



City of Tampa

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ADDENDUM 1

Via E-Mail

DATE: August 20, 2019

Contract 19-C-00050 FEMA Mitigation- Wastewater Gravity Sewer Rehabilitation by Cured In Place Pipe (CIPP) – FY19

Bidders on the above referenced project are hereby notified that the following addendum is made to the Contract Documents. BIDS TO BE SUBMITTED SHALL CONFORM TO THIS NOTICE.

Item 1: Delete Workmanship and Materials Section 52 Manhole and Structure Rehabilitation.

Item 2: Delete Contract Item 4800 – Rehabilitate Manhole and Structure by Coating System.

Item 3: Change SP-60 Contingency, in the first and second paragraphs: “Twenty Thousand Dollar (\$20,000)” to be “Forty Thousand Dollar (\$40,000)”

Item 4: Replace SP-134 Cleaning, with the following:

SP-134 Cleaning

The cleaning methods (hydraulic or mechanical) to be employed shall be determined by the Contractor based upon the material and condition of the pipe, and shall be approved by the Engineer. During the cleaning process, the Contractor shall implement all necessary measures to prevent sewage from entering private property, which is typically referred to as a “blow back”. The contractor shall open all existing clean outs on service laterals. In the event cleanouts are not present, the contractor shall lower water pressures and implement all other necessary safety measures to ensure “blow backs” will not occur.

The Contractor shall be responsible for all clean-up and decontamination of the property should a “blow back” occur. The clean-up shall be to the satisfaction of the property owner and the City of Tampa.

The Contractor shall restore all property that may have been damaged during construction to its original condition or better. All the special precautions and cleaning methods implemented to prevent

“blow backs “shall be considered incidental to the cleaning process and shall be included in the appropriate Contract Item Unit Price.

If the Contractor utilizes multiple cleaning methods for the same manhole run, payment for the cleaning will be made based upon the cleaning method utilized having the highest Contract Item Unit Price, not a total of the unit prices for each cleaning method utilized. For example, if the Contractor initially attempts to clean a manhole run by hydraulic means, but then uses mechanical means, then the Contractor will be paid for the mechanical cleaning only, assuming it has a higher unit price than the hydraulic cleaning.

The Contractor shall have a representative on site during any work performed by a subcontractor unless otherwise approved by the Engineer.

Item 5: Replace SP-135 Cleaning and Inspecting Cast Iron Pipe, with the following:

SP-135 Cleaning and Inspecting Cast Iron Pipe

In order to maximize the hydraulic capacity of the pipe and to prevent further tuberculation, the existing tuberculation must be removed until the internal diameter of the pipe is attained or until a smooth uniform surface is provided. In either case, it is not the City's intent to remove sound metal. However, it is essential that a smooth, uniform surface is established to allow the liner resins to migrate along the pipe wall and encapsulate any remaining tuberculation.

Special consideration needs to be made when determining the unit cost of tuberculated pipe cleaning. The City will not approve additional compensation as a result of the extra time necessary to clean these pipes. The tuberculation shall be assumed as very hard and difficult to clean based on the City's past projects. The bid amount should realistically reflect this difficult and time-consuming cleaning operation.

The Contractor shall submit the cleaning procedure for approval by the City prior to starting construction. The Contractor shall take every precaution necessary to avoid damage to the pipe. The appropriate cleaning method shall be carefully selected to prevent damage of the pipe, but effectively remove the tuberculation. During the removal of the tuberculation, the City will require a camera positioned in the pipe to view the progress and effectiveness of the cleaning operations and to make sure that the cleaning efforts are not damaging the pipe. The Contractor shall stop cleaning if additional cleaning will damage the pipe. The City will make final determination if cleaning should be stopped. Should the pipe be damaged as a result of the approved cleaning efforts or procedures, The City will be responsible for the repairs. However, if the pipe is damaged as a result of the Contractor not following the approved cleaning efforts or procedures and or as a result of negligence, the Contractor shall be responsible for the point repair required to install the CIPP liner. The City reserves the right to request a change in the cleaning method if the approved method appears to be ineffective or destructive to the existing pipe. No cleaning operations shall be performed without a City representative being present

onsite, unless approved otherwise by the Engineer. The working hours shall be closely coordinated with the City representative.

It is the intent of the Engineer to re-establish as much as the original inside diameter as listed in the table below without damaging the pipe. The City will determine when the pipe has been sufficiently cleaned to proceed with the installation the pipe liner. This determination will be based on the condition of each pipe segment and the amount of cleaning that can be achieved without damaging the pipe. The CIPP liner shall not be ordered until after the cleaning is completed and the final liner diameter is determined and approved by the City. If the internal diameter as indicated in the table below cannot be achieved, the Contractor shall submit a cost proposal/credit for installing a smaller diameter cured in place pipe liner to the City for approval.

After the internal diameter has been verified, the Contractor shall provide the City with a video inspection of the cleaned sewer during normal working hours (Monday through Friday, 8:00 a.m. through 5:00 p.m.). The Engineer will review the inspection to determine if additional pipe cleaning will be required. The inspection shall also include a condition assessment following NASSCO PACP defect coding and scoring.

TABLE A		
Nominal Diameter (Inches)	Ductile Iron Pipe Internal Diameter* (Inches)	Cast Iron Pipe Internal Diameter** (Inches)
6	6.16	5.94
8	8.27	8.01
10	10.28	9.98
12	12.34	12.00
14	14.40	14.02
16	16.48	16.04
18	18.56	18.04
20	20.64	20.04
24	24.80	24.10
30	30.90	30.10

* Based on an assumed Class 54 pipe.

**Based on an assumed thickness Class 25 pipe.

Item 6: Add SP-136- SP-136 Portable Water Meter Policy

SP-136 Portable Water Meter Policy

The Contractor shall abide by all portable water meter policies outlined in the following pages. The Contractor will be responsible for submitting the portable meter application and the deposit to the Water Department.

Item 7: Replace Workmanship and Materials Section 49 – Gravity Sewer Rehabilitation by Cured-In-Place Pipe (CIPP), with the attached Section 49.

All other provisions of the Contract Documents and Specifications not in conflict with this Addendum shall remain in full force and effect. Questions are to be e-mailed to Contract Administration@tampagov.net.

Jim Greiner

Jim Greiner, P.E., Contract Management Supervisor



City of Tampa
 Water Department
 306 E. Jackson St., 5E
 Tampa, FL 33602
 Phone: (813) 274-8121

PORTABLE METER POLICY

Water service from a fire hydrant is provided to meet needs of a temporary nature only, such as construction or other similar need, as approved by the Director or his designee. The initial term of service is six (6) months, with extensions of three (3) months. Extensions must be requested in writing before the expiration of the current term.

Applicant must submit a written application and pay a \$700 deposit for each portable meter. Applications are approved subject to the following conditions:

1. Only Water Department personnel are authorized to install, move, or remove portable meters from fire hydrants. It is against the law for anyone other than authorized personnel to use unmetered water from a city fire hydrant.
2. The customer of record is liable for any damages to or theft of Water Department property and equipment, and, as such, agrees to pay all charges in connection with repairing or replacing Water Department property or equipment.
3. The City is not responsible for accident or injury caused by unauthorized placement of a portable meter or other appurtenances.
4. Portable meters may be used for service from hydrants only. No installations will be made on trucks. No Private Meters may be installed on city hydrants.
5. For portable meters to be used to fill tanks, wet wells or any high hazard area, as determined by the Water Department, the following is required:
 - a. An approved backflow prevention device must be installed at applicant's expense. Installation is subject to Water Department inspection and approval.
 - b. The device shall be tested at the time of installation by a certified backflow prevention device technician. Water may not be drawn from the installation until the Water Department has received formal written notification that the test indicates the devices is operating properly.
6. All requests for installations, moves and removals of portable meters must be e-mailed to PortableHydrantMeter@TampaGov.net. Installation, move and removal requests are scheduled within two (2) business days. When removal of a portable meter is requested, the customer will receive a confirmation number. Charges for water consumption and meter rental remain in effect until the written request for removal is received and a confirmation number is issued.
7. A portable meter will be removed without notice when:
 - a. the meter is used, for any reason, as a permanent meter to avoid payment of fees for permanent service, or
 - b. no water consumption is registered for a period of three (3) consecutive months, or
 - c. the account is not paid within 30 days of the billing date appearing on the statement. The deposit on the account will be applied against the balance due.
8. A deposit refund can be processed when:
 - a. a written removal request is on file and the meter has been removed, and
 - b. a written deposit refund request has been received by the Water Department, and
 - c. payment in full has been received.

<u>Portable Meter Service Fees</u>		<u>Consumption Charges</u>	
Deposit	\$700.00	Per One Hundred Cubic Feet (CCF)	\$ 1.20
Installation	60.00	Minimum Monthly Charge (less than 10 CCF)	10.00
Relocation	60.00		
Meter rental, per day	2.00		

Any inquiry regarding portable meters, including relocations and pick-ups, please contact us at PortableHydrantMeter@TampaGov.net



City of Tampa
Water Department
306 E. Jackson St., 5E
Tampa, FL 33602

PORTABLE METER POLICY

Company Name:	
Federal ID #:	
Corporate Billing Address (If applicable):	
Local Billing Address:	
Office Contact:	Phone:
Field Contact:	Phone:
Purpose of Meter:	Estimated Time of Use:
Date Meter Required:	
Location of Hydrant:	
I have received a copy of the Tampa Water Department Portable Meter Policy and Understand provisions therein.	
Signature:	Date:
Account Information	
Deposit Amount: \$700	
Check Number:	
<p>Please return your completed application and check to 306 E. Jackson Street, 5E</p> <p><i>Any inquiry regarding portable meters including relocations and pick ups, please contact us at</i></p> <p><i>Portab/eHydrantMeter@Tampagov.net</i></p>	

SECTION 49 - GRAVITY SEWER REHABILITATION BY CURED-IN-PLACE PIPE (C.I.P.P.)

W-49.01 Scope of Work

This specification covers the materials and method of application for the rehabilitation of gravity sewers through the use of C.I.P.P.

The proposed location for gravity sewer rehabilitation by C.I.P.P. is as shown on the Plans.

The Contractor shall furnish all labor, materials, and special equipment required to accomplish the work in accordance with these specifications. The installation shall affect the complete interior relining of the existing sanitary sewer piping and shall result in a smooth, hard, strong, and chemically inert interior finish closely following the contours of the existing piping. The Contractor shall provide a completed system with trunk sewer and all lateral connections in operational condition.

The Contractor shall provide all necessary television monitoring and cutting equipment and perform all work required to cut out unnecessary liner material at the locations of all existing lateral pipes and reestablish service to all laterals entering the trunk sewer. **All television inspection videos to be provided to the City shall be on DVD or USB and a Microsoft Access Database (MDB) file.**

The actual sizes, lengths, and materials of the pipes to be relined shall be as indicated in the contract documents, subject to verification by the Contractor prior to commencing the lining installation.

The Contractor shall provide all water, piping, hoses, valves, or connections necessary to complete the lining process.

W-49.02 ASTM Standards

The proposed rehabilitation by CIPP shall be in accordance with these specifications and the applicable reference standards from the American Society for Testing and Materials, such as: ASTM F1216 (Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube), ASTM F1743 (Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)), ASTM D5813 (Cured-in-Place Thermosetting Resin Sewer Pipe), ASTM D790 (Test Methods for Flexural Properties of Un-reinforced and Reinforced Plastics and Electrical Insulating Materials), and D2990 (Tensile, Compressive, and Flexural Creep and Creep-Rupture of Plastics) which are made a part hereof by such reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification will govern.

W-49.03 Qualification of Pipelining Contractor

The prospective Contractor must be approved, in writing, by the Engineer prior to the award of the contract. The Contractor shall provide any information or documentation which the Engineer

may require as proof of the Contractor's competency to perform work of the type herein specified.

Minimum requirements for approval by the Engineer shall be as follows:

- (1) The Contractor shall have been engaged in the business of furnishing and installing the C.I.P.P., and shall have been performing work of similar type, magnitude, and difficulty for a period not less than 5 years and shall also have successfully installed at least 1,000,000 feet of a cured-in-place product in wastewater collection systems. Work performed in non-wastewater systems will not be accepted.
- (2) The Contractor shall submit a resume' and list of projects of similar complexity in wastewater collection systems only, which have been successfully completed by him in the past.
- (3) The Contractor shall be capable of providing test data supporting the long-term strength, corrosion resistance, and 50-year design life of the liner. These tests shall be based on the following standards:
 - a) Material tested shall be identical to those proposed for installation and from samples of material in final resting place after the trauma of installation and/or reforming of the product. Testing shall be in accordance with applicable ASTM standards. Laboratory samples will not be acceptable.
 - b) Short-term tests can be extrapolated using actual short-term test data and applicable ASTM standards for plastic pipe.
 - c) All test data (whether theoretically extrapolated or actual) must be validated by an independent third party qualified in these testing procedures.
- (4) The Contractor shall be responsible for providing one (1) restrained CIPP sample test at a frequency of 1 test per every 5,000 ft lined or 1 test per every work order issued, or as directed by the Engineer, at the Contractors own expense.

The test shall be based on the following standards:

- a) The physical properties and thickness shall be tested in accordance with applicable ASTM standards and the report shall be submitted for review by the Engineer. The restrained sample shall be a minimum of 8-inches in length and full diameter of the pipe size being lined.
- b) If any test sample results are unsatisfactory, the City reserves the right to increase the testing frequency at no additional cost.
- c) The sample test must be validated by an independent third party qualified in these testing procedures such as Specialty Testing Services, Birmingham, Alabama or equal. If the minimum thickness and physical properties are not

met as set forth in the contract documents the contractor shall repair or replace the liner. The proposed repair method shall be submitted to the Engineer for approval.

W-49.04 Accuracy of the Plans

To the greatest practical extent, the Plans will depict the details of the work, including the locations and numbers of all manholes, distances between manholes, locations of junctions, pipe sizes, manhole depths, etc. However, the Contractor shall verify all dimensions, including lengths between manholes by field measurement. The Contractor shall also be aware that minor variations in pipe diameter and circumference will occur, and that it is not intended that such minor variations be indicated on the Plans.

W-49.05 Inspections

Prior to commencing the C.I.P.P. installation, the Contractor shall thoroughly clean all piping to be relined and shall inspect the piping utilizing closed circuit television. All television inspection shall utilize a radial view (pan and tilt) closed-circuit color television camera capable of viewing the entire circumference of the pipe. DVD(s) or USB(s) and a Microsoft Access Database (MDB) file of the piping to be lined shall be made available to the City for inspection before proceeding with the work. Only certified trained personnel of the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment and Certification Program (PACP) shall perform the inspection.

The Contractor shall prevent sand or debris from becoming trapped between the existing pipe and its finished liner, or infiltration caused by damage done during the cleaning process. Grouting of laterals or cracks may be required to prevent infiltration and the sand or debris entrapment. If grouting is required, it shall be considered incidental to the lining procedure, and no additional payment shall be made therefor. The grouting of damaged pipelines is required within 48 hours of discovery.

The City reserves the right to inspect the manufacturing of materials. The Contractor shall give appropriate prior notice in order that the City inspector may be on hand to observe the various processes.

No work shall be performed by the Contractor except in the presence of the City of Tampa Inspector unless otherwise approved by the Engineer. The Contractor shall coordinate his work schedule and give timely prior notice regarding his intentions to perform any and/or all parts of the work, in order that the Department's inspector may be on hand. The Contractor shall provide a work schedule a minimum of 2 weeks in advance of starting work to allow for public notification letters to be distributed by the Department. Any work performed in the absence of the Department's inspector is subject to removal and replacement at the Contractor's expense.

Upon substantial completion of the work, the Contractor shall, in the presence of the Department's inspector, inspect the line using a radial view, closed circuit television. The DVD or USB drive thus produced shall be accompanied by a simultaneously produced, narrated sound. The sound narration shall draw attention to all recognizable defects, imperfections, etc., and the location along the length of the piping shall be accurately noted. In addition, the Contractor shall provide a

condition assessment inspection report following the latest version of NASSCO PACP coding and scoring. Also, the locations and all pertinent details regarding the entrance of service laterals into the main trunk sewer shall be accurately noted on the DVD or USB and inspection report. One copy of the DVD or USB and a Microsoft Access Database (MDB) file and inspection report shall become the property of the City.

W-49.06 Materials

All materials used in the lining and in the insertion process shall be of the best respective kinds and shall be as approved in advance by the City. Any materials not approved by the City prior to insertion into the piping shall be rejected and shall be removed and replaced with approved materials at the Contractor's expense.

The finished C.I.P.P. shall generally consist of a polyester or epoxy resin impregnated, needle interlocked, terylene felt thoroughly bonded to the internal circumference of the existing pipe, and an internal polyurethane membrane integrally bonded to the internal circumference of the felt, thus forming a smooth, chemically inert internal flow surface.

Felt Content: The liner felt content shall be determined by the Contractor to ensure a cured thickness of liner as indicated on the Plans. The thickness of the cured liner is to be as specified and shall not include the thickness of the polyurethane inner liner.

Resin Content: The resin content of the liner shall be 10-15% by volume greater than the volume of felt in the liner bag.

Liner Sizing: The liner shall be fabricated to a size that when installed will neatly fit the internal circumference of the pipe to be lined. Allowance for longitudinal and circumferential stretching of the liner during insertion shall be made by the Contractor.

Length: The length of the liner shall be that deemed necessary by the Contractor to effectively carry out the insertion and seal the liner at the inlet and outlet of the manhole. Individual inversion runs may be made over one or more manhole to manhole sections as determined.

Because the actual strength and characteristics of the finished liner will vary considerably, depending on the types and mixing proportions of the resin and hardener used, the type of felt used, the type and amount of filler material used, and the degree of cure, it shall be the sole responsibility of the Contractor to control these variables and to provide a finished liner possessing the following minimum properties:

<u>Design Parameter</u>	<u>Unit</u>	<u>ASTM Test Method</u>	<u>Minimum Value</u>
Tensile strength at yield-20°C	psi	D638	3,000
Flexural Modulus	psi	D790	250,000
Flexural strength	psi	D790	4,500

The Contractor shall provide a liner exhibiting the above minimum properties. Prior approval of shop drawings related to any or all materials or methods of installation shall not relieve the Contractor of this responsibility.

The Contractor shall provide a finished liner which exhibits excellent resistance to those chemicals, liquids, and gases normally found in raw sewage, in particular, hydrogen sulfide gas.

The resin to be used shall be an epoxy or polyester resin with characteristics compatible with the required mechanical and chemical properties previously specified. A sample of each batch shall be made available to the City for testing.

W-49.07 Execution

Manufacture

It will be necessary for the Contractor to obtain the City's prior approval for all materials or processes and the City shall have the power at any time to order the Contractor to modify or discontinue any practice. All such orders shall be given in writing.

The liner shall be vacuum impregnated with resin not more than 24 hours before the proposed time of installation and stored out of direct sunlight at a temperature of less than 4°C, unless otherwise approved by the Engineer. The Contractor shall designate a location where the CIPP will be vacuum impregnated prior to installation.

The Contractor shall provide all appropriate transport, handling, and protection equipment including refrigerated, or otherwise suitably cooled, transport equipment.

All fabricating and Contractor testing shall be carried out under cover and no materials shall be exposed to the weather until they are ready to be inserted. All materials should be protected from the weather and exposure to ultra-violet light as far as practicable during the manufacture and installation process.

Each liner shall be accompanied by suitable documentation such as a wet out report, indicating time and date of manufacture, felt thickness, number of layers, length of liner, resin types, resin content, catalyst, relevant batch numbers, etc and provided to the City of Tampa inspector for approval prior to installation.

W-49.08 Installation

Each liner may be manufactured at any time but shall be impregnated with resin not more than 24 hours prior to the intended installation time, unless otherwise approved by the Engineer. The City shall notify the Contractor upon approval of the line cleaning and inspection report, at which time the Contractor may proceed with operations on the site. The Contractor shall coordinate his schedule for impregnation and insertion of the liner bag with the City, and with due regard for site and weather conditions prevailing at the time.

On the event of insertion being delayed after impregnation by unexpected site conditions but prior to the start of the insertion process, the Contractor shall store the liner, at his own cost, for a further period below 4°C for use when conditions allow.

Prior to beginning insertion of the liner bag, the Contractor shall inspect the cleaned line by use of radial view, closed circuit television cameras, and shall confirm to his own, and the City's, satisfaction that the lines are adequately cleaned. No sewage shall flow through the cleaned line between final acceptance of the cleaned line and insertion of the liner bag. If, however, sewage does flow through the clean line prior to the insertion of the liner, then the Contractor shall, at minimum, reinspect the line by use of a radial view, closed circuit television camera in order to evaluate whether further cleaning is warranted. The decision whether or not to employ additional cleaning operations will be made by the Engineer. Insertion of the bag by the Contractor shall serve as evidence of his acceptance of the condition of the piping.

The liner shall be inverted into the pipeline from a suitable platform located above the manhole or other approved point of inversion. The free open end of the liner bag shall be firmly secured to the inversion platform and the folded liner passed down a suitably reinforced column to a shute or bend leading to the opening of the pipe to be lined. Clean water at ambient temperature shall be supplied to the inversion platform at a rate sufficient to cause controlled inversion of the liner into the pipeline.

Alternatively, the liner may also be pulled into position through a manhole or other entry point with the aid of a power winch that is equipped with a device to monitor the force and prevent excessive tension and liner elongation. Extreme care shall be taken during the installation to prevent damage to the liner. After the liner is in place, the calibration hose shall then be securely attached to the standpipe and clean water at ambient temperature shall be supplied to cause a controlled inversion inside the liner.

By either method, the installation forces exerted on the liner shall be limited so as not to stretch the liner longitudinally by more than 5 percent of the original length.

Rehabilitation by fold and form pipe into existing pipes will not be approved on this contract.

The Contractor shall supply a suitable heat source and water recirculation equipment capable of delivering hot water to the far end of the liner to quickly and uniformly raise the water temperature in the entire liner, once inverted in the pipeline, above the temperature required to commence the exothermic reaction of the resin as determined by the catalyst system employed.

The heat source shall be fitted with suitable monitors to gauge the temperature of the incoming and outgoing water supply to determine when uniform temperature is achieved throughout the length of the liner. Liner installation and curing utilizing steam is considered an acceptable alternative for certain applications and therefore must be approved by the Engineer on a case by case basis.

The finished pipelining shall be continuous over the entire length of an insertion run between two manholes or structures and be as free as commercially practicable from visual defects such as foreign inclusions, dry spots, air bubbles, pinholes, dimples, and delamination. The lining shall be

impervious and free of any leakage from the pipe to the surrounding ground or from the ground to the inside of the lined pipe.

The polyurethane inflation bag, permanently bonded and attached to the felt bag, shall remain as an inner liner. This bag shall not be considered as contributing to any of the specified properties required of the liner.

Any defects which, in the judgement of the Engineer, will affect the integrity or strength of the lining, shall be repaired or the liner replaced at the Contractor's expense. Prior to proceeding with any repair work, the Contractor shall recommend the proposed plan to the Engineer for his approval.

End sections, where cut or terminated within manholes, shall be repaired with City-approved products, cut flush with the face of the manhole, and suitably sealed with "Hydro-Tite" waterstops, as manufactured by Gundle Lining Construction Company, Houston, TX, or equal.

All defective work shall be removed and replaced with new material to the full satisfaction of the City.

W49.09 Service Connection

The existing service connections shall be reconnected after the curing process has been completed. A radial view television camera-guided cutting device, in conjunction with the service locator log from pre-lining inspection, shall be used to identify and restore the service connections to not less than 90% capacity. A smoothing device shall be utilized to smooth all rough edges after re-establishment. A locator log shall be provided to the City which identifies the location of the lateral connection and which connections were re-established. This work shall be done without excavation.

W 49.10 Back-up Equipment

It shall be the Contractors responsibility that all critical equipment necessary to complete the installation of the CIPP liner shall be in good working condition prior to starting construction. Critical equipment shall include service cutting device, brushing tools, CCTV camera, and cleaning equipment. The Contractor shall be required to have one working back-up CCTV camera and cutter and all appurtenances necessary onsite prior to starting construction.

W 49.11 Warranty

All C.I.P.P. will be warranted to be free from defects in materials and workmanship for a period of one year from the date of rehabilitation. Should a defect occur during this one year period that is attributable to the C.I.P.P. installation, then this defect shall be repaired at no additional cost to the City within 30 days.