



**CITY OF ORLANDO
INVITATION FOR BIDS IFB16-0007**

DATE OF ISSUE: DECEMBER 7, 2015

IFB DUE DATE: JANUARY 7, 2016

IFB DUE TIME: 2:00 p.m., Local Time, City of Orlando, FL

BID DELIVERY LOCATION: City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

Bid opening held at the Agenda Conference Room
City Hall 2nd Floor, 400 South Orange Ave, Orlando, FL
32801.

IFB TITLE: SANITARY SEWER LINING & MANHOLE
REHABILITATION

IFB NO: IFB16-0007
(IFB NUMBER MUST BE PLACED ON FRONT OF ENVELOPE)

**THIS BID USES AN ELECTRONIC
BID PRICE FORM (EXCEL DOC)**

DIRECT ALL INQUIRIES TO: Silvia Coste, Purchasing II
Phone: (407) 246-2216
Email: TeamC@cityoforlando.net

BUSINESS NAME & ADDRESS:

CONTACT INFORMATION:

Business name

Name of Contact Individual

Business Address

Contact Address

Business City, State, Zip

Contact City, State, Zip

Business Telephone Number

Contact Telephone Number

Business eMail address

Contact eMail Address



TABLE OF CONTENTS:

	<u>PAGE</u>
INSTRUCTIONS FOR SUBMITTING BID.....	3
SUBMITTAL REQUIREMENT CHECK LIST.....	4
SEALED BID ENVELOPE LABEL.....	5
INVITATION FOR BIDS AWARD INFORMATION.....	6
NON-MANDATORY PRE-BID CONFERENCE.....	7
NON-MANDATORY PRE-BID CONFERENCE ATTENDANCE NOTIFICATION.....	8
EXHIBIT “1” TECHNICAL SPECIFICATIONS.....	9
SPECIAL CONDITION CLAUSES.....	54
GENERAL CONDITIONS.....	58
STANDARD TERMS AND CONDITIONS	59

FORMS AND SUBMITTAL DOCUMENTS:

SOLICITATION COVER PAGE.....	1
ELECTRONIC BID PRICE.....	80
BIDDER’S CERTIFICATION.....	81
CONTRACT AND ACCEPTANCE FORM.....	82
BIDDERS QUESTIONNAIRE.....	83
WRITTEN QUESTION(S) FORM.....	85
MINORITY/WOMEN-OWNED BUSINESS.....	86
VETERAN BUSINESS ENTERPRISE PARTICIPATION FORM.....	87
ADDENDUM ACKNOWLEDGEMENT FORM.....	88
NO-BID RESPONSE FORM	89

**INSTRUCTIONS FOR SUBMITTING BID
IN RESPONSE TO INVITATION FOR BIDS FOR THE
SANITARY SEWER LINING & MANHOLE REHABILITATION**

PREPARATION OF BIDS:

1. Bidders are expected to examine the attached Bidders Instructions, Bid Form, Technical Specifications, and Detail Drawings. Failure to do so will be at the bidder's risk.
2. All prices and notations must be in ink or typewritten. No erasure permitted. Mistakes may be crossed out and corrections typed adjacent and must be initialed and dated in ink by the person signing the bid. All bids must be signed by the bidder's responsible officer. Bidder's obligations assumed by such signature must be fulfilled.
3. Each bidder shall furnish the information required on the bid form and each accompanying sheet thereof on which he/she makes an entry.
4. Unit prices for each proposed bid item shall be entered in the Unit Price column. An extended price shall be entered in the Total column for each item bid. In case of discrepancy between a unit price and extended price, the unit prices will be presumed to be correct.
5. Although the City generally awards bids to the responsive and responsible bidder submitting the lowest total base bid, the City may award this contract to all responsive and responsible bidders, with no guaranty of the quantity of work to be assigned to each bidder. Therefore, bidders must submit all pricing pages on the forms provided, clearly indicating which items are bid and which are not. Failure to submit all the Bid Form pages will render such bid non-responsive.
6. This solicitation is for a Continuing Service Contract that will be awarded to multiple bidders in order to allow the City flexibility in awarding project assignments in the City's best interest. The City desires to receive competitive prices and be able to assign a particular project assignment to a single bidder for all the work needed for a particular project assignment. Therefore, Bidders are encouraged to subcontract or team with other specialized trade vendors to provide competitive price proposals for as many of the items listed on the Bid Form as possible. Bidders are not required to bid on every bid item to receive a contract with the City, but bidders with the most competitive prices and a comprehensive list of proposed unit prices will be more likely to receive project assignments. The City reserves the right to assign a project to any one or multiple Bidders as necessary to complete all the work needed for a particular project. Subcontractors that provide a specialized service required under this contract may team with more than one prime Bidder, if they choose to do so.
7. A City representative will contact the Bidder with the lowest total price for the particular project assignment based on the submitted bid prices. They will discuss the contractor's availability and other pertinent factors. The possible need for Maintenance of Traffic and Bypass Pumping will be discussed based on the project specifics, and if needed, a cost proposal will be requested. Please refer to Section 01150 Measurement and Payment pay item description 2 and 3. The City reserves the right to award the project assignment to any bidder or even multiple bidders based on the City's best interests and other factors.

SUBMITTAL CHECK LIST: ✓

Bidders should use the following bid check list of standard forms which are to be completed and returned as part of your bid submittal. Failure to complete and return required forms may result in your bid being non-responsive and not considered for award. Return one (1) original, one (1) copy, and one (1) cd or flash drive with bid submittal.

Additional forms/items may be required to be submitted under the terms of this Invitation for Bids which are not listed below; therefore, it is the bidder’s responsibility to read and understand the provisions of this Invitation for Bids.

- _____ Solicitation Cover Page.
- _____ Invitation for Bids Electronic Price Form Signed & on CD or Flash drive.
- _____ Current Copy of Bidder’s W-9
- _____ Bidder's Certification, signed and notarized.
- _____ Bidder’s Questionnaire.
- _____ Contract and Acceptance Form.
- _____ Minority/Women Owned Business Enterprise Participation Form.
- _____ Veteran Business Enterprise Participation Form
- _____ Bid must be submitted as **one (1) unbound original, one (1) hard copy, and one pdf electronic copy** on a **CD or Flash Drive.**
- _____ Addendum Acknowledgment Form: **It is the bidder’s responsibility to contact the City’s Procurement and Contracts Division prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda with the bid. If you have downloaded this bid from the Internet, please ensure that you also download all such addenda. (If applicable)**

Special Items:

- _____ 1. 10 % Bid Security
- _____ 2. _____
- _____ 3. _____



NOTE:

Certificate of Insurance: Within seven (7) days of a notification of intended award, the Contractor shall provide the City with the required Certificate(s) of Insurance in a form(s) acceptable to the City.

Written Question(s) Form: Written questions must be received no later than 5:00 p.m. local time, on **Monday, December 28, 2015.**

SEALED BID ENVELOPE LABEL:

Complete the label below with all appropriate information and affix it to the outside of the envelope containing your submittal. This will assist in the proper processing of the submittal and avoid revealing the contents of that envelope until the official solicitation opening time and date.

SEALED BID ENCLOSED	
(To be opened by Procurement official noted below))	
	
Respondent's Name:	_____
Respondent's Address:	_____ _____
Respondent's Telephone Number:	() _____
City of Orlando Procurement and Contracts Division Attention: David Billingsley, CPSM, C.P.M. Chief Procurement Officer C/O Purchasing Agent: Silvia Coste, Purchasing II 400 South Orange Avenue, Fourth Floor Orlando, Florida 32801	
Solicitation No.:	<u>IFB16-0007</u>
Solicitation Title:	<u>Sanitary Sewer Lining & Manhole Rehabilitation</u>
Solicitation Due Date & Time:	<u>January 7, 2016 2:00P.M., Local Time, City of Orlando, FL</u>

INVITATION FOR BIDS AWARD INFORMATION:

The City's Procurement and Contracts Division is the official source to obtain information relating to City of Orlando solicitations. It is incumbent on the Bidder to obtain current bid and award information prior to and after the scheduled opening date of a solicitation. Information is updated daily as it becomes available. An award, or recommendation of award, may be made at any time after the scheduled opening date of a solicitation. You may obtain award and other solicitation information in a variety of ways:

1. Bid documents are available for download from the eSupplier website:

You may access solicitation information by visiting the City's eSupplier website by copying the following link in your web browser:

<https://vendorlink.cityoforlando.net/common/default.aspx>

2. You may also visit the Procurement and Contracts Division to obtain award information, solicitation packages, addendums, and other documents. Our office is located at:

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

3. You may also call the Procurement and Contracts Division at (407) 246-2291, during normal business hours, to request a solicitation and other related information.

Please remember, email notification is provided as a courtesy to our vendors, but it is the vendor's responsibility to check with the City of Orlando's website at:

<https://vendorlink.cityoforlando.net/common/default.aspx> for current bid, and other information.

We appreciate your interest in doing business with the City Beautiful and wish you much success with your business ventures.

NON- MANDATORY PRE-BID CONFERENCE:

All prospective bidders are invited to attend a **Non-Mandatory** Pre-Bid Conference at:

**400 South Orange Avenue, Agenda Conference Room, Second Floor, City Hall
Orlando, Florida 32801**

On

Thursday, December 17, 2015 at 2:00 p.m., Local Time, City of Orlando, FL

The purpose of the Pre-Bid Conference is to provide and solicit information relative to the scope, purpose, nature and extent of the work, and any local conditions, which may affect the work and its performance. Submission of a bid shall constitute an acknowledgment by the bidder that it has thoroughly examined and is familiar with the **INVITATON FOR BIDS.** The failure or neglect of a bidder to examine the **INVITATON FOR BIDS,** shall in no way relieve the bidder of any obligations with respect to either its bid or the **INVITATON FOR BIDS.** No claim for additional compensation will be allowed which is based upon a lack of knowledge of the **INVITATON FOR BIDS.**

NON-MANDATORY
PRE-BID CONFERENCE ATTENDANCE NOTIFICATION:

A **Non-Mandatory** Pre-Bid Conference will be held **City of Orlando, Procurement and Contracts Division, Agenda Conference Room, 400 S. Orange Avenue, 2th Floor, Orlando, FL 32802 on Thursday, December 17, 2015 at 2:00 p.m., Local Time, City of Orlando, FL.**

Please return this form by: December 15, 2015.

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801
Telephone: (407) 246-2291
Fax: (407) 246-2869

PLEASE CHECK:

_____ We plan to attend

Name of Representatives who will attend

- 1. _____
- 2. _____
- 3. _____

_____ A list of questions or statements for discussion at the Pre-Bid Conference is attached. (Please use **“WRITTEN QUESTION(S) FORM”** as indicated in the Table of Contents).

_____ We do not plan to attend, but will be submitting a response.

_____ We do not plan to attend and will not be submitting a response because

Signature

Title

Name of Company

Date



EXHIBIT “1” TECHNICAL SPECIFICATIONS

SECTION 01150**MEASUREMENT AND PAYMENT****PART 1 - GENERAL:**

- A. Payment for all work done in compliance with the Contract Documents, inclusive of furnishing all labor, equipment, materials, and performance of all operations relative to construction of the Work, will be made under the Pay Items listed on the Bid Form. Should the Contractor feel that the cost of any part of the Work has not been identified by an item on the Bid Form, he shall include the cost of the work in the most applicable bid item, so that his proposal for the project reflects his total price for completing the Work in its entirety. Work for which there is not a pay item will be considered incidental to the Contract and no additional compensation will be allowed. The Owner's Representative (also referred to as Engineer) shall determine if the Work has been satisfactorily completed and accepted for payment.
- B. The Owner reserves the right to modify work as may be necessary, and to increase or decrease quantities of work to be performed, including adding or deducting any of the Pay Items. Changes in the Work shall not be considered as a waiver of any conditions of the Contract nor invalidate any provisions thereof. When changes result in changes in the quantities of the work to be performed, the Contractor will accept payment according to the unit prices that appear in the Bid Form, subject to the Contract Provisions.
- C. The quantities for payment of unit price items under this Contract shall be determined by actual measurements of the completed items, ready for service and accepted by the owner, in accordance with the applicable unit of measurement and this Section. Contractor's representative shall witness and verify all field measurements with the Owner's representative. Work performed by the Contractor outside the limits of construction or not required by the Contract Documents shall be at the Contractor's expense, unless approved by the Engineer in writing prior to construction.
- D. Division I of the FDOT Standard Specifications for Road and Bridge Construction are excluded from use on this Contract. The technical specifications in Division II- Construction Details and Division III-Materials are hereby included by reference with the exception that all FDOT methods of measurement and payment are specifically excluded from use on this Contract.

PART 2 – SPECIFIC PAY ITEMS:

1. Mobilization shall be paid as a lump sum according to the applicable bid price, based on the total cost of work in the pay item Group and the response time for the particular project assignment. The bid price and payment shall be full compensation for all costs necessary to mobilize and demobilize all equipment, materials and labor to accomplish the work in the Group for the specific project assignment. Payment will be made under Item Nos. 1 thru 3, 41 thru 43, 89 thru 91, and 104 thru 106 Mobilization - per lump sum.
2. Maintenance of Traffic shall be paid as a percentage of work completed during the pay period, and the total shall not exceed the lump sum amount agreed upon between the Owner's representative and the Contractor at the time of the project assignment. The price shall be based on the MOT requirements of the specific project assignment and shall reflect actual market rate costs plus 5% Contractor markup.

The Owner has the right to review and approve the MOT subcontractor's itemized invoice for cost verification before payment is made to the Contractor. The payment shall be full compensation for all design, materials, labor and equipment necessary for installation and continual maintenance of all devices for vehicular and pedestrian traffic control during all phases of the work, as required by the approved maintenance of traffic plan. Payment will be made under Maintenance of Traffic - per lump sum.

3. Bypass Pumping shall be paid as a percentage of work completed during the pay period, and the total shall not exceed the lump sum amount agreed upon between the Owner's representative and the Contractor at the time of the project assignment. The price shall be based on the Bypass Pumping requirements of the specific project assignment and shall reflect actual market rate costs plus a 5% Contractor markup. The Owner has the right to review and approve the Bypass Pumping subcontractor's itemized invoice for verification before payment is made to the Contractor. The payment shall be full compensation for all design, materials, labor and equipment necessary to bypass pump or otherwise maintain all sewage flow around the work assignment by the method agreed to by the Owner and the means approved by the Engineer. Bypass pumping/flow maintenance shall be implemented per Project Manual Section 13273. Payment will be made under Bypass Pumping - per lump sum.
4. (Light, Medium or Heavy) Jet Cleaning shall be measured for payment per linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all water, materials, labor and equipment necessary to water jet clean a sewer with either a vactor truck or closed-loop system per Project Manual Section 13270. The Contractor is responsible to maintain sewer flows during all pipe cleaning. Bypass pumping may be required if the project assignment requires video inspection and CIPP lining, which is a separate pay item based on the specific site conditions. Payment will be made under Item Nos. 4 thru 10 (Light, Medium or Heavy) Jet Cleaning - per linear foot.
5. Closed-Loop (Light, Medium or Heavy) Jet Cleaning shall be measured for payment per linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all water, materials, labor and equipment necessary to water jet clean a sewer using a closed-loop system per Project Manual Section 13270. The Contractor is responsible to maintain sewer flows during all pipe cleaning. Bypass pumping may be required if the project assignment requires video inspection and CIPP lining, which is a separate pay item based on the specific site conditions. Payment will be made under Item Nos. 11 thru 16 Closed-Loop (Light, Medium or Heavy) Jet Cleaning - per linear foot.
6. Sanitary Sewer Debris Disposal (Closed-Loop System Only) shall be measured for payment per ton disposed at an approved legal disposal site as verified and accepted by the Engineer. The bid price and payment shall be full compensation for all costs necessary to transport and legally dispose of dry, solid debris material removed from sanitary sewer pipes per Project Manual Section 13270. This pay item will only be paid for debris removed by a Closed-Loop System. The measurement for payment must be supported by acceptable dumping tickets. Contractor is responsible to decant all water from the solid waste storage container and must pass the paint filter dry test before dumping at a legal disposal site. Payment will be made under Item No. 17 Sanitary Sewer Debris Disposal (Closed-Loop System Only) - per ton.
7. Mechanical Cleaning shall be measured for payment per linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all water, materials, labor and equipment necessary to mechanically clean a sewer as defined in Project Manual Section 13270. Mechanical cleaning includes flushing and

removal of the debris generated by the process. The Contractor is responsible to maintain sewer flows during all pipe cleaning. Bypass pumping may be required if the project assignment requires video inspection and CIPP lining, which is a separate pay item based on the specific site conditions. Payment will be made under Item Nos. 18 thru 22 Mechanical Cleaning - per linear foot.

8. TV Inspection, Post-Cleaning shall be measured for payment by the linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all materials, labor and equipment necessary to complete the post-cleaning TV inspection recorded in DVD format with documentation as required by Project Manual Section 13271. No additional payment will be made for working TV inspections used by the Contractor to execute the cleaning work or rejected cleaning. Payment will be made under Item Nos. 23 thru 27 TV Inspection, Post-Cleaning - per linear foot.
9. TV Inspection, Post-Lining shall be measured for payment by the linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all materials, labor and equipment necessary to complete the post-lining TV inspection recorded in DVD format with documentation as required by Project Manual Section 13271. Payment will be made under Item Nos. 28 thru 32 TV Inspection, Post-Lining - per linear foot.
10. Chemical Grout Seal Pipe Joint Leaks, (pipe size range) shall be measured for payment per gallon completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size range listed on the bid form shall be full compensation for all materials, labor and equipment necessary to internally seal all water leaks through pipe joints using an inflatable packer with an acrylamide chemical grout per Project Manual Section 13278 using approved materials. This pay item shall be used before installing CIPP pipe lining as determined necessary by the Engineer after review of the TV inspection videos. Payment will be made under Item Nos. 33 thru 36 Chemical Grout Seal Pipe Joint Leaks, (pipe size range) - per gallon.
11. Chemical Grout Seal Manhole Leaks shall be measured for payment per gallon completed and accepted by the Engineer. The bid price and payment shall be full compensation for all materials, labor and equipment necessary to seal all water leaks in a manhole by chemical grout injection per Project Manual Section 13278 using approved materials. Payment will be made under Item No. 37 Chemical Grout Seal Manhole Leaks - per gallon.
12. Cleanout for Sanitary Lateral, (4" or 6") SDR 26 PVC, F&I shall be measured for payment per each completed and accepted by the Engineer. The bid price and payment shall be full compensation for all materials, labor and equipment necessary to install a (4" or 6") SDR 26 PVC cleanout on an existing sanitary sewer lateral per the details. Payment will be made under Item No. 38 or 39 Cleanout for Sanitary Lateral, (4" or 6") SDR 26 PVC, F&I - per each.
13. Remove and Replace Ring and Cover shall be measured for payment per each replacement completed and accepted by the Engineer. The bid price and payment shall be full compensation for all materials, labor and equipment necessary to remove an existing manhole ring and cover or top and replace it with a new, approved ring and cover per the detail. The pay item includes adjusting the ring to match grade and coating inside the riser with calcium aluminate up to the ring. Payment will be made under Item No. 40 Remove and Replace Ring and Cover - per each.
14. Group II: Furnish and Install CIPP Pipe Lining shall be measured for payment by the linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size,

project assignment length, and cured liner thickness listed on the bid form, and shall be full compensation for all materials, labor and equipment necessary to furnish and install a complete CIPP sanitary sewer pipe lining per Project Manual Section 13275 or 13276. Pipe mains will always be lined from manhole to manhole and include cutting openings to restore lateral pipe connections. Each pipe size has a related bid item for the incremental cost per linear foot to increase the CIPP liner thickness for each 1.5 mm above the standard thickness, as determined necessary by the Engineer. Payment will be made under Item No. 44 thru 85 Group II: Furnish and Install CIPP Pipe Lining - per linear foot.

15. Grind Protruding 4" or 6" Lateral Flush with 8" - 12" main shall be measured for payment per each protruding lateral ground flush with the main that is completed and accepted by the Engineer. The bid price and payment shall be full compensation for all materials, labor and equipment necessary to cut or grind a protruding lateral so that a CIPP Top Hat liner can be properly installed. Payment will be made under Item No. 86 Grind Protruding 4" or 6" Lateral Flush with 8" - 12" main - per each.
16. CIPP Top Hat Liner for (4" or 6") Lateral on 8" through 12" main shall be measured for payment per each CIPP Top Hat liner completed and accepted by the Engineer. The bid price and payment shall be full compensation for all materials, labor and equipment necessary to install a CIPP Top Hat liner on a lateral connection per Project Manual Section 13276. Payment will be made under Item No. 87 or 88 CIPP Top Hat Liner for (4" or 6") Lateral on 8" through 12" main - per each.
17. Group III: Furnish and Install CIPP Point Repair Lining shall be measured for payment by the linear foot completed and accepted by the Engineer. The bid price and payment for the appropriate pipe size and lining length listed on the bid form shall be full compensation for all materials, labor and equipment necessary to furnish and install a complete CIPP point repair lining per Project Manual Section 13274. The standard cured liner thickness and incremental liner thickness cost per linear foot shall be the same as the same size CIPP lining pay item for manhole to manhole segments. Payment will be made under Item Nos. 92 thru 103 Group III: Furnish and Install CIPP Point Repair Lining - per linear foot.
18. Group IV: Furnish and Install FRP Manhole Liner shall be measured for payment per vertical foot of depth for each manhole completed and accepted by the Engineer. The bid price and payment for the appropriate liner diameter listed on the bid form shall be full compensation for all materials, labor and equipment necessary to furnish and install a complete FRP liner to rehabilitate a sanitary manhole per the applicable details and Project Manual Section 13277. Depth will be measured from the rim to the point where the liner rests on the base of the existing manhole. The work includes demo of the existing structure sufficiently to install the liner, cutting the proper holes to match and seal all pipes to the manhole liner, providing the grout seal around the entire bottom of the liner where it rests on the existing structure base, and filling the annular space between the FRP liner and the existing base with concrete or grout. The pay item also includes any necessary reconstruction of the benches and flow channels and covering all unprotected interior surfaces with an approved epoxy coating, including the benches and the riser section to a new ring and cover which is also included. This pay item also includes all necessary backfill and compaction or flowable fill, and surface restoration to match the existing surface. Payment will be made under Item Nos. 107 thru 112 Group IV: Furnish and Install FRP Manhole Liner - per vertical foot.

-End of Section-

SECTION 13270 CLEANING SANITARY SEWER

PART 1 - GENERAL

The Contractor shall furnish all labor, materials and equipment necessary for properly cleaning the sewer system. The sewer pipes and structures shall be cleaned using mechanical, hydraulically-propelled, and/or high velocity water jet sewer cleaning equipment. The cleaning process shall remove all sand, silt, solids, roots, rags, sludge, grease, rocks, bricks, gaskets, pieces of broken pipe, tuberculation and scale and miscellaneous debris from each sewer segment and the manholes. The selection of cleaning equipment and method shall be based on the type and condition of the sewer pipe and will be subject to the City's approval of the method used and the applicable pay item. All cleaning equipment and devices shall be operated by personnel who are highly experienced using that type of equipment.

The Contractor shall submit references as proof that they are capable of cleaning sanitary sewers per this specification. The Contractor may be required to demonstrate the performance capabilities of the cleaning equipment proposed for use on the project. If the results obtained by the proposed sanitary sewer cleaning equipment are not satisfactory, the Contractor shall use different personnel, equipment and/or attachments, as necessary to meet the specifications. More than one type of equipment or attachments may be required. When hydraulic or high velocity cleaning equipment is used, a suitable debris trap, weir, dam or flow-through plug shall be constructed in the downstream manhole so that all the solids and debris are trapped for removal.

Light cleaning is defined as the removal of settled deposits up to 25% of the pipe diameter for sizes up to 12", up to 15% of the pipe diameter for sizes 15" through 24", and up to 10% of the pipe diameter for sizes 27" and larger. Medium cleaning is defined as the removal of settled deposits consistently above the limits of light cleaning and up to 25% of the pipe diameter for pipe sizes 15" and larger. Heavy cleaning is defined as the removal of settled deposits consistently above 25% of the pipe diameter. Depth of debris must be verified by the Owner as being consistent or average for the reach before the Contractor proceeds with the cleaning operation. Mechanical cleaning is defined as the use of a chain cutter, root saw or other mechanical equipment required to properly clean the inside of a pipe that cannot be accomplished with water jet equipment. Mechanical cleaning will primarily be used to remove tuberculation and scale from DIP or CIP, and must be approved by the Owner before it is used. Mechanical cleaning includes flushing and removal of the debris generated by the process.

The Contractor may use either a vactor truck or a closed-loop cleaning system for pipe sizes up to 24 inches. The use of a closed-loop system that pumps the solids to a closed debris collection container and decants the liquid back into the sewer without emitting significant noise and odor is much more efficient for larger pipe diameters with high volumes of debris, and therefore is required for pipe sizes over 24 inches. Only closed-loop cleaning systems which decant all the water and can pass the paint filter test for debris disposal at the Orange County Landfill are eligible to collect the pay item for Sanitary Sewer Debris Disposal (Closed-Loop System Only). If the Contractor uses a vactor truck for the cleaning process, then he is responsible for the cost of the debris disposal. Solids shall not be discharged or allowed to escape downstream during the cleaning process. Sewers shall remain in service during the primary cleaning procedure.

If required by the project scope, the final cleaning and CIPP lining shall be completed while the sewage flow is bypass pumped or maintained by other approved means. The Contractor shall submit a post-

cleaning video inspection of the final cleaned pipeline for review and approval by the Engineer and CIPP liner installer before proceeding with the CIPP liner installation. Any excessive groundwater leaks, as determined by the Engineer, shall be sealed with a packer and acrylamide chemical grout injection before installing the CIPP liner.

Satisfactory precautions shall be taken to protect the sewer pipes and manholes from damage that might be inflicted by the improper use of the cleaning method or equipment. Any damage done to a pipe or structure by Contractor negligence shall be repaired by the Contractor at no cost to and to the satisfaction of the City.

The Contractor shall be responsible for obtaining the water meter and all related costs. All expenses shall be considered incidental to the cleaning of the sanitary sewers. No fire hydrant shall be obstructed or used when there is a fire in the area.

PART 2 - EQUIPMENT

A. All cleaning equipment shall include an extraction device that removes all solids and does not release particulate matter or allow the removed debris to pass downstream from the cleaning access point. The cleaning equipment shall be able to operate without the need of sewage flow control during the primary cleaning operation. The Contractor is responsible to use whatever means necessary to remove tuberculation or scale from iron pipes or hard-packed sediment on the bottom of the pipeline without damaging the existing pipe. Extreme care shall be used to prevent pipe damage or collapse. The Contractor shall minimize the discharge of odors into the atmosphere by any possible means.

B. Hydraulic-Propelled Devices:

Hydraulic-propelled devices include high velocity water jet cleaning, mechanical rotary cutting devices, and other devices which require a head of water to operate utilizing a collapsible dam. Any dam used must be easily collapsible to prevent damage to properties due to flooding. The flow of wastewater present in the sanitary sewer shall be utilized to provide the necessary water for hydraulic cleaning devices whenever possible. When additional quantities of water from fire hydrants are necessary to expedite cleaning procedures, the water shall be conserved and not used unnecessarily.

Whenever hydraulically-propelled cleaning tools which depend upon water level to provide the cleaning force, or any tool which retards the flow of water in the sanitary sewer is used, precautions shall be taken to insure that the water level created and the increased hydraulic gradient upstream does not cause flooding damage to any property served by the sewer system. Vactor trucks can be used upstream of the work segment to prevent sewage backups that might occur during cleaning or lining operations. Any damage to property as a result of flooding shall be the liability and responsibility of the Contractor.

C. High Velocity Water Jet Cleaning:

The jetting equipment must be specifically designed and controlled to thoroughly clean the pipe without damage. A working pressure gauge shall be used on the discharge of all high pressure water pumps. The jet nozzles shall be adjustable from an upward angle used to clean the top of the pipe, to a downward angle in order to clean the bottom depending on the

pipeline needs and corrosion conditions. The pressure and flow rate shall also be adjustable and controlled to an appropriate level for the cleaning requirements, so as to prevent damage to the crown of the pipe if it is severely corroded. In addition the hose reel speed shall be controlled to pull the jetting head through the pipe at an appropriate speed between 1 to 15 feet per minute. The primary

pump should be rated at least 180 gallons per minute (gpm) at 2000 psi and have additional capacity as needed to perform the work. Closed-loop system equipment shall have a reel and hose that is capable of cleaning at least 1000 LF of sewer pipe in a single reach without the need to reposition the equipment to another access point. Vactor cleaning equipment shall have a reel and hose that is capable of cleaning at least 500 LF of sewer pipe in a single reach. The pressurized nozzle shall be turned off or flow reduced anytime it is stopped, in order to prevent damage to the pipe from extended periods in one location.

D. Mechanical Cleaning:

Mechanical cleaning shall be done with approved equipment and accessories, in addition to normal water jet cleaning. The Contractor shall submit the equipment manufacturer's operation manual and instructions to the Engineer for review and they shall be followed strictly unless approved by the Engineer. Chain cutters, root saws, rods, scrapers, porcupines, cable machines and other approved equipment and accessories shall be used as appropriate to accomplish the work.

E. Debris Collection:

The debris collection system shall include a vacuum/pumping system with a sealed containment unit that must be able to safely transport the sanitary sewer debris to a legal disposal site without leakage or emitting any significant amount of odor. The system must have the capacity to keep up with the cleaning operation and be able to handle a high percentage of solids. The debris collection system shall be capable of capturing 99% of the solids and debris, and decanting only water back into the collection system downstream of the debris collection point.

PART 3 - EXECUTION

- A. The Contractor shall be required to have all materials, water source, equipment, and labor necessary to complete the work on the jobsite prior to beginning the cleaning process. The Contractor shall only use biodegradable cleaning materials which will not create hazards to health or property or affect treatment plant processes.
- B. All equipment and devices shall be operated by experienced operators so that cleaning process is efficient and effective, and the pipe is not damaged during the cleaning process. The cleaning process shall include a multi-step cleaning procedure until the entire pipeline is clean and has been approved by the Engineer after reviewing the post-cleaning TV inspection. The water jet cleaning nozzle shall be inserted through the downstream manhole of the segment being cleaned. The jetting action from the nozzle will propel the cleaning head upstream to a chosen point in the pipeline (depending on the amount of sediment) to loosen the sludge, sediment and debris. The operator shall retract the nozzle back.
- C. downstream to the access manhole, where a submersible pump or vacuum suction line will transport the collected solids and water to the debris collection container.
- D. The debris collection system shall separate the solids and return only solids-free water back into the collection system downstream of the segment being cleaned. The operator will send the nozzle upstream again to a further point in the pipeline and repeat this procedure until the furthest upstream point has been reached and the pipe is clean of all loose coatings and corroded pipe, sludge, sediment and debris. The Contractor is responsible to use whatever means necessary to remove all undesirable material from the line without damaging the pipe.

- E. Final cleaning and TV inspection done immediately before CIPP liner installation shall be completed without active sewage flow in the pipeline. If approved by the Owner, the Contractor may plug the line for a short time to accomplish these tasks. If the line is plugged, the Contractor shall have a vactor truck monitoring and controlling the sewage level at the next upstream manhole. When the Contractor is confident that the pipeline is completely clean, he shall perform the video inspection and submit it to the Engineer and CIPP liner installer for review and approval before proceeding. If the Engineer or CIPP liner installer rejects the cleaning, then the Contractor shall provide the necessary additional cleaning and re-inspection video at no additional cost to the City.
- F. The Contractor is responsible to secure a portable water meter from Orlando Utilities Commission (OUC) and pay all costs for the purchase of the water used for the work and is responsible for all costs to transport and legally dispose of all waste material.
- G. In addition to the requirements herein, the Contractor shall maintain a clean work area so as to comply with Federal, State, and local environmental and anti-pollution laws, ordinances, codes, and regulations when cleaning pipes and disposing of waste materials and debris. The Contractor shall also keep the work area and surrounding premises free of accumulations of dirt, dust, waste materials, rubbish and debris. Suitable containers for storage of waste materials, debris and rubbish shall be provided until time of disposal. It is the sole responsibility of the Contractor to secure a licensed legal dump site for the disposal of the sewer debris. Under no circumstances shall sewage or solids removed from the sanitary sewer system be spilled or dumped onto streets or into ditches, catch basins, or storm drainage systems. The removed solids shall not be disposed of into a sanitary sewer, but the liquid sewage may be discharged back into the sanitary sewer system after the solids have been settled out.

END OF SECTION

SECTION 13271**SANITARY SEWER SYSTEM TELEVISION INSPECTION****PART 1 - GENERAL****A. Description**

This section includes closed-circuit television inspection with digital audio-visual recording and reports associated with the inspection of sanitary sewers. The vendor providing this service shall have a minimum of five (5) years experience providing the same service required for this project.

B. Definitions

1. **Television Inspection:** Operation necessary to complete a true-color audio-visual inspection and documentation for assessment or verification of existing internal sewer pipeline conditions. Furnish labor, materials, equipment, tools, and other incidental services for CCTV inspection.
2. **MPEG:** MPEG, which stands for Moving Pictures Expert Group, is the nickname given to a family of international standards fused for coding audio-visual information in a digital compressed format. For the purposes of this specification, digital audio-visual coding has a resolution of 352 pixels (x) by 240 pixels (y) and an interlaced frame rate of 30 frames per second. MPEG coding shall be named using the .mpg as the file extension.
3. **Compact Disk-Read Only Memory (CD-ROM):** For the purposes of this specification, CD-ROM shall be defined as a CD-R written or "burned" in accordance with the ISO-9660 Level 2 specifications.

PART 2 - MATERIALS**A. General**

Furnish the television inspection studio, television camera, audio-visual digital encoding equipment/software, and other necessary equipment, materials, electricity, labor, technicians, as may be needed to perform the television inspection.

B. Television Inspection Equipment

1. The television inspection equipment shall be capable of inspecting a minimum of 1,500 feet of sewer line, when entry into the sewer can be accessed from the upstream and downstream manholes. When entry is at one end only, the inspection equipment shall be capable of inspecting 750 feet by a self-propelled unit. The inspection equipment shall be capable of clearly televising the interior of a 6-inch-diameter sewer and larger sizes.
2. Transport the television equipment in a stable condition through the sewer line to be inspected. Throughout the inspection, position the camera equipment with the camera directed along the longitudinal axis of the sewer. When the television equipment is towed by winch and bond through the sewer line, the winches shall be stable with either locking or ratcheting drums. Winches shall be inherently stable under loaded conditions. The bonds shall be steel or of an

equally non-elastic material to ensure the smooth and steady progress of the camera extension or traction through the sewer conduit. Prevent damage to the sewer conduit during the television inspection. In the case where the Contractor, for any reason, causes damage such as would be caused by incorrect deployment of bonds or retrieval of lodged equipment, the cost of repair or remedy shall be borne by the Contractor.

C. Television Camera

1. Use a television camera specifically designed and constructed for sewer pipeline inspection. The camera shall be waterproof and shall be operative in any conditions that may be encountered in the inspection environment. Provide a color pan and tilt camera to facilitate the inspection of service laterals and main line as well as manhole for defects. The television camera shall be capable of 360-degree rotational scan indicating salient defects. The tilt arc shall not be less than 225 degrees unless otherwise approved by the Engineer. The adjustment of focus and iris shall provide a minimum focal range of 3 inches in front of the camera's lens.
2. The distance along the sewer in focus from the initial point of observation shall be a minimum of twice the vertical height of the sewer.
3. The illumination shall be such as to allow an even distribution of the light without shadowing and be bright enough to reveal any and all defects.
4. The view seen by the television camera shall be transmitted to a monitor of not less than 11 inches in size. The television camera shall be capable of receiving and transmitting a picture having not less than a resolution 352(x) by 240(y). The travel speed of the television inspection camera shall be uniform and shall not exceed the maximum speed of 6 inches per second when problems are not evident, or slower as directed by the Engineer.
5. Test the television inspection equipment to verify the picture quality. Use the Macroni Regulation Chart No.1 or the equipment manufacturer's recommendation to clearly differentiate between the following colors: white, yellow, cyan, green, magenta, red, blue, and black.
6. The television inspection equipment shall be of such quality as to enable the following to be achieved:
 - a. Color: With the monitor adjusted for correct saturation, the six colors plus black and white shall be clearly resolved with the primary and complementary colors in order of decreasing luminance.
 - b. Linearity: The background grid shall show squares of equal size, without convergence/divergence over the whole of picture. The center circle shall appear round and have the correct height/width relationship ($\pm 5\%$).

Resolution: The live picture must be displayed on a digital or analog monitor capable of providing a clear, stable image free of electrical interference with minimum horizontal resolution not less than 352(x) by 240(y) lines. The recorded image shall be at higher resolution that is typical of the latest equipment industry standards.

- c. Color Consistency: To ensure that the camera shall provide similar results when used with its own illumination source, the lighting shall be fixed in intensity prior to

commencing the survey. In order to ensure color consistency, no variation illumination shall take place during the inspection.

- d. Engineer may periodically ask to check both the live and video picture color consistency against the color bar. Any differences will necessitate resurvey of the new length or lengths affected, at the Contractor's expense.
- e. The CCTV monitor display shall incorporate an automatically updated record in feet and tenths of a foot of the distance along the line from the cable calibration point to the center point of the camera or center point of the transducer, whichever unit is being used. The relative positions of the two center points should also be noted. Use a metering device that enables the cable length to be accurately measured; this shall be accurate $\pm 1\%$ or 6 inches whichever is greater. Demonstrate that the tolerance is being achieved by tape measurement between manholes on the surface. This taped measurement must be included on each television log both written and digital.
- f. If the Contractor fails to meet the required standard of accuracy, the Engineer will instruct the Contractor to provide a new device to measure the footage. The Engineer may, at his discretion, instruct the Contractor in writing, to resurvey those lengths of sewer first inspected with the original measuring device using the new measuring device.
- g. Audio-visual recordings and collected data made during the television inspection shall become the property of the City. Submit to the Engineer immediately upon completion of the television inspection.

D. Television Studio

The television studio shall be large enough to accommodate two people for the purpose of viewing the television monitor while the inspection is in progress. The television studio shall be insulated against noise and extremes in temperature and shall be provided with means of controlling external and internal sources of light in a manner capable of ensuring that the monitor screen display is in accordance with the requirements of this specification. The Engineer shall have access to view the television screen at all times. Locate the central control panel and television camera control in the mobile television studio. Mount the television studio on a mobile vehicle (truck or trailer), which allows safe and orderly movement of the inspection equipment throughout the jobsite.

PART 3- EXECUTION

A. Diversion of Wastewater

Bypass pumping of wastewater will be determined, if necessary, based on the project specifics at the time of work assignment. Certain project tasks can be accomplished by temporarily plugging the pipe for a short period of time to complete final cleaning, video inspection, and lining insertion, with prior approval of the Owner or Engineer.

B. Television Inspection

Inspect sewer pipelines with pan and tilt conventional television imagery so as to record relevant features and defects of the pipeline under inspection. Inspection of pipelines shall be carried out in a format reviewed by the Engineer. Perform cleaning in accordance with the requirements of the contract documents. A skilled technician or supervisor who shall be located

at the control panel in the mobile television studio shall control the operation of the television equipment.

1. If television inspection of an entire section cannot be successfully performed from one manhole, perform a reverse setup to obtain a complete television inspection. No additional payment will be made for a reverse setup.
2. Provide a complete television inspection of both the upstream and downstream manholes beginning at the top of each manhole and panning down to inspect the entire manhole.
3. Whenever prevailing conditions allow, position the camera head to reduce the risk of picture distortion. In circular sewers, position the camera lens centrally (i.e., in prime position) within the sewer. In noncircular sewers, picture orientation shall be taken at mid-height, unless otherwise agreed, and centered horizontally. Direct the camera lens along the longitudinal axis of the sewer when in prime position. A positioning tolerance of $\pm 10\%$ of the vertical sewer dimension shall be allowed when the camera is in prime position.
4. Perform television inspections during low flow conditions. The Engineer reserves the right to refuse any television inspection that, for any reason, does not produce an effective survey of the sewer pipe. If the water level is greater than 25% of the pipe diameter, conventional television inspection shall not be attempted without prior approval from the Engineer. In addition, if it is determined that effective conventional television inspection cannot be performed, notify the Engineer in writing.
5. Do not pull a jet cleaning device in front of the television inspection camera during inspection of the sewer line unless video recording with active flow is necessary and the flow prevents proper viewing, and has been approved by the Engineer.

C. Digital Audio/Visual Recording

1. Take continuous digital video recordings of the inspection view as it appears on the television monitor. It is intended that a digital video recording will be made of the complete television inspection of the sewer lines constructed as part of this project. The recording shall also be used as a permanent record of defects. The recording shall be MPEG file format. The digital video encoding shall include both sound and video information that can be reproduced with a video image equal or very close to the quality of the original picture on the television monitor. The replay of the recorded video information, when reviewed by Windows Media Player™, shall be free of electrical interference and shall produce a clear, stable image. The audio portion of the composite digital coding shall be sufficiently free of electrical interference background noise to produce an oral report that is clear and completely and easily discernible.
2. The audio portion of the inspection report shall include the location or identification of the section, the manhole-to-manhole direction of travel, and the distance traveled on the specific run encountered. The inspection camera equipment shall be on the specific run encountered. Continuously connect the inspection camera equipment to the television inspection or monitoring equipment. The recording and monitoring equipment shall have the built-in capability to allow the Engineer to instantly review both the audio and video

quality of the recordings during the television survey. Playback speed shall be continuously adjustable from one-third normal speed for slow-motion viewing to normal playback speed.

3. Create separate MPEG files for each sewer line segment. In case of a reverse setup, store such inspection in a separate MPEG file. MPEG files shall be written to CD-ROM or DVD-ROM media for delivery to the Engineer. Multiple MPEGs may exist on each CD-ROM or DVD-ROM. Each CD-ROM or DVD-ROM shall be labeled, at a minimum, with the following information: Utility Owner, Project Name, Date of Inspection, ID Number, Sewer Line Sections, and TVI Contractor's Firm Name.
4. Name the MPEG files according to the following file specification: [Start Manhole Number]_[End Manhole Number]_[Month]_[Day]_[Year].mpg
5. The Engineer reserves the right to refuse an MPEG on the basis of poor image quality, excessive bit rates, inconsistent frame rates, or any other characteristics that may affect usability by the Engineer or Owner.

D. Television Inspection Reports

1. Prepare a television inspection report covering the television inspection work and the information acquired. Prior to beginning work, submit a sample hardcopy television inspection report to the Engineer for review.
2. Report sewer defects in accordance with the National Association of Sewer Service Companies (NASSCO) program known as Pipeline Assessment and Certification Program (PACP). The Engineer reserves the right to refuse any inspection report that does not comply with the PACP program.
3. Prior to beginning work, submit NASSCO PACP certification to the Engineer. Do not commence work until such certification is provided and approved.

E. Quality Control

1. Operate a quality control system that will effectively gauge the accuracy of inspection reports produced by the operator.
2. The Engineer shall be entitled to audit the control system and be present when assessments of the sewer integrity are being determined. When requested by the Engineer in writing, forward sufficient details and information for such audit assessment to the Engineer. Should any report fail to achieve a margin that the Engineer deems satisfactory, the Contractor, without any additional compensation, shall recode and resubmit any data or reports that the Engineer deems necessary.

END OF SECTION

SECTION 13273**BYPASS PUMPING WASTEWATER****PART 1 - GENERAL****SCOPE OF WORK**

- A. The work covered by this Section consists of providing temporary bypass pumping of wastewater around the construction areas to facilitate all work involved with the project. The Contractor shall be responsible to maintain wastewater diverted around the construction area and provide uninterrupted wastewater service to the users of the system at all times while preventing any sewage overflows or spills. The Contractor shall furnish, install, operate, and maintain all necessary equipment, materials, labor and power for the bypass pumping system for the duration of the project. The Contractor shall perform all restoration work to the satisfaction of the Engineer.
- B. The Contractor shall employ the services of a vendor or subcontractor who can demonstrate to the Engineer that they specialize in the design, installation, operation and maintenance of temporary bypass pumping systems. Approved vendors include Godwin Pumps, Rain For Rent, Thompson Pumps, and Mersino. The Contractor shall provide a list of references for projects that their vendor or subcontractor has completed in the past of similar size and complexity. The design, installation, operation and removal of the temporary pumping system shall be the Contractor's responsibility. The bypass pumping system shall meet the requirements of all codes and regulatory agencies having jurisdiction.
- C. The Contractor shall submit a bypass pumping plan to the Engineer for review and approval. The Contractor, in collaboration with the vendors/subcontractors shall prepare detailed plans and descriptions of the bypass pumping system according to the requirements set forth in Section 3.03 of this specification. Contractor shall outline all backup provisions and precautions regarding the safe handling of bypass pumped wastewater. No bypass pumping shall be installed until the submittal has been reviewed and approved by the Engineer.

PART 2 - EQUIPMENT**2.01 GENERAL**

- A. The Contractor shall provide and maintain adequate equipment, piping and other necessary appurtenances in order to maintain uninterrupted wastewater service for all pipelines affected by the construction work. The Contractor shall have backup pumps, backup generators, piping, appurtenances and/or tankers ready to deploy immediately in case of any failure of the bypass pumping system. Flexible hose shall not be allowed for use as bypass piping, except as necessary at discharge connections as approved by the Engineer. Bypass pumps shall be quiet pack type with proper sound attenuation resulting in a maximum SPL level of 55 decibels at the closest residence.

2.02 PUMPS

- A. All pumps used shall be fully automatic, self-priming, quiet pack type and shall not require the use of foot valves. Vacuum-assisted or compressor-assisted dry priming pumps are acceptable. The pumps may be electric or diesel powered. All pumps used must be designed to allow dry running for extended periods of time.
- B. In the event a Compressor-Assisted style pump is used, the compressor, under normal working conditions, must be able to exhaust the air through its system without discharging the fluid into the atmosphere. Delivering the discharged fluid into a collection bucket through an external exhaust tube can pose a damage to the environment and will not be accepted.
- C. The Contractor shall provide a standby pump for each size pump used in the bypass pumping system. The standby pumps shall be placed in-line by means of a manifold. The manifold shall be complete with isolating valves and non-return check valves to allow pumping to continue without disturbing the piping system in the event the primary pump should fail. The Contractor shall provide the appropriate automatic start/stop control panel necessary for each pump.

2.03 PIPING

- A. Bypass pipe shall be constructed of rigid galvanized pipe with quick-connect fittings or high density polyethylene pipe (HDPE) with fused joints. Flexible discharge hose will not be allowed unless authorized and approved by the Engineer for a special circumstance or purpose. All piping shall be designed to withstand at least twice the maximum system pressure or 50 psi minimum, whichever is greater.
- B. The pipeline must be located off the street except where the pipeline crosses side streets and driveways, where the contractor must place the by-pass pipelines in trenches and cover with temporary asphalt pavement or provide approved ramps.
- C. When needed, air release valves must be placed in-line properly to alleviate trapped air and resulting high pressure within the discharge pipeline. Check valves and tees shall be used as necessary to connect bypassed flow from lateral pipelines.

2.04 TEMPORARY PIPE PLUGS

- A. Plugs used shall be multiple layer style inflatable plugs. Each plug shall be properly tagged and tested under the required pressure for each specific condition. Flow through plugs will be necessary for suction and discharge lines for the bypass system.
- B. Plugs must be used with the proper restraints that meet or exceed industry standards.
- C. All plugs shall be firmly attached to a stationary object above ground by a steel cable in order to prevent loss of the plug in the pipeline.

PART 3- EXECUTION

3.01 GENERAL

- A. The bypass pumping system shall be properly sized to pump the maximum flow rate and the system shall include redundant pumps of each size in case of pump failure. The Contractor shall demonstrate that the pumping system is functioning properly and is sufficiently sized to successfully handle all flows by performing a test run for at least 24 hours prior to beginning work.
- B. The Contractor shall abide by all OSHA regulations for the duration of the project. The Contractor will also proceed with extreme caution when working in a confined space or around toxic gases. Employees working in confined spaces shall have proper certifications.
- C. The Contractor shall have and maintain all materials, equipment and labor necessary to complete the repair or replacement of any part of the bypass pumping system on the job site prior to isolating the pipeline to be taken out of service.
- D. The Contractor is responsible for installing the bypass pipeline below grade as necessary to avoid roadway, sidewalk and driveway closures. The Contractor is responsible for locating and protecting existing utilities in the area where the Contractor chooses to install the bypass system. The Contractor shall install the bypass pipelines so as to minimize disturbance to existing utilities and shall obtain approval of the pipeline locations from the Engineer prior to installation. The Contractor shall pay all costs associated with the bypass pumping system, including restoration, locating and/or relocating utilities and obtaining approvals.

3.02 TRAFFIC CONSIDERATIONS

The Contractor is responsible for any associated maintenance of vehicular or pedestrian traffic necessary to accommodate the bypass pumping system. The Contractor shall locate bypass pumping suction and discharge lines so as to not interference with the use of streets, sidewalks, private driveways and businesses, which may include temporary trenching of piping through intersections. Ingress and egress to adjacent properties shall be maintained at all times. Ramps, steel plates, temporary walkways or other methods shall be deployed by the Contractor to facilitate vehicular and pedestrian traffic over the bypass piping. High traffic commercial properties or special events may require the use of an alternate method.

3.03 BYPASS PUMPING PLANS

- A. The Contractor shall submit comprehensive written plans to the City for review and approval that describes the bypass pumping system to maintain wastewater flows during construction. The Contractor shall also provide a sketch showing the location of bypass pumping equipment for each bypass pumping setup. The plan shall include any proposed tanker(s), pump(s), bypass piping, backup plan and equipment, work schedule, monitoring plan and log for monitoring the bypass pumping system.

The bypass pumping plans must include the following:

1. Quantity and location of the pumps (primary and standby).
2. Model, size, flow capabilities and brief description of each pump.
3. Size, length, joints and material type of the suction and discharge piping.
4. Power requirements and source for electric motor driven units (if applicable).
5. Complete set of pump specifications with system demand curve.

6. Schematic drawing of the bypass pumping system, including a profile of suction and discharge piping.
7. Method of discharge pertaining to manholes.
8. Description of discharge manifold including isolation valves and non-return valves.
9. Method and effectiveness of noise control for pumps.
10. Size, type and intended use of pipe plugs.

- B. All piping shall be designed to withstand at least twice the maximum system pressure or 50 psi minimum, whichever is greater. The Contractor shall cease bypass pumping and return the flow to the new or existing sewer if so directed by the Engineer. During bypass pumping, no wastewater shall be leaked, dumped, or spilled in any area outside of the existing wastewater system. When bypass operations are complete, all bypass piping shall be drained into the wastewater system prior to disassembly.

3.04 BYPASS OPERATION

- A. The City must approve the bypass plan prior to implementation of the bypass system. The Contractor shall plug off and pump down the sewer manhole or line segment in the immediate work area and shall maintain the upstream wastewater system so that surcharging does not occur. The Contractor shall be responsible for maintaining flows from pipes entering the system at manholes within the bypassed sewer segment.
- B. The Contractor shall be responsible for onsite monitoring of the bypass pumping operation 24 hours per day, 7 days per week, by onsite personnel responsible for proper operation and maintenance of the equipment. Any electronic monitoring in lieu of onsite monitoring must be detailed in the comprehensive written plan and approved by the City prior to use. If a remote system is used the Contractor must furnish a list of emergency numbers and contacts that will be programmed into the telemetry system. Bypass pumps and motors shall have proper sound attenuation resulting in a maximum sound level of 55 decibels at any adjacent private property.
- C. The Contractor shall ensure that no damage will be caused to private property as a result of bypass pumping operations. The Contractor shall complete the work and satisfactorily pass all tests, inspections and repair any deficiencies as quickly as possible, prior to discontinuing the bypass pumping operation and returning flow to the sewer system.
- D. The Contractor shall immediately notify the City should a sanitary sewer overflow or spill occur and take the necessary action to clean up and disinfect the spillage to the satisfaction of the City and/or other governmental agency.

3.05 CONTRACTOR LIABILITY

- A. The Contractor shall be responsible for all required pumping, equipment, piping and appurtenances to accomplish the bypass pumping and shall also be responsible for any and
- B. all damage that results directly or indirectly from the bypass pumping operation. The Contractor shall also be liable for all damage claims, penalties and fines that the City incurs resulting from a sanitary sewage overflow or spill. In addition to the aforementioned costs, the Contractor will be fined \$5,000 per each 24-hour period following an overflow that the wastewater overflow or spill is not completely cleaned, disinfected, and the sewer system returned to operational status.

- C. The Contractor shall be responsible for all physical damage to the local sewer lines and laterals caused by the Contractor's equipment or employees.

END OF SECTION

SECTION 13274**CURED-IN-PLACE PIPE (CIPP) POINT REPAIR****PART 1 - GENERAL**

This Section covers Cured-In-Place-Pipe (CIPP) lining of short lengths of existing pipelines by the installation of a resin-impregnated flexible tube which is installed with an inflatable packer and cured to form a hard, impermeable, corrosion resistant pipe within a pipe. When cured, the CIPP shall be formed to the original conduit, tight-fitting, chemical resistant and water tight.

PART 2 - REFERENCED DOCUMENTS

This specification references ASTM F1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube), ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe), and ASTM D790 (Test methods for flexural properties of non-reinforced plastics) which are made a part hereof by reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification shall govern.

PART 3 - PRODUCT AND CONTRACTOR QUALIFICATION REQUIREMENTS

- 3.01** Proposed sewer lining products shall have a minimum 50-year design life, and only proven products and installation contractors with a minimum 5-year successful installation track record will be approved. All lining products and installers must be submitted to the City and be approved prior to receiving notice to proceed.

Products and Contractors seeking approval must meet all of the following criteria to be approved as Commercially Acceptable:

- A. For a Product to be considered Commercially Acceptable, a minimum 1,000 point repair sections of successful wastewater collection system installations in the U.S. must be documented to the satisfaction of the City to assure commercial viability. In addition, at least 500 point repair sections of the product shall have been in successful service within the State for a minimum of five years.
- B. For a Contractor to be considered as Commercially Acceptable, the Contractor must satisfy all insurance, financial, and bonding requirements of the City, and must be a certified installer by the product manufacturer. Such experience shall include the same product, by trade name, which the Contractor proposes to install. Acceptable documentation of these minimum installations must be submitted to the City upon request.
- C. Sewer rehabilitation products submitted for approval must provide Third Party Test Results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the City. Test samples shall be prepared so as to simulate installation methods and trauma of the product. No product shall be approved without independent third party testing verification.

- D. Documentation for the proposed CIPP Product and Installation Contractor must be submitted with the Bid or immediately upon the City's request in order for the Bidder's bid to be evaluated for commercial acceptability. The City will advise of acceptance or rejection before deciding to award the contract to a bidder.

PART 4 – MATERIALS

4.01 TUBE

The tube should consist of layered non-woven flexible needled felt tube with an inner PU/PVC impermeable lining and a layer of reinforced chopped fiberglass and felt. The reinforced fiberglass shall extend at least 3 inches on each side of the inner felt tube to form smooth transitions on each end of the point repair. The tube shall have an impermeable PU/PVC coating. This coating will form the inner layer of the finished pipe and is required for enhancement of corrosion, flow and abrasion properties. The tube shall be thermo-bonded to the prescribed circumference and length. It shall be capable of carrying resin, withstanding installation pressures and curing temperatures. The tube should be compatible with a non-styrene resin system. The tube should be thermo bonded to a size that, when installed, will form to the internal circumference of the original pipe. Allowance should be made for circumferential stretching during installation.

The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.

4.02 RESIN

The resin used shall be a high-grade 2-part, ambient cured, corrosion resistant formulation, such as provided by Perma-Liner Industries or approved equal, and specifically designed for the proper size, type, depth and groundwater elevation of the pipe being lined. Only non-styrene epoxy resin formulations will be accepted. The point repair materials must meet or exceed the properties in Table 1.

PART 5 - MINIMUM REQUIREMENTS

5.01 Table 1. Properties Shall Meet or Exceed The Following:

	ASTM Test Method	Minimum Value
Flexural Strength	D790	4,500 psi
Flexural Modulus	D790	250,000 psi
Tensile Strength	D638	3,000 psi

- 5.02** The CIPP shall be designed with the minimum properties in Table 1, taking into consideration the condition of the existing pipe.

PART 6 – INSTALLATION

- 6.01** The tube shall be impregnated with the thermosetting two part resin.

- 6.02** The tube shall be properly oriented and loaded onto the Carrier Train for installation over the repair area.
- 6.03** The Carrier Train shall be pulled or winched to the proper location and positioned by Closed Circuit TV camera guiding the installation. The installation shall follow the Manufacturer's Process for inflation curing and stripping out.

PART 7 - TESTING REQUIREMENTS

7.01 CHEMICAL RESISTANCE

The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.

7.02 HYDRAULIC CAPACITY

Calculations must support that the finished Cured-In-Place-Pipe (CIPP) shall have at least 100% of the full flow capacity of the original host pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the original pipe material. A typical roughness coefficient for the CIPP shall be as verified by third part test data.

7.03 CIPP FIELD SAMPLES

When requested by the City, the Contractor shall submit test results from field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.01 have been achieved in previous field applications. Upon request by the Engineer, samples shall be made and tested as described in Section 9.01.

PART 8 - INSTALLATION RESPONSIBILITIES FOR INCIDENTAL ITEMS

8.01 GENERAL

It shall be the responsibility of the Contractor to propose all manhole access points to the Engineer for approval before beginning the work. If a street must be closed to traffic because of the location of the access point, the Contractor shall utilize the MOT plan shown in the Drawings, if provided, or provide the required MOT at the cost agreed upon by the City. If the Contractor chooses to use an MOT plan that is different from one provided in the plans, the Contractor shall submit the signed and sealed MOT plans to the City Traffic Control Manager for approval before beginning work. The Contractor shall obtain a temporary water meter from OUC, in order to obtain water from fire hydrants for cleaning, lining and other work requiring water.

8.02 CLEANING OF SEWER LINES

The Contractor shall remove all internal sediment and debris out of the sewer line that might interfere with the installation of the CIPP. Internal video inspection must be provided to the City for approval, which demonstrates that the existing pipe is properly cleaned before installation of the CIPP.

8.03 BYPASSING SEWAGE

Bypass pumping of wastewater will be determined, if necessary, based on the project specifics at the time of work assignment. Certain tasks can be accomplished by temporarily plugging the pipe for a short period of time to complete final cleaning, video inspection, and lining insertion, with prior approval of the Owner or Engineer. The Contractor may also submit a CIPP point repair method for approval by the Engineer that utilizes a “flow-through” bladder and plug, which permits water to continue to flow through the pipe during the CIPP curing process. The “flow-through” bladder shall be a minimum diameter of 4 inches for liquids to pass through.

8.04 INSPECTION OF PIPELINES PRIOR TO AND AFTER POINT REPAIR INSTALL

Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by closed circuit television. The interior of the pipeline shall be carefully inspected to verify that acceptable cleaning has been performed, determine the location of any conditions which may prevent proper installation of the CIPP, location of the proposed repair, and noting the locations so that these conditions can be corrected. A video recording and suitable log shall be submitted to the City for later reference. The finished CIPP should be continuous and uniform over the length of the repair area and extend at least one foot into structurally sound pipe.

8.05 LINE OBSTRUCTIONS

If pre-installation inspection reveals an obstruction such as a dropped joint or a collapse that will prevent the inversion lining process, and the obstruction cannot be removed by sewer cleaning equipment, then the City shall make a point repair excavation to repair the pipe before lining.

8.06 PUBLIC NOTIFICATION

The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a sewer must be taken out of service to complete the work, the maximum amount of time without service shall be 8 hours for any property served by the sewer. A public notification program shall be implemented, requiring the Contractor to be responsible for contacting each home or business connected to the sanitary sewer and informing them of the time period when sewer service will not be available during the work. The Contractor shall also provide the following:

- A. Written notice to be delivered to each home or business at least one day prior to the beginning of work being conducted, and a local telephone number for the Contractor that they can call to discuss the project or any problem which could arise.
- B. Personal contact with any home or business, which cannot be reconnected within the time stated in the written notice.

8.07 SERVICE CONNECTIONS

The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing and curing the CIPP, so that they can be quickly restored.

PART 9 - INSPECTION

- 9.01** For each work order released, one CIPP sample for each diameter shall be prepared and physical properties tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using either method proposed. The flexural properties must meet or exceed the values listed in Table 1 of the applicable ASTM.
- 9.02** Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743. The minimum wall thickness at any point shall not be less than 90% of the design thickness as calculated in paragraph 5.06 of this specification.
- 9.03** Visual inspection of the CIPP shall be in accordance with ASTM F1743, Section 8.6. Upon acceptance of the work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

END OF SECTION

SECTION 13275
CURED-IN-PLACE PIPE (CIPP)

1. GENERAL

- 1.1 It is the intent of this specification to provide for the reconstruction of pipelines by the installation of a resin-impregnated flexible tube, which is formed inside the original pipe by use of a hydrostatic head. The resin is cured using hot water under hydrostatic pressure within the tube. The Cured-In-Place Pipe (CIPP) shall be continuous between structures, designed for use inside a fully deteriorated host pipe, tight fitting and have no wrinkles.

2. REFERENCED DOCUMENTS

- 2.1 This specification references ASTM F1216 (Rehabilitation of pipelines by the inversion and curing of a resin-impregnated tube), ASTM F1743 (Rehabilitation of pipelines by pulled-in-place installation of a cured-in-place thermosetting resin pipe), and ASTM D790 (Test methods for flexural properties of non-reinforced plastics) which are made a part hereof by reference and shall be the latest edition and revision thereof. In case of conflicting requirements between this specification and these referenced documents, this specification shall govern.

3. PRODUCT AND CONTRACTOR QUALIFICATION REQUIREMENTS

- 3.1 Proposed sewer lining products shall have a 50-year design life, and only proven products and installation contractors with a minimum 5-year successful installation track record will be approved. All lining products and installers must be submitted to the City and be approved prior to receiving notice to proceed.

Products and Contractors seeking approval must meet all of the following criteria to be approved as Commercially Acceptable:

- 3.1.1 For a Product to be considered Commercially Proven, a minimum of 300,000 linear feet or 1,000 manhole-to-manhole line sections of successful wastewater collection system installations in the U.S. must be documented to the satisfaction of the City to assure commercial viability. In addition, at least 150,000 linear feet of the product shall have been in successful service within the State for a minimum of five years.
- 3.1.2 For a Contractor to be considered as Commercially Proven, the Contractor must satisfy all insurance, financial, and bonding requirements of the City, and must have had at least 5 (five) years active experience in the commercial installation of the product bid in Florida. In addition, the CIPP lining installer must have successfully installed at least 100,000 feet of the proposed product in wastewater collection systems and a minimum of 15,000 feet of twenty-four inch (24") or larger diameter. Such experience shall include the same product, by trade name, which the Contractor proposes to install. Acceptable documentation of these minimum installations must be submitted to the City upon request.
- 3.1.3 Sewer rehabilitation products submitted for approval must provide Third Party Test Results supporting the long term performance and structural strength of the product and such data shall be satisfactory to the City. Test samples shall be prepared so as to simulate

installation methods and trauma of the product. No product shall be approved without independent third party testing verification.

- 3.2 Documentation for the proposed CIPP Product and Installation Contractor must be submitted with the Bid or immediately upon the City's request in order for the Bidder's bid to be evaluated for commercial acceptability. The City will advise of acceptance or rejection before deciding to award the contract to a bidder.

4. MATERIALS

- 4.1 Tube - The sewn Tube shall consist of one or more layers of absorbent non-woven felt fabric and meet the requirements of ASTM F1216 or ASTM F1743, Section 5. The tube shall be constructed to withstand installation pressures, have sufficient strength to bridge missing pipe, and stretch to fit irregular pipe sections.
- 4.1.1 The wet out Tube shall have a uniform thickness that when compressed at installation pressures shall meet or exceed the Design thickness.
- 4.1.2 The Tube shall be sewn to a size that when installed shall tightly fit the internal circumference and length of the host pipe without any wrinkles. Allowance should be made for small amounts of grout slurry used to correct pipe invert defects, and also the circumferential stretching of the liner during inversion. Overlapped layers of felt in longitudinal seams that cause lumps in the final product shall not be allowed.
- 4.1.3 The outside layer of the Tube (before wet out) shall be coated with an impermeable, flexible membrane that shall contain the resin and facilitate monitoring of resin saturation during the resin impregnation (wet out) procedure.
- 4.1.4 The Tube shall be homogeneous across the entire wall thickness containing no intermediate or encapsulated elastomeric layers. No material shall be included in the Tube that may cause delamination in the cured CIPP. No dry or unsaturated layers shall be evident.
- 4.1.5 The wall color of the interior pipe surface of CIPP after installation shall be a light reflective color so that a clear detailed examination with closed circuit television inspection equipment may be made.
- 4.1.6 Seams in the Tube shall be stronger than the non-seamed felt.
- 4.1.7 The outside of the Tube shall be marked for distance at regular intervals along its entire length, not to exceed 5 ft. Such markings shall include the Manufacturers name or identifying symbol. The tubes must be manufactured in the USA.
- 4.2 Resin - The resin system shall be a corrosion resistant polyester, vinyl ester, or epoxy and catalyst system that when properly cured within the tube composite meets the requirements of ASTM F1216 and ASTM F1743, the physical properties herein, and those which are to be utilized in the Design of the CIPP for this project. The resin shall produce CIPP which shall comply with the structural and chemical resistance requirements of this specification.

5. STRUCTURAL REQUIREMENTS

- 5.1 The CIPP shall be designed as per ASTM F1216, Appendix X.1. The CIPP design shall assume no bonding to the original pipe wall and a fully deteriorated host pipe with the groundwater depth assumed to be 90% of the soil depth above the crown of the pipe.
- 5.2 The Contractor must have performed long-term testing for flexural creep of the CIPP pipe material installed by his Company. Such testing results are to be used to determine the Long-term, time dependent flexural modulus to be utilized in the product design. This is a performance test of the materials (Tube and Resin) and general workmanship of the installation and curing. A percentage of the instantaneous flexural modulus value (as measured by ASTM D-790 testing) shall be used in design calculations for external buckling. The percentage, or the long-term creep retention value utilized, shall be verified by this testing. Values in excess of 50% shall not be applied unless substantiated by qualified third party test data. The materials utilized for the contracted project shall be of a quality equal to or better than the materials used in the long-term test with respect to the initial flexural modulus used in Design.
- 5.3 The Enhancement Factor 'K' to be used in 'Partially Deteriorated' Design conditions shall be assigned a value of 7. Application of Enhancement (K) Factors in excess of 7 shall be substantiated through independent test data.
- 5.4 The layers of the cured CIPP shall be uniformly bonded. It shall not be possible to separate any two layers with a probe or point of a knife blade so that the layers separate cleanly or the probe or knife blade moves freely between the layers. If separation of the layers occurs during testing of field samples, new samples shall be cut from the work. Any reoccurrence may cause rejection of the work. The cured pipe material (CIPP) shall conform to the structural properties, as listed below.

5.5 MINIMUM PHYSICAL PROPERTIES

<u>Property</u>	<u>Test Method</u>	<u>Cured Composite min. per ASTM F1216</u>	<u>Cured Composite (400,000psi Resin)</u>
Modulus of Elasticity	ASTM D-790 (short term)	250,000 psi	400,000 psi
Flexural Stress	ASTM D-790	4,500 psi	4,500 psi

- 5.6 The required structural CIPP wall thickness shall be based on the physical properties in paragraph 5.5, be in accordance with the Design Equations in the appendix of ASTM F 1216 using the following design parameters, and shall meet or exceed the stated minimum cured liner thickness.

Design Safety Factor	= <u>2.0</u>
Retention Factor for Long-Term Flexural Modulus to be used in Design (as determined by Long-Term tests described in paragraph 5.2)	= <u>1% - 50%</u>
Ovality*	= <u>2%</u>
Enhancement Factor, k	= <u>See Section 5.3</u>
Groundwater Depth (above crown)*	= <u>90% soil depth</u>
Soil Depth (above crown)*	= <u>Varies</u>
Soil Modulus**	= <u>1000 psi</u>
Soil Density**	= <u>120 pcf</u>
Live Load**	= <u>H20 highway</u>

Design Condition (partially or fully deteriorated)*** = fully deteriorated

* Denotes information which can be provided here or in inspection video tapes or project construction plans. Multiple line segments may require a table of values.

** Denotes information required only for fully deteriorated design conditions.

*** Based on review of video logs, conditions of pipeline can be fully or partially deteriorated.

(See ASTM F1216 Appendix) The City shall be sole judge as to pipe conditions and parameters utilized in Design.

Design Parameters:

Factor of Safety = 2.0

DR = Dimension Ratio = Diameter / thickness $\Rightarrow t = D / DR$

Effective reduction of Ei-modulus to approximate effects of creep = 50 %

Soil Modulus=1,000 psi, assumed highway loads

Ovality % = 100 x (Mean Dia. - Minimum Dia.) / Mean Dia.

* 2% ovality is typically assumed when the host pipe measurements have not been field verified, but may need to be increased based on actual conditions.

5.7 The CIPP liner design shall be based on the pipe condition, depth, ovality, etc. as computed for the existing conditions and as shown, using ASTM F1216 Design Equations.

5.8 Any layers of the tube that are not saturated with resin prior to insertion into the existing pipe shall not be included in the structural CIPP wall thickness computation.

6. TESTING REQUIREMENTS

6.1 Chemical Resistance - The CIPP shall meet the chemical resistance requirements of ASTM F1216, Appendix X2. CIPP samples for testing shall be of tube and resin system similar to that proposed for actual construction. It is required that CIPP samples with and without plastic coating meet these chemical testing requirements.

6.2 Hydraulic Capacity - Overall, the hydraulic profile shall be maintained as large as possible. The CIPP shall have a minimum of the full flow capacity of the original pipe before rehabilitation. Calculated capacities may be derived using a commonly accepted roughness coefficient for the existing pipe material taking into consideration its age and condition.

6.3 CIPP Field Samples - When requested by the City, the Contractor shall submit test results from field installations in the USA of the same resin system and tube materials as proposed for the actual installation. These test results must verify that the CIPP physical properties specified in Section 5.5 have been achieved in previous field applications. Samples for this project shall be made and tested as described in Section 10.1.

7. CONTRACTOR RESPONSIBILITIES PRIOR TO LINER INSTALLATION

7.1 It shall be the responsibility of the Contractor to propose all manhole access points to the City representative for approval before beginning the work, and do so in a manner that will minimize costs to the City and/or minimize impacts to property owners and the public. If a street must be closed to traffic because of the location of the access point, the Contractor shall prepare and submit an acceptable MOT plan to the City Traffic Control Manager for approval before beginning work.

- 7.2 The Contractor shall obtain a temporary water meter from OUC, in order to obtain water from fire hydrants for cleaning, lining and other work items requiring water.
- 7.3 The Contractor is responsible to discuss the possibility of lateral Top Hats and/or lateral linings with the City representative before planning the CIPP lining. If CIPP main or lateral linings will be installed, they must be done before the installation of the Top Hat. If a protruding lateral exists and must be cut flush, or a new lateral or any other type of new lateral connection to the main is to be constructed, then the CIPP lining of the main shall be done after the other work is completed.
- 7.4 Cleaning of Sewer Lines - The Contractor shall remove all sediment and debris from inside the sewer line that might interfere with the installation of the CIPP. Internal video inspection must be provided to the City for approval, which demonstrates that the existing pipe is properly cleaned and prepared before installation of the CIPP.
- 7.5 Diversion of Wastewater - The Contractor shall provide for the diversion of wastewater around the section or sections of pipe designated to be lined. Bypass pumping of wastewater will be determined, if necessary, based on the project specifics at the time of work assignment. Certain project tasks can be accomplished by temporarily plugging the pipe for a short period of time to complete final cleaning, video inspection, and lining insertion, with prior approval of the Owner or Engineer. If bypass pumping is necessary, the pump and bypass lines shall be of adequate capacity to handle the flow. The City may require that the bypass pumping plan be submitted for approval.
- 7.6 Inspection of Pipelines – The Contractor shall perform closed circuit television inspection of pipelines by experienced personnel trained in locating defects, obstacles and service laterals, as well as verifying that the line has been properly cleaned before lining. The interior of the pipeline shall be carefully inspected to determine the location of any conditions which may prevent proper installation of the CIPP, and these locations shall be noted so that these conditions can be corrected. A video recording and suitable log shall be submitted to the City for later reference.
- 7.7 Line Obstructions - It shall be the responsibility of the Contractor to clear the line of obstructions such as sediment, solids, debris, roots or a protruding lateral that will prevent the proper installation of the CIPP. If post-cleaning TV inspection reveals an obstruction that cannot be removed by sewer cleaning equipment such as a dropped joint or a pipe collapse, then the City shall make a point repair excavation to repair the pipe before lining.
- 7.8 Public Notification - The Contractor shall make every effort to maintain service usage throughout the duration of the project. In the event that a sewer must be taken out of service to complete the work, the maximum amount of continuous time without service shall be 8 hours for any property served by the sewer. The Contractor shall be responsible for notifying each affected property owner to inform them of the time period when sewer service will not be available and provide the following information:
- A. Written notice to be delivered to each home or business at least one day prior to the beginning of work shall include a local Contractor telephone number that the property owner can call to discuss the work or any potential problems.
 - B. Personal coordination with any home or business, which cannot be reconnected within the time stated in the written notice.

- 7.9 The Contractor shall be responsible for confirming the locations of all branch service connections prior to installing and curing the CIPP, so that they can be quickly restored.

8. INSTALLATION

- 8.1 CIPP installation shall be in accordance with ASTM F1216, Section 7, or ASTM F1743, Section 6, with the following modifications:

8.1.1 Resin Impregnation - The quantity of resin used for tube impregnation shall be sufficient to fill the volume of air voids in the tube with additional allowances for polymerization shrinkage and the loss of resin through cracks and irregularities in the original pipe wall. A vacuum impregnation process shall be used to insure thorough resin saturation throughout the length of the felt tube. The point of vacuum shall be no further than 25 feet from the point of initial resin introduction. The leading edge of the resin slug shall be as near to perpendicular as possible. A roller system shall be used to uniformly distribute the resin throughout the tube. If an alternate method of resin impregnation is used, the method must produce the same uniform results. Any alternate resin impregnation method must be proven.

8.1.2 Tube Insertion – The wet out tube shall be positioned in the pipeline using either inversion or a pull-in method. If pulled into place, a power winch should be utilized and care should be exercised not to damage the tube as a result of pull-in friction. The tube should be pulled-in or inverted through an existing manhole or approved access point and fully extend to the next designated manhole or termination point.

8.1.3 Curing shall be accomplished by utilizing hot water under hydrostatic pressure in accordance with the manufacturer's recommended cure schedule. Temperature gauges shall be used to monitor the temperatures during the cure cycle. The top half of the cured pipe shall be neatly cut off, at least four (4) inches away from the walls.

8.1.4 The connection between the cured-in-place pipe and the existing manhole shall be sealed to eliminate ground water infiltration into the sanitary sewer system using approved materials.

9. REINSTATEMENT OF LATERAL OR BRANCH CONNECTIONS

- 9.1 It is the intent of these specifications that all lateral connections be reinstated without excavation, utilizing a remote controlled cutting device, monitored by a video camera. The Contractor shall verify he has a minimum of two complete working cutters plus spare key

components on the site before each inversion. Unless otherwise directed by the authorized City representative, all laterals shall be reinstated. No additional payment shall be made for excavations for the purpose of reopening connections and the Contractor shall be responsible for all costs and liability associated with such excavation and restoration work.

- 9.2 The CONTRACTOR shall be responsible for continuity of sanitary sewer service to each property connected to the main sewer during the execution of the work during this contract. In the event that sewage backup occurs and enters dwellings, the CONTRACTOR shall be responsible for cleanup, repair and property damage costs and claims as associated therewith.

10. INSPECTION

- 10.1 One CIPP sample for each diameter shall be prepared and physical properties tested in accordance with ASTM F1216 or ASTM F1743, Section 8, using the applicable test method. The flexural properties must meet or exceed the values listed in Table 1 of the applicable ASTM.
- 10.2 Wall thickness of samples shall be determined as described in paragraph 8.1.6 of ASTM F1743 for each liner installation. The minimum wall thickness at any point shall not be less than 95% of the design thickness required in paragraph 5.6 of this document.
- 10.3 Visual inspection of the CIPP shall be in accordance with ASTM F1743, Section 8.6. Upon acceptance of the installation work and testing, the Contractor shall restore the project area affected by the operations to a condition at least equal to that existing prior to the work.

END OF SECTION

SECTION 13276
CIPP LATERAL PIPE LINING

PART 1 -GENERAL

1.01 SCOPE OF WORK

- A. The work covered by this section of the specifications includes the furnishing of all labor, tools, equipment and material, for the rehabilitation of existing sewer laterals by insertion of a CIPP liner through a cleanout and/or the installation of a “Top Hat” into the lateral connection from the sewer main without access through a clean-out, both by the cured-in-place-pipe (CIPP) method. The one piece structural liner shall be manufactured in a factory setting prior to its arrival on site. The resin impregnated liner shall be formed to the host pipe by utilizing water pressure. Completed and cured CIPP lateral liner shall extend from the cleanout at the property line for a pre-determined length into the sewer lateral connection at the main and shall be a continuous tight fitting watertight pipe-within-a-pipe. The laterals will be cleaned of debris and roots prior to installation of the liner. Related work items including grinding protruding laterals, installing Top Hats, water jet and mechanical cleaning, TV inspection, and cleanout construction are separate pay items.
- B. The process involves the inversion lining of existing sewer laterals with a 100% solids epoxy resin-impregnated polyester fiber felt liner having an impermeable inner surface. Top Hat liners shall be completely impregnated with the same type of resin and placed in a protective launching device with a bladder for installation.

1.02 SYSTEM DESCRIPTION

- A. All materials (polyester fiber felt liner, 100% solids epoxy resin, etc.) shall be accompanied by test reports certifying that the material conforms to the ASTM listed herein. Materials shall be shipped, stored, and handled in a manner consistent with the written recommendations of the manufacturer.
- B. The Contractor shall conform to all work safety requirements of pertinent regulatory agencies, and shall secure the site for the working condition in compliance with the same. The Contractor shall erect signs and other devices as necessary for the safety of the work site.
- C. The Contractor shall also perform all of the work in accordance with applicable OSHA standards and applicable confined space entry procedures.
- D. The Contractor shall obtain a temporary water meter from OUC, in order to obtain water from a fire hydrant for cleaning, lining and other work items requiring water. The Contractor shall be responsible for all costs including piping, equipment, tanker trucks, water meter and water purchase

and the costs shall be included in the linear foot price of the liner.

1.03 REFERENCES

- A. American Society for Testing and Material Standards:
 - 1. ASTM F-1216 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube.
 - 2. ASTM F-1743 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)
 - 3. ASTM D-638 Test Method for Tensile Properties of Plastics.
 - 4. ASTM D-790 Test Method for Tensile Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- B. American Water Works Association Standards
- C. American National Standards Institute
- D. National Association of Sewer Service Companies

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's technical product data and detailed installation instructions for all equipment and products of this section.
- B. Shop Drawings: Submit shop drawings for all equipment and materials to be used during rehabilitation lining.
- C. Manufacturers description of the proposed lining methodology. Submittals shall include information on the polyester fiber felt tubing liner and thermosetting resin intended to be utilized. It shall include detailed instructions with regard to curing procedures including curing temperature and required curing and cooling time.
- D. The required liner thickness and design calculations shall be submitted by the Contractor for approval by the Engineer.
- E. Copy of the proposed letter to the Homeowners advising them about the proposed repair and necessity of shutting the sewer service for a day shall be submitted for Engineer review and approval prior to distribution. Letter shall be distributed by the Contractor to the Homeowners not less than 72 hours prior to construction.

1.05 CONTRACTOR QUALIFICATIONS/REFERENCES

- A. The Contractor performing the lateral lining work shall provide a list of references, including Owner Name, Contact Name with phone number, start and completion dates and Quantity of Laterals Lined, with the CIPP Lateral Lining system used for that specific project provided, verifying compliance with these qualifications.
- B. A 5-year history of satisfactory performance in the CIPP industry
- C. A minimum of 5,000 CIPP lateral installations that are a minimum of two feet long.

- D. A minimum of 2 years continuous experience installing CIPP Lateral Lining in pipe of similar size, length and configuration as proposed in this project.
- E. The on-site Superintendent must have installed over 1,500 CIPP laterals of like condition and have a minimum of 5 years of CIPP industry experience.
- F. License or Certification that the proposed installer is approved to install the product.

PART 2 -PRODUCTS

2.01 LINER

- A. The liner assembly shall consist of a one piece PP (polypropylene) coated felt tubular liner and impregnated with a 100% solids epoxy resin. The PP coating will be on the inside of the repair apparent when televised for final inspection. The felt will be against the pipeline structure. The continuous tubular liner shall be made of felt with a PP coating and formed together using a needle hoop stitching or butt welding technique with translucent seam tape. The one piece section liner shall be manufactured in a factory setting prior to its arrival on site and shall provide a structural, impermeable, jointless and close-fitting pipe-within-a-pipe to the host pipe as specified herein. The liner tube shall be manufactured to a size that when installed will tightly fit the internal circumference and length of the original pipe. Allowance should be made for circumferential stretching during installation. The cured liner shall equal or exceed the minimum required liner thickness and calculated design CIPP wall thickness.
- B. The materials used to construct a full wrap saddle (Top Hat) and liner tube must withstand installation pressures, have sufficient strength to bridge missing pieces of pipe and have the flexibility to fit irregular pipe sections. The saddle dimensions shall be a 360 degree full wrap in the main with at least 5 inches on either side of the lateral and extend approximately 10" into the lateral. The one piece full wrap saddle and liner tube shall conform to the shape of a "Tee" or "Wye" fitting, whichever is appropriate for the lateral being lined.

2.02 RESIN

- A. The resin system shall consist of a two-part epoxy resin that when cured will conform to the ASTM F-1216 physical properties and chemical resistance requirements. All testing shall be performed by a third party testing laboratory. The resin, when cured, shall be evenly distributed within the felt liner, conforming to the existing pipe, bridging and filling joints, gaps and voids. It shall not shrink or result in an annular space between the existing pipe and the cured liner. The finished cured in place liner shall be water tight and pass a minimum 3 lb air test for 3 minutes.
UV Cured Systems will not be accepted.
- B. Resin and tube materials shall be supplied by an approved manufacturer.

2.03 LATERAL MATERIAL TESTING

Cured Liner	Standard	Results
Tensile Stress	ASTM D-638	5,200 psi
Flexural Stress	Modified ASTM D-790	11,500 psi
Modulus of Elasticity	Modified ASTM D-790	375,000 psi

2.04 The finished pipe must be such that when the resin cures, the total wall thickness will be a homogeneous and monolithic felt and resin composite coated with PP that will be chemically resistant to degradation by exposure to domestic sewerage.

2.05 The Contractor shall furnish, prior to use of the lining materials, satisfactory written guarantee of his compliance with the manufacturer's standards for all materials and techniques being used in the inversion lining process. The Contractor shall provide certified test results for approval by the Engineer, from the manufacturer that the material conforms to the applicable requirements and this specification. Material not complying with the requirements shall be rejected.

2.06 The liner thickness for each section of pipe in each size class shall be designed by the Contractor based on the pipe condition and actual field evaluation of site, soil, groundwater and loads, but shall meet or exceed the minimum required thickness.

PART 3 -EXECUTION

3.01 PREPARATION FOR INSTALLATION OF LINER

A. Design Requirements

The following design requirements must be met by the Contractor for his pipe lining material and method of construction:

1. Where this specification does not specifically address the installation method and/or materials, ASTM F-1216 and ASTM F-1743 shall govern.
2. The rehabilitated sewer lateral shall not be susceptible to any H₂S corrosion.
3. The liner shall have sufficient structural strength to support all dead loads, live loads, and ground water load imposed with the assumption that the host pipe is considered fully deteriorated.
4. The liner shall provide the least possible thickness or decrease in pipe diameter to meet the strength and other design requirements of this section.
5. The rehabilitated sewer laterals shall have no infiltration. Any infiltration observed after completion of lining shall be repaired and eliminated to the satisfaction of the Engineer at no cost to the Owner.
6. The rehabilitated sewer laterals shall be uniformly round and shall not have any visible ovality in circumference or any other visible defects such as wrinkles, collapsed or pushed in sections. Lined section of pipe shall accommodate standard

sewer cleaning equipment for the specific pipe size and shall not collect sewage or create any flow obstruction. Any lined section of pipe which does not meet these requirements shall not be accepted for payment. The Contractor shall repair any defective sections to the satisfaction of the Engineer at no extra cost to the Owner.

7. The liner shall be constructed of a material which, when installed, shall provide a continuous, jointless and structurally sound liner able to withstand all imposed static, dynamic and hydrostatic loads on a long-term basis.

B. Contractor Responsibilities Prior To Liner Installation

1. The Contractor shall distribute a notice to the property owners advising them of the proposed disruption of sewer service at least 48 hours prior to the proposed work.
2. If the Contractor requires an access pit to complete the lateral lining, the associated cost of the access pit shall be the responsibility of the Contractor and be approved by the Engineer in advance of the work. If a cleanout is required by the Engineer, it shall be constructed of approved materials and paid for according to the bid price.
3. Prior to lining any designated laterals, it shall be the responsibility of the Contractor to clean the pipe of any deposits, roots and obstructions before lining. A high pressure water jet nozzle shall be used to cut light roots, grease or other obstructions in the pipe. The debris shall be flushed down the lateral pipe to the main pipe and to the downstream manhole for removal. If inspection reveals an obstruction or defect that cannot be removed by conventional cleaning equipment, the Contractor shall notify the Engineer and an alternate cleaning or repair method may be approved.
4. Television inspection by closed circuit television camera shall be performed by certified NASSCO experienced personnel trained in locating breaks, holes, leaking joints, H₂S damage, infiltration, and obstacles. The interior of the lateral pipeline shall be carefully inspected to determine if it is clean and ready for lining or to document the location and extent of any structural failures which may prevent proper liner installation with a video recording and suitable inspection log provided to the Engineer for review. Any structural issues shall be corrected and the Contractor shall receive approval from the Engineer prior to lining installation.
5. The Contractor is responsible to discuss the possible need of lateral Top Hats with the City representative before planning any CIPP lining. If the installation of a Top Hat at the sewer lateral connection is required or approved by the Engineer, it shall be installed without the need for excavation or demolition of any existing structures. All CIPP main and lateral lining shall be installed before installation of a Top Hat.
6. If a protruding lateral exists and must be cut flush, or a new lateral or any type of new lateral connection to the main is to be constructed, then this work shall be completed before CIPP lining the main.
7. The Contractor shall provide for the control or blocking of flow within the lateral pipe being lined. The Contractor shall maintain all wastewater flow until the lining is totally cured.

8. In the event of active infiltration into the lateral, the Contractor shall eliminate the infiltration for a proper installation of the liner.
9. The Contractor shall not interfere with the employees, suppliers or contractors of the Owner in the performance of any work that they may consider necessary to maintain flow in the gravity sewer system in case of an emergency.

3.02 INSTALLATION OF LINER

- A. A resin and catalyst system compatible with the requirements of this method shall be used. The lining materials shall be per the manufacturer's standards to provide the required minimum cured lining thickness.
- B. The impregnated (wet-out) Top Hat liner material shall be loaded into the delivery system consisting of a bladder/applicator pressure apparatus above ground. A remote positioner with winch attached will position the applicator into place. Air pressure, supplied to the apparatus shall be used to hold the wet-out material in the connection between and including the lateral service pipe and mainline pipe connection. The pressure will be adjusted to be sufficient pressure to cause the liner material to expand completely into the lateral pipe. The termination point may be a pre-determined point beyond the lateral connection fitting to the main, or to the cleanout near the right-of-way line. The Main/Lateral bladder assembly shall extend past all ends of the liner, so that no cutting or grinding shall be required. The full wrap saddle portion must first be pressed into the main line sewer pipe and then the tubular portion inverted into the lateral a minimum of approximately 10 inches.
- C. **Liner Curing**
The liner system material will ambient cure through the chemical reaction between the two part epoxy resin. The Contractor may use external heat source to expedite the curing process per manufacturer's recommendations so as not to over stress the felt fiber and cause damage, shrinking or failure of the liner prior to full cure. The curing process shall be no more than 3 hours. Initial cure shall be deemed to be completed when inspection of the liner appears to be hard and sound.
- D. **Cool-Down**

The Contractor shall cool the hardened liner to a temperature below 100 F before relieving the head pressures in the inversion apparatus. Cool-down may be accomplished by the introduction of cool air into the inversion tube.
- E. **Finish**

The finished lining shall be continuous over the entire length of an insertion run and be as free as commercially practicable from visual defects such as wrinkles, foreign inclusions, dry spots, pinholes, and de-lamination. 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 surface shall be smooth and free of waviness throughout the pipe. Infiltration leaks shall not be visible. Any defects which will or could affect the integrity or strength of the lining shall be repaired at the Contractor's expense, as approved by the Engineer.

3.03 TESTING OF THE LINER

- A. For every 50 laterals one sample shall be taken and sent to a third party test laboratory for confirmation of short term flexural modulus and strength properties in accordance with ASTM F-1216. The cured liner shall equal or exceed the minimum required liner thickness and calculated design CIPP wall thickness.
- B. The test results shall meet or exceed the values used in the design of the CIPP lateral liner.
- C. Any infiltration leaks must be repaired to the satisfaction of the Engineer at no extra cost to the Owner.

3.04 FINAL INSPECTION

After installation of the liner, the Contractor shall perform a TV inspection in the presence of the Owner's Representative. A lateral launching TV camera shall be used. The finished liner shall be continuous over the entire length of the installation. The liner shall be free of visual defects, damage, deflection, holes and the like. There shall be no infiltration through or from behind the liner. Any evidence of infiltration shall result in repairs performed by the Contractor to the satisfaction of the Engineer at no extra cost to the Owner.

3.05 CLEAN-UP

After installation of the liner, the Contractor shall clean-up the entire project area and restore the work area to the original condition. All excess material and debris shall be disposed of by the Contractor, in accordance with State and Federal laws and regulations.

3.06 WARRANTY

- A. The liner shall be certified by the manufacturer for specified material properties. The Contractor shall warrant the liner and liner installation for one (1) year from final completion. During the warranty period, any defects which affect the integrity or strength of the pipe shall be repaired at the Contractor's expense in a manner agreed to by the Owner.
- B. If a liner fails to cure, the Contractor shall be required to remove and replace the failed liner or lateral at no additional cost. This shall include all materials labor and equipment for excavation, demolition, backfilling, cutting concrete, pipe shoring, temporary pavement, permanent pavement, permits, restoration and other incidental work required to remove and replace the liner or existing lateral at no additional cost to the Owner.

END OF SECTION

SECTION 13277
PREFABRICATED FIBERGLASS MANHOLE LINERS (FRP)

PART 1 GENERAL:

1. SCOPE OF WORK:

The Contractor shall furnish all labor, materials, equipment, and tools necessary for the installation of fiberglass manhole liners.

2. QUALITY ASSURANCE:

Qualifications

- A. The liner manufacturer shall have a minimum of ten (10) years experience in manufacture of the specific liner to be used.
- B. The Contractor/Installer shall have a minimum of five (5) years experience with the means and methods of materials utilized and the installation procedures.

3. REGULATORY REQUIREMENTS:

The Contractor shall comply with all applicable laws, rules, regulations or ordinances imposed by all applicable federal, state, regional and local agencies.

4. WARRANTY:

- A. Installation: Provide a full labor and materials warranty for a period of twelve (12) months from the date of final completion.
- B. Liner: Manufacturer's standard warranty on the material.

5. SUBMITTALS:

Submit three (3) copies of Manufacturer's technical literature and recommended installation procedures.

6. REFERENCES:

This section references American Society for Testing and Materials (ASTM) standard specifications, which are made a part hereof by such reference and shall be the latest edition and revisions thereof.

PART 2 PRODUCTS:

1. GENERAL:

The purpose here is to give a general description of what is required, not to cover all details, which may vary in accordance with exact requirements of the repairs. The intention is to cover the furnishing, delivery, installation and field-testing of all materials, equipment and apparatus. The FRP manhole shall include the new ring and cover and complete covering of all internal surfaces with either hand-laminated fiberglass or Epoxytec CPP mortar coating as approved by the Engineer.

2. MATERIALS -PREFABRICATED FIBERGLASS LINER:

- A. The materials used for lining manholes shall be engineered to support a standard 16,000 pound vertical dynamic wheel load (H20) when used in conjunction with an integral fiberglass cone section or reinforced precast top slab. Inserts shall comply with ASTM D3753 and D3753-05E1 - Standard Specification for Glass-Fiber Reinforced Polyester Manholes and Wet Wells. The FRP liner shall have minimum pipe stiffness of 2.01 psi when tested per ASTM D3753 latest edition, Section 6.
- B. The manhole liner shall meet all requirements of ASTM Specification D3753 for glass fiber reinforced polyester manholes. Inserts shall be single piece barrel and reducer without seams, joints, or sections, comprised of chopped strand and continuous fiber glass reinforcement within isophthalic polyester resin. Materials shall be resistant to corrosive attack from sanitary sewage gases including sulfuric acid and shall satisfy the 100,000 hour criterion in ASTM D 3753. Interior and exterior surfaces shall be relatively smooth and be free of sharp projections and protruding glass fibers. No blisters or delaminations shall be visible.
- C. The annular void grout shall be standard 6-bag (Type II) Portland cement mix producing a minimum 3,000 psi compressive strength at full cure (28 days).
- D. A quick setting, high strength cement grout shall be used for positioning and sealing the liner prior to annular void grouting.
- E. An anti-floatation anchor shall be required in accordance with the Manufacturer's recommendation.

3. LINED PRECAST MANHOLE TOP SLAB FOR FLAT TOP MANHOLES ONLY:

- A. Concrete shall be 4,000 psi minimum.
- B. Reinforcing steel shall be grade 60.
- C. Manhole liner top shall be ¼" minimum thickness of fiberglass (same material as manhole liner) cast into the concrete slab with an approved anchoring system.
- D. Use an acid proof mortar mix to set and level the manhole frame on the precast top slab. The Contractor shall utilize a mortar approved by the Engineer.

PART 3 EXECUTION:

1. PREPARATION:

Safety -The Contractor shall carry out his operations in strict accordance with all OSHA, City Confined Space Program, Fall Protection Program and Manufacturer's safety

requirements. Particular attention is drawn to those safety requirements involving entering confined spaces. In addition, the Contractor shall be responsible for implementing traffic control procedures in conformance with CITY and FDOT standards.

2. MANHOLE LINER INSTALLATION (PREFABRICATED FIBERGLASS):

- A. This lining method requires the excavation and removal of the existing manhole frame, chimney, corbel/cone, and other portions as necessary for the proper insertion of a prefabricated fiberglass manhole liner of the diameter shown in the plans.
- B. Excavate the area around the existing manhole sufficiently wide and deep enough to facilitate the removal of the manhole frame, chimney, cone and walls as necessary to allow for full depth installation of the manhole liner to the existing base.
- C. The bottom of the manhole liner shall be cut to fit the existing manhole bench as closely as possible. Cutouts in the manhole liner shall be made to accommodate existing pipes, drops and cleanouts. The gap between the existing manhole and the new liner wall shall be bridged with short lengths of pipe of the same material as the liner or as shown on the details and approved by the Engineer.
- D. The manhole liner shall be lowered into the existing brick or concrete manhole and set into a quick setting grout mixture. A thorough bottom seal shall be obtained in order to prevent loss of grout from the annular space between the outside of the manhole liner and the interior of the old manhole. A 6-inch minimum height of quick setting grout shall be placed above the initial bottom seal in the annular void area between the manhole liner and the existing manhole to ensure adequacy of the bottom seal. The annular void between the manhole liner and the existing brick or concrete manhole shall be filled with a cement grout as approved by the Engineer.
- E. Precast manhole top slab shall be completely protected from chemical attack by a 1/4" minimum thickness liner (same material as manhole liner) extending across the entire bottom of the flat slab top, continuing up the chimney and returning onto the top of the flat slab (6" minimum). Liner material shall be cast into the concrete slab with an approved anchoring system and shall be continuous, free of voids and holes. The manhole top slab, frame and cover shall be installed in accordance with the standard detail. The top slab shall be designated to support a standard 16,000 pound vertical dynamic wheel load (AASHTO H20).
- F. All manhole surfaces not covered by the liner shall be hand covered with similar compatible material with the FRP Liner. All lamination of fiberglass shall result in equal thickness and strength as the manhole liner and be constructed in accordance with the FRP manhole Manufacturer's recommendations.
- G. Contractor may connect pipes to the FRP liner with an appropriate Inserta-Tee fitting or if approved by the Engineer seal the openings around pipes with oakum soaked in sealing gel and completely cover with hand laminated fiberglass or Epoxytec CPP mortar.

3. **BACKFILL:**

At all points where a lateral pipe has been exposed (such as at service connections or other points where the old pipe must be removed and replaced according to the detail), the lateral pipe and coupling may be encased in cement-stabilized sand or flowable fill if required by the Engineer. Particular care shall be taken to insure proper compaction of the soil beneath and around the lateral pipe, in order to reduce subsidence and resultant deflection of the lateral connection. Backfill shall be placed and compacted to finished grade per the details and as approved by the Engineer.

4. **DISPOSAL OF DEBRIS:**

Under no circumstances shall sewage or solids be dumped onto pavement or anywhere else resulting in runoff into a storm drainage system or body of water. Contractor shall remove all solids or semi-solids resulting from the work from the site in watertight trucks and shall be transported to a legal disposal site without spillage onto the roadways.

END OF SECTION

**SECTION 13278
CHEMICAL GROUT SEALING LEAKS**

PART 1 – GENERAL

1.01 SCOPE OF WORK

This section covers the work and materials required for sealing leaks in manholes or pipe joints by chemical grout injection.

1.02 DESCRIPTION

The Contractor shall be responsible for furnishing all labor, materials, equipment, and testing required for the completion of chemical grouting of manhole or pipe leaks in accordance with the Contract Documents.

1.03 MANUFACTURER'S RECOMMENDATIONS

All materials, additives, mix ratios, and procedures needed for the grouting process shall be in accordance with manufacturer's recommendations. Manufacturer must provide proof of product liability insurance, material data sheets and M.S.D.S sheets prior to construction use.

1.04 MANHOLES

Manholes to be grout sealed are made of brick, concrete, plastic, or fiberglass construction.

PART 2 – PRODUCTS

2.01 GROUTING MATERIALS

The chemical grout shall be a polyurethane based material designed for use in a wet environment. The material must be capable of withstanding movement caused by thermal cycle changes and or settling of the structure. Chemical grouts must be Phthalate free and utilize either a catalyst to adjust the set time or be a two-component resin with a very fast set time.

The following properties shall be exhibited by the grout.

1. Documented references of satisfactory performance for similar usage.
2. Controllable reaction times through the use of catalysts or additives supplied by the same manufacturer. The minimum set time shall be established so that adequate grout travel is achieved.
3. Resistance to chemicals; to most organic solvents, mild acids and alkali.
4. The chemical grout shall be essentially non-toxic and not exhibit shrinkage in its cured form.
5. The material shall be able to withstand freeze/thaw and moving load conditions.
6. Material must be a Phthalate free material.

Approved Grouting Materials:

Resiplast Products, or approved equal:
Spetec PUR H 100
Spetec PUR GT 1100 Gel
Spetec N 450

Injection Accessories:

Oakum Rope
Grout Tubes or Needles
Flow Valve
Pumps

2.02 ADDITIVES

Additives may be utilized for catalyzing the reaction, lowering the freezing temperature of the chemical, and/or minimizing dehydration of the materials.

2.03 MATERIAL IDENTIFICATION

The Contractor shall submit material data sheets on all the types of grout, mortar, and sealant used, including case histories of successful use or defend the choice of grouting materials based on chemical and physical properties, ease of application, and expected performance, to the satisfaction of the Engineer.

2.04 MIXING AND HANDLING

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

PART 3 – EXECUTION**3.01 GENERAL**

Manhole grouting shall not be performed until the repair of the manhole frame and grade rings or any other structural manhole repairs except protective coatings have been completed.

3.02 PRELIMINARY REPAIRS

- A. The Contractor shall cut and trim all roots and other protruding materials within the manhole or pipe.
- B. The Contractor shall seal all unsealed lifting holes, unsealed step holes, voids larger than approximately one-half (1/2) inch in thickness. All cracked or deteriorated material shall be removed from the area to be patched and replace with a waterproof quick setting mortar.
- C. The Contractor shall perform the Soakum Oakum Technique by soaking dry Oil Free Oakum in chemical grout and forcing the Oakum/Resin plug into opening until it sets.

3.03 TEMPERATURE AND CONDITIONS

Normal grouting operations shall be performed in accordance with all manufacturer's recommendations.

3.04 MANHOLE LEAK SEALING

Grouting a manhole may include the corbel, wall, pipe seals, manhole joints, well to flattop joint, and/or benches and flow channels. The Engineer or manufacturer's representative shall designate the areas of the manhole to be grouted. If the entire manhole is planned for grouting, grouting shall include the corbel, wall, pipe seals, benches and flow channels. Pipe seal grouting shall include all pipe seals in the specified manhole, including around the interface with the benches and flow channels. Injection holes shall be drilled through the manhole wall at locations recommended by the Engineer or manufacturer's representative.

3.05 GROUT INJECTION

- A.** Grout shall be injected through the holes under pressure with suitable injection packers and or wall tubes. Injection pressure shall not cause damage to the manhole structure or surrounding surface. Grout shall be injected through the lowest holes first. Then procedure shall be repeated until the manhole is externally sealed with grout.
- B.** Grout injection into pipe joints shall be installed using an appropriate packer at high enough pressure to overcome the groundwater pressure head and the leak completely sealed and verified by TV inspection.
- C.** Grouting from the ground surface shall not be allowed unless interior gases are intolerable or curtain wall grouting has been approved by the Owner.
- D.** Grout travel shall be verified by observation of grout to defects or adjacent injection holes. Provide additional injection holes, if necessary to ensure grout travel.
- E.** Injection holes shall be cleaned and patched with a waterproof quick setting mortar.

3.06 TESTING OF REHABILITATED MANHOLES

If exfiltration or vacuum testing is used, usually 10 percent of the sealed manholes, as chosen by the Engineer will be tested. Manholes that fail are reworked and retested by the Contractor. If more than 5 percent of the manholes tested fail the initial test, an additional 10 percent of the sealed manholes will be tested. This process continues until the testing is satisfactory, or until all manholes have been tested. Limitations and considerations include recognizing that exfiltration and vacuum testing may be impractical or cost-prohibitive for all manholes; therefore, the use of either method is subject to the following limitations and considerations.

- A. Complete Sealing:** These methods are used only when the entire manhole has been sealed or rehabilitated. The lack of sealing or rehabilitation of some portions of the manhole may prevent passage of either of these tests. Spot repairs and partial sealing or rehabilitation are therefore subject to infiltration and visual testing only.
- B. Inlet and Outlet Sewers:** Manholes built over a large diameter sewers may be impractical and uneconomical to test using either of these methods due to bypassing requirements, availability of plugs, and high forces that are generated on the plugs. Consideration must be given to these factors when determining the method of acceptance testing to be used.
- C. Structural Condition:** The structural condition of some manholes may be such that testing with these methods is impractical and destructive. The Engineer and Contractor shall therefore deem as structurally sound, prior to testing and using these methods, those manholes that have not been structurally lined.

END OF SECTION

SPECIAL CONDITIONS

Price Adjustment Applicable to Approved Renewal Contract Terms Only:

For any renewal (i.e., years four through six of the Contract), the Contractor may petition the Chief Procurement Officer (CPO) in writing prior to renewal for consideration of a price adjustment if the Consumer Price Index referenced below has increased for the contract term immediately preceding the start of the renewal period. The annual adjustment requested shall not exceed the lesser of the change in the CPI index during the preceding contract term and two percent (2%). The decision to grant the request for a price adjustment, in part or in whole, shall be made by the CPO in the CPO's sole discretion and communicated to the Contractor prior to renewal.

The CPI Index to be used for consideration of requested price adjustments ("CPI Index") shall be the Bureau of Labor Statistics Consumer Price Index (CPI) – All Urban Consumers, No Seasonally Adjusted, South Urban, All Items. The monthly index used shall be for the month of October, 2015.

In the event that the Contractor has requested and received a price adjustment for any renewal period based upon an increase in the CPI Index as set forth above, the City, in its sole discretion upon notice to the Contractor prior to renewal for a subsequent renewal period, shall be entitled to a price adjustment based upon the CPI Index should the CPI Index for a subsequent calendar year show a decrease.

Automated Order Entry System:

Bidders should furnish with their bid submittal details of any automated order entry system available for use by the City.

Bid Security:

Bid Security shall be made payable to City, in an amount equal to ten percent of the bidder's Total Base Bid in the form of a certified check, cashier's check, or a Bid Bond issued by a Surety that is licensed to conduct business in the State of Florida and has at least an "A-" rating in accordance with the most current A.M. Best Company financial strength rating.

The Bid Security of the low bidder shall be retained until such time as the City has executed and provided the awarded bidder with the Contract and Acceptance Form, and the bidder has furnished the required contract security, any insurance certificates and endorsements, whereupon it will be returned. If the low bidder fails to comply with the solicitation requirements, or to furnish any required contract security or required insurance certificates and endorsements, within seven (7) days of the notification of intended award, the City may cancel the intended award and the Bid Security of that bidder may be forfeited up to the difference between the total bid of the forfeited bidder and the next lowest bidder.

The Bid Security of all other bidders may be retained until the earlier of thirty (30) days after execution of the Contract and Acceptance Form or ninety (90) days after bid opening, whichever occurs first.

Bid Specifications:

Specifications referenced throughout this solicitation refer to the products listed on the Technical Specification Listed in the Table of Contents on page 2. See Standard Terms and Conditions, regarding the approval process for equipment or materials.

Examination of Contract Documents

The bidder, having visited the site of the proposed project and familiarized itself with the local conditions, nature, and extent of the work, and having examined carefully the specifications included and Terms and Conditions herein, proposes to furnish all labor, materials, equipment and other items, facilities and services, without exception for the proper execution and completion of the contract and, if awarded the contract, to complete the said work within reasonable time limits.

Payment of Subcontractors

Final and complete payment will be made on the basis of completion and acceptance by the City of the work performed under the contract and receipt of satisfactory evidence that all payrolls, bills for materials, have been paid in full. Payments of subcontractors shall be made in compliance with §218.735 (6) et sq. Florida Statutes. The existence of any unpaid bills or charges for labor, materials or other supplies used directly by the Contractor or any subcontractor under the contract, shall constitute cause for the City to withhold final payment until said bills or charges are paid.

Periodic and Final Cleaning:

The Contractor shall:

- A. Schedule periodic cleaning to keep the worksite and adjacent properties free from accumulations of waste materials, rubbish, and windblown debris resulting from construction operations;
- B. Provide on-site container for the collection of waste materials, debris, and rubbish;
- C. Dispose of waste materials, debris, and rubbish from the Owner's property;
- D. Upon completion of work in each area, provide final cleaning and otherwise return space to a condition suitable for use by the City;
- E. Conduct cleaning and disposal operations to comply with City codes, ordinances, regulations, and environmental laws.

Performance Bond and Payment Bond

In accordance with Florida Section 255.05(1)(a), Florida Statutes, a Performance and Payment Bond is required of anyone entering into a formal contract with the City for the construction or repair of a building or public works project. The City reserves the right to waive the requirement at any time for any contract of \$200,000.00 or less.

Accordingly, if the amount bid by the awarded bidder exceeds \$200,000.00, a Payment and Performance Bond will be required in the amount of the awarded bidder's bid or in such other amount as may be directed by the City in writing within fifteen (15) days of the award of any contract resulting from each project from this solicitation, or as may be directed by the City. No work shall be done prior to the delivery of a Payment and Performance Bond meeting the requirements of this Section to the City.

In the event that the awarded bid amount is less than \$200,000.00, a Payment and Performance Bond will be required thereafter in such amount as determined by the City if at any time, for any reason, including but not be limited to increased quantities or usage or extension or renewal, the value of the contract exceeds (or may reasonably be expected to exceed) \$200,000.00 as determined by the City. Such bond shall be acquired and delivered to the City within fifteen (15) days of notice from the City that a bond is required. Upon notice

from the City that a bond is required no further work under the contract shall be undertaken until such time as a bond in conformance with this Section has been delivered to the City.

The Contractor shall include the cost of any bonds required hereunder in their bid. If bonds are required hereunder and the term of the contract between the City and the Contractor is extended or renewed, Contractor shall provide a new or amended bond to reflect the new or extended period and increased value of the contract within fifteen (15) days of extension or renewal. The failure by Contractor to submit any conforming bond when required by this Section shall constitute grounds for termination of the contract by the City.

All Payment and Performance Bonds shall be recorded by the City with the Clerk of the Circuit Court of the county where the work is located. These bonds shall remain in effect at least until one (1) year after the date of substantial completion of the entire work assigned to Contractor under the contract, except as otherwise provided by applicable laws or regulations.

All bonds shall be in accordance with statutory bond provisions in Florida Statutes and all other applicable laws. All bonds shall be executed by such sureties as are licensed to conduct business in the state of Florida and, except as otherwise provided by applicable laws and regulations, are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of its authority to act.

If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its license to do business in the state of Florida is terminated or it ceases to meet the requirements of this Section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be in accordance with these requirements and acceptable to City.

In addition to the other bonding requirements, the surety (ies) named on the Performance Bond and Payment Bond submitted by Contractor shall be subject to the approval of City. If City has a reasonable objection to the proposed Surety, City may require Contractor to submit an acceptable substitute.

Quantities:

The quantities for the items listed in the Bid Form this solicitation are only intended to established unit prices for the items and should not be construed as representing actual quantities to be purchased. Moreover, it is understood by all bidders that the City is not obligated to purchase any minimum or maximum amount during the life of a contract resulting from this solicitation.

Site Conditions:

The bidder, having familiarized themselves with the local conditions, nature, and extent of the work, and having examined carefully the Technical Specifications and Terms and Conditions herein, proposes to furnish all equipment, labor and materials without exception for the proper execution and completion of the work and if awarded the contract, he Bidder shall complete the assigned work within reasonable time limits that are acceptable to the City.

Favored Customer Clause:

Should the awarded bidder (also referred to hereinafter as "Contractor"), of a contract resulting from this solicitation sell the same or substantially the same products or services as listed in this solicitation to another

Governmental Agency, within the State of Florida, at a lower price than the price listed in this solicitation, the awarded vendor agrees to extend that same discounted price to the City of Orlando.

Literature/Shop Drawing:

Bidder will submit, two copies of applicable descriptive literature and technical data to fully detail all features, designs, construction, finishes of the equipment proposed.

Local Representatives:

Your firm must be able to provide a local representative for service and technical assistance on an "as needed basis".

GENERAL CONDITIONS**Bidder should read and follow the following instructions.**

1. **EXECUTION OF BID:** Bid must contain a manual signature of an authorized representative in the space provided on the Bidder's Certification Form.
2. **SEALED BIDS:** All bids must be submitted in a sealed envelope. The face of the envelope shall contain the date and time of the bid opening and the bid number. Bids not submitted on the City's bid forms may be rejected. All bids are subject to the conditions specified herein and on any attached sheets, specifications, standard terms and conditions and special conditions.
3. **NO BID FORM:** In the event you elect not to bid this requirement, respond by returning this form, marking it "NO BID" and the reason therefor. NOTE: To qualify as a respondent, bidder must submit a "BID" or "NO BID" and it must be received no later than the stated bid opening date and time.
4. **BID OPENING:** Shall be public, on the date and at the time specified on the bid form, with the total bid amount being read aloud. It is the bidders responsibility to assure that their bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered, will not be returned but will be retained in the "BID FILE" unopened. Telephone or telegraphic bids cannot be accepted.
5. **PRICES, TERMS, and PAYMENT:** All prices must be firm for the delivery schedule quoted herein. Bids stipulating "Price in effect at time of shipment" or other similar conditions will be considered not responsive to the bid invitation and will not be accepted. All prices shall be quoted F.O.B. delivered to any City of Orlando Department unless otherwise stipulated in the bid invitation. Bidder is requested to offer cash discount for prompt invoice payment. It is the policy of the City of Orlando to make payments of invoices in time to earn any offered cash discounts. Discount time will be computed from the date of satisfactory delivery at place of acceptance or from receipt of correct invoice at the Accounts Payable Office, whichever is later.
 - a) **TAXES:** The City of Orlando does not pay Federal excise and State sales taxes. Our tax exemption number is 85-8015427957C-9 and is also stipulated on all our Purchase Orders.
 - b) **POLITICAL SUBDIVISIONS:** Under Florida Law, prices contained in State Contracts shall be available to the City of Orlando, who might wish to purchase under a State Purchase Contract. The City of Orlando therefore reserves the right to purchase any commodities from a State Purchase Contract if in the best interest of the City.
 - c) **MISTAKES:** Bidders are expected to examine the specifications, delivery schedules, bid prices, and all instructions pertaining to supplies and services. Failure to do so will be a bidder's risk.
 - d) **CONDITION and PACKAGING:** It is understood and agreed that any item offered or shipped as a result of this bid shall be new (current production model at the time of this bid). All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.
 - e) **SAFETY STANDARDS:** Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards thereunder.
 - f) **MARKING:** Each individual container shall be marked with the brand name of the product, quantity and the name and address of the manufacturer. Each shipping container shall include the name of the vendor and must also clearly indicate the City of Orlando Purchase Order Number.
 - g) **INVOICING and PAYMENT:** The supplier shall be paid in accordance with Florida Statutes, upon submission of invoices to: The Accounts Payable Section, City of Orlando, 400 South Orange Avenue, Orlando, Florida 32801. Invoices are to be billed at the prices stipulated on the purchase order and as outlined in this bid. All invoices must show the City of Orlando Purchase Order Number.
6. **CONFLICT OF INTEREST:** The award hereunder is subject to Chapter 112, Florida Statutes. All bidders must disclose with their bid the name of any officer, director, or agent who is also an employee of the City of Orlando. Further, all bidders must disclose the name of any City of Orlando employee who owns, directly or indirectly, an interest of ten percent (10%) or more of the bidders firm or any of its branches.
7. **AWARDS:** As the best interest of the City of Orlando may require, the right is reserved to make award(s) by individual items, group of items, all or none, or a combination thereof, with one or more suppliers; to reject any all bids or waive any informality or technicality in bids received.
8. **INSPECTION, ACCEPTANCE, and TITLE:** Inspection and acceptance will be at destination unless otherwise stipulated. Title and risk of loss or damage to all items shall be the responsibility of the shipper (vendor) until accepted by the using department of the City of Orlando, unless loss of damage results from negligence by the City of Orlando or its Departments.
9. **DISPUTES:** In case of any doubt or differences of opinion as to the items to be furnished hereunder, the decision of the City of Orlando's Chief Procurement Officer shall be final and binding on both parties. All disputes between the parties shall be resolved in accordance with the City Procurement Code, (Chapter 7 of the City Code).
10. **LEGAL REQUIREMENTS:** Federal, State, County and local laws, ordinances, rules and regulations that in any manner affect the item(s) covered herein apply. Lack of knowledge by the bidder will in no way be cause for relief from responsibility.
11. **LIABILITY:** The vendor shall hold and save the City of Orlando, its officers, agents and employees harmless from liability of any kind in the performance of or fulfilling the requirements of the purchase order or contract which may result from this bid.

NOTE: ANY AND ALL STANDARD OR SPECIAL CONDITIONS ATTACHED HERETO WHICH VARY FROM THESE GENERAL CONDITIONS SHALL HAVE PRECEDENCE.

STANDARD TERMS AND CONDITIONS

1. RECEIPT OF BIDS:

- a. **Sealed bids, one (1) original, one (1) copy, and one (1) cd or flash drive**, shall be submitted to the Procurement and Contracts Division prior to the date and time specified herein. Bids will not be accepted after the designated time and date. It is solely the responsibility of the bidder to ensure timely delivery of their bid submittal.
- b. Each bid shall be submitted in a sealed envelope and marked with the bid number, title of the bid, and bid opening date and time.
- c. If submitted by mail, the bid submittal shall be enclosed in a sealed envelope addressed to the City's Chief Procurement Officer (CPO), at the address listed below. Bids submitted by mail must be received in the office of the Procurement and Contracts Division by the time specified herein for the opening thereof.

Please be advised that United States Postal Service (USPS) Express and Priority service classes, are delivered to the City once daily. Accordingly, in order for a submission to be received by the office of the Procurement and Contracts Division when the services of the USPS are used, a proposer or bidder is responsible for ensuring that their submittal is transmitted in such manner as necessary for the USPS to receive, sort, and deliver to the City by the submittal due date and time.

The City only collects other USPS mail one (1) time per day upon opening of the local Post Office branch, which is then sorted by the City for delivery to the Procurement and Contracts Division and other City departments. Submissions arriving at the USPS after the initial pick-up by the City will be placed in the City's call-box for pick-up and will not be delivered to or received by the Procurement and Contracts Division until the next business day.

When using the USPS or any other mail delivery services, it is the sole responsibility of the bidder to ensure that bids or proposals are received in the office of the Procurement and Contracts Division by the due date and time. **The City shall not be responsible for delays caused by any occurrence.**

- d. All bids shall be mailed or delivered to the office of the Procurement and Contracts Division at the address listed below. Sealed bids are to be addressed as follows:

City of Orlando
Procurement and Contracts Division
Attention: David Billingsley, CPSM, C.P.M.
Chief Procurement Officer
C/O Purchasing Agent: Silvia Coste, Purchasing II
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

2. COMMUNICATIONS; QUESTIONS REGARDING SPECIFICATIONS OR BIDDING PROCESS:

- a. To protect the integrity of the solicitation process and ensure fair consideration of all respondents, a prohibited communication period is hereby established commencing as of the time of the issuance of this solicitation and terminating upon execution of a contract (or, if the solicitation is cancelled, upon cancellation of the solicitation). Except for communication with the City's designated point of contact set forth in this solicitation or as otherwise authorized by the City's Chief Procurement Officer, during the prohibited communication period, the City prohibits communication regarding the solicitation by a respondent or potential respondent (or on a respondent or potential respondent's behalf) to or with any officer, elected official (including the Mayor and City Council), department, division, office, or employee of the City, or any other person or entity providing advice to the City related to this solicitation. During the prohibited communication period, all contacts and communications regarding the solicitation by a respondent, or potential respondent, including their agents, representatives and others on their behalf, shall be directed to the City's Procurement and Contract Services Division in the manner provided below in this solicitation, unless otherwise authorized by the City's Chief Procurement Officer. Prohibited contact or communications during the prohibited communication period may result in disqualification from the solicitation process, rejection of the solicitation, or termination of any resulting contract as determined by the Chief Procurement Officer. In addition, prohibited contact or communications may also be grounds for suspension and debarment of a respondent or potential respondent under the City's Procurement Code.
- b. Any questions by a bidder relative to the interpretation of specifications or the bid process shall be addressed in writing as indicated below. In order to be answered prior to the submittal deadline, questions must be received by the Procurement and Contracts Division ten (10) days prior to the date set for the receipt of bids. Please see the "Written Question(s) Form" under Forms and Submittals Section of this solicitation. Any interpretation made to prospective bidders with respect to questions submitted prior to the cut-off date for questions to be answered prior to the submittal deadline will be expressed in the form of an Addendum to the specifications which, if issued, will be conveyed to all prospective bidders no later than five (5) days before the date set for receipt of bids. Oral answers will not be authoritative.
- c. It will be the responsibility of the bidder to contact the Procurement and Contracts Division prior to submitting a bid to ascertain if any addenda have been issued, to obtain all such addenda, and return executed addenda with the bid.
- d. All communication and contact regarding this solicitation shall be directed to the Purchasing Agent referenced on the cover page of this Invitation for Bids:

Silvia Coste, Purchasing II
City of Orlando
Procurement and Contracts Division
City Hall at One City Commons
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801
(407) 246-2291
Fax (407) 246-2869

Website: <http://www.cityoforlando.net/procurement/>

3. TERM OF THE CONTRACT:

The term of the contract resulting from the solicitation, shall be for an initial twelve (12) month period. The contract may, by mutual assent of the parties, be extended for four (4) additional twelve (12) month periods or portions thereof, up to a cumulative total of sixty (60) months.

4. BIDDER'S CERTIFICATION FORM:

Each bidder shall complete the "Bidder's Certification Form" included with this Invitation for Bids. The form must be acknowledged before a Notary Public with notary seal affixed on the document. The failure of a bidder to include this document with their bid submittal will be cause for rejection of the bid.

5. SUBMITTAL OF BIDS:

Bids shall be submitted utilizing the bid form(s) provided herein. All bids shall be properly executed with all blank spaces filled in. The signatures of all persons signing shall be in longhand. Erasures, interlineations, or other corrections shall be authenticated by affixing in the margin immediately opposite the correction the initials of a person signing the bid. If the unit price and the total amount provided by a bidder for any item are not in agreement, the unit price alone shall be considered as representing the bidder's intention, and the totals shall be corrected to conform thereto.

6. BID INFORMATION:

It is incumbent on the bidder to check the City of Orlando's website at <https://vendorlink.cityoforlando.net/common/default.aspx> or contact the Procurement and Contracts Division for current bid and award information, prior to and after the scheduled opening date of a solicitation, in accordance with the instructions provided herein, in section entitled, "Invitation for Bids Award Information".

7. EXCEPTIONS TO TERMS AND CONDITIONS:

When completing your bid, do not attach any forms which may contain terms and conditions that conflict with those listed in the City's bid document(s). Inclusion of additional terms and conditions, such as those which may be on your company's standard forms, may result in your bid being declared non-responsive.

8. SPECIFICATIONS:

- a. The Specifications shown in the Invitation for Bids are intended to represent items of a quality level known to meet City's requirements. While the City endeavors to promulgate written Specifications that are accurate and nonrestrictive for bidding purposes, they may also reference an item by manufacturer's name and model number. Bidders are cautioned that in the event of a discrepancy therein, such difference must be timely questioned in writing. Any written question must be received by the Procurement and Contracts Division at the address on the cover of this solicitation no later than ten (10) days prior to the bid opening.
- b. If any proprietary, trade, brand, or manufacturers' name or part number is used herein in describing

the required equipment or materials, it shall be understood to indicate the minimum standard of composition and quality desired, and shall not be construed to exclude equipment or goods that equals or exceeds the functional capability and quality of the named equipment. The City, in its sole discretion, shall determine whether equipment or goods are equivalent in capability and quality.

Bidders are strongly encouraged to submit equivalent equipment or materials for consideration during the question and answer period. If equivalent equipment or materials is proposed, indicate the manufacturer's name and model number for the equipment and include any literature or other explanation of the equipment's quality or performance with your bid.

- c. The equipment bid herein shall be new and shall be of the current production model. If applicable, detailed equipment specifications for make and model offered shall be provided with bid.
- d. Bidders may be required, at no expense or liability to the City, to make available for test/demonstration, equipment equal in all aspects to the equipment bid, and/or equal equipment that may be seen under operating conditions in the Central Florida area.

9. SILENCE OF SPECIFICATIONS:

The apparent silence of these specifications or any supplemental specifications as to details or the omission from same of any detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail and that only materials of first quality and correct type, size, and design are to be used. All workmanship shall be first quality. All interpretations of specifications shall be made upon the basis of this statement.

10. DISCOUNTS:

Bidders may offer a cash discount for prompt payment; however, such discounts shall not be considered in determining the lowest net cost for bid evaluation purposes. Discounts will be computed from the date of satisfactory delivery at place of acceptance or from receipt of correct invoice at the office specified, whichever is later.

11. ALTERATIONS/CHANGES TO BID PRICE FORM(S):

Bidder shall not change or otherwise alter the quantity or unit designations on the Bid Price Form(s). The unit price bid and total extensions must correspond to these designations. Each line item will be extended as indicated (quantity x unit price). The unit price shall prevail.

12. ADDENDA:

It is the bidder's responsibility to contact the Procurement and Contracts Division prior to submitting a Bid to ascertain if any Addenda have been issued, to obtain all such Addenda, and return executed Addenda with the Bid. If you have downloaded this Bid from the Internet, please ensure that you also download all such Addenda. The failure of a bidder to submit acknowledgment of any Addenda that affects the bid price(s), is considered a major irregularity and will be cause for rejection of the Bid.

13. "NO BID" RESPONSE FORM:

In the event you elect not to bid on this requirement, please complete and return the "No Bid" form included in this solicitation.

14. OPENING OF BIDS:

Sealed bids will be received in the Procurement and Contracts Division until the due date and time as specified in this Invitation for Bids. Bids will be opened and the total bid amount shall be publicly read aloud immediately following the published due date and time. No responsibility will attach to the City for the premature opening of a bid not properly addressed and identified. Bidders or their authorized agents are invited to be present at the bid opening.

15. BIDDER QUALIFICATION:

Bids will be considered from firms who have adequate personnel and equipment and who are so situated as to perform prompt service. The City reserves the right to request information or conduct an inspection of the bidder's facility and equipment prior to the award of the contract.

Bids will be considered only from firms which are regularly engaged in the business as described in this bid package; with a record of performance for a reasonable period of time, which have sufficient financial support, equipment, and organization to ensure that they can satisfactorily execute the service if awarded a contract under the terms and conditions herein stated.

The terms "equipment and organization" as used herein shall be construed to mean a fully equipped and well established company in line with the best business practice in the industry and as determined by the City.

Failure to comply with the established deadline for submittal of required documents may be grounds for disqualification.

16. INSPECTION OF PUBLIC RECORDS:

Bidders may request copies of the solicitation records in person or by written request to the City Records and Archive Management Services located at 400 South Orange Avenue, 2nd Floor, Orlando, Florida, 32801 or by calling (407) 246-2148. You may also email your request to records@cityoforlando.net. Pursuant to Florida State Statute Chapter 119.07, sealed bids are exempt from public inspection until such time as the City provides Notice of Intended Action or until thirty (30) days after bid opening, whichever is earlier.

17. IRREGULAR BIDS:

Bids made on other than the documents furnished by the Procurement and Contracts Division may not be considered. Changes in phraseology, additions, or limiting provisions made on the Invitation for Bids may render the bid irregular and may cause rejection. The City's Chief Procurement Officer, however shall have the authority to waive minor irregularities.

18. UNBALANCED BIDS:

At determined by the City's Chief Procurement Officer in the CPO's discretion, the City may consider a solicitation response irregular and reject it if any of the prices are excessively unbalanced (either above or below the amount of a reasonable response) to the potential detriment of the City. The City further reserves the right to require backup documentation from the respondent if, in the Chief Procurement Officer's opinion, the prices are, or appear to be, excessively unbalanced.

19. WITHDRAWAL OF BIDS:

After bid opening, no changes in bid prices or other provisions shall be permitted. Bidders may withdraw or correct a bid prior to the stipulated date and time for the opening of bids upon a written request to the City's Chief Procurement Officer.

20. EVALUATION OF BID AWARD:

The City reserves the right to award the bid to the responsive and responsible bidder who submits the lowest bid meeting specifications. For purposes of this solicitation, the determination of the responsive and responsible bidder submitting the lowest bid shall be made after the application of all applicable programs and preferences established by the City, including but not limited to the City's MBE/WBE program and VBE preference. In determining whether a bidder is responsible, the City reserves the right to consider matters such as, but not be limited to, quality offered, delivery terms, and service reputation of the bidder.

21. AWARD OR REJECTION OF BIDS:

The City's Chief Procurement Officer reserves the right to accept any, all or part of any bids, to waive minor irregularities, or to reject any, all or part of any bids, and to advertise for new bids, as the interest of the City may require. The City's Chief Procurement Officer also reserves the right to reject the bid of a bidder who has previously failed to perform properly or complete on time contracts of a similar nature, or a bid of a bidder who investigation shows is not in a position to perform the contract. In determining responsibility, the following other qualifications, in addition to price, may be considered by the City's Chief Procurement Officer:

- a. The ability, capacity and skill of the bidder to perform the service required.
- b. Whether the bidder can perform the contract or provide the service promptly, or within the time specified, without delay or interference.
- c. The character, integrity, reputation, judgment, experience and efficiency of the bidder.
- d. The quality of performance of previous contracts or services.
- e. The previous and existing compliance by the bidder with laws and ordinances relating to the contract or service.
- f. The sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service.
- g. The quality, availability and adaptability of the supplies, or services, to the particular use

required.

- h. The ability of the bidder to provide future maintenance and service for the use of the subject of the contract.
- i. Whether the bidder is in arrears to the City on a debt or contract or is a defaulter on surety to the City, or whether the bidder's taxes or assessments are delinquent.
- j. Such other information as may be relevant or secured.

22. SELECTION/REJECTION OF OPTIONS:

The City of Orlando reserves the right to select/reject options which are bid, based on price and other considerations as deemed to be in the best interests of the City.

23. MULTIPLE AWARDS:

The City reserves the right in its sole discretion after evaluation of all responsive bids, to award the work described herein to more than one responsive and responsible bidder. In such cases where an award is made to more than one responsive and responsible bidder, the City shall apportion the work among the various primary, secondary and alternate providers in such manner and at such time as it deems appropriate under the circumstances in its sole discretion and no minimum amount or proportion of work is guaranteed to any single provider or class of providers irrespective of such provider's designation as primary, secondary or alternate.

24. CONTINGENT FEES:

The bidder warrants that no City official or employee was paid a fee, commission, gift, or other consideration contingent upon receipt of an award for the services and/or supplies specified herein.

25. IRREVOCABLE OFFER:

The submission of a bid shall constitute an irrevocable offer to the City by the bidder for a period of ninety (90) days from the date of bid opening to provide the goods and services set forth in this solicitation upon the terms, conditions, and provisions of this solicitation, at the pricing set forth in the bid.

26. PRICING AND ORDERING:

The City will issue purchase orders directly to the awarded bidder for the purchase of supplies and materials. The awarded bidder shall honor these orders in accordance with the terms and conditions of the solicitation and their pricing and discounts terms as listed in their bid submittal. Unless otherwise specified, the awarded bidder shall stock sufficient quantities of supplies to meet the requirements of the City on an "as-needed" basis within seventy-two (72) hours after being notified of such requirements by the City.

27. RETURN OF MERCHANDISE:

All items delivered must meet the Specifications herein. Items delivered not as specified will be returned at no expense by the City of Orlando. The City may return, for full credit, any unused items

received which fail to meet the city's performance standards. Replacement items meeting Specifications must be submitted within a reasonable time after rejection of the non-conforming items. The supplier is to accept for full credit, any merchandise returned by the City within ninety (90) days from the delivery or pick up date. All merchandise to be acceptable for full credit is to be returned in a condition to allow for resale by the vendor and include reference to an applicable Vendor Invoice or

Packing List. Full credit is to include all costs paid by the City related to the subject merchandise as determined by the appropriate Vendor Invoice or Packing List.

28. RESERVED:

29. RIGHT TO AUDIT RECORDS:

The City shall be entitled to audit the books and records of a Contractor or any subcontractor to the extent that such books and records relate to the performance of the contract or any subcontract. The Contractor and its subcontractors shall retain and maintain financial records and other records relating to the contract for a period of five (5) years from the date of final payment under the contract and by the subcontractor for a period of five (5) years from the date of final payment under the subcontract unless a shorter period is otherwise authorized in writing by the City. If any litigation, claim, negotiation, audit or other action involving the records has been started before the expiration of the 5-year period, the records must be retained until completion of the action and resolution of all issues which arise from it, or until the end of the regular 5-year period, whichever is later.

30. ASSIGNMENT:

The Contractor shall not sell, assign, or transfer any of its rights, duties, or obligations under the contract or under any purchase order issued pursuant to the contract, without the prior written consent of the City. The Contractor shall give full attention to the contract, to the faithful execution of the contract, and shall keep the same under its control.

31. FISCAL YEAR FUNDING APPROPRIATION:

a. Specified Period

Unless otherwise provided by law, a contract for supplies or services may be entered into for any period of time deemed to be in the best interest of the City provided funds are available for the first fiscal period at the time of contract. Payment and performance obligations for succeeding fiscal periods shall be subject to appropriation by City Council of funds therefor.

b. Cancellation Due to Unavailability of Funds in Succeeding Fiscal Periods

When funds are not appropriated or otherwise made available to support continuation of performance in a subsequent fiscal period, the contract shall be cancelled and the Contractor shall be entitled to reimbursement for the reasonable value of any nonrecurring cost incurred but not amortized in the price of the supplies or services delivered under the contract or otherwise recoverable.

32. APPLICABLE LAW AND APPEALS:

This solicitation is issued in accordance with and shall be governed by the provisions and procedures of Chapter 7 of the City of Orlando's Code which can be accessed online at: https://www.municode.com/library/fl/orlando/codes/code_of_ordinances?nodeId=TITIICICO_CH7PR

CO or by contacting the Procurement and Contracts Division. Any appeal of matters relating to this solicitation must be filed in accordance with the requirements of Chapter 7 of the City Code.

33. WARRANTY:

Bidder warrants that all equipment, materials and workmanship, whether furnished by bidder or its subcontractor(s), will comply with the City's specifications, drawings and other requirements. The Contractor warrants that the Work including equipment and materials provided shall conform to professional standards of care and practice in effect at the time the Work is performed, be of the highest quality, and be free from all faults, defects or errors. Whenever required by the specifications of the Invitation to Bid, the Contractor warrants that all equipment and materials provided shall be new. If the Contractor is notified in writing of a fault, deficiency or error in the Work provided within one (1) year from completion of the Work, the Contractor shall, at the City's option, either reperform such portions of the Work to correct such fault, defect or error, at no additional cost to the City, or refund to the City, the charge paid by the City, which is attributable to such portions of the faulty, defective or erroneous Work, including the costs for reperformance of the work provided by other Contractors.

34. CONTRACT AND ACCEPTANCE FORM:

In order to expedite the contracting process after bid opening and preclude delays occasioned by subsequent contract execution, bidders are requested to sign the Contract and Acceptance Form included with this solicitation and return the form with their bid. In the event that a successful bidder fails to properly execute the Contract and Acceptance Form or return said form (or, if necessary, a letter of authorization) with their bid, the City shall notify the bidder of the City's intent to make an award and the bidder shall submit such form properly executed (together with a letter of authorization, if necessary, as set forth below) within fifteen (15) calendar days of receipt of notice from the City. Unless such time is extended by the City, the failure of a bidder to submit a properly executed form (and, where necessary, a letter of authorization) within said time period shall be cause for cancellation of the intended award by the City in its sole discretion. In the event that an intended award is cancelled, the award may then be made to the next lowest responsive and responsible bidder or the City's Chief Procurement Officer may decline to make an award. Successful bidders who default in properly executing the Contract and Acceptance Form after notification of the City's intent to make an award shall forfeit any bid security to the City and are subject to suspension and/or debarment by the City. Unless otherwise agreed by the City in its sole discretion, the Contract and Acceptance form shall be executed and notarized as follows:

- a. If the bidder is a corporation, the Contract and Acceptance Form shall be signed by an authorized corporate officer (i.e., President, Vice President, C.E.O, or C.O.O.).
- b. If bidder is a Partnership, the Contract and Acceptance Form shall be signed by a general or managing partner.
- c. If the bidder is a limited liability company, the Contract and Acceptance Form shall be signed by a Manager or Managing Member having authority to bind the company.
- d. If bidder is a sole proprietorship, the owner shall sign the Contract and Acceptance Form.

If an aforementioned signatory is not available and a different authorized signatory executes the form, a letter of authorization reflecting the signatory's authority shall be submitted on the bidder's

stationery stating that the person who signed the form is duly authorized to enter into such contract on behalf of the bidder. Such letter of authorization shall be signed by one of the designated signatories above or such other representative as may be acceptable to the City. If you have any questions regarding the execution of the Contract and Acceptance Form, please contact the Procurement and Contracts Division at (407) 246-2291 for further clarification.

If a bid is accepted by the City of Orlando, the Contract and Acceptance Form will be executed by the City with respect to the items awarded and returned to the bidder evidencing the City's acceptance of the bid. No award shall be final, and no bidder shall have any entitlement to a contract or award, until such time as the City has executed the Contract and Acceptance Form. Upon execution by both parties, the Contract and Acceptance Form will constitute the formal written contract between the City of Orlando and the bidder. Any such resulting contract shall be non-exclusive, and the City may procure the goods and services listed in said contract from other sources. Within one (1) week of receipt of the fully executed Contract and Acceptance Form, an awarded bidder shall provide to the City with any required bonds, indemnities, and insurance certificate(s).

35. ACCEPTANCE OF MATERIALS/SERVICES:

The City will be deemed to have accepted the Work after the City's Chief Procurement Officer is notified by the using Department of its satisfaction that the Work is completed, in accordance with solicitation specifications. The Work under this Agreement shall remain the property of the Contractor until the City accepts such work. In the event the Work furnished under this Agreement is found to be defective or does not conform to the specifications, the City reserves the right to cancel the Agreement upon written notice to the Contractor.

36. CONTRACT ALTERATIONS:

No waiver, alterations, consent or modification of any of the provisions of the contract shall be binding unless in writing and signed by the City's Chief Procurement Officer or the CPO's designee.

37. INDEMNIFICATION:

The awarded bidder agrees to indemnify and hold harmless the City, its elected officials, officers, agents, and employees, from and against any and all liability, claims, damages, demands, expenses, fees, fines, penalties, suits, proceedings, actions, and cost of actions, including attorneys' fees for trial and on appeal, and for the preparation of same arising out of the Contractor's, its officers', agents', and employees' acts, or omissions associated with the contract.

38. INSURANCE:

- a. General Insurance Requirements. Within seven (7) days of receipt of a notification of intended award from the City, the Contractor shall provide the City with the required Certificate(s) of Insurance in a form(s) acceptable to the City. The Certificate(s) of Insurance shall demonstrate that the awarded bidder has coverage in accordance with the requirements set forth herein. Insurance coverage must be in force throughout the contract term. Should a Contractor fail to maintain insurance as required or to provide acceptable evidence of insurance within seven (7) days prior to the expiration date of an insurance policy, the City shall have the absolute right to terminate the contract without any further obligation to the Contractor. In such event the Contractor shall be liable for the entire additional cost of procuring performance plus the cost of performing the incomplete portion of the contract at the time of termination.

- b. Subcontractors. Unless expressly specified otherwise in this solicitation, a Contractor and its subcontractors of any tier will be required at their own expense to maintain in effect at all times during the performance of the work insurance coverages with limits not less than those set forth below with insurers and under forms of policies satisfactory to the City. It shall be the responsibility of the Contractor to maintain the required insurance coverages and to assure that subcontractors maintain required insurance coverages at all times. Failure of a Contractor to maintain adequate coverage shall not relieve it of any contractual responsibility or obligation. The requirements specified herein as to types, limits, and City's approval of insurance coverage to be maintained by a Contractor and its subcontractors are not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the Contractor and its subcontractors under a contract. Any insurance carried by the City that may be applicable shall be deemed to be excess insurance and the Contractor's insurance primary for all purposes despite any conflicting provision in the Contractor's policies to the contrary.
- c. Certificates of Insurance. Prior to commencing work at the jobsite, and as a condition precedent to the Contractor's and his subcontractors' initiation of performance, the Contractor and its subcontractors shall furnish the City with certificates of insurance as evidence that policies providing the required coverage and limits of insurance are in full force and effect. The certificates shall provide that any company issuing an insurance policy for the work under a contract shall provide not less than 30 days advance notice in writing to the City prior to cancellation, termination, or material change of any policy of insurance (except for notice of non-payment of premium for which not less than 10 days advance notice in writing shall be required). In addition, the Contractor shall immediately provide written notice to the City upon receipt of notice of cancellation of an insurance policy or a decision to terminate an insurance policy. All certificates of insurance shall clearly state that all applicable requirements have been satisfied, including certification that the policies are of the "occurrence" type. Certificates of insurance for a Contractor and subcontractor-furnished insurance and notices of any cancellations, terminations, or alterations of such policies shall be mailed to the Procurement and Contracts Division at the address set forth for delivery of the bid.
- d. Additional Insureds. All insurance coverages furnished under a contract except Workers' Compensation and Employers' Liability shall include the City and its officers, elected officials, and employees as additional insureds with respect to the activities of the Contractor and its subcontractors. The City shall not by reason of their inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.
- e. Waiver of Subrogation. The Contractor and its subcontractors shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the City, its officers, elected officials, agents and employees and against other Contractors and subcontractors.
- f. Types of Coverage to be Provided. The awarded Contractor (and its subcontractors to the same extent and on the same terms as set forth below for Contractor) shall maintain the following coverages and furnish the certificate(s) of insurance on the policies and renewals thereof which indicate that insurance coverage has been obtained meeting the requirements of the contract.
- (i) Workers' Compensation and Employer's Liability. This insurance shall protect the Contractor against all claims under applicable state workmen's compensation laws. The

Contractor shall also be protected against claims for injury, disease, or death of employees that, for any reason, may not fall within the provisions of a workmen's compensation law. This policy shall include an "all states" or "other states" endorsement. Exemption certificates shall be accepted if valid during the term of the contract, but only for those eligible corporate officers pursuant to Chapter 440 of the Florida Statutes. Proof of workers' compensation coverage must still be provided for all employees, sub-contractors not eligible for exemption. The liability limits shall not be less than:

Workers' compensation	Statutory
Employer's Liability	\$100,000 each occurrence

(ii) Comprehensive Automobile Liability. This insurance shall be written in comprehensive form and shall protect the Contractor and the additional insureds against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicle, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired. The liability limits shall not be less than:

Bodily injury and	\$1,000,000 combined single
Property damage	limit each occurrence

(iii) Commercial General Liability. This insurance shall be an "occurrence" type policy (excluding automobile liability) written in comprehensive form and shall protect the Contractor and the additional insureds against all claims arising from bodily injury, sickness, disease, or death of any person or damage to property of the City or others arising out of any act or omission of the Contractor or its agents, employees, or subcontractors. This policy shall also include protection against claims insured by usual bodily injury liability coverage, a "contractual liability" endorsement to insure the contractual liability assumed by the Contractor under its contract with the City, and "completed Operations and Products Liability" coverage (to remain in force for 2 years after final payment and subsequent to project completion). If the Contractor's work, or work under its direction, requires blasting, explosive conditions, or underground operations, the comprehensive general liability coverage shall contain no exclusion relative to blasting, explosion, collapse of structures, or damage to underground property. The liability limits shall not be less than:

Bodily injury and	\$1,000,000 combined single
Property damage	limit each occurrence

39. LICENSES:

Unless otherwise extended by the City, the awarded bidder will be required within fifteen (15) calendar days of award date, to provide any and all local, state, and federal licenses, approvals, permits, authorizations and/or certifications which would be applicable for all services to be rendered during the term of the contract.

40. AUTHORITY:

The City's Chief Procurement Officer or the CPO's written designee shall have authority to act on behalf of the City in matters related to the contract, including but not limited to the sending and receiving of any notices required hereunder.

41. PUBLIC ENTITY CRIMES:

A person or affiliate, as defined in §287.133 of the Florida Statutes, who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a bid to provide any goods or services to a public entity, may not submit a bid with a public entity for the construction or repair of a public building or a public work, may not submit a bid on leases of real property to a public entity, may not be awarded or perform work as a Contractor, supplier, subcontractor, or consultant under an agreement with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in §287.017 of the Florida Statutes for Category Two, for a period of 36 months from the date of being placed on the convicted vendor list.

42. PROMPT PAYMENT ACT:

Payment by the City shall be made in accordance with Sections 218.70. et sq. Florida Statutes, Local Government Prompt Payment Act.

1. Proper Invoice

For purposes of billing submission and payment procedures, a "proper invoice" by a Contractor, vendor or other invoicing party shall consist of at least all of the following:

- a. a description (including quantity) of the goods and/or services provided to the City (or a party on behalf of the City) reasonably sufficient to identify it (or them);
- b. the amount due, applicable discount(s), and the terms thereof;
- c. the full name of the vendor, Contractor or other party who is supplying the goods and/or services including a mailing address in case of a dispute and a mailing address for payment purposes (if they are different) and a telephone number;
- d. the Purchase Order or contract number as supplied by the City; and
- e. an identification by Division, Office or Department of the party(ies) to whom the goods were delivered or services provided.

All invoices, in order to be classified as a proper invoice, shall be delivered to Accounts Payable, Business and Financial Services Department, City of Orlando, 400 South Orange Avenue, P.O. Box 4990, Orlando, Florida, 32802-4990.

Finally, in addition to all of the above, in order to be considered a proper invoice, it must be based on a proper delivery, installation, or provision of the goods and/or services to and acceptance by the City (or party on behalf of the City); the vendor, Contractor or other party who is supplying the goods and/or services has otherwise complied with all of the contract's terms and conditions and is not in default of any of them; and if the contract requires any subcontractors or other parties to be bound by similar other "flow-down" requirements that those requirements have been complied with.

2. Dispute Resolution

In the event a dispute occurs between a Contractor, vendor or other invoicing party ("invoicing party") and the City concerning payment of an invoice, the City Department, Office or Division

which has the dispute along with a representative of the City's Procurement and Contracts Division and the invoicing party shall meet to consider the disputed issues. The invoicing party shall provide to the City such material and information as the City may reasonably require. Any such procedure shall be initiated by either party notifying the other in writing of a dispute and stating with specificity its nature. This procedure shall commence not later than forty-five (45) days, and be resolved not later than sixty (60) days, after the date on which the proper invoice was received by the City. Any decision by the City's Chief Procurement Officer shall constitute the final decision of the City regarding these matters and shall be communicated in writing to the invoicing party within three business days after such decision. If no decision is rendered within the time period as set out above, then a decision against the invoicing party shall be deemed to have been issued.

43. PURCHASING AGREEMENTS WITH OTHER GOVERNMENT AGENCIES:

At the option of the awarded vendor, the submission of any bid in response to this Invitation for Bid constitutes a bid made under the same terms and conditions, for the same contract price, to other governmental agencies including the State of Florida and its agencies, political subdivisions, counties and cities. Each governmental agency desiring to accept these bids, and make an award thereof, shall do so independently of any other governmental agency. Each agency shall be responsible for its own purchases and each shall be liable only for materials ordered and received by it and no agency assumes any liability by virtue of this bid.

44. EQUIPMENT:

The Contractor is responsible for all damage or loss by fire, theft or otherwise, to materials, tools, equipment, and consumables, left on City property by the Contractor.

45. TERMINATION FOR CONVENIENCE:

The City's Chief Procurement Officer may terminate any contract resulting from this solicitation for convenience with advance written notice to the Contractor. In the event of such a termination by the City, the City shall be liable for the payment of all work properly performed or materials provided prior to the effective date of termination and for all portions of materials, supplies, services, and facility orders which cannot be cancelled and were placed prior to the effective date of termination.

46. DRUG-FREE WORKPLACE CERTIFICATION:

By submitting a bid in response to this Invitation for Bids, you are certifying that your company is a drug-free workplace in accordance with Florida Statute §287.087.

47. AMERICANS WITH DISABILITIES ACT:

Persons with disabilities needing a special accommodation to participate in this proceeding should contact the Procurement and Contracts Division, City Hall at One City Commons, 400 South Orange Avenue, Orlando, Florida 32801 telephone (407) 246-2291, not later than seven (7) days prior to the date on which the accommodation is requested.

48. PURCHASING CARD PROGRAM:

The City of Orlando uses the VISA Purchasing Card Program to streamline our procurement

process. In order to expedite payments to suppliers, The Bank of America VISA Purchasing Card and ePayable solution has been implemented to more effectively control our procurement activities

and to achieve a significant cost savings over the traditional paper, purchasing and payment system. As one of the City of Orlando's valued suppliers, your business may also achieve cost savings results by accepting the ePayables solution. Identified supplier benefits of this Program may include:

- Reduction of payment time
- Direct electronic deposit to your primary banking account
- Increase in working capital
- Elimination of invoicing
- Reduced collection efforts
- Enhanced corporate relationships
- Reduced billing costs
- Enhanced reporting
- Increased sales as a "Preferred Supplier"

Additionally, you will be able to grow your customer base by accepting purchasing cards from other corporate customers as well as all major credit cards, therefore, The City encourages all vendors to accept the VISA ePayable solution.

49. RECIPROCAL LOCAL PREFERENCE:

In the event the lowest responsive and responsible response to any Invitation for Bids or Request for Proposal is by a vendor whose principal place of business is in a city, county, or state which grants a preference for the procurement of such goods or services to a vendor whose principal place of business is in such area, then the City may award a preference to the (next) most responsive and responsible vendor having a principal place of business in the Metropolitan Statistical Area, (i.e., Orange, Seminole, Lake and Osceola Counties). Such preference shall be equal to the preference granted by the area in which the lowest responsive and responsible vendor has its principal place of business.

50. EMERGENCY SUPPORT:

It is hereby made a part of this Invitation for Bids that before, during and after a public emergency, disaster, hurricane, flood, or other acts of God, that the City of Orlando shall be provided goods and services on a first priority basis. It is vital and imperative that the citizens of the City are protected from any emergency situation which threatens public health and safety, as determined by the City. Contractor agrees to provide, rent, sell, or lease all goods and services required by the City on a first priority basis. The City expects to pay a fair and reasonable price for all goods and services acquired before, during and after a disaster, emergency or hurricane. Contractor shall furnish a twenty-four (24) hour phone number in the event of such an emergency.

51. SUBCONTRACTORS:

The Contractor shall perform all of its obligations and functions under the contract by means of its own employees, or by a duly qualified subcontractor, which is approved in advance by the City. In the

event a subcontractor is employed, the Contractor shall continuously monitor the subcontractor's performance, shall remain fully responsible to insure that the subcontractor performs as required and itself perform or remedy any obligations or functions, which the subcontractor fails to perform properly.

52. BID PRICES:

Unless otherwise specified, Bid Prices must include all costs (labor, overhead, materials) and profit to perform the work specified in this Invitation for Bids. Bid prices shall remain firm for the entire contract period unless otherwise specified or changed by an Amendment. At each renewal period, price increases or decreases may be considered, provided they are reasonable and acceptable to the City. Any Amendment must be in writing and signed by both parties.

53. GOVERNING LAW / VENUE:

The contract is deemed to be under and shall be governed by, and construed according to, the laws of the State of Florida. Contractor shall comply with all applicable federal, state, and local laws in the performance of work under the Contract. To the extent applicable, Contractor shall comply with Florida public records laws, including Sections 119.0701(2)(a) through (d) of the Florida Statutes. Any litigation arising out of this contract shall be commenced in the State and Federal Courts of Orange County, Florida.

54. RECYCLED CONTENT:

In support of the Florida Waste Management Law, bidders are encouraged to supply with their bid, any information available regarding recycled material content in the products bid. The City is particularly interested in the type of recycled material used (such as paper, plastic, glass, metal, etc.); the percentage of recycled material contained in the product and the cost and product performance impact of increasing the percentage of recycled content. The City is requesting that bidders provide detailed information regarding any known or potential recycled material content in the product that may be extracted and recycled after the product has served its intended purpose, on the Bidder's Questionnaire as provided in this solicitation.

55. LIVING WAGE POLICY:

As set forth in City Policy and Procedure 161.3 (for a copy, contact Procurement at 407.246.2291). Covered Service Contractors, as well as their subcontractors (first tier only), shall pay to all of their employees providing Covered Services pursuant to a contract with the City, a living wage for the time spent providing services to the City. (This provision does not include general administrative personnel unless they are assigned to a City project). "Living wage" means compensation for employment of not less than \$8.50 per hour for straight time, exclusive of FICA, unemployment taxes, and workers compensation insurance and employee benefits. Necessary payroll documentation shall be provided to confirm compliance with this provision or the service Contractor shall allow the City to audit (at service Contractor's place of business) its payroll records to determine if compliance has been achieved. Failure to comply with the provision may result in termination of the contract and/or preclusion from future City contracts at the sole option of the City. This provision shall apply to all bid and Proposal awards for Covered Services, which involve City expenditures that exceed \$100,000.00 per year. More particularly, this provision shall apply to single and multiple award agreements for Covered Services regardless of the initial value of the

award whenever City expenditures exceed \$100,000.00 in any one contract year. As for multiple award contracts (contract award which will be divided among several Contractors), at the point when the City has expended \$100,000.00 on that contract in any one-contract year, regardless of whether such expenditure was to one Contractor or several Contractors, then the living wage provision shall apply to all Contractors who are a party to that award. For those contracts whose initial value was less than \$100,000.00 but exceeded \$100,000.00 prior to the end of the contract term, this provision will be applicable to that contract in the next quarter. To further clarify, the Living Wage policy does not apply to part time employees, or the part time employees of all subcontractors. Furthermore, the workers of temporary employment agencies are not covered by the City's Living Wage Policy.

56. ORDER OF PRECEDENCE:

This solicitation shall be included and incorporated in the purchase order or contract resulting from this solicitation. The purchase order or contract, including any exhibits attached thereto, contains all the terms and conditions agreed upon by the parties. No other contract, oral or otherwise, regarding the subject matter of the contract, shall be deemed to exist or to bind either party hereto. Unless otherwise expressly provided in the purchase order or contract, in the event of any conflict between the terms of the contract or purchase order, the City's solicitation, and the vendor's response, the order of precedence shall be the contract or purchase order, followed by the solicitation, and then the response to the solicitation.

57. PATENTS AND COPYRIGHTS:

The Contractor shall pay all royalties and assume all costs arising from the use of any invention, design, process, materials, equipment, product or device in performance of the Work, which is the subject of patent rights or copyrights. Contractor shall, at its own expense, hold harmless and defend the City against any claim, suit or proceeding brought against the City which is based upon a claim, whether rightful or otherwise, that the Work, or any part thereof, furnished under the contract, constitutes an infringement of any patent or copyright of the United States. The Contractor shall pay all damages and costs awarded against the City.

58. TERMINATION FOR DEFAULT:

The performance of Work under the contract may be terminated by the City's Chief Procurement Officer, in whole or in part, in writing, whenever the Chief Procurement Officer shall determine that the Contractor has failed to meet the performance requirements of the contract. The Chief Procurement Officer has a right to terminate for default if the Contractor fails to make delivery of the supplies or perform the Work, or if the Contractor fails to perform the Work within the time specified in the contract, or if the Contractor fails to perform any other provisions of the contract. Notwithstanding the preceding, nothing herein shall be deemed to preclude the Chief Procurement Officer in the CPO's sole discretion on a case by case basis from providing the Contractor with written notice and a reasonable opportunity to cure the default prior to termination.

Failure of a Contractor to deliver or perform the required Work within the time specified, or within a reasonable time as determined by the Chief Procurement Officer or failure to make replacements of rejected articles or Work when so requested, immediately or as directed by the Chief Procurement Officer, shall constitute authority for the Chief Procurement Officer to purchase in the open market articles or Work of comparable grade to replace the articles or Work rejected, not delivered, or not completed. On all such purchases, the Contractor or his surety, shall reimburse the City, within a

reasonable time specified by the Chief Procurement Officer, for any expense incurred in excess of the contract prices. Such purchases shall be deducted from contract quantities or work. Should public necessity demand it, the City reserves the right to utilize services or use and/or consume articles delivered which are substandard in quality, subject to an adjustment in price to be determined by the Chief Procurement Officer. The Contractor shall not be liable for any excess costs if acceptable evidence has been submitted to the Chief Procurement Officer that failure to perform the Work was due to causes beyond the control and without the fault or negligence of the Contractor. Nothing herein shall be deemed to preclude the City's exercise of any other rights or the City's pursuit of any other remedies that it may have herein or under law or in equity, including but not limited to any right of the City to terminate the contract for convenience.

59. TIME OF COMPLETION:

The parties understand and agree that time is of the essence in the performance of the contract. The Contractor or City, respectively, shall not be liable for any loss or damage, resulting from any delay or failure to perform its contractual obligations within the time specified, due to acts of God, actions or regulations by any governmental entity or representative, strikes or other labor trouble, fire, embargoes, or other transportation delays, damage to or destruction in whole or in part, of equipment or manufacturing plant, lack of or ability to obtain raw materials, labor, fuel or supplies for any reason including default of suppliers, or any other causes, contingencies or circumstances not subject to the Contractor's or City's control, respectively, whether of a similar or dissimilar nature, which prevent or hinder the performance of the Contractor's or City's contractual obligations, respectively. Any such causes of delay, even though existing on the date of the Agreement or on the date of the start of Work, shall extend the time of the Contractor's or City's performance respectively, by the length of the delays occasioned thereby, including delays reasonably incident to the resumption of normal Work schedules. However, under such circumstances as described herein, the City's Chief Procurement Officer may at the CPO's discretion, cancel the contract for the convenience of the City. The Contractor agrees that all Work shall be executed regularly, diligently, and uninterrupted at such a rate of progress as will ensure full completion thereof within the time specified.

60. CORRECTION OF WORK:

The Contractor shall promptly correct all Work rejected by the City as faulty, defective, or failing to conform to the contract whether observed before or after substantial completion of the Work, and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work.

61. INFORMATION:

All information, data, designs, plans, drawings, and specifications furnished to or developed for the City by the Contractor or its employees, pursuant to the contract, shall be the sole property of the City and all rights therein are reserved by the City, except that the Contractor may disclose any such information to its corporate affiliates and their agents as necessary to perform the Work.

62. SAFETY MEASURES:

The Contractor shall take all necessary precautions for the safety of the City's and Contractor's employees and the general public and shall erect and properly maintain at all times all necessary vehicular and facility safeguards for the protection of the workmen and public. If necessary, the Contractor shall post signs warning against hazards in and around the work site.

63. EXTRA WORK:

The City, without invalidating the contract, may order changes in the Work within the general scope of the contract consisting of additions, deletions, or other revisions, the Agreement price and time being adjusted accordingly. All such changes in the Work shall be authorized by a written amendment to the contract, and shall be executed under the applicable conditions of the contract. If the Contractor plans to make a claim for an increase in the contract price or an extension in the contract schedule/term, it shall first give the City written notice within ten (10) calendar days after the occurrence of the event giving rise to such a claim. This written notice shall be given by the Contractor to the City, and a written approval secured from the using Department and the City's Chief Procurement Officer, before proceeding to execute the Work, except in an emergency endangering life or property, in which case the Contractor shall immediately proceed. No claim for extra work will be considered valid by the City unless first submitted in writing.

64. FAMILIARITY WITH THE WORK:

The Contractor acknowledges full understanding of the extent and character of the Work required. The City will not be responsible for any alleged misunderstanding of the Work to be furnished or completed, or any misunderstanding of conditions surrounding the performance thereof. It is understood that the execution of the contract by the Contractor serves as his stated commitment to fulfill all the conditions referred to in the contract.

65. TITLE AND RISK OF LOSS:

The title and risk of loss to the Work shall pass from the Contractor to the City upon the City's final acceptance of the Work.

66. TRADE NAMES:

In cases where an item is identified by a manufacturer's name, trade name, catalog number, or reference, it is understood that the bidder proposes to furnish the item so identified and does not propose to furnish an "EQUAL" unless the proposed "EQUAL" is definitely indicated therein by the bidder. The reference to a name brand is intended to be descriptive but not restrictive and only to indicate to the prospective bidder articles that will be satisfactory. Bids on other makes and catalogs will be considered provided each bidder clearly states in his bid or proposal exactly what he proposes to furnish and forwards with his bid a cut illustration or other descriptive matter which will clearly indicate the character of the article covered by his bid. The City hereby reserves the right to approve as an equal, or to reject as not being equal, any article the bidder proposes to furnish which contains major or minor variations from the specification requirements but may comply substantially therewith. If no particular brand, model, or make is specified and if no data is required to be submitted with the bid, the successful contractor after award and before manufacturer or shipment may be required to submit working drawings or detailed descriptive data sufficient to enable the City to judge if such requirement of the specification is being complied with.

67. FEDERAL, STATE, AND LOCAL RULES / APPROVALS:

The Contractor shall comply with all applicable federal, state and local laws, ordinances, rules and regulations pertaining to the performance of Work under this Agreement. The Contractor is to procure all permits, licenses, and certificates, or any such approvals of plans or specifications as may be required by federal, state and local laws, ordinances, rules, and regulations, for the proper execution and completion of the Work under this Agreement.

68. CLEAN WORK AREA:

The Contractor shall at all times, keep the Work area free from accumulation of waste materials or rubbish caused by his operations, and promptly remove any such materials to an approved disposal location.

69. MISCELLANEOUS PROVISIONS:

By submitting a bid, the bidder shall be deemed to have certified that the contract is made without prior understanding, agreement or connection with any corporation, firm or person who submitted bids for the work covered by the contract and is in all respects fair and without collusion or fraud. Bidder further warrants and certifies that they are authorized to enter into the contract and to execute same on behalf of the Contractor as the act of the said Contractor. The contract, including any Exhibits thereto, contains all the terms and conditions agreed upon by the parties. No other agreements, oral or otherwise, regarding the subject matter of the contract shall be deemed to exist or to bind either party thereto. If any section, sentence, clause, phrase, provision, or other portion of the contract is, for any reason, held invalid or unconstitutional by a court or other body of competent jurisdiction, such portion shall be deemed a separate, distinct, and independent provision and such holding shall not affect the validity of the remaining portions of the contract. The contract is solely for the benefit of the parties to the contract and no causes of action shall accrue upon or by reason thereof to or for the benefit of any third parties.

The City's Chief Procurement Officer or written designee shall have authority to act on behalf of the City in matters related to the contract, including but not limited to the sending and receiving of any notices required hereunder.



FORMS AND SUBMITTAL DOCUMENTS

ELECTRONIC BID PRICING FORM(S) INSTRUCTIONS

This Solicitation uses an Electronic Bid Price Form. You may download the Microsoft Excel spreadsheet from eSupplier, or you may receive a disc from the Procurement and Contracts Division at no cost to you.

Complete the Electronic Bid Price Form using Microsoft Excel. Insert your **Vendor Name, City, State and Zip** in the fields located at the top of the form (in yellow). The Electronic Bid Price Form has been designed to allow the vendor to insert data into the appropriate unlocked fields. These fields are labeled Part No., Manufacturer, and Firm Unit Price. For convenience, the Electronic Bid Price Form will automatically calculate and total. If you are submitting a “no bid” item or have an item that is “no charge” to the City, put a **zero (0)** in that field. Do not put “no bid”, “no charge” or N/A in that field.

Once complete, “save as” the Electronic Bid Price Form on a blank CD or flash drive (that you provide). **Return Electronic Bid Price Form and one (1) hard copy of your completed Bid Price Form together with your completed Invitation for Bid submittal** in a sealed envelope, by the due date and time specified herein. Again, ensure your **Vendor Name, City, State and Zip** are included on both the Microsoft Excel spreadsheet and on the front of the envelope that you submit to the City. Be sure to save a copy for yourself as well.

If you need further assistance in obtaining the Electronic Bid Price Form, you may contact the Procurement and Contracts Division at (407) 246-2291 and we would be more than happy to assist you.

BIDDER'S CERTIFICATION FORM:

I have carefully examined the Invitation for Bids, Instructions to bidders, General, Standard and Special Conditions, Specifications, Contract and Acceptance Form and any other documents accompanying or made a part of this Invitation for Bids.

I hereby propose to furnish the goods or services specified in the Invitation for Bids at the prices or rates quoted in my bid. I agree that my bid will remain firm for a period of up to ninety (90) days in order to allow the City adequate time to evaluate the bids.

I agree to abide by all conditions of this bid and understand that a background investigation may be conducted by the Orlando Police Department prior to award.

I certify that all information contained in this bid is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this bid on behalf of the bidder as its act and deed and that the vendor/contractor is ready, willing and able to perform if awarded the bid.

I certify, under oath, that this bid is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a bid for the same product or service. I further certify that no officer, employee or agent of the City of Orlando or of any other Proposer has a financial interest in this bid. I further certify that the undersigned executed this Bidder's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

NAME OF BUSINESS

BY: _____
SIGNATURE

NAME & TITLE, TYPED OR PRINTED

MAILING ADDRESS

CITY, STATE, ZIP CODE

() _____
TELEPHONE NUMBER

() _____
FAX NUMBER

E-MAIL ADDRESS

State of _____
County of _____

Sworn to (or affirmed) and subscribed before me
this ____ day of _____, 20__, by
_____.

Signature of Notary

Notary Public, State of _____

Personally Known

-OR-

Produced Identification _____

Type: _____

Company Tax ID # _____
(The City only requires Company Tax ID numbers. The City is not requesting individual social security numbers.)

CONTRACT AND ACCEPTANCE FORM FOR SOLICITATION NO. IFB16-0007

Upon execution of this contract below by the City of Orlando ("City"), the undersigned hereby agrees to provide all goods and services set forth in its bid in response to the above referenced solicitation ("Solicitation") in accordance with, and subject to, all terms, conditions, and provisions of the Solicitation at the prices set forth in the undersigned's bid for the items and work awarded to it by the City. This Contract and Acceptance Form together with the (i) Solicitation, including all addenda, and (ii) the undersigned's bid in response to the Solicitation, including all schedules and forms submitted with the bid, all of which are hereby incorporated herein by this reference, shall constitute the formal written contract between the City and the undersigned.

SIGNATURE

State of _____
County of _____

NAME & TITLE, TYPED OR PRINTED

Sworn to (or affirmed) and subscribed before me
this ____ day of _____, 20____, by

NAME OF BUSINESS

Signature of Notary

MAILING ADDRESS

Notary Public, State of _____

CITY, STATE, ZIP CODE

Personally Known (circle if applicable)

PHONE: (____) _____

-OR-

Produced Identification : _____

FAX: (____) _____

Type of Identification: _____

E-MAIL: _____

.....
FOR USE BY THE CITY OF ORLANDO ONLY

This contract is awarded to the party listed above as a: Primary Supplier: _____ Secondary Supplier: _____

This contract is for: All Item Numbers: _____ or Item Numbers: _____

INITIAL CONTRACT TERM: _____ to _____

ACCEPTANCE:

CITY OF ORLANDO, FLORIDA

APPROVED AS TO FORM AND LEGALITY
for the use and reliance of the
City of Orlando, Florida, only.

By: _____
Chief Procurement Officer

Assistant City Attorney
ORLANDO, FLORIDA

DAVID BILLINGSLEY, CPSM, C.P.M.

Date: _____, 2016

Date: _____, 2016

BIDDER’S QUESTIONNAIRE:

The following questionnaire is to be completed by the bidder and provided with its bid submittal. If a question is not applicable, so indicate by writing “N/A”.

1. COMPANY NAME: _____
 Address of Principal Place of Business: _____

 City/State/Zip: _____
 Phone: _____ Fax: _____
 Name of primary Contact : _____ Email: _____

2. TYPE OF ORGANIZATION:

_____ Sole Proprietorship _____ Partnership _____ Non-Profit
 _____ Joint Venture _____ Corporation _____ Other: _____

State of Formation: _____ Federal ID # _____ DUNS # _____
 (The City only requires a Federal Tax ID Number, not a Social Security number.)

3. EMERGENCY CONTACT PERSON: _____
 Phone: _____ Fax: _____ Cell: _____

4. INSURANCE COMPANY NAME: _____

Agent Contact: _____ Phone: _____

5. EXPERIENCE:

A. Years in business: _____
 B. Years in business under this name: _____
 C. Years performing this type of work: _____

6. SUBCONTRACTORS - for informational purposes only: If bidder intends to use subcontractors, please provide the information below. All subcontractors listed remain subject to approval by the City.

Name of subcontractors to be utilized and type of work:

Name	Type of Work	M/WBE City Certified? (Y or N)	VBE Certified? (Y or N)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

7. LOCAL SERVICE FACILITY, IF APPLICABLE:

A. Name of local service center: _____

B. Address of local service center: _____

C. County local service center is located in: _____

D. Contact: _____ Telephone number: _____

8. RECYCLED CONTENT:

A. Percentage of recycled material contained in the product: _____%

B. Is your product packaged/shipped in material containing recycled content? Yes _____ No _____

C. Is your product recyclable after it has reached its intended end use? Yes _____ No _____

9. REFERENCES:

Bidder shall submit as a part of their Bid submittal, a minimum of three (3) customer references for similar products which your firm has provided within the last five (5) years.

Reference #1:

Name: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Contact: _____

E-mail: _____

Reference #2:

Name: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Contact: _____

E-mail: _____

Reference #3:

Name: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Contact: _____

E-mail: _____

Reference #4:

Name: _____

Address: _____

Telephone No.: _____ Fax No.: _____

Contact: _____

E-mail: _____

MINORITY/WOMEN OWNED BUSINESS ENTERPRISE PARTICIPATION FORM:

Chapter 57, Article II, Minority Business Enterprise (MBE), and Article III, Women-Owned Business Enterprise (WBE) of the Orlando City Code, establishes goals of 18% (MBE) and 6% (WBE), respectively, of the City's annual monetary value of contracts and subcontracts for supplies, services and construction to be awarded to Minority and Women-Owned Business Enterprises (MWBE).

For further information regarding this program, please refer to Chapter 57 of the Code of the City of Orlando or contact:

Minority Business Enterprise
City Hall at One City Commons
400 South Orange Avenue - 5th Floor
Orlando, Florida 32801
(407) 246-2623

If your company is currently certified, please enter the certification number and the expiration date in spaces provided below or submit a copy of the certificate received from the City stating that your company is certified by the City as a Minority/Women-owned Business Enterprise:

Business Name: _____

Certification Number: _____

Expiration Date: _____

There shall be no third party beneficiaries of the Minority Business Enterprise or Women-Owned Business Enterprise provisions of this contract. The City of Orlando shall have the exclusive means of enforcement of the MBE/WBE Ordinance and contract terms. No right of action for non-signatories of the contract is intended or implied. The City of Orlando is the sole judge of compliance. All solicitations and submittals awarded will be evaluated in accordance with Chapter 7 and Chapter 57, Articles II and III.

In order for a bidder to receive credit for MBE/WBE certification, the firm must be certified with the City of Orlando MBE/WBE Office on or before the date set for submittal of bids.

VETERAN BUSINESS ENTERPRISE PARTICIPATION FORM

In order to foster economic development and business opportunities, promote the growth and development of local businesses, and rectify the economic disadvantages of service-disabled veterans and wartime veterans who have made extraordinary sacrifices on behalf of the nation, the City of Orlando has adopted a Veteran Business Enterprise (“VBE”) Preference. For further information regarding this program, please refer to Chapter 7 of the Code of the City of Orlando.

In order for a bidder to receive credit for VBE certification for this solicitation, the bidder must have its principal place of business in the Metropolitan Statistical Area (i.e. Orange, Lake, Seminole or Osceola Counties) and be a certified veteran business enterprise by the State of Florida Department of Management Services as set forth in Section 295.187 of the Florida Statutes as of the date set for submittal of bids.

If your company is currently certified, please enter the certification number and the expiration date in spaces provided below or submit a copy of the certificate received from the State of Florida Department of Management Services stating that your company is certified as a veteran business enterprise:

Business Name: _____

Certification Number: _____

Expiration Date: _____

There shall be no third party beneficiaries of the Veteran Business Enterprise Preference provisions of this solicitation or resulting contract. The City of Orlando shall have the exclusive means of enforcement of the Veteran Business Enterprise Preference Ordinance and any contract terms. No right of action for non-signatories of the contract is intended or implied. The City of Orlando is the sole judge of compliance. All solicitations and submittals awarded will be evaluated in accordance with Chapter 7 of the Code of the City of Orlando.

ADDENDUM ACKNOWLEDGMENT FORM:

The undersigned acknowledges receipt of the following addenda to the Documents (Give number and date of each):

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Addendum No. _____ Dated _____

Failure to submit acknowledgment of any Addendum that affects the Bid prices is considered a major irregularity and will be cause for rejection of the bid.

Company

Signature

Title

**"NO BID" RESPONSE
TO
INVITATION FOR BIDS**

Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

If your firm is unable to submit a bid at this time, would you please provide the information requested in the space provided below and return to:

City of Orlando
Procurement and Contracts Division
400 South Orange Avenue, Fourth Floor
Orlando, Florida 32801

We have received Invitation for Bids No. **IFB16-0007**, opening on **January 7, 2016**, at **2:00 p.m., Local Time, City of Orlando, FL, on 2th Floor, Agenda Conference Room.**

Reason for not bidding: _____

BY:

Signature

Name & Title, Typed or Printed

Company Name