposal for each manhole frame and cover that is reset.

5.3 INSTALLATION OF NEW MANHOLE COVER FRAME ASSEMBLY

- A. If warranted and specified by the USD, some manholes will require the Contractor to remove and replace the existing manhole cover frame assembly prior to manhole liner installation. This work shall involve both unpaved and paved areas.
- B. New Covers/Frames: Shall be supplied by the Contractor in conformance with the USD Standards, see online City of Port St. Lucie, Departments, Utility Systems Department Standards.
- C. All additional materials, equipment, and work required to replace the existing manhole cover frame assembly shall be provided by the Contractor.
- D. This item shall include saw-cutting existing asphalt or concrete and disposing of material (in paved areas only), excavation, manhole wall and frame preparation, new frame and cover, removal and off-site disposal of existing material, backfilling and compaction per the specifications and details, accessing manholes as specified, traffic control, coordination with and location of existing utilities, complete restoration of asphalt and concrete or grass, and for all else incidental thereto for which separate payment is not provided under other bid items.
- E. Payment will be made on the basis of the contract unit price bid in the Itemized Proposal for each manhole frame and cover that is replaced.

5.4 REBUILDING EXISTING MANHOLE BENCH & INVERT CHANNELS

- A. If warranted and specified by USD, some manholes will require the Contractor to perform a rebuild of the existing manhole bench and invert channel prior to manhole liner installation.
- B. Repairs shall be performed on all manhole benches and inverts that exhibit visible damage and/or infiltration, or require such repairs in order to facilitate successful manhole liner performance testing.

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- C. This item includes all materials, equipment, and work required to rebuild existing manhole bench areas. All manhole bench and invert channel repairs, including materials, shall be approved by USD.
- D. Prior to repairs, flow through the manhole shall be arrested via the use of pipe plugs, flow-through plugging systems, or manhole bypass pumping (ref. Section 5.1) as required.
- E. After manhole flow has been diverted, remove all loose material from manhole bench and invert areas and pressure wash using a minimum 5000 psi hydrablast.
- F. The quick setting patching and invert repair material shall be applied to the invert in an expeditious manner. The mix shall be troweled uniformly onto the invert a minimum thickness of 0.5 inches, extending out onto the bench sufficiently to create an adjoining tie in region for the spray applied monolithic cementitious liner material.
- G. Care should be taken in the furnishing of invert channel, so as to maintain the hydraulic performance of the manhole. The finished invert should be smooth and free of any ridges or other surface irregularities that might impede flow.
- H. Flow in the manhole should be restored as soon as the quick setting invert repair material achieves its initial set and not longer than 30 minutes from the time of initial service interruption.
- I. Payment will be made on the basis of the contract unit price bid in the Proposal for each manhole bench and invert channel that is rebuilt.

5.5 REMOVAL OF EXISTING MANHOLE STEPS

- A. Unless plastic coated and in relatively good and sound physical condition, all existing manhole steps are to be removed prior to the manhole liner materials. This removal is to prevent potential injury resulting from unauthorized or improper manhole entry, as well as to better facilitate a monolithic seal within the manhole structure.
- B. Manhole steps may be demolished and removed using a sledge hammer or cut and removed using a grinding wheel. Effort should be made to minimize or eliminate any remaining or exposed remnants of the steps on the surface of the manhole walls.
- C. Payment will be made on the basis of the contract unit price bid in the Proposal for each manhole step that is removed, regardless of method.

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5.6 CHEMICAL GROUTING OF MANHOLES, LIFT STATIONS AND OTHER STRUCTURES

- A. Manholes, lift stations and other structures, and as directed by the City, that exhibit moderate to severe groundwater infiltration will require the use of chemical injection grouting to arrest leakage and prior to rehabilitation of the interior. The Contractor will submit said structures to the City for approval including the grouting procedure and documentation listed below, prior to commencement of work.
- B. The following documentation shall be submitted by the contractor prior to commencement of work:
- (1) Manufacturer's documentation that the grout material is specifically formulated for use as leak controller for underground structures. All grouting materials, additives, mixture ratios, and procedures utilized for the grouting process shall be submitted to the City and shall be in accordance with the grout manufacturer's recommendations.
 - (2) Documentation from the Contractor that the grout material has a demonstrable record of successful service and satisfactory performance in similar usage in the South Florida area.
 - (3) Documentation that the applicator is approved by the grout manufacturer for the procedure and material proposed by the contractor for applying the grout material to control leaks. Applicator shall have a minimum of five years of successful experience in the type of application method proposed. Applicator shall have the proper equipment for the application for processing and storage of the grout materials including maintaining the grout at the appropriate pressures and temperatures throughout the grouting procedure.
 - (4) Grout materials shall have controllable reaction times and shrinkage through the use of chemicals supplied by the same manufacturer. The minimum set time shall be established prior to commencement of work so that adequate grout travel is achieved.
 - (a) Grouts shall have a resistance to chemicals including to most organic solvents, mild acids, and alkali.
 - (b) Grouts mixtures shall be essentially non-toxic in a cured form.

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- (5) Grout sealing material shall not be rigid or brittle when subjected to dry atmosphere. The material shall be able to withstand moving load conditions.
- (6) Grouting materials shall be as manufactured by Avanti, Uretek or equal.
- C. Mixing and handling of chemical grout, which may be toxic under certain conditions, shall be in strict 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 USD. Only personnel thoroughly familiar with the handling of the grout material and additives shall perform the grouting operations.
- D. Contractor shall apply the grout from the ground surface or from the structure's interior. Injection holes shall be drilled through the manhole wall at locations as recommended by the grout manufacturer.
- E. Grout shall be injected under pressure with a probe or lance suitable for the application and as recommended by the manufacturer. In no case shall the injection pressure or grout material or material properties cause damage to the manhole structure, the surrounding surface features, pavement, sidewalks, transformers, utility poles or any other structure(s). The contractor shall be fully responsible at his cost for repair of damage caused by the grout to the manhole, lift station or any other structure(s) located in the vicinity of the work.
- F. Grout shall be applied in a manner that is compatible with industry practice for leak control of underground structures. Grout travel shall be verified by observation of grout effects on defects, leak control, or adjacent injection holes. Contractor shall provide additional injection points, if necessary, to insure grout travel.
- G. All excess grout material shall be removed by the contractor from the manhole, lift station or other structure after repairs are complete, or as directed by the City, and appropriately disposed of.

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- H. Applicator shall maintain the work site in a neat and workmanship manner and shall perform periodic cleanup as directed by the City. Traffic control and by-pass pumping shall be used by the Contractor as appropriate and as directed by the City. Applicator materials storage, equipment and vehicles shall be located in areas designated by the City. Injection holes shall be cleaned with a drill and patched with a waterproof quick setting mortar for brick and concrete manholes.

PART 6 – INSPECTION AND PERFORMANCE TESTING

6.1 PROTECTIVE LINER INSPECTION

After the specified repair and rehabilitation work has been completed, the manhole or lift station shall be visually reviewed and tested by the Contractor in the presence of the owner. Visual review shall be for water tightness against leakage of water into the structure. All visible leaks and defects observed during the review shall be repaired to the owner's satisfaction. There shall be no visible infiltration.

6.2 PROTECTIVE LINER PERFORMANCE TESTING

- A. The Contractor shall make all manholes, lift stations and structures available for visual inspection by the City, upon each completion, as a prerequisite for Contractor payment.
- B. After manhole wall sealing or manhole rehabilitation is complete, visually inspect manholes in the presence of the City inspector. Check for cleanliness and for elimination of active leaks.
- C. At completion of manhole rehabilitation, the Contractor shall assist the City inspector in verifying installation of minimum coating thickness of concrete liner.
- D. The Contractor shall test several points on manhole walls. The Contractor shall repair verification points prior to final acceptance for payment.
- E. Manholes that fail the visual inspection shall be reworked by the Contractor and re-inspected by the City at no additional compensation until the test is passed. Any manholes that are visually leaking at any location, or otherwise deemed unacceptable shall be completely re-

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coated at the Contractor's expense and re-inspected until accepted by the City.

6.3 TESTING OF EPOXY COATINGS

- A. Installations of epoxy coatings shall be tested using a holiday or spark test method to identify any pinholes or holidays that were not detected during the visual inspection.
- B. The Contractor shall perform holiday detection on all surfaces coated with the epoxy coating in the presence of Inspector.
- C. After the epoxy coating has set hard to the touch, surfaces shall first be dried, an induced holiday shall then be made on to the coated concrete surface and shall serve to determine the minimum/maximum voltage to be used to test the coating for holidays at that particular area.
- D. The spark tester shall be initially set at 100 volts per 1 mil (25 microns) of film thickness applied but may be adjusted as necessary to detect the induced holiday (ref. NACE RPO188-99).
- E. All detected holidays shall be marked and repaired by abrading the coating surface with grit disk paper or other hand tooling method. After abrading and cleaning, additional epoxy coating material can be hand applied to the repair area. All touch-up/repair procedures shall follow the epoxy coating recommendations.

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END OF TECHNICAL SPECIFICATION
FOR REHABILITATION OF CITY SEWER STRUCTURES, MANHOLES, LIFT
STATIONS AND WET WELLS