



INVITATION FOR BID

IFB # 44-11-12

Cleaning & CCTV Inspection of Sanitary Sewer Lines

RESPONSES ARE DUE NO LATER THAN

Tuesday, August 14, 2012 at 3:00 PM (Local Time)

AT

**CITY OF NORTH MIAMI
OFFICE OF THE CITY CLERK
CITY HALL, 1ST FLOOR
776 NE 125TH STREET
NORTH MIAMI, FL 33161-4116**

The responsibility for submitting a response to this solicitation at the Office of the City Clerk on or before the stated time and date will be solely and strictly the responsibility of the proposer. The City of North Miami will in no way be responsible for delays caused by the United States mail delivery or caused by any other occurrence.

Copies of this IFB Document may be obtained by contacting DemandStar by Oniva at www.demandstar.com or calling toll free 1-800-711-1712 and request Document No. 44-11-12

Contact Person: Ruby Crenshaw-Johnson
Email: rcrenshaw@northmiamifl.gov | Phone: (305) 895-9886 | Fax: (305) 895-1015



INVITATION FOR BID

The City of North Miami (City) is seeking sealed bids from licensed General Contractors, to furnish all labor, equipment, materials and expertise as required for the Cleaning & Closed-Caption TV (CCTV) Inspection of Sanitary Sewer Lines in the City of North Miami, Florida.

BID SUBMISSION

Please submit an original bid and two (2) copies in response to this Invitation for Bid (IFB). The bids are to be submitted in a sealed envelope bearing the name of the proposer, and the address as well as the title of the IFB no later than 3:00 P.M. local time **Tuesday, August 14, 2012** at which time they will be opened and read in the Council Chambers by the Procurement Director. Bids received after this time will not be considered and no time extensions will be permitted. Address your proposal to City of North Miami, Office of the City Clerk, 776 N E 125th Street, North Miami, Florida 33161. Please clearly mark bids:

IFB # 44-11-12

Cleaning & CCTV Inspection of Sanitary Sewer Lines

A 5% Bid Bond and 100% Performance Bond is a requirement of this bid.

The City's tentative schedule for this Invitation to Bid is as follows:

Issue Date:	July 17, 2012
Opening of Bids:	August 14, 2012
Pre-bid	July 31, 2012
Cut- off Date for Questions:	August 9, 2012
Bid Review:	August 17-21, 2012
Award / Council Approval:	TBD

The City reserves the right to delay or modify scheduled dates and will notify proposers of all changes in scheduled dates.

Copies of this Bid Document may be obtained by contacting DemandStar by Oniva at www.demandstar.com or calling toll free 1-800-711-1712 and request Document No. 44-11-12 or may be purchased for a non-refundable fee of \$100.00 for a hard copy from the Purchasing Department, 776 N E 125th Street, North Miami, Florida 33161.

FOR INFORMATION

For information on this Invitation for Bid, contact the Purchasing Department, (305) 893-6511 ext. 12131.

PRE-BID CONFERENCE (NON MANDATORY)

A pre-bid conference will be held on **Tuesday, July 31, 2012 at 2:00 PM** at North Miami City Hall 776 N.E. 125th Street North Miami, FL 33161; City Council Chambers to discuss the special conditions and specifications included within this solicitation.

Vendors are requested to bring this solicitation document to the conference, as additional copies may not be available.

ACCEPTANCE AND REJECTIONS

The City of North Miami reserves the right to reject any or all bids with or without cause; to waive any or all irregularities with regard to the specifications and to make the award to the firm offering the greatest advantage to the City.

Please be advised that the Bid(s) are issued subject to the City of North Miami Code Section 2-312 prohibiting certain communications with the City as completely specified in General Conditions of the Bid(s).

We look forward to your active participation in this solicitation.

Sincerely,

Ruby Crenshaw-Johnson

Ruby Crenshaw-Johnson
Purchasing Director

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All of our forms can now be found on our website at:
<http://www.northmiamifl.gov/business/purchasing/forms.asp>. These forms are fill –in forms.
Please ensure to include all applicable forms with your bid documents signed and notarized as required. Emailed forms will not be accepted.

Section 5	General Terms & Conditions
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Section 6	Attachments
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DIVISION 1 GENERAL REQUIREMENTS

01010	Summary of Work
01025	Measurement & Payment
01300	Submittals
01310	Construction Progress Schedules
01400	Quality Control
01510	Temporary Utilities
01560	Temporary Environmental Controls
01570	Traffic Regulations and Maintenance of Traffic
01600	Materials and Equipment
01700	Project Closeout
01740	Warranties

DIVISION 2 SITE WORK

02500	Restoration and Cleanup
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02730	Preparatory Cleaning and Root Removal
02750	Wastewater Flow Control
02752	Television Survey
02760	Service Lateral Television Survey

LOCATION MAPS

Section 1.0 SCOPE OF WORK

1.1 SCOPE OF WORK

The purpose of this bid is to establish a contract, by means of sealed bids, to furnish all labor, equipment, materials and expertise as required for the Cleaning & CCTV Inspection of Sanitary Sewer Lines in the City of North Miami, Florida.

1.2 MINIMUM QUALIFICATIONS

In order for a firm to be considered for award the firm must meet the following minimum qualifications;

- The firm and/or business entity must have been in business at the time of bidding, as evidenced by an occupational or business license issued by the state of Florida, for a minimum of five (5) years experience as a General Contractor in the state of Florida;
- To performing closed-circuit televising for condition assessment, the Bidder must also submit documentation that confirms their National Association of Sewer Service Companies Pipeline Assessment and Certification Program (NASSCO PACP) certification;
- Contractors shall furnish the names, addresses, and telephone numbers of a minimum of four (4) firms or government organizations for which the Contractor has met this requirement;
- The Bidder should perform at least 30% of the work with his/her own workforce. The bidder (General Contractor) must have a valid State of Florida General Contractor's License, CCTV Video Certification, MOT (Maintenance of Traffic) Certification by Florida's Department of Transportation, and OSHA (Occupational Safety and Health Administration) Certification.

1.3 SEWER CLEANING

Conduct cleaning of all sanitary sewer lines and sewer service laterals that are internally televised, approximately 120,000 linear feet of sanitary sewer lines and 80 sewer service laterals will be cleaned at various locations throughout the service area of the City of North Miami, Florida. The contractor shall be paid for actual footage cleaned based on reasonable methods of documentation in order to verify the actual amount of material removed. The City's representative shall be present if heavy cleaning is required in order to verify the amount and payment for said item.

All of the identified sanitary sewer lines require comprehensive cleaning which is the complete removal of debris, including roots, by standard hydraulic or mechanical methods, as field conditions warrant. For sanitary sewer lines 15-inch or larger in diameter cleaning requirements are to be three slow passes.

1.3.1 DEBRIS DISPOSAL

The contractor shall be responsible for disposal of the sewer cleaning debris at a location to be approved and authorized by the City. The City will provide as agreed a location for debris disposal. Any recording, documentation, sampling,

analysis, and reporting of debris disposal will be the responsibility of the contractor and not the City. Any additional costs thereof will be incidental to the unit costs included in this bid. The contractor will be responsible for the transportation of the debris to the approved and authorized disposal facility as provided by the City. The City shall require the transport and disposal of the debris to be documented in an approved transport ticket book. The contractor will submit the appropriate copies of the trip tickets to the City at a minimum, once a week.

1.3.2 LODGED CLEANING EQUIPMENT

Cost of removing cleaning equipment that becomes lodged in a sewer line shall be the sole responsibility of the contractor. The City will not be responsible, in any manner, for excavating the contractors cleaning equipment. Responsibility and cost for the removal of such equipment will be agreed to between the contractor and the City. Should cleaning equipment become lodged the contractor will immediately notify the City. Any further communications, however, regarding the removal of such equipment will be through the City.

1.3.3 MOT PERMITS

The contractor shall be responsible for obtaining all state and local permits for MOT.

1.3.4 WATER USAGE

Water usage will be provided by the City.

1.4 TELEVISION INSPECTION

Sewer service laterals shall be internally televised by the contractor. The City shall provide a list of line segments and sewer service laterals to be televised.

1.4.1 INSPECTION RECORDS

Contractor shall enter all inspection results on to standard NASSCO forms approved by the City. Location records of the sanitary sewers inspected shall be kept and maintained by the contractor digitally in a computer system approved by the City. All televised line segments and sewer service laterals shall be noted on video with the appropriate upstream and downstream identification numbers, and GPS coordinates, the appropriate starting manhole number, direction of travel, distance from starting manhole, appropriate pipe size to be visually recorded by measurement. The location records shall clearly show the stationing location of each observation in relation to the beginning manhole during the inspection. Unusual conditions, infiltration (active or inactive) roots, storm sewer connections, broken pipe, presence of scale and corrosion, and other discernible features will be recorded and a copy of such records will be supplied to the City. Observations shall be recorded by the contractor in an approved digital delivery format such as a removable hard drive, CD ROM or DVD, used for delivery of CCTV, inspection records shall indexed listing in order by line segment all inspection records contained on it. Hard copies of the inspection reports shall also be submitted to the City with the digital data. The digital information shall contain multiple video inspection records and files that store each line segment as a unique digital record. Each of these unique digital records, i.e. files, shall be

named by starting manhole identification number for that inspection record. Combining multiple segments on one form or digital record is not permitted

1.4.2 DIGITAL VIDEO

The contractor shall provide a digital video file in a Moving Picture Experts Group MPEG format of the entire line segment inspected. These digital video files will be named by the starting manhole identification number and must include intelligible audio descriptions in English of each observation, including the location of the line segment at the same time that the inspection is performed. As a minimum, the video file shall display manhole numbers and footage at all times. If during TV inspection, a manhole is encountered that is not shown on the maps or listings, the distance meter shall be reset to zero and the onscreen display shall be edited to reflect the new segment.

1.4.3 LINE OBSTRUCTIONS

If, during the television inspection, a line obstruction is encountered, contractor shall attempt a reverse set-up. All attempted reverse set-ups shall be incidental to CCTV inspection. The contractor shall be paid for actual footage televised.

1.4.3.1 LODGED CCTV EQUIPMENT

Cost of removing CCTV equipment that becomes lodged in a sewer line shall be the sole responsibility of the contractor. The City will not be responsible, in any manner, for excavating contractor's television equipment. Responsibility and cost for the removal of such equipment will be agreed to between the contractor and the City. Should CCTV equipment become lodged the contractor will immediately notify the City.

1.5 BY-PASS PLUMBING

In order to maintain wastewater flows during an actual sewer line blockage, the contractor shall provide equipment and personnel to bypass wastewater flows around the line being cleaned and/or televised without incident of backups or overflows.

1.6 EMERGENCY CLEAN-UP

A written emergency response plan will be submitted to City by the contractor before any work is performed. The response plan must be approved by the City before the contractor is authorized to perform any cleaning and CCTV work. Approval of the Emergency Response Plan does not relieve the contractor from its responsibility to protect the health and safety of the surrounding community. If, during cleaning and/or CCTV inspection, either by normal entry or by reverse set-up, flooding, spillage, or backup, damage to public or private property occurs, the contractor will take immediate responsibility to prevent further flooding spillage or back-up. In the event of an emergency situation, the contractor will notify the City immediately. Actual cost of the clean-up and/or remediation, because of negligence on the part of the contractor, will be the responsibility of the contractor. Where pre-existing conditions exist such as faulty, inadequate, or defective design, the contractor will not be responsible for equipment removal, remediation, or repair work associated with the pre-existing condition. Specific situations that qualify as pre-existing conditions will be as agreed to between the City and contractor during the project kick-off meeting.

1.7 ON-SITE SUPERVISION

The contractor shall provide a local superintendent at all times work is in progress. The superintendent will maintain a local cellular telephone number at which the superintendent can be reached at all times while work is under way.

1.8 WEEKLY NOTICES

The contractor will provide weekly notices to the City by facsimile or e-mail before 8:00 a.m. on each Monday of any week that cleaning and CCTV inspection activities occur. These notices will provide the working location(s) for that week. If necessary, and at the sole discretion of the City, the contractor will also notify business and commercial or residential customers of the contractor's operations the day prior to the performance of the work. These notices will provide the working location(s) for that day.

1.9 ADDITIONAL SPECIFICATIONS

Please see attachments in Section 6.0 for additional specifications.

SECTION 2.0 SPECIAL CONDITIONS

2.1 PURPOSE

The purpose of this bid is to establish a contract, by means of sealed bids, to furnish all labor, equipment, materials and expertise as required for the Cleaning & CCTV Inspection of Sanitary Sewer Lines in the City of North Miami, Florida.

The City further seeks a contractor that is a willing participant in the City's goal to develop subcontracting and employment opportunities to local businesses and residents as defined by Section 7-151 of the City Code.

The successful bidder will be required to submit, a Community Benefits Plan for approval by the City Manager. The Community Benefit plan shall be exclusive of the City of North Miami's Local Preference requirement, under Section 7-151 of the Code. The successful Bidder's Community Benefits Plan shall be incorporated into and shall become a part of the agreement entered into between the City and the selected Bidder (See Section 2.33).

2.2 TERM OF CONTRACT

The term of the contract shall be for a period of three (3) years with two (2) yearly renewals upon mutual agreement of both parties.

A contract shall be executed after award by the City of North Miami, Florida. Bidder(s) will be issued work orders to perform work in specified areas.

The City seeks a source of supply that will provide accurate and timely service. The awarded Bidder must adhere to the construction schedule. If, in the opinion of the Public Works Director, the successful Bidder fails at any time to meet the requirements herein, then the contract may be terminated upon written notice.

2.3 OPTION TO RENEW

The initial contract prices resultant from this solicitation shall remain firm and fixed for a three (3) year period from the contract's initial effective date. Prior to, or upon completion, of that initial term, the City shall have the option to renew this contract for an additional two (2) years on a year-to-year basis. Prior to completion of each exercised contract term, the City may consider an adjustment to price based on changes in the following pricing index: Consumer Price Increase, Urban Wage Earners, Miami / Ft Lauderdale.

Should the vendor decline the City's right to exercise the option period, the City may consider the vendor in default which decision may affect that vendor's eligibility for future contracts.

2.4 METHOD OF AWARD

Award of this bid may be made to the lowest responsive, responsible Bidder whose bid, qualifications and references demonstrates to be the most advantageous to the City of North Miami. The City reserves the right to award to more than one Bidder.

2.5 MINIMUM QUALIFICATIONS

In order for a firm to be considered for award the firm must meet the following minimum qualifications;

- The firm and/or business entity must have been in business at the time of bidding, as evidenced by an occupational or business license issued by the state of Florida, for a minimum of five (5) years experience as a General Contractor in the state of Florida;
- To performing closed-circuit televising for condition assessment, the Bidder must also submit documentation that confirms their National Association of Sewer Service Companies Pipeline Assessment and Certification Program (NASSCO PACP) certification;
- Contractors shall furnish the names, addresses, and telephone numbers of a minimum of four (4) firms or government organizations for which the Contractor has met this requirement;
- The Bidder should perform at least 30% of the work with his/her own workforce. The bidder (General Contractor) must have a valid State of Florida General Contractor's License, CCTV Video Certification, MOT (Maintenance of Traffic) Certification by Florida's Department of Transportation, and OSHA (Occupational Safety and Health Administration) Certification.

2.6 WORK ORDER ASSIGNMENT

Work orders shall be issued by the City on an as-needed basis. At the time each service requirement is identified, a detailed statement of work and project schedule will be provided to the Contractor. The Contractor will provide pricing based on the Price List submitted in Section 3.0.

No work is authorized until such time as a work order is fully executed by the City's Purchasing Department. Any work provided under a revision or amendment to a work order is not authorized until the amendment to a work order is not authorized until the amendment is fully executed by the City. The City anticipates a yearly service however, no minimum quantity of work orders is guaranteed.

2.7 UNIT PRICE

Bidder shall indicate the unit price for each item in the space provided on the Bid form: Price List, Section 3.0. The Contractor's price shall remain firm and fixed throughout the term of the initial contract. As projects arise on an as needed basis, the City shall issue a work order request and will reference the Bid Form: Price Sheet as new projects arise.

2.8 PAYMENT

Bidder shall provide City copies of all back-up documents with each payment request. Back-up documents shall include but not be limited to: Concrete delivery slips, packing slips for all materials, etc.

The City will pay the contract price minus any liquidated damages and/or other damages to the Bidder upon final completion and acceptance.

2.9 ADDITIONS/DELETIONS OF FACILITIES

Although this solicitation identifies specific facilities/areas to be serviced, it is hereby agreed and understood that additional facilities may be added/deleted to/for, this contract at the option of the City. When an addition to the contract is required, successful Bidder(s) under this contract shall be invited to submit price quotes for these new facilities. If these quotes are comparable with prices offered for similar services, the award(s) shall be made to the lowest responsible Bidder(s) meeting specifications in the best interest of the City.

2.10 PRICES SHALL BE FIXED AND FIRM FOR TERM OF CONTRACT

If the Bidder is awarded a contract under this bid solicitation, the prices quoted by the Bidder on the Bid Form shall remain fixed and firm during the term of this contract; provided, however, that the Bid may offer incentive discounts from this fixed price to the City at any time during the contractual term.

2.11 PRE-BID CONFERENCE (NON MANDATORY)

A highly recommended pre-bid conference will be held on **Tuesday, July 31, 2012 at 2:00 PM** in North Miami City Hall 776 N.E. 125th Street North Miami, FL 33161; City Council Chambers to discuss the special conditions and specifications included within this solicitation.

Vendors are requested to bring this solicitation document to the conference, as additional copies may not be available.

2.12 SITE INSPECTION

Prior to submitting the bid, Bidder is required to visit the site of the proposed work and to become familiar with any conditions which may in any manner, affect the work to be done or affect the equipment, materials and labor required. The Bidder is also required to examine carefully the specifications and be thoroughly informed regarding any and all conditions and requirements that may in any manner affect the work to be performed under the contract. No additional allowances will be made because of lack of knowledge of these conditions.

2.13 INSURANCE

Bidders must submit with their bid, proof of insurance meeting or exceeding the following requirements or a letter of intent to provide the following requirements if awarded the contract:

- Worker's Compensation Insurance – as required by law
- Employer's Liability Insurance - \$1,000,000 per occurrence
- Commercial General Liability Insurance - \$1,000,000 per person and \$1,000,000 per accident for bodily injury (occurrence based policy form preferred). This coverage shall include premises, operations, independent contractors, products-completed operations, personal & advertising injury and liability assumed under an insured contract.
- Professional Liability - \$1,000,000

- Business Automobile Liability Insurance (covering owned, non-owned & hired vehicles) - \$500,000 per occurrence, \$500,000 per accident for bodily injury and \$500,000 per accident for property damage

The required insurance coverage shall be issued by an insurance company authorized and licensed to do business in the State of Florida, with the minimum rating of B+ or better, in accordance with the latest edition of A.M. Best's Insurance Guide.

The City of North Miami shall be endorsed as an additional insured under the Commercial General Liability and Business Automobile Liability. The contractor will be responsible for paying on behalf of the additional insured any deductible or self insured retention. All policies must be endorsed to provide notice of cancellation to the City.

The successful Bidder(s) must submit, no later than ten (10) days after award and prior to commencement of any work, a Certificate of Insurance evidencing required coverage including "additional insured" designation to the City of North Miami.

2.14 CONTACT PERSON

For any additional information regarding the specifications and requirements of this bid, contact: Ruby Crenshaw-Johnson via facsimile: (305) 891-1015 or email at rcrenshaw@northmiamifl.gov.

2.15 BID CLARIFICATION

Any questions or clarifications concerning this Bid shall be submitted in writing by mail, facsimile or email to the Purchasing Department, 776 N.E. 125th Street, North Miami, Florida 33161, FAX: (305) 891-1015. The bid title/number shall be referenced on all correspondence. All questions must be received no later than **3:00 pm Thursday, August 9, 2012**. All responses to questions/clarifications will be sent to all prospective Bidders in the form of an addendum. **NO QUESTIONS WILL BE RECEIVED VERBALLY OR AFTER SAID DEADLINE.**

2.16 FAILURE TO PERFORM

If in the opinion of the City's representative, the Bidder refuses to begin work, improperly perform said work, or shall neglect or refuse to take out or rebuild such work, as shall have been rejected or as being defective or unsuitable, then City's representative may notify the Bidder to repair and replace work immediately or discontinue all work under this Contract.

If at any time the City's representative shall be of the opinion that the said work is being unnecessarily delayed and will not be finished within the prescribed time then City's representative may notify the Bidder to discontinue all work under this Contract. The Bidder shall immediately respect said notice and stop said work and cease to have any rights in the possession of the ground and shall forfeit this contract.

The City may thereupon look to the next lowest and responsive and responsible Bidder to complete the work or advertise for bids and let a contract for the uncompleted work in the same manner as was followed in the letting of this Contract and charge the cost

thereof to the original Bidder upon his contract. **Any excess cost arising there from over and above the original contract price shall be charged to the Bidder.**

2.17 BID/PERFORMANCE/PAYMENT BOND

All bids must be accompanied by a bid bond in the amount of 5% of the total bid submitted, to be in the form of a Cashier's Check, made payable to the City of North Miami; a bond written by a surety company authorized to do business in the State of Florida and shall comply with State Statute 287.0935. The bond, if in the form of a Cashier's Check, of all unsuccessful Bidders will be returned after bid award.

The **successful** Bidder will be required to furnish to the City of North Miami, a Performance Bond and Payment Bond for 100% of the total bid submitted, to be in the form of a Cashier's Check, made payable to the City of North Miami no later than ten (10) days after award; a bond written by a surety company authorized to do business in the State of Florida and shall comply with State Statute 287.0935; or an Irrevocable Letter of Credit. If the latter is chosen, it **must** be written on a bank located Miami-Dade County, be in the amount of the contract and should clearly and expressly state that it cannot be revoked until express written approval has been given by the City of North Miami. The City, to draw on same, would merely have to give written notice to the bank with a copy to the successful Bidder.

2.18 LIQUIDATED DAMAGES

N/A

2.19 CONDITIONS OF WORK

If property (public or private) is damaged performing work specified or is removed for the convenience of the work, it shall be repaired or replaced at the expense of the Bidder in a manner acceptable to the City of North Miami. Such property shall include but not limited to: roads, driveways (whether concrete or asphalt), approaches (whether concrete or asphalt), sod, walls, fences, water features, footings, underground utilities, shrubs, trees, etc.

Bidder shall submit to the Public Works Department for review, pictures or video of the work site(s) having pre-existing damage to roadways, driveways, approaches, sod, swales, adjacent improvements, etc. before beginning work. Failure to do so shall obligate the Bidder to make repairs per above paragraph.

Bidder shall notify the Parks and Recreation Department of any pre-existing damage to tree trunks or limbs before beginning work. Failure to do so shall obligate the Bidder for tree removal, and canopy replacement as per D.E.R.M. codes, ordinances and or resolutions.

2.20 PROTECTION

Bidder shall be solely responsible for pedestrian and vehicular safety and control within the work site and shall provide the necessary warning devices, barricades and ground personnel needed to give safety, protection and warning to persons and vehicular traffic within the area. All safety devices must have suitable and sufficient lighting for the prevention of accidents. All minimum safety standards required by Municipal, County, State and Federal ordinances and laws shall be strictly met by the Bidder.

2.21 HOURS OF WORK

Bidder will perform work Monday through Friday from 7:30 a.m. to 5:00 p.m., excluding holidays unless prior approval is given by the City. Hours beyond those allotted must be requested in writing and approved by the City of North Miami.

2.22 EMPLOYEES

Bidder shall be responsible for the appearance of all working personnel assigned to the project (clean and appropriately dressed at all times). Personnel must be able to supply proper identification at all times.

All employees of the Bidder shall be considered to be at all times the sole employees of the contactor, under the Bidder's sole direction, and not an employee or agent of the City of North Miami. The Bidder shall supply competent and physically capable employees and the City may require the Bidder to remove any employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose presence on City property is not in the best interest of the City. City shall not have any duty to implement or enforce such requirements.

Bidder shall assign an "On Duty" supervisor who speaks and reads English.

2.23 WARRANTY

The successful Bidder will be required to warranty all work performed for a minimum of one (1) year.

2.24 PERMITS

Bidder shall obtain all necessary permits. As to the City, the City will waive its permit fee, but is required to collect the \$.60/\$1,000 Miami-Dade county surcharge fee. Work to be performed is located on a County maintained road and Bidder must obtain permits from the County and other authorities having jurisdiction.

Bidder shall verify all locations of underground utilities with any and all applicable utility company prior to any work.

All work not stated herein shall be in compliance with the Florida Building Code and all other national, state, and local codes and regulations. All permits to be posted on job site.

All inspections shall be requested a minimum of twenty-four (24) hours prior to inspection. Inspection shall be required at the following stages of construction:

- a. Subgrade prep completion
- b. Sidewalk formed prior to pouring concrete
- c. Paving
- d. Final

2.25 PRODUCT INFORMATION

All Bidders must submit product information on the items they propose to furnish on this bid if different from products specified. Any bid not containing this information may be rejected for that reason.

2.26 EQUAL PRODUCT, MANUFACTURER'S PRODUCT

Where equal is proposed, bid must be accompanied by complete product information sheet. The City shall be the sole judge of the acceptability of the product in conformance with the Bid Specifications and its decision shall be final.

2.27 COMPLETE PROJECT REQUIRED

These specifications describe the various items or classes of work required, enumerating or defining the extent of same necessary, but failure to list any items or classes under scope of the several sections shall not relieve the Bidder from furnishing, installing or performing such work where required by any part of these specifications, or necessary to the satisfactory completion of the project.

2.28 BID SUBMITTAL

All bids submitted shall include the completed Bid Form and all required product information and any other items as indicated on the Bid Form. Bids will be considered "Non-Responsive" if the required information is not submitted by the date and time specified.

Before submitting bid, each Bidder shall make all investigations and examinations necessary to ascertain if any addendums were issued by the Purchasing Director.

2.29 BIDDER QUALIFICATIONS

In order for bids to be considered, Bidders must submit with their bid, evidence that they are qualified to satisfactorily perform the specified work. Evidence shall include all information necessary to certify that the Bidder; maintains a permanent place of business; has technical knowledge and practical experience in the type of equipment included in this scope of work; have available the organization and qualified manpower to do the work; has adequate financial status to meet the financial obligations incident to the work; and serviced similar type, size and complexity the project.

- The firm and/or business entity must have been in business at the time of bidding, as evidenced by an occupational or business license issued by the state of Florida, for a minimum of five (5) years experience as a General Contractor in the state of Florida;
- To performing closed-circuit televising for condition assessment, the Bidder must also submit documentation that confirms their National Association of Sewer Service Companies Pipeline Assessment and Certification Program (NASSCO PACP) certification;
- Contractors shall furnish the names, addresses, and telephone numbers of a minimum of four (4) firms or government organizations for which the Contractor has met this requirement;

- The Bidder should perform at least 30% of the work with his/her own workforce. The bidder (General Contractor) must have a valid State of Florida General Contractor's License, CCTV Video Certification, MOT (Maintenance of Traffic) Certification by Florida's Department of Transportation, and OSHA (Occupational Safety and Health Administration) Certification (Include copies of licenses and certifications).

2.30 REFERENCES AND SUB-CONTRACTORS

Each bid must be accompanied by a list of three (3) references of similar work, which shall include the name of the company, a contact person and the telephone number. NO BID WILL BE CONSIDERED WITHOUT THIS LIST. It is the responsibility of the Bidder to ascertain that the contact person will be responsive.

Bidders must complete "Form A-6 - Proposer's Disclosure of Subcontractors and Suppliers". Forms must be completed and returned with Bid package.

2.31 LATE BIDS

The City of North Miami cannot accept bids received after opening time and encourages early submittal.

2.32 EXCEPTIONS TO SPECIFICATIONS

Exceptions to the specifications shall be listed on the Bid Form and shall reference the section. Any exceptions to the General or Special Conditions shall be cause for the bid to be considered non-responsive.

2.33 BID FORMAT

To be considered a valid bid, Bidders must provide an **ORIGINAL, TWO (2) COPIES AND ONE (1) CD** of the Bid and the Bid Form and must be filled in completely in a sealed envelope in the following format:

- Section 1 Bidder's Qualifications & References (See Section 1.26)
- Section 2 Price Proposal
- Section 3 Required Forms
 - A-1 Public Entity Crimes Form
 - A-2 Non-Collusive Proposal Certificate
 - A-3 Local Business Certification (if applicable)
 - A-4 Questionnaire
 - A-5 Acknowledgement of Addenda
 - A-6 Proposer's Disclosure of Subcontractors and Suppliers
 - A-7 Insurance Requirements
 - A-9 Bid Bond

2.34 CHANGE ORDERS

After the issuance of a purchase order, the successful Bidder agrees if any change orders are necessary price will not exceed actual cost plus five percent (5%).

2.35 COMPLETE JOB

The Work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies, and manufactured articles and for furnishing all transportation and services, including fuel, power, water, and essential communications, and for the performance of all labor, work, or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The Work shall be complete and all work, materials, and services not expressly shown or as called for in the Contract Documents which may be necessary for the complete and proper construction of the Work in good faith shall be performed, furnished, and installed by the contractor as though originally so specified or shown, at no increase in cost to the City.

2.36 COMMUNITY BENEFITS PLAN

The Successful Bidder will be required to submit, a Community Benefits Plan for approval by the City Manager. The Community Benefit plan shall be exclusive of the City of North Miami's Local Preference requirement, under Section 7-151 of the Code.

The Successful Bidder will be required to document their experience and track record in delivering to a municipality, county or other local government agency a Community Benefits Plan. The Successful Bidder shall be required to demonstrate and provide to the City a proposed Community Benefit Plan which has identifiable and observable benefit to the community within the City. Bidders are encouraged to be creative in the development of a Community Benefit Plan and the types of benefits their plan is designed to provide. The City Manager, as the City's Chief Executive Officer, shall approve the final Community Benefits Plan proposed by the successful Bidder, as a precondition to the execution of any agreement. The Successful Bidder's Community Benefits Plan shall be incorporated into and shall become a part of the agreement entered into between the City and the selected Bidder.

End of Section 1

DELIVER TO:
City Of North Miami
City Clerk
776 N.E. 125th Street
North Miami, FL 33161-5654

**INVITATION TO BID
SECTION 3
BID SUBMITTAL FORMS**

**OPENING: 3:00 P.M.
August 14, 2012**

PLEASE QUOTE PRICES F.O.B. DESTINATION, LESS TAXES, DELIVERED IN
CITY OF NORTH MIAMI, FLORIDA

NOTE: City of North Miami is exempt from all taxes (Federal, State, and Local). Bid price should be less all taxes. Tax Exemption Certificate furnished upon request.

Issued by: City of North Miami
Purchasing Department

Date Issued:
July 17, 2012

Sealed bids are subject to the Terms and Conditions of this Invitation to Bid and the accompanying Bid Submittal. Such other contract provisions, specifications, drawings or other data as are attached or incorporated by reference in the Bid Submittal, will be received at the office of the Purchasing Department at the address shown above until the above stated time and date, and at that time, publicly opened for furnishing the supplies or services described in the accompanying Bid Submittal Requirement.

44-11-12

Cleaning & CCTV Inspection of Sanitary Sewer Lines

A Bid Deposit in the amount of **5%** of the total amount of the bid shall accompany all bids

A Performance Bond in the amount of **100%** of the total amount of the bid will be required upon execution of the contract by the successful bidder and City of North Miami

Procurement Agent:
Ruby Crenshaw-Johnson

Firm Name:

Commodity Code(s):
63112, 74502, 74504,
74511, 74514, 74521

**RETURN ONE ORIGINAL AND TWO COPIES OF BID SUBMITTAL PAGES AND
AFFIDAVITS**

**FAILURE TO COMPLETE THE CERTIFICATION REGARDING LOCAL PREFERENCE ON
PAGE 22 OF SECTION 3, BID SUBMITTAL FORM SHALL RENDER THE VENDOR
INELIGIBLE FOR LOCAL PREFERENCE**

**FAILURE TO SIGN PAGE 22 OF SECTION 3, BID SUBMITTAL, WILL RENDER YOUR BID
NON-RESPONSIVE**

BID FORM: PRICE LIST

Note: Quantities will vary based on assigned projects. Estimated quantities shall be specified as a Work Order on an as needed basis.

Item Number	Quantity	Unit	Description	Unit Price	Total Price
Sewer Main Cleaning and TV Inspections					
1.	1	LF	Sewer main cleaning and TV inspection (less than 8-inch sewer)		
2.	1	LF	Sewer main cleaning and TV inspection (8-inch and 10-inch sewer)		
3.	1	LF	Sewer main cleaning and TV inspection (12-inch and 15-inch sewer)		
4.	1	LF	Sewer main cleaning and TV inspection (18-inch, 21-inch and 24-inch sewer)		
5.	1	LF	Sewer main cleaning and TV inspection (30-inch and 36-inch sewer)		
TOTAL SEWER MAIN CLEANING & TV INSPECTION					
Sewer Lateral Cleaning and TV Inspections					
6.	1	EA	Sewer lateral (4-inch and 6-inch) cleaning and TV inspection from main, up to 30 feet of lateral		
7.	1	LF	Sewer lateral (4-inch and 6-inch) cleaning and TV inspection from main, per linear foot beyond 30 feet of lateral		
8.	1	EA	Sewer lateral (4-inch and 6-inch) cleaning and TV inspection from cleanout, up to 30 feet of lateral		
9.	1	LF	Sewer lateral (4-inch and 6-inch) cleaning and TV inspection from cleanout, per linear foot beyond 30 feet of lateral		
TOTAL SEWER LATERAL CLEANING AND TV INSPECTION					
Mechanical Removal					
10.	1	LF	Mechanical grease or root removal (less than 8-inch sewer)		
11.	1	LF	Mechanical grease or root removal (8-inch and 10-inch sewer)		
12.	1	LF	Mechanical grease or root removal (12-inch and 15-inch sewer)		
13.	1	LF	Mechanical grease or root removal (18-inch, 21-inch and 24-inch sewer)		
14.	1	LF	Mechanical grease or root removal (30-inch and 36-inch sewer)		
15.	1	LF	Mechanical tuberculation removal (less than 8-inch sewer)		
16.	1	LF	Mechanical tuberculation removal (8-inch and 10-inch sewer)		

Item Number	Quantity	Unit	Description	Unit Price	Total Price
17.	1	LF	Mechanical tuberculation removal (12-inch and 15-inch sewer)		
18.	1	LF	Mechanical tuberculation removal (18-inch, 21-inch and 24-inch sewer)		
19.	1	LF	Mechanical tuberculation removal (30-inch and 36-inch sewer)		
TOTAL MECHANICAL REMOVAL					
Bypass Pumping					
20.	1	DAY	Bypass pumping (less than 8-inch sewer)		
21.	1	DAY	Bypass pumping (8-inch and 10-inch sewer)		
22.	1	DAY	Bypass pumping (12-inch and 15-inch sewer)		
23.	1	DAY	Bypass pumping (18-inch, 21-inch and 24-inch sewer)		
24.	1	DAY	Bypass pumping (30-inch and 36-inch sewer)		
TOTAL BYPASS PUMPING					
Traffic Control					
25	1	HOUR	Traffic control - flagman, each		
26	1	EA	Traffic control - arrow board, each		
27	1	EA	Traffic control - barricade, each		
TOTAL TRAFFIC CONTROL					
GRAND TOTAL					

The price listed in the bid form shall include the total cost to complete the Work including but not limited to materials, labor, equipment, bonds, insurance, etc., as necessary to ensure proper delivery of services and product requested by the City of North Miami.

I understand and agree to be bound by the conditions contained in the IFB and shall conform with all requirements of the IFB.

FIRM NAME (Please Print)

AUTHORIZED SIGNATURE

TITLE

DATE

WORK ORDER NO.1

Please submit with your firms bid response pricing for Work Order No. 1. Award of this Invitation for Bid is based on the grand total of the Bid Form: Price List **and NOT** Work Order No. 1. **Prices must coincide with Price List**

Item Number	Estimated Quantities	Unit	Description	Unit Price	Extended Price
1	90,000	LF	Sewer main cleaning and TV inspection (8-inch and 10-inch sewer)		
2	6,000	LF	Sewer main cleaning and TV inspection (12-inch and 15-inch sewer)		
3	3,000	LF	Sewer main cleaning and TV inspection (18-inch and 24-inch sewer)		
4	10,000	LF	Mechanical grease or root removal (8-inch and 10-inch sewer)		
5	2,000	LF	Mechanical grease or root removal (12-inch and 15-inch sewer)		
6	1,000	LF	Mechanical grease or root removal (18-inch and 24-inch sewer)		
7	5	DAY	Bypass pumping (8-inch and 10-inch sewer)		
8	5	DAY	Bypass pumping (12-inch and 15-inch sewer)		
9	5	DAY	Bypass pumping (18-inch and 24-inch sewer)		
10	10	HR	Traffic control – flagman, hourly		
11	10	EA	Traffic control – arrow board, each		
12	10	EA	Traffic control – barricade, each		
			WORK ORDER NO. 1 TOTAL		

Reference Special Conditions, 2.6 Work Order Assignment regard the use of work orders throughout the term of the contract.

FIRM NAME (Please print)

OFFEROR SIGNATURE

TITLE

DATE

**BID SUBMITTAL FOR:
44-11-12**

FEIN NO. : ____/____-____/____/____/____/____/____/____

(Bidder Federal Employer Identification Number) If none, Bidder Social Security Number.

- LOCAL PREFERENCE CERTIFICATION:** For the purpose of this certification, a "local business" is a business located within the limits of City of North Miami that conforms with the provisions of Section 5.62 of the General Terms and Conditions of this solicitation and contributes to the economic development of the community in a verifiable and measurable way. Place a check here only if affirming bidder meets requirements for Local Preference. **Failure to complete this certification at this time (by checking the box above) shall render the Bidder ineligible for Local Preference.**

OR

- WORKFORCE LOCAL PREFERENCE CERTIFICATION:** The local preference may be applied to firms with a least ten percent (10%) of its total workforce residing within the geographical boundaries of the City. Place a check here only if affirming bidder meets the requirements for workforce Local Preference. **Failure to complete this certification at this time (by checking the box above) shall render the Bidder ineligible for Workforce Local Preference.**

OR

- SUBCONTRACTOR LOCAL PREFERENCE CERTIFICATION:** The local preference may be applied to firms that subcontract at least ten percent (10%) of the contractual amount of a City project to subcontractor who are physically located within the City of North Miami. **(Must complete forms A-3a Statement of Intent & A-3b Participation Schedule.)** Place a check here only if affirming bidder meets the requirements for Subcontractor Local Preference. **Failure to complete this certification at this time (by checking the box above) shall render the Bidder ineligible for Subcontractor Local Preference.**

All referenced forms can be found on the City's website at:

<http://www.northmiamifl.gov/departments/purchasing/forms.asp>

The undersigned bidder certifies that this bid is submitted in accordance with the bid specifications and conditions governing this bid, and that the bidder will accept any award(s) made to him as a result of this bid.

FIRM NAME: _____

STREET ADDRESS _____

CITY/STATE/ZIP CODE _____

TELEPHONE NO. _____ FAX NO. _____

E-MAIL _____

By signing this document the bidder agrees to all Terms and Conditions of this Solicitation and the resulting Contract.

AUTHORIZED SIGNATURE _____ Date _____
PERSON AUTHORIZED TO ENTER INTO CONTRACTUAL AGREEMENT

PRINT NAME OF AFFIANT _____

TITLE OF OFFICER _____

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF BIDDER TO BE BOUND BY THE TERMS OF ITS BIDS. FAILURE TO SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE BID NON-RESPONSIVE. THE CITY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY BID THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE BIDDER TO THE TERMS OF ITS OFFER.

SECTION IV

Contract Forms

The following forms are a requirement of this bid:

- A-1 Public Entity Crimes Form
- A-2 Non-Collusive Proposal Certificate
- A-3 Local Business Certification
- A-4 Questionnaire
- A-5 Acknowledgement of Addenda
- A-6 Proposer's Disclosure of Subcontractors and Suppliers
- A-7 Insurance Requirements
- A-9 Bid Bond
- A-10 Performance Bond (submitted at time of award)

All of our forms can now be found on our website at:

<http://www.northmiamifl.gov/business/purchasing/forms.asp>. These forms are fill –in forms. Please ensure to include all applicable forms with your bid documents signed and notarized as required. Emailed forms will not be accepted.

**SECTION 5.0
CITY OF NORTH MIAMI
GENERAL TERMS & CONDITIONS**

5.1 CITY OVERVIEW

North Miami, Florida (pop.60, 000) is a diverse community, ideally located midway between Miami and Fort Lauderdale and encompasses approximately 9.5 square miles. As the fifth largest city of Miami-Dade County, North Miami is committed to growth in its business community, while also focusing on issues such as education, the arts, leisure activities and sustainability to provide a viable future for our residents and preserve the City's rich history since its incorporation in 1926.

The City currently has 550+ employees and provides a wide range of governmental services including public safety / police services, parks and recreation, public works, water and sewer, planning, building and zoning, code enforcement, and community development to its citizens.

The City is a very large consumer of goods and services and the purchasing decisions of our employees and contractors can positively or negatively affect the environment. By including environmental considerations in our procurement decisions, along with our traditional concerns with price, performance and availability, we will remain fiscally responsible while promoting practices that improve public health and safety, reduce pollution, and conserve natural resources.

5.2 DEFINITIONS

The following terms, phrases, words and their derivations shall have the meaning given herein:

- a) **'Award'** means the acceptance of a bid, offer, or proposal by the City, pursuant to code.
- b) **'Awarded Bidder'** or **'Contractor'** means the Bidder or Bidders that receive any award of contract from the City as a result of this 'Invitation to Bid'
- c) **'Bidder'** means the person firm, entity or organization submitting a bid in response to this Invitation to Bid.
- d) **'Solicitation'** means an Invitation to Bid, Request for Proposal, Request for Quotation or any document used to obtain bids and proposals for the purposes of entering into a contract.

- e) **'Work', 'Services', 'Program', 'Project',** or **'Engagement'** to mean all matters and things that will require to be done by the Awarded Bidder(s) in accordance with the scope of work and all terms and conditions of this Invitation to Bid.
- f) **"Owner" or "Engineer"** shall mean the City of North Miami.

5.3 INVITATION

This Invitation for Bid is extended to firms and organizations that can provide the requirement(s) specified herein. The requirements presented in this Invitation for Bid represent the City's anticipated needs.

**5.4 PUBLIC ENTITY CRIME/ DISCRIMINATORY
VENDOR LIST**

The *Public Entity Crime Affidavit Form, (Form "A-1")* attached to this Invitation for Bid, includes documentation that shall be executed by an individual authorized to bind the Bidder. Any Bidder, or any of its suppliers, subcontractors, or consultants who shall provide goods and services which are intended to benefit the City, shall not be a convicted vendor or included on the discriminatory vendor list. If the Bidder or any affiliate of the Bidder has been convicted of a public entity crime or has been placed on the discriminatory vendor list, a period longer than 36 months must have passed since that person was placed on the convicted vendor or discriminatory vendor list. The Bidder further understands and accepts that any contract issued as a result of this Invitation for Bid shall be either voidable or subject to immediate termination by the City. In the event there is any misrepresentation or lack of compliance with the mandates of Section 287.133 or Section 287.134, respectively, Florida Statutes. The City in the event in such termination, shall not incur any liability to the Bidder for any goods, services or materials furnished.

5.5 LOBBYING

All Bidders, their agents and proposed sub consultants or subcontractors, are hereby placed on notice that neither the City Council Members, any evaluation committee members, employees of the City or employees of any other project sponsoring agencies shall be lobbied either individually or collectively regarding this Invitation for Bid. Bidders, their agents and proposed sub-consultants or

subcontractors are hereby placed on notice that they are prohibited from contacting any of these individuals for any purpose relating to the Invitation for Bid (e.g., general information, meetings of introduction, meals, etc.). Any bid submitted by a Bidder, its agents and potential sub consultants or subcontractors who violate these guidelines will not be considered for review. The Purchasing Director or Contract Specialist (identified on the cover page of this Invitation for Bid) shall be the only point of contact for questions and/or clarifications concerning the Invitation for Bid, the selection process and the negotiation and award procedures.

5.6 SUSPENSION OF CONTRACTORS FOR MATERIAL BREACH OF CITY CONTRACTS

Pursuant to Sec 7-160 (a), (b) & (c) upon recommendation by the Director of Purchasing may temporarily or permanently suspend contractors from doing business with the city whenever a contractor materially breaches its contract with the City. Any Bid submitted by a Bidder, its proposed subcontractors or sub consultants who are included on the City's Suspension List shall not be considered for review.

In addition, the principles of any Bidders or its proposed subcontractors or sub consultants shall not attempt to do business with the City under a different name or form a new legal entity in order to do business with the City while the principals of the Bidder or its proposed subcontractors or sub consultants remain on the Suspension List. In the event there is any intentional misrepresentation, the Bidder further understands and accepts that any contract issued as a result of this Invitation for Bid shall be subject to immediate termination for default and suspension procedures by the City. The City, in the event of such termination, shall not incur any liability to the Bidder for any goods, services or materials furnished.

5.7 POINTS OF CONTACT/ TIMETABLE FOR INQUIRES

Bidders shall contact the contract specialist, identified on the cover page of this Invitation for Bid, for all related inquiries. All Bidders' technical inquires shall be confirmed in writing either through the mail, via facsimile transmission or electronic mail.

Technical questions will not be entertained beyond the cut-off date indicated on the cover page so that

answers to substantive questions, in the form of written addenda, can be posted on the City's web site (www.northmiamifl.gov) and Demand Star by Onvia at www.demandstar.com or calling toll free 1-800-711-1712 and requesting the corresponding documents number.

5.8 ORAL REPRESENTATION

No oral representation made by the City staff shall be binding. The contents of this Invitation for Bid and any subsequent addenda issued by the City shall govern all aspects of this Invitation for Bid.

5.9 ADDENDA

If any revisions to the Invitation for Bid become necessary (other than changes to the deadline for Bid submission), the City will post written addenda on the City web's site at (www.northmiamifl.gov) and on Demand Star by Onvia at www.demandstar.com or calling toll free 1-800-711-1712 and requesting the corresponding document number at least seven (7) calendar days before the date scheduled for opening the Bids. The City may revise the deadline for Bid submission at any time prior to the date and time scheduled for opening the Bids. **It is the responsibility of all Bidders to ascertain whether any addenda have been issued before the Invitation for Bid deadline by either calling or checking the City's web site (www.northmiamifl.gov) and Demand Star and by Onvia at www.demandstar.com or calling toll free 1-800-711-1712 and requesting the corresponding document number. All addenda placed on the Demand Star can be down loaded.**

5.10 CANCELLATION OF THE INVITATION FOR BID

The City reserves the right to cancel this Invitation for Bid and/or re-advertise and re-solicit the requirements at any time when determined to be in the best interest of the city.

5.11 BID PROTEST

If a potential Bidder protest any provisions of the Invitation for Bid documents a written protest must be filed with the City Clerk within five (5) business days (excluding weekends and City observed holidays) prior to date set for opening of the bids. A written protest is considered filed when received by the City Clerk.

Any Bidder who files a formal written protest pursuant to Section 7-158 City Code, shall post with the city at the time of filing the formal written protest a filing fee in an amount equal to one percent (1%) of the amount of the bid or proposed contract, or one thousand dollars (\$1,000), whichever is less. Failure to file a notice of protest within the time prescribed in Section 7-158, City Code, or failure to post the filing fee within the time allowed, shall constitute a waiver of such Bidder's right to file a protest.

Notice of written protest along with the filing fee, shall be timely filed with the City Clerk of the City North Miami at 776 NE 125th Street, 1st Floor North Miami, FL 33161. The City will not accept receipt of any formal written protests filed at any location other than the City's Clerk's Office

5.12 DEVELOPMENT COSTS

Neither the City nor its representatives shall be liable for any expenses incurred in connection with the preparation, submission or presentation of a Bid in response to this Invitation for Bid. All information in the Bid shall be provided at no cost to the City.

5.13 TAX EXEMPT STATUS

The City is exempt from Florida Sales and Federal Excise taxes on direct purchase of tangible property.

5.14 BID SUBMISSION AND OPENING

All Bids shall be submitted in a sealed envelope by the deadline indicated on the cover page of this Invitation for Bid. The Bid shall identify the Bid number and title specified on the cover page of this Invitation for Bid. Reference information shall also be marked on the outside of the sealed envelope, including the Bidder's return address. The City assumes no responsibility for Bids not properly marked.

The City will not accept Bids delivered after the established deadline. If the Bid is delivered after the established deadline, a Bidder shall be deemed non-responsive to the Invitation for Bid requirements.

Receipts of a Bid by any City office, receptionist or personal other than the Clerk's Office will not constitute "delivery" as required by this Invitation for Bid. The City will not accept or consider Bids submitted via facsimile transmission. The public is welcome to attend the Bid opening.

5.15 ASSIGNMENT OF BIDS

A Bidder shall not transfer or assign its Bid to a third party following submission of a Bid to the City.

5.16 WITHDRAWAL OF BID

Bidders shall withdraw their submitted Bid by notifying the City either in writing or in person through an authorized representative at any time prior to the deadline. Individuals making the withdrawal shall provide evidence of serving as an authorized representative of the Bidder. Bids, once received, become the property of the City, and will not be returned to Bidders even when they are withdrawn from consideration.

Bids, once opened, shall not be withdrawn or modified except to the extent agreed to by the City during subsequent contract negotiation.

5.17 PUBLIC RECORDS AND EXEMPTIONS

Upon receipt, Bids become "public records" and shall be subject to public disclosure consistent with Chapter 119, Florida Statutes. Bidders shall invoke the exemptions to disclosure provided by law, in the Bid, by providing the specific statutory authority for the claimed exemption, identifying the data or other materials to be protected and stating the reasons why such exclusion from public disclosure is necessary. Bids will be made available for public inspection at the time the City posts notice of its decision or intended decision concerning contract awards, or ten (10) days after the Bid opening, whichever is earlier.

5.18 REJECTION OF BIDS

Pursuant to Section 7-136 of the City Code the City reserves the right to reject any and all Bids for reasons including, but not limited to, the following: (1) when such rejection is in the interests of the City; (2) if such Bid is deemed non-responsive; (3) if the Bidder is deemed non-responsible; or (4) if the Bid contains any materials irregularities. Minor irregularities contained in Bid will be waived by the City. A minor irregularity is a variation from the Invitation for Bid that does not affect the price of the contract nor does it give a Bidder an advantage or benefit not enjoyed by other Bidders and does not adversely impact the City.

5.19 CONE OF SILENCE / CONFLICT OF INTEREST AND CODE OF ETHICS

This Invitation for Bid is issued pursuant to the City of North Miami Code Section 7-193 which prohibits

certain types of communications: (a) A Cone of Silence shall be imposed upon each Invitation for Bid after the advertisement of said Invitation for Bid. At the time of imposition of the Cone of Silence, the director of the purchasing department or designee shall provide for public notice of the Cone of Silence. The director of the purchasing department shall issue a written notice thereof to the affected departments, file a copy of such a notice with the city clerk, with the copy thereof to each city council member, and shall include in any public solicitation for supplies or services a statement disclosing the requirements of this ordinance. Notwithstanding any other provision of this section, the imposition of a cone of silence on a particular Invitation for Bid shall not preclude purchasing staff from obtaining industry comment or performing market research provided all communication related thereto with a potential offeror, service provider, bidder, lobbyist, or consultant are in writing or are made at a duly noticed public meeting.

The ordinance does not apply to oral communications at pre-bid conference, oral presentations before selection committees, contract negotiations, public presentations made to the City Council during any duly noticed public meeting or communications in writing at any time with any City Council unless specifically prohibited by the applicable Invitation for Bid documents. A copy of all written communications must be filed with the City Clerk.

5.20 BUSINESS ENTITY REGISTRATION

The City of North Miami requires business entities to complete registration application before doing business with the City. Bidders need not register with the City to present a bid; however, the selected Bidder(s) must register prior to award of a contract as failure to register may result in the rejection of the bid. To register, contact the Purchasing Department at (305) 895-9886 or you may download the application (*revised 7/09*) from our website at www.northmiamifl.gov it is the responsibility of the business entity to update and renew its application concerning any changes such as new address, telephone number, commodities, etc. during the performance of any agreement obtained as a result of this Invitation for Bid.

5.21 SEALED BIDS:

Original copy of the Bid Form as well as any other pertinent documents must be returned in order for the Bid to be considered for award. All Bids are subject to the conditions specified herein and on the attached Special Conditions, Specifications and Bid Form.

The completed Bid must be submitted in a sealed envelope clearly marked with the Bid Title to the Office of the City Clerk of North Miami, Room 12, City Hall, 776 N.E.125th Street, North Miami, Florida 33161-5216 until 3:00 p.m., local time on date due.

5.22 EXECUTION OF BID:

The Bid must contain a manual signature of an authorized representative in the space provided on the Bid Form. Failure to properly sign Bid shall invalidate same and it shall NOT be considered for award. All Bids must be completed in pen or be typewritten. No erasures are permitted. If a correction is necessary draw a single line through the entered figure and enter the corrected figure above it. Corrections must be initialed by the person signing the Bid. Any illegible entries, pencil bids or corrections not initialed will not be tabulated. The original Bid conditions and specifications CANNOT be changed or altered in any way after being submitted to the City.

5.23 PRICES QUOTED:

Deduct trade discounts and quote firm net prices. Give both unit price and extended total, when requested. Prices must be stated in units of quantity specified in the Bid specifications. In case of discrepancy in computing the amount of the bid, the UNIT PRICE quoted will govern. All prices must be F.O.B. destination, freight prepaid (unless otherwise stated in special conditions). Award, if made, will be in accordance with terms and conditions stated herein. Each item must be proposed separately and no attempt is to be made to tie any item or items in with any other item or items. Cash or quantity discounts offered will not be a consideration in determination of award of Bid(s). All prices quoted shall be guaranteed for 60 days from bid date unless otherwise specified in Special Conditions.

5.24 MISTAKES:

Bidders are expected to examine the specifications, delivery schedules, bid prices and extensions and all

instructions pertaining to supplies and services. Failure to do so will be at the Bidder's risk.

5.25 UNDERWRITERS' LABORATORIES:

Unless otherwise stipulated in the Bid, all manufactured items and fabricated assemblies shall be U.L. listed or re-examination listing where such has been established by U.L. for the item(s) offered and furnished.

5.26 BID'S CONDITIONS:

The City reserves the right to waive irregularities in Bids or to reject all Bids or any part of any Bid deemed necessary for the best interest of the City of North Miami, Florida.

5.27 PRODUCTS, MATERIALS WITH RECYCLED CONTENT:

It is the intent and policy of the City of North Miami, Florida, that the needs of the City for products and materials be made using recycled contents whenever possible. Bidders must certify in writing the percentage of recycled content in the product or material. "Recycled content" means materials that have been recycled that are contained in the products or materials to be procured, including, but not limited to, paper, aluminum, glass and composted material. The minimum percentage of recycled content shall be twenty-five (25) percent of materials recovered from post consumer waste. The term does not include internally generated scrap that is commonly used in industrial or manufactured processes or waste or scrap purchased from another manufacturer who manufactures the same or a closely related product. The City may allow up to ten (10) percent price difference to a responsible Bidder who has certified in writing the above recycled content.

5.28 EQUIVALENTS:

If Bidder offers makes of equipment or brands of supplies other than those specified, it must be indicated in the Bid. Specific article(s) of equipment/supplies shall conform in quality, design and construction with all published claims of the manufacturer.

Brand Names: Catalog numbers, manufacturers' and brand names, when listed, are informational guides as to a standard of acceptable product quality level only and should not be construed as an endorsement or a product limitation of recognized

and legitimate manufacturers. Bidders shall formally substantiate and verify that product(s) offered conform with or exceed quality as listed in the specifications.

Bidder shall indicate on the Bid Form the manufacturers' name and number if proposing other than the specified brands, and shall indicate ANY deviation from the specifications as listed. **Other than specified items offered requires complete descriptive technical literature marked to indicate detail(s) conformance with specifications and must be included with the Bid. No bids will be considered without this data.**

Lacking any written indication of intent to quote an alternate brand or model number, the Bid will be considered as a Bid in complete compliance with the specifications as listed on the attached form.

5.29 NON-CONFORMANCE TO CONTRACT CONDITIONS:

Items may be tested for compliance with specifications. Any item delivered, not conforming to specifications, may be rejected and returned at Bidder's expense. These items and items not delivered as per delivery date in Bid and/or purchase order may be purchased on the open market. Any increase in cost may be charged against the Bidder. Any violation of these stipulations may also result in Bidder's Name being removed from the vendor list.

5.30 SAMPLES:

Samples of items, when required, must be furnished free of expense and, if not destroyed, will, upon request, be returned at the Bidder's expense. Bidders will be responsible for the removal of all samples furnished within (30) days after Bid opening. All samples will be disposed of after thirty (30) days. Each individual sample must be labeled with Bidder's name. Failure of Bidder to either deliver required samples or to clearly identify samples may be reason for rejection of the bid. Unless otherwise indicated, samples should be delivered to the Purchasing Department, 776 N.E. 125th Street, North Miami, Florida 33161.

5.31 DELIVERY:

Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days (in calendar days) required to make delivery after receipt of purchase order, in space provided.

Delivery time may become a basis for making an Award. Delivery shall be within the normal working hours of the City, Monday through Friday, excluding holidays.

5.32 INTERPRETATIONS:

Unless otherwise stated in the Bid, any questions concerning conditions and specifications should be submitted in writing to the Purchasing Director, 776 N.E. 125th Street, North Miami, FL 33161, facsimile or email.

5.33 BID OPENING:

Bids shall be opened and publicly read in the Council Chambers, 776 N.E. 125th Street, North Miami, Florida 33161 on the date and at the time specified on the Bid Form. All bids received after that time shall be returned, unopened.

5.34 INSPECTION, ACCEPTANCE & TITLE:

Inspection and acceptance will be destination unless otherwise provided. Title to/or risk of loss or damage to all items shall be the responsibility of the successful Bidder until acceptance by the City unless loss or damage result from negligence by the City. If the materials or services supplied to the City are found to be defective or not conform to specifications, the City reserves the right to cancel the order upon written notice to the seller and return product at Bidder's expense.

5.35 PAYMENT:

Payment will be made by the City after the items awarded to a Bidder have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. The City of North Miami complies with Florida Statute 218.70, Florida Prompt Payment Act. Prompt payment is made within forty-five (45) days of date on which proper invoicing is received for goods and services and twenty (20) business days for construction services.

5.36 DISPUTES:

In case of any doubt or difference of opinion as to the items to be furnished hereunder, the decision of the City shall be final and binding on both parties.

5.37 LEGAL REQUIREMENTS:

Federal, State, County and City laws, ordinances, rules and regulations that in any manner affect the

items covered herein apply. Lack of knowledge by the Bidder will in no way be a cause for relief from responsibility.

The individual executing this Bid on behalf of the Company warrant to the City that the Company is a Florida corporation duly constituted and authorized to do business in the State of Florida, is in good standing and that Company possesses all of the required licenses and certificates of competency required by the State of Florida and the County of Miami-Dade to provide the goods or perform the services herein described.

5.38 PATENTS & ROYALTIES:

The Bidder, without exception, shall indemnify and save harmless the City of North Miami, Florida and its employees from liability of any nature or kind, including cost and expenses for, or on account of, any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by The City of North Miami, Florida. If the Bidder uses any design, device or materials covered by letters, patent, or copyright, it is mutually understood and agreed, without exception, that the Bid prices shall include all royalties or cost arising from the use of such design, device, or materials in any way involved in providing the required goods or services.

5.39 OSHA:

The Bidder warrants that the product and services supplied to the City of North Miami, Florida shall conform in all respects to the standards set forth in the Occupational Safety and Health Act of 1970, as amended, and the failure to comply with this condition will be considered as a breach of contract. Any fines levied because of inadequacies to comply with these requirements shall be borne solely by the Bidder responsible for same.

5.40 SPECIAL CONDITIONS:

Any and all Special Conditions that may vary from these General Conditions shall have precedence.

5.41 ANTI-DISCRIMINATION:

The Bidder certifies compliance with the non-discrimination clause contained in Section 202, Executive Order 11246, as amended by Executive Order 11375, relative to equal employment opportunity for all persons without regard to race, color, religion, sex or national origin.

5.42 INSURANCE:

Bidders are required assume the full duty, obligation and expense of obtaining all necessary licenses, permits and insurance and assure all work complies with all Dade County and City of North Miami building requirements and the South Florida Building Code. The Bidder shall be liable for any damages or loss to the City occasioned by negligence of the Bidder (or agent) or any person the Bidder has designated in the completion of the contract as a result of the Bid.

5.43 BID BONDS, PERFORMANCE BONDS, CERTIFICATES OF INSURANCE:

Bid Bonds, when required, shall be submitted with the bid in the amount specified in Special Conditions. After acceptance of Bid, the City will notify the successful Bidder to submit a performance bond and certificate of insurance in the amount specified in Special Conditions.

5.44 DEFAULT/FAILURE TO PERFORM:

The City shall be the sole judge of nonperformance, which shall include any failure on the part of the successful Bidder to accept the Award, to furnish required documents, and/or to fulfill any portion of this contract within the time stipulated.

Upon default by the successful Bidder to meet any terms of this agreement, the City will notify the Bidder five (5) days (weekends and holidays excluded) to remedy the default. Failure on the contractor's part to correct the default within the required five (5) days shall result in the contract being terminated and upon the City notifying in writing the contractor of its intentions and the effective date of the termination. The following shall constitute default:

- A. Failure to perform the work required under the contract and/or within the time required or failing to use the subcontractors, entities and personnel as identified and set forth, and to the degree specified in the contract.
- B. Failure to begin the work under this Bid within the time specified.
- C. Failure to perform the work with sufficient workers and equipment or with sufficient materials to ensure timely completion.
- D. Neglecting or refusing to remove materials or perform new work where prior work has been rejected as non conforming with the terms of the contract.

- E. Becoming insolvent, being declared bankrupt, or committing act of bankruptcy or insolvency, or making an assignment renders the successful Bidder incapable of performing the work in accordance with and as required by the contract.
- F. Failure to comply with any of the terms of the contract in any material respect.

In the event of default of a contract, the successful Bidder shall pay all attorney's fees and court costs incurred in collecting any damages. The successful Bidder shall pay the City for any and all costs incurred in ensuing the completion of the project.

5.45 BILLING INSTRUCTIONS:

Invoices, unless otherwise indicated, must show purchase order numbers and shall be submitted in DUPLICATE to the City of North Miami, 776 N.E. 125th Street, North Miami, Florida 33161.

5.46 SUBSTITUTIONS:

The City of North Miami, Florida WILL NOT accept substitute shipments of any kind. Bidder(s) is expected to furnish the brand quoted in their bid once awarded. Any substitute shipments will be returned at the Bidder's expense.

5.47 FACILITIES:

The City reserves the right to inspect the Bidder's facilities at any time with prior notice.

5.48 BID TABULATIONS:

Bidders desiring a copy of the bid tabulation may request same by enclosing a self-addressed stamped envelope with the bid or may visit the City's website to view bid tabulations at www.northmiamifl.gov or Demand Star at www.demandstar.com

5.49 APPLICABLE LAW AND VENUE:

The law of the State of Florida shall govern the contract between the City of North Miami and the successful Bidder and any action shall be brought in Miami-Dade County, Florida.

5.50 CLARIFICATION AND ADDENDA TO BID SPECIFICATIONS:

If any person contemplating submitting a Bid under this Invitation for Bid is in doubt as to the true meaning of the specifications or other Bid documents or any part thereof, the Bidder must

submit to the City of North Miami Purchasing Director at least seven (7) calendar days prior to scheduled Bid opening, a request for clarification. All such requests for clarification must be made in writing and the person submitting the request will be responsible for its timely delivery.

Any interpretation of the Bid, if made, will be made only by Addendum duly issued by the City of North Miami Purchasing Director. The City shall issue an Informational Addendum if clarification or minimal changes are required. The City shall issue a Formal Addendum if substantial changes which impact the technical submission of Bids are required. A copy of such Addendum will be emailed to each Bidder receiving the Invitation for Bid. In the event of conflict with the original Contract Documents, Addendum shall govern all other Contract Documents to the extent specified. Subsequent addendum shall govern over prior addendum only to the extent specified.

5.51 AWARD OF CONTRACT:

- A. A contract may be awarded to the lowest responsive, responsible Bidder(s) whose Bid(s), conforming to the Invitation for Bid, is most advantageous to the City of North Miami. The lowest responsive, responsible Bidder(s) will be determined in conjunction with the method of award which is described in the Special Conditions. Tie bids will be decided as described in Special Conditions.
- B. The City shall award a contract to a Bidder through action taken by the City Council or the City Manager of the City of North Miami, Florida.
- C. The General Terms and Conditions, the Special Conditions, the Technical Specification, and the Bidder's Bid are collectively and integral part of the contract between the City of North Miami and the successful Bidder.
- D. While the City of North Miami may determine to award a contract to a Bidder(s) under this Invitation for Bid, said Award may be conditional on the subsequent submission of other documents as specified in the Special Conditions. The Bidder shall be in default of any conditional award if any of these

documents are not submitted in a timely manner and in the form required by the City. If the Bidder is in default, the City, through the Purchasing Director, will void its acceptance of the Bidder's offer and may determine to select the second lowest responsive, responsible Bidder or re-solicit Bids. The City may, at its sole option, seek monetary restitution from the defaulting Bidder as a result of damages or excess costs sustained and/or may prohibit the Bidder from submitting future Bids for a period of one year.

- E. The City reserves the right to exercise the option to renew a term contract of any successful Bidder(s) to a subsequent optional period; provided that such option is stipulated in the Special Conditions and is contained in any contract ultimately awarded in regard to this bid.
- F. The City reserves the right to automatically extend any contract for a maximum period not to exceed ninety (90) calendar days in order to provide City departments with continual service and supplies while a new contract is being solicited, evaluated and/or awarded, provided this is expressly made a part of any contract awarded in regard to this bid.

5.52 ASSIGNMENT:

The Bidder shall not assign, transfer, convey, or otherwise dispose of any contract, including any or all of its right, title, or interest therein, or his or its power to execute such contract to any person, company or corporation without prior written consent of the City of North Miami.

5.53 LAWS, PERMITS AND REGULATIONS:

The Bidder shall obtain and pay all licenses, permits and inspection fees as may be required; and shall comply with all laws, ordinances, regulations, building code requirements applicable to the goods or services contemplated herein.

5.54 OPTIONAL CONTRACT USAGE:

Other State agencies, and/or Governmental Entities in the State of Florida may purchase from the resulting contract, provided the Department of Management Services, Division of Purchasing, has certified its use to be cost effective and in the best interest of the State. Bidders shall sell these commodities or services certified by the Division to

the other State agencies and/or Governmental Entities in the State of Florida at the agencies' and/or entities option.

5.55 SPOT MARKET PURCHASES:

It is the intent of the City to purchase the goods or services specifically listed in this bid from the selected Bidder. However, items that are to be "Spot Market Purchased" may be purchased by other methods, i.e. Federal, State or local contracts.

5.56 INCENTIVES/DISINCENTIVES:

The City of North Miami has EXCLUDED incentive/disincentive for early completion provisions in the contract. Liquidated damages may apply for untimely delivery of goods or services.

5.57 NON-COLLUSION:

By submitting this bid, Bidder certifies that this offer is made without prior understanding, agreement, or connection with any corporation, firm or person submitting an offer for the same materials, services, supplies, or equipment and is in all respects fair and without collusion or fraud.

No premiums, rebates or gratuities are permitted, either with, prior to or after any delivery of material or provision of services. Any violation of this provision may result in the Contract cancellation, return of materials or discontinuation of services and the possible removal from the vendor bid list(s).

5.58 FLORIDA PUBLIC RECORDS ACT:

All material submitted regarding this bid becomes the property of the City. Bids may be reviewed by any person ten (10) days after the public opening. Bidders should take special note of this as it relates to any proprietary information that might be included in their offer.

Any resulting contract may be reviewed by any person after the contract has been executed by the City. The City has the right to use any or all information/material submitted in response to this bid and/or any resulting contract from same. Disqualification of a Bidder does not eliminate this right.

5.59 CONVICT PRODUCED MATERIAL

Materials produced after July 1, 1991, by convict labor may only be incorporated in a Federal-aid

highway construction project if such materials have been:

1. Produced by convicts who are on parole, supervised release, or probation from a prison or;
2. Produced in a qualified prison facility and the cumulative annual production amount of such materials for use in Federal-aid highway construction does not exceed the amount of such materials produced in such facility for use in Federal-aid highway construction during the 12-month period ending July 1, 1987. Qualified prison facility means any prison facility in which convicts, during the 12-month period ending July 1, 1987, produced materials for use in Federal-aid highway construction projects.[53 FR 1923, Jan. 25, 1988, as amended at 58 FR 38975, July 21, 1993] Item 26. Public Agencies in Competition (e) except in the case of a concession agreement, as defined in section 710.703 of this title, no public agency shall be permitted to bid in competition or to enter into subcontracts with private Bidders.

5.60 PROJECT RECORDS

City shall have the right to inspect and copy, at City's expense, the books and records and accounts of the awarded Bidder which relate in any way to the Project, and to any claim for additional compensation made by the Bidder, and to conduct an audit of the financial and accounting records of the Bidder which relate to the Project and to any claim for additional compensation made by the Bidder. Bidder shall retain and make available to City all such books and records and accounts, financial or otherwise, which relate to the Project and to any claim for a period of three (3) years following final completion of the Project. During the Project and the three (3) year period following final completion of the Project, the Bidder shall provide City access to its books and records upon seventy-two (72) hours written notice.

5.61 STANDARDIZED CHANGES

Contract documents shall be modified to reflect the requirements of 23 CFR 635.109. The changed conditions contract clauses shall be made part of, and incorporated in this project which has been approved under 23 U.S.C. 106.

**5.62 LOCAL PREFERENCE / 10% TOTAL
WORKFORCE CONSISTING OF NORTH MIAMI
RESIDENTS**

The evaluation of competitive bids is subject to Section 7-151 of the City Code which, except where contrary to federal and state law, or any other funding source requirements, provides that preference be given to local businesses. To satisfy this requirement, the Bidder shall affirm in writing its compliance with either of the following objective criteria as of the Bid submission date stated in the Invitation for Bid. A local business shall be defined as:

- a) A business that has a valid local business tax receipt, issued by City of North Miami at least one year prior to bid submission, that is appropriate for the goods, services or construction to be purchased; or
- b) A business that has a physical business address located within the limits of the City of North Miami from which the vendor operates or performs business. Post Office Boxes are not verifiable and shall not be used for the purpose of establishing said physical address; or
- c) A business has at least ten percent (10%) of its total workforce residing in the city prior to the city's issuance of the solicitation for supplies or services; or
- d) A business that subcontracts at least ten percent (10%) of the contractual amount of a City project to subcontractors who are physically located within the City of North Miami.

The preference is applied during the evaluation process. Bids received from local businesses are assigned a preference of ten (10) percent of the total price. (See Form A-3, A-3a & A-3b)

5.63 NON-EXCLUSIVITY

It is the intent of the City to enter into an agreement with the successful Bidder that will satisfy its needs as described herein. However, the City reserves the right as deemed in its best interest to perform, or cause to be performed, the work and services, or any portion thereof, herein described in any manner it sees fit, including but not limited to: award of other contracts, use of any contractor, or perform the work with its own employees.

5.64 TERMINATION FOR CONVENIENCE

The City, at its sole discretion, reserves the right to terminate this contract without cause upon thirty (30) days written notice. Upon receipt of such notice, the successful bidder(s) shall not incur any additional costs under this contract. The City shall be liable only for reasonable costs incurred by the successful Bidder(s) prior to the notice of termination. The City shall be the sole judge of "reasonable costs".

**END OF CITY OF NORTH MIAMI
GENERAL TERMS AND CONDITIONS**

SECTION VI

Attachments

SECTION 01010

SUMMARY OF WORK

PART 1 - GENERAL

1.01 GENERAL

- A. The Work to be performed under this Contract shall consist of furnishing all tools, equipment, materials, supplies, and manufactured articles and for furnishing all transportation and services, including fuel, power, water, and essential communications, and for the performance of all labor, work, or other operations required for the fulfillment of the Contract in strict accordance with the Contract Documents. The Work shall be complete and all work, materials, and services not expressly shown or as called for in the Contract Documents which may be necessary for the complete and proper construction of the Work in good faith shall be performed, furnished, and installed by the CONTRACTOR as though originally so specified or shown, at no increase in cost to the OWNER.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Project consists of furnishing all labor, materials and equipment for performing the following Work:
1. The OWNER desires to perform a television survey for portions of their sanitary sewer system. The television survey will be used by the OWNER to generate a list of recommended sanitary sewer rehabilitation project(s). The OWNER will issue work order(s) for specific line segments where the television survey shall occur. The Work may include the following work associated with the television survey:
 - a. Sanitary sewer main and lateral cleaning.
 - b. Sanitary sewer main and lateral televising.
 - c. Mechanical removal of roots and grease.
 - d. Mechanical tuberculation removal.
 - e. All work considered to be incidental to the aforementioned tasks.
- B. Prior to construction, the CONTRACTOR shall identify existing utilities. The CONTRACTOR will be responsible for the coordination of his work with the associated utility owner and permitting agencies having jurisdiction over the existing utilities or the associated work.

- C. The Work also includes providing temporary sanitary sewer service of service laterals bypass pumping or plugging, if needed, and other appurtenant and miscellaneous items and work for a completed project.
- D. Work shall be performed to ensure a minimum of traffic disruption or sewer down time as necessary, and work must be coordinated with affected residents and utility personnel. Whenever the property owners' use of the sanitary sewer must be interrupted by the Work, the CONTRACTOR shall notify the residents well in advance of the interruption. This notification shall be accomplished with door hanger notification cards to be placed at the addresses of affected customers. Property owners shall be informed when service interruption will take place and the approximate duration. This notice shall be provided a minimum of 24 hours in advance of commencement of service intrusion. The CONTRACTOR shall make every effort to minimize inconvenience to the public and property owners.
- E. The CONTRACTOR shall perform all work in strict accordance with all applicable OSHA Standards. Particular attention is drawn to those safety requirements involving man entry in confined spaces. Prior to entering manholes and other confined spaces the atmosphere shall be evaluated by the CONTRACTOR to determine the presence of toxic, flammable or explosive vapors or lack of oxygen in accordance with local, state, or federal safety regulations. CONTRACTOR shall follow all procedures outline by OSHA's Confined Space Entry requirements.
- F. The CONTRACTOR shall warrant to the OWNER that the equipment used on this Contract where covered by patents or license agreements is furnished in accordance with such agreements and that the prices included herein cover all applicable royalties and fees in accordance with such license agreements. The CONTRACTOR shall defend, indemnify and hold the OWNER harmless from and against any and all costs, loss, damage or expense arising out of or in any way connected with any claim of infringement of patent, trademark or violation of license agreement.
- G. As part of the work, the OWNER shall request a proposal for a television survey of a particular section of the sewer system. The proposal shall include a detailed cost proposal using the contract line items and a construction schedule showing the suggested time of completion. The suggested time of completion shall be reviewed by the OWNER to determine the total number of calendar days that will be allowed to fully complete the work. The CONTRACTOR shall not be permitted to start any construction until said schedule is submitted by issuance of a work order and a Notice to Proceed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01025

MEASUREMENT AND PAYMENT

PART 4 - GENERAL

4.01 WORK INCLUDED

- A. Payments to the CONTRACTOR shall be made on the basis of the Bid Proposal as full and complete payment for furnishing all materials, labor, tools and equipment, and for performing all operations necessary to complete the work included in the Contract Documents. Such compensation shall also include payments for any loss or damages arising directly or indirectly from the work, or from any discrepancies between the actual quantities of work and those shown in the Contract Documents.
- B. The prices stated in the Bid Proposal include all costs and expenses for taxes, labor, equipment, materials, commissions, transportation, charges and expenses, patent fees and royalties, labor for handling materials during inspection, together with any and all other costs and expenses for performing and completing the work as shown on the details and specified herein. The Basis of Payment for an item at the price shown in the Bid Proposal shall be in accordance with its description of the item in this Section and as related to the work specified. Unit prices will be applied to the actual quantities furnished and installed in conformance with the Contract Documents. The items listed below, refer to and are the same pay items listed in the Bid Proposal. They constitute all of the pay items for the completion of the work. No direct or separate payment will be made for providing miscellaneous temporary or accessory work, services, field offices, layout surveys, job signs, sanitary requirements, testing, safety devices, approval and record drawings, water supplies, power, maintenance of traffic, site preparation, removal of waste, site cleanup, watchmen, bonds, insurance, mobilization, demobilization, and any other requirements of the General Conditions. Compensation for all such services, equipment and materials shall be included in the prices stipulated for the unit pay items listed herein.
- C. The CONTRACTOR's attention is called to the fact that the quotations for the various items of work are intended to establish a total price for completing the work in its entirety. Should the CONTRACTOR feel that the cost for any item of work has not been established in the Bid Proposal or this Section, the cost for that Work shall be included in some other applicable Bid Item, so that the Proposal for the project reflects the total price for completing the work in its entirety. It is intended that all work required to complete this Contract will be included in the various items as described herein.
- D. In the event that repairs to laterals, mains, manholes, force mains, utilities, or any other public or private property are required due to damage caused by the CONTRACTOR's operations, the CONTRACTOR shall provide and employ all

necessary labor, equipment, and materials, at no additional cost, to complete such repairs in accordance with applicable provisions of these specifications.

- E. The OWNER will not provide any space or place to store materials for this project. No payment will be made for stored materials.

4.02 MEASUREMENT

- A. The quantities for payment under this Contract shall be determined by actual measurement of the completed items, in place, ready for service and accepted by the OWNER unless otherwise specified. The OWNER will witness all field measurements.
- B. When depths of cuts are indicated in the bid items, they shall be measured vertically from the existing grade at excavation point, paved or unpaved, to the pipe invert.
- C. The quantities stated in the Bid Proposal are approximate only and are intended to serve as a basis for the comparison of bids and to fix the approximate amount of the cost of the Project. The OWNER does not expressly or impliedly agree that the actual amount of the work to be done in the performance of the contract will correspond with the quantities in the Bid Proposal; the amount of work to be done may be more or less than the said quantities and may be increased or decreased by the OWNER as circumstances may require. The increase or decrease of any quantity shall not be regarded as grounds for an increase in the unit price or in the time allowed for the completion of the work. Although, if any quantity in the Bid is increased or decreased by 25% of the amount in the Bid Proposal form, or any item(s) or work is extended or increased by 25% of the amount in the Bid Proposal form, the OWNER retains the right to re-negotiate the unit price of said item(s).

4.03 CONTRACT DURATION

- A. As specified in the Form of Contract.

4.04 PERFORMANCE AND PAYMENT BONDS

- A. As specified in the Instructions to Bidders.

4.05 PAYMENT ITEMS

- A. Sewer main cleaning and TV inspection
 - 1. Sewer main cleaning and TV inspection (4-inch through 15-inch) (Items 1 to 3)
 - a. This item will be paid for at the unit price bid per foot of sewer cleaned and televised for inspection only. The unit price shall

provide full compensation for all work required to perform television inspection of sanitary sewer including, but not limited to, furnishing all labor, equipment and material for cleaning, flow isolation, TV inspection, and all incidentals related to sewer inspection. The products shall be acceptable to the ENGINEER or otherwise the CONTRACTOR shall re-televise the sewer line to the satisfaction of the ENGINEER.

- b. Cleaning and TV inspection performed to prepare for a repair or to document a completed repair are not considered separate pay items. Costs for such cleaning and TV inspection shall be included in the contract unit cost for each particular repair.

B. Sewer lateral cleaning and TV inspection

1. Sewer lateral cleaning and TV inspection from main (up to 25 feet) (Item 4)
 - a. This item of work will be measured and paid at the unit price per each of the laterals televised. Payment of the unit price per each will provide for complete compensation for furnishing all labor, equipment, tools, and materials for preparatory cleaning and televising of sanitary sewer service laterals, including all incidents such as traffic control, sewer plugging and sanding and recording the location on the pavement or grass and reflected on the reports.
2. Sewer lateral cleaning and TV inspection from main (beyond 25 feet) (Item 5)
 - a. This item of work will be measured and paid at the unit price per linear foot of the laterals televised in addition to Item 4. Payment of the unit price per linear foot will provide for complete compensation for furnishing all labor, equipment, tools, and materials, preparatory cleaning and televising service lateral including all incidentals such as traffic control and sewer plugging.
3. Sewer lateral cleaning and TV inspection from cleanout (up to 25 feet) (Item 6)
 - a. This item of work will be measured and paid at the unit price per each lateral televised. Payment of the unit price per each will provide for complete compensation for furnishing all labor, equipment, tools, and materials for preparatory cleaning and televising sanitary sewer service laterals, including all incidentals such as traffic control and sewer plugging.

4. Sewer lateral cleaning and TV inspection from cleanout (per linear foot beyond 25 feet) (Item 7)
 - a. This item of work will be measured and paid at the unit price per foot of sewer laterals televised in addition to Item 6. Payment of the unit price per each will provide for complete compensation for furnishing all labor, equipment, tools, and materials for preparatory cleaning and televising sanitary sewer service laterals, including all incidentals such as traffic control and sewer plugging.

C. Cleanout installation

1. Cleanout installation (Items 8 to 11)
 - a. This item of work will be measured and paid for at the unit price per each. Payment of the unit price per each will provide complete compensation for furnishing materials and all labor, tools, equipment and incidentals, to locate utilities; locate lateral; excavate; install a cleanout riser with cover and plug at the property line; backfill; compact; and restore surface in grass, asphalt, or concrete as applicable, complete in place.
 - b. For cleanout installations greater than 5 feet in depth, payment will be made at the contract unit cost for each vertical foot below 5 feet excavated. This item shall be paid in addition to the contract unit cost for the first 5 feet of depth.

D. Work in rear-yard easement

1. Work in rear-yard easement (Item 12)
 - a. Payment shall be at the unit price bid, per easement repair performed, provided in the Bid Proposal and shall include full compensation for all additional labor, materials, equipment and incidentals required to perform work away from vehicular traveled ways, is so requested by the OWNER or ENGINEER, in association with any other work under this contract. This item will be paid in addition to the price paid under the corresponding work item, and will only be paid when the area and presents restrictions to vehicular access from roads, alleys, driveways, or other features suitable for access by the installation vehicles. This item shall be full compensation for all additional cost associated with working in an easement area.
 - b. When the CONTRACTOR's judges that this item is applicable, the CONTRACTOR shall obtain the ENGINEER's concurrence on such judgment in advance of performing the work.

E. Mechanical removal

1. Mechanical root or grease removal (Items 13 to 15)
 - a. Removal of roots or grease involving the use of special equipment will be considered special cleaning and will be measured and paid per linear foot additionally to cleaning, depending on the pipeline diameter and the type of cleaning, as shown on the Schedule of Prices.
2. Mechanical tuberculation removal (Items 16 to 18)
 - a. Removal of tuberculation in cast iron pipe involving the use of special equipment will be considered special cleaning and will be measured and paid per linear foot additionally to cleaning, depending on the pipeline diameter and the type of cleaning, as shown on the Schedule of Prices.
3. Protruding service connection removal by internal means (Item 19)
 - a. The OWNER may request that the CONTRACTOR remove protruding service connections, typically to allow completion of inspection or as a prelude to lining. The CONTRACTOR shall use non-destructive robotic techniques. The use of equipment that may damage the existing service connection will not be allowed. The CONTRACTOR shall not perform this work prior to receiving written authorization from the OWNER.

F. Bypass pumping

1. Bypass Pumping (Items 20 to 22)
 - a. These items shall provide full compensation for bypass pumping operations required for sewer and manhole repair work. The CONTRACTOR shall attempt to perform the sewer work without bypass pumping. However, if, in the opinion of the OWNER bypass pumping is necessary, it will be identified as a payment item. The pay item is a charge per day for all bypass pumping operations during a specific sewer repair, including services, regardless of the number pumps required. Bypass pumping shall be bid on the basis of sewer size which is bypassed.
 - b. These items shall include, but not be limited to, all necessary and required traffic control; pumps; piping; gasoline/diesel fuel; maintenance; transportation and storage; temporary bypass and service piping; labor; materials and/or any other costs associated with bypass pumping.

- c. Plugging or blocking a sewer line shall be included in the appropriate bid item for which the flow must be stopped, and shall be considered incidental work and no additional payment shall be considered.

G. Traffic control

- 1. Traffic control (flagmen, each) (Item 23)
 - a. Payment shall be at the unit price bid, per each man-hour.
- 2. Traffic control (arrow board, each) (Item 24)
 - a. Measurement shall be on a unit basis per each by actual count of arrow boards in place.
 - b. Payment shall be at the unit price bid, per each arrow board and shall include full compensation for furnishing and placing all materials and furnishing all equipment, labor, and incidentals necessary to complete the work as specified.
- 3. Traffic control (barricade, each) (Item 25)
 - a. Measurement shall be on a unit basis per each by actual count of barricades in place.
 - b. Payment shall be at the unit price bid, per each barricade and shall include full compensation for furnishing and placing all materials and furnishing all equipment, labor, and incidentals necessary to complete the work as specified.

END OF SECTION

SECTION 01300

SUBMITTALS

PART 1 - GENERAL

1.01 DEFINITIONS

- A. The term “submittals” shall mean shop drawings, if any, manufacturer’s drawings, catalog sheets, brochures, descriptive literature, diagrams, schedules, calculations, material lists, performance charts, test reports, office and field samples, and items of similar nature which are normally submitted for the OWNER’s review for conformance with the design concept and compliance with the Contract Documents.

1.02 GENERAL REQUIREMENT FOR SUBMITTALS

- A. Project data shall include manufactures’ standard schematic drawings modified to delete information which is not applicable to the project. Each copy of descriptive literature shall be clearly marked to identify pertinent information as it applies to the project.
- B. Where samples are required, they shall be adequate to illustrate materials, equipment or workmanship, and to establish standards by which completed Work is judged. Provide sufficient size and quantity to clearly illustrate functional characteristics of product and material, with integrally related parts and attachment devices.
- C. All submittals shall be marked to identify the project, CONTRACTOR, subcontractor, or supplier; pertinent Contract Documents; and specification section if applicable.
- D. Prior to submittal to the OWNER, the CONTRACTOR shall review and check submittals, and shall indicate review by his stamp, initials, and date.
- E. If the submittals indicate deviations from the Contract Documents, the CONTRACTOR shall advise the OWNER, in the letter of transmittal of the deviation and the reasons thereof. All deviations and variances shall be clearly marked on the submittal with a bold red mark. All additional costs resulting from modifications requested by the CONTRACTOR shall be borne by the CONTRACTOR.
- F. In the event the OWNER does not specifically reject the use of material or equipment at variance to that which is in the Contract Documents or specified, the CONTRACTOR shall, at no additional expense to the OWNER, and using methods reviewed by the OWNER, make any changes necessary to accommodate the material and equipment.

- G. Additional information on particular items, such as special drawings, schedules, calculations, performance curves, and material details shall be provided when specifically requested in the Specifications.
- H. Where manufacturers' brand names are given in the Specifications the CONTRACTOR shall submit names and descriptive literature of such materials and products proposed for use in this Contract.
- I. No material shall be fabricated or shipped unless the applicable drawings or submittals have been reviewed and approved by the OWNER and returned to the CONTRACTOR.
- J. All bulletins, brochures, instructions, parts lists, and warranties packaged with and accompanying materials and products delivered to and installed in the project shall be saved and transmitted to the OWNER.

1.03 SUBMITTAL PROCEDURES

A. Scheduling and Handling

- a. The CONTRACTOR shall schedule submittals well in advance of the need for the material or equipment for proposed scope of work and shall allow time to make delivery of material or equipment after submittal is approved.
- b. The CONTRACTOR shall develop a submittal schedule that allows sufficient time for initial review, correction, resubmission, and final review of all submittals. The OWNER shall review and return submittals to the CONTRACTOR as expeditiously as possible but the amount of time required for review will vary depending on the complexity and quantity of data submitted. In no case will a submittal schedule be acceptable which allows less than 30 days for initial review by the OWNER. The time for review shall in no way be justification for delays or additional compensation to the CONTRACTOR.
- c. The OWNER's review of submittals covers only general conformity to the Contract Documents and general conformity with dimensions and elevations. The CONTRACTOR shall be responsible for accuracy of dimensions and elevations. The CONTRACTOR shall be responsible for accuracy of dimensions and elevations. No quantities will be determined or verified by the OWNER. The CONTRACTOR is responsible for any errors, omissions, or deviations from the contract requirements. Review of submittals in no way relieves the CONTRACTOR from his obligation to furnish required items according to the Contract Documents.

- d. The CONTRACTOR shall submit nine (9) copies of submittal documents unless otherwise specified in the following paragraphs.
- e. The CONTRACTOR shall revise and resubmit submittals as required and identify all changes made since previous submittal.
- f. The CONTRACTOR shall assume the risk for material or equipment that is fabricated or delivered prior to approval. No material or equipment shall be incorporated into the Work or included in periodic progress payments until approval has been obtained in the specified manner.

B. Transmittal Form and Numbering

1. The CONTRACTOR shall transmit each submittal with a Submittal Form approved by the OWNER.
2. The CONTRACTOR shall sequentially number each transmittal form beginning with the number 1.
3. The CONTRACTOR shall revise submittals with original number and sequential alphabetic suffix.
4. Videotapes submittal number shall be in accordance with requirements of this section.

C. CONTRACTOR's Stamp

1. The CONTRACTOR shall apply CONTRACTOR's stamp, initials, and date certifying that the items have been reviewed in detail and are correct and in accordance with Contract Documents, except as noted by any requested variance.
2. As a minimum, CONTRACTOR's Stamp shall include:
 - a. CONTRACTOR's name
 - b. Job number
 - c. Submittal number
 - d. Certification statement that the CONTRACTOR has reviewed the submittal and it is in compliance with the Contract Documents.
 - e. Signature line for CONTRACTOR
 - f. The CONTRACTOR shall place CONTRACTOR's Stamp on the front page of each document.

1.04 PROJECT PROGRESS SCHEDULES

- A. The CONTRACTOR shall submit Construction Progress Schedules in accordance with Section 01310 - Project Progress Schedules.

1.05 SHOP AND ERECTION DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. The CONTRACTOR shall submit shop and erection drawings, product data, and samples in accordance with Section 01340 - Shop and Erection Drawings, Product Data, and Samples.

1.06 OPERATIONS AND MAINTENANCE DATA

- A. When specified in Specification sections, the CONTRACTOR shall submit manufacturers' printed instructions for delivery, storage, assembly, installation, start-up, operation, adjusting, finishing, and maintenance.
- B. The CONTRACTOR shall identify conflicts between manufacturers' instruction and Contract Documents.

1.07 MANUFACTURERS' CERTIFICATES

- A. When specified in Specification section, the CONTRACTOR shall submit manufacturers' certificate of compliance for review by the OWNER, and for project records.
- B. The CONTRACTOR shall submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or product, but must be acceptable to the OWNER.

1.08 CONSTRUCTION PHOTOGRAPHS

- A. When required by Specification sections, the CONTRACTOR shall submit photographs taken prior to start of construction to show original site conditions.
- B. When required by Specification sections, the CONTRACTOR shall submit photographs monthly with pay estimate.
- C. The CONTRACTOR shall make two prints; color, matte, finish; 3x5 inch size; mounted on 8-1/2x11 inch soft card stock, with left edge binding margin for three-hole punch. The CONTRACTOR shall submit one print to the OWNER and retain the other prints.
 - 1. For linework, the CONTRACTOR shall provide photographs at a frequency that will document the Work before and, as the Work is being backfilled.

- D. The CONTRACTOR shall identify photographs with date, time, orientation, and project identification.

1.09 PROJECT RECORD DOCUMENTS

- A. The CONTRACTOR shall submit Project Record Documents in accordance with Section 01700 - Project Closeout

1.10 VIDEO

- A. The CONTRACTOR shall submit television videotapes as required in Section 02752 – Television Survey
- B. Transmittal forms for videotapes shall be numbered sequentially.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01310

PROJECT PROGRESS SCHEDULES

1.01 REFERENCES

- A. Associated General CONTRACTOR of America (AGC) Publication: “The Use of CPM in Construction - A Manual for General CONTRACTORs and the Construction Industry.”

1.02 REQUIREMENTS

- A. The project management scheduling tool, “Critical Path Method” commonly called CPM, shall be used by the CONTRACTOR for the planning and scheduling of all work required under the Contract Documents.

1.03 QUALIFICATIONS

- A. The CONTRACTOR shall submit evidence of CPM capability for Engineer’s review.

1.04 FORMAT

- A. The CONTRACTOR shall prepare a network analysis system using the Critical Path Method, as outlined in AGC - The Use of CPM in Construction.

1.05 CONTENT

- A. Show complete sequence of construction by activity, which dates for beginning and completion of each element of construction.
- B. Identify each item by Specification section number.
- C. Identify work of separate stages and other logically grouped activities.
- D. Provide sub-schedules for each stage of work identified in Section 01010 - Summary of Work.
- E. Provide sub-schedules to define critical portions of the entire schedule.
- F. Include conferences and meeting in schedule.
- G. Show accumulated percentage of completion of each item and total percentage of work completed, as of the first day of each month.
- H. Provide separate schedule of submittal dates for shop and erection drawings, product data, and samples, and dates reviewed submittals will be required from ENGINEER. Indicate decision dates for selection of finishes.

1.06 REVISIONS TO SCHEDULES

- A. The CONTRACTOR shall indicate progress of each activity to date of submittal, and projected completion date of each activity.
- B. The CONTRACTOR shall identify activities modified since previous submittal, major change in scope, and other identifiable changes.
- C. The CONTRACTOR shall provide narrative report to define problem areas, anticipated delays, and impact on Schedule. The CONTRACTOR shall report corrective action taken, or proposed, and its effect including the effect of changes on schedules for separate CONTRACTORS.

1.07 SUBMITTAL PROCEDURES

- A. Submittal requirements shall include:
 - 1. Logic network and/or time phased bar chart, computer generated, utilizing the precedent diagram method.
 - 2. Computerized network analysis.
 - a. Activity sort by early start, organized by related elements.
 - b. Activity sort by float, organized by related elements.
 - c. Activity sort by predecessor/successor.
 - 3. Schedule of shop drawing submittals.
 - 4. Schedule of values (lump sum price breakdown).
- B. Within fifteen (15) working days after Notice to Proceed, the CONTRACTOR shall submit a network diagram describing the activities to be accomplished in the project and their dependency relationships, (predecessor/successor) as well as a tabulated schedule as defined in this section. The schedule produced and submitted shall indicate a project completion date the same as the Contract completion date. The CONTRACTOR shall meet with the ENGINEER to review the proposed plan and schedule.
- C. Upon completion of the ENGINEER's review of the submittal, the Engineer will return the schedule with comments. The CONTRACTOR shall revise the network diagram as required and resubmit the network diagram and tabulated schedule shall be reviewed by the Engineer. The network diagram and tabulated schedule shall constitute the project work schedule unless a revised schedule is required due to substantial changes in the Work scope, a change in Contract Time, or delinquency by CONTRACTOR requiring a recovery schedule. When the

network diagram and tabulated schedule have been accepted, the CONTRACTOR shall submit to the Engineer nine (9) copies of all schedule information.

- D. The CONTRACTOR, if requested by the Engineer, shall provide a revised work schedule. The revised work schedule shall include a new diagram and tabulated schedule designed to show how the CONTRACTOR intends to accomplish the Work to meet the completion date. The form and method employed by the CONTRACTOR shall be the same as for the original schedule.

1.08 SCHEDULING RESPONSIBILITIES

- A. It is understood that the construction schedule and all revised information must be produced by the CONTRACTOR and subcontractors as to how they envision the Work to be accomplished. Similarly, all progress information to be provided by and through the CONTRACTOR must be an accurate representation of the CONTRACTOR's, the subcontractor's, or the supplier's actual performance. The schedule shall at all times remain an accurate reflection of the CONTRACTOR's actual or projected sequencing of the Work. Once accepted by the Engineer, adherence to the established CPM schedule shall be obligatory upon the CONTRACTOR and the subcontractors for the Work under the Contract.

- B. Progress of the Work

- 1. The CONTRACTOR shall start Work within ten (10) days following the Notice to Proceed and shall be executed with such progress as may be required to prevent delay to the general completion of the project. The Work shall be executed at such times and in or on such parts of the project, and with such forces, material, and equipment, to ensure completion of the Work in the time specified by the Contract.
- 2. The CONTRACTOR agrees that whenever it becomes apparent from the current monthly CPM Schedule update that delays to the critical path have resulted and, hence, the Contract completion date will not be met, or when so directed by the Engineer, the CONTRACTOR shall take some or all of the following actions at no additional cost to the Owner:
 - a. Increase construction manpower in such quantities and crafts as will substantially eliminate the backlog of Work.
 - b. Increase the number of working hours per shift, shifts per working day, or days per week, the amount of construction equipment, or any combination of the foregoing to substantially eliminate the backlog of Work.
 - c. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities, and comply with the revised schedule.

- d. The CONTRACTOR shall submit to the Engineer for review a written statement of the steps intended to be taken to remove or arrest the delay to the critical path in the accepted schedule. If the CONTRACTOR should fail to submit a written statement of the steps as required by the Contract, the Engineer may direct the level of effort in manpower (trades), equipment, and work schedule (overtime, weekend, and holiday work, etc.), to be employed by the CONTRACTOR in order to remove or arrest the delay to the critical path in the accepted schedule, and the CONTRACTOR shall promptly provide such level of effort at no additional cost to the Owner.

1.09 CHANGE ORDERS

- A. Upon approval of a Change Order, the approved change shall be reflected in the next scheduled submittal by the CONTRACTOR.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01400

QUALITY CONTROL

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. The CONTRACTOR shall monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. The CONTRACTOR shall comply with manufacturer's instructions, including each step in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, the CONTRACTOR shall request clarification from the OWNER before proceeding.
- D. The CONTRACTOR shall comply with specified standards as minimum quality for the Work except where more stringent tolerance, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. All Work shall be performed by persons qualified to produce required and specified quality.
- F. The CONTRACTOR shall verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. The CONTRACTOR shall not subcontract work involving excavation, including pipe replacement point repairs, point repairs at manhole connections, manhole replacement, and service lateral reconnection and repair.

1.02 CONTROL OF WORK

- A. Authority of OWNER
 - 1. The OWNER shall give all orders and directions contemplated under this Contract relative to the execution of the Work. The OWNER shall determine the amount, quality, acceptability, and fitness of the several kinds of Work and materials that are to be paid for under this Contract and shall decide all questions that may arise in relation to said Work and the construction thereof. The OWNER's estimates and decisions shall be final and conclusive, except as otherwise expressly provided herein. Should any questions arise between the parties relative to the Contract, the determination or decision of the OWNER shall be precedent to the right of the CONTRACTOR to receive any money or payment for Work.

2. The OWNER shall decide the meaning and intent of any portion of the Specifications and of any Contract Documents where the same may be found obscure or to be in dispute.
3. Any differences or conflicts in regard to their work that may arise between the CONTRACTOR under this Contract and other CONTRACTORS performing work for the OWNER shall be adjusted and determined by the OWNER.
4. The OWNER shall have the authority to suspend the Work wholly in part, due to failure of the CONTRACTOR to carry out provisions of the Contract; for failure to carry out orders; for such periods as he may deem necessary due to unsuitable weather; for conditions considered unsuitable for prosecution of the Work; or for any other condition or reason deemed to be in the public interest.
5. The OWNER shall have the authority to regulate and coordinate the stages of progress of construction, or items of Work of the respective CONTRACTORS to affect necessary cooperation and satisfactory performance and completion. The OWNER's decision shall be binding in any dispute in the Work arising between CONTRACTORS.

B. Conformity with Contract Documents

1. All Work and all materials furnished shall be in close conformity with the liens, grades, trenching sections, cross-sections, dimensions, material requirements, and testing requirements that are specified (including specified tolerances) in the Plans and Specifications.
2. If the OWNER finds the materials furnished, Work performed, or finished product not within close conformity with the Plans and Specifications, but that the portion of the Work affected will, in his opinion, result in a finished product having a level of safety, economy, durability, and workmanship acceptable, he will advise that the affected Work be accepted and remain in place. In this event, the OWNER will document his determination and recommend a basis of acceptance that may provide for an adjustment in the Contract Price for the affected portion of the Work. The OWNER's determination and recommended Contract Price adjustments will be based on sound judgment and such tests and retests of affected Work as are, in his opinion, needed. Changes in the Contract Price shall be covered by change order.
3. If the OWNER finds the material furnished, Work performed, or the finished product are not in close conformity with the Plans and Specifications and have resulted in an unacceptable finished product, the affected Work or materials shall be removed and replaced or otherwise

corrected by, and at the expense of the CONTRACTOR in accordance with the OWNER's written notification.

4. For the purpose of this subsection, the term "close conformity" shall not be construed as waiving the CONTRACTOR's responsibility to complete the Work in accordance with the Contract Documents. The term shall not be construed as waiving the OWNER's right to insist on strict compliance with the requirements of the Contract Documents during the CONTRACTOR's prosecution of the Work when, in the OWNER's opinion, such compliance is essential to provide an acceptable finished portion of the Work.
5. For the purpose of this subsection, the term "close conformity" is also intended to provide the OWNER with the authority to use sound judgment in his determinations as to acceptance of Work that is not in strict conformity but will provide a finished product equal to or better than that intended by the requirements of the Contract Documents.

C. Cooperation of CONTRACTOR

1. The CONTRACTOR shall, and will, in good workmanlike manner, do and perform all Work and furnish all supplies and materials, machinery, equipment, facilities, and means, necessary for proper completion of all the Work required by the Contract, within the time specified, and in accordance with provisions of these Contract Documents. The Work performed shall be in accordance with the directions of the OWNER. The CONTRACTOR shall furnish, erect, maintain, and remove such temporary works as may be required. The CONTRACTOR alone shall be responsible for the safety, efficiency, and adequacy of his operations, appliances, methods, and for any damage which may result from the failure or improper construction, maintenance, or operation. The CONTRACTOR shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the Contract Documents, and shall do, carry on, and complete the entire Work to the satisfaction of the OWNER.
2. If, through acts of neglect on the part of the CONTRACTOR, any other CONTRACTOR or any subcontractor suffers loss or damage on their work, the CONTRACTOR agrees to settle with such other CONTRACTOR or subcontractor by agreement or arbitration. If such other CONTRACTOR or subcontractor shall assert any claim against the OWNER on account of any damage alleged to have been sustained, the OWNER shall notify the CONTRACTOR who shall indemnify and save harmless the OWNER against any such claim.
3. The CONTRACTOR will be supplied with two copies each of the Plans and Specifications. The CONTRACTOR shall have on the Work at all

times one copy each of the Contract Documents. A reasonable number of additional copies of Plans and Specifications may be obtained by the CONTRACTOR upon request.

4. The CONTRACTOR shall give constant attention to the Work to facilitate the progress thereof, and he shall cooperate with the OWNER and the Resident Project Representative and with other CONTRACTORs in every way possible. The OWNER shall allocate the Work and suggest the sequence of construction in case of controversy between CONTRACTORs. THE CONTRACTOR SHALL HAVE COMPETENT SUPERINTENDENT ON THE WORK AT ALL TIMES WHO IS FULLY AUTHORIZED AS HIS AGENT ON THE WORK. The superintendent shall be capable of reading and thoroughly understanding the Plans and Specifications and shall receive and fulfill any instructions from the OWNER or his authorized representative.

D. Construction Layout

1. The OWNER reserves the right to contract for and perform other or additional work on or near the Work covered by this Contract.
2. When separate contracts are let within the limits of any one project, each CONTRACTOR shall conduct his work so as not to interfere with or hinder the progress of completion of the work being performed by other CONTRACTORs. CONTRACTORs working on the same project shall cooperate with each other as directed by the OWNER.
3. Each CONTRACTOR involved shall assume all liability, financial or otherwise, in connection with his contract and shall protect and save harmless the OWNER and OWNER from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced by him because of the presence and operations of other CONTRACTORs working within the limits of the same project.
4. The CONTRACTOR shall arrange his work and shall place and dispose of the materials being used so as not to interfere with the operation of other CONTRACTORs within the limits of the same project. He shall join his work with that of the others in an acceptable manner shall perform it in proper sequence to that of the others to the satisfaction of the OWNER.

E. Construction Layout

1. The OWNER will furnish the CONTRACTOR with benchmarks, control points, and any other measurements that the OWNER may deem necessary for the proper prosecution and control of the Work.

2. The CONTRACTOR shall satisfy himself as to the accuracy of all measurements before proceeding with the Work. All stakes and markings set by the OWNER for his own use or for the CONTRACTOR's guidance shall be scrupulously preserved by the CONTRACTOR. Any stakes or markings lost or destroyed by the CONTRACTOR's forces through negligence shall be replaced by the OWNER at the CONTRACTOR's expense when so ordered by the OWNER.
3. The CONTRACTOR shall furnish, free of charge, to the OWNER, such incidental labor as he may require in establishing points and lines necessary to the prosecution of the Work to satisfactory completion.

F. Authority and Duties of OWNER's Inspector

1. The OWNER's Inspector shall have full authority to reject any defective material or workmanship and to inform the CONTRACTOR that construction is being improperly performed (if such is the case), subject to final decision of the OWNER. OWNER's Inspectors will not be authorized to revoke, alter, enlarge, or relax the provisions of the Plans and Specifications or to issue any instructions contrary thereto.
2. The CONTRACTOR may request, and the OWNER will issue, written instructions on any important questions which may develop in respect to the acceptance or rejections of materials or workmanship.

G. OWNER's Representative

1. The OWNER may assign a representative to observe the construction of the Work and advise the OWNER of the Work's prosecution. The resident project representative shall not act as inspector. The CONTRACTOR shall continue to deal directly with the OWNER's Inspector as described above. The OWNER's Representative shall have full access to all job records and shall be allowed to take supplemental samples of materials used on the job.

H. Inspection of the Work

1. The OWNER will observe all phases of the Work in progress. The CONTRACTOR shall furnish the OWNER with every reasonable facility for ascertaining whether or not the Work as performed is in accordance with the requirements and intents of the Plans and Specifications. Should any Work be covered or hidden prior to the approval thereof by the OWNER, it shall be uncovered for examination and recovered at the CONTRACTOR's expense.
2. Should the Contract Work include relocation, adjustment, or any other modification to existing facilities, not the property of the OWNER,

authorized representatives of the OWNERS of such facilities shall have the right to inspect such work. Such inspection shall in no case make any facility OWNER a party to the Contract, and shall in no way interfere with the rights of the parties to this Contract.

I. Removal of Unacceptable and Unauthorized work

1. All work that does not conform to the requirements of the Contract, Plans, and Specifications will be considered by the OWNER as provided in this section.
2. Unacceptable Work, whether the result of poor workmanship, use of defective materials, damage through carelessness, or any other cause found to exist prior to the final acceptance of Work, shall be removed immediately and replaced in an acceptable manner in accordance with the provision of section 01700 - Contract Closeout.
3. No work shall be done without lines and grades having been approved by the OWNER. Work done contrary to the instructions of the OWNER, work done beyond the lines shown on the Plans, except as herein specified, or extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of this Contract. Work so done may be ordered removed or replaced at the CONTRACTOR's expense.
4. Upon failure on the part of the CONTRACTOR to comply forthwith with any order of the OWNER made under the provisions of this section, the OWNER will have authority to cause unacceptable work to be remedied or removed and replaced and unauthorized work to be removed and to recover the costs incurred by the OWNER from the CONTRACTOR. Said monies may be deducted from any amounts due the CONTRACTOR.

J. Load Restrictions

1. The CONTRACTOR shall comply with all legal load restrictions in the hauling of materials on public roads beyond the limits of the Work. A special permit will not relieve the CONTRACTOR of liability for damage that may result from the moving of material or equipment.
2. The operation of equipment of such weight or so loaded as to cause damage to structures or to any other type of construction will not be permitted. Hauling of materials over a base course or surface course under construction shall be limited as directed by the OWNER. No loads will be permitted on a concrete pavement, base, or structure, before the expiration of the curing period. The CONTRACTOR shall be responsible for all damage done by his hauling equipment and shall correct such damage at his own expense.

K. Maintenance During Construction

1. The CONTRACTOR shall maintain the Work during construction and until the Work is accepted. This maintenance shall constitute continuous and effective Work prosecuted day by day, with adequate equipment and forces so that the Work is maintained in satisfactory condition at all times.
2. All costs of maintenance work during construction and before the project is accepted shall be included in the unit prices bid on the various Contract Items, and the CONTRACTOR will not be paid an additional amount for such work.

L. Failure to Maintain the Work

1. Should the CONTRACTOR at any time fail to maintain the Work as provided in this section, the OWNER shall immediately notify the CONTRACTOR of such noncompliance. Such notification shall specify a reasonable time within which the CONTRACTOR shall be required to remedy such unsatisfactory maintenance to the exigency that exists.
2. Should the CONTRACTOR fail to respond to the OWNER's notification, the OWNER may suspend any work necessary for the OWNER to correct such unsatisfactory maintenance condition, depending on the exigency that exists. Any maintenance cost incurred by the OWNER shall be recovered from the CONTRACTOR in the manner deemed most appropriate by the OWNER.

M. Test Period and Final Acceptance

1. As each separate principal part of the Work is completed it shall be immediately inspected by the OWNER. If found to be in substantial compliance with the Contract Documents, it shall be tentatively accepted by the OWNER. Thereafter, all such completed and accepted parts of the Work shall be maintained in good condition by and at the expense of the CONTRACTOR until final acceptance by the OWNER of all Work covered by the Contract.
2. After the principal operating parts of the Work have been completed and tentatively accepted, they shall be operated simultaneously as a single unit, by and at the expense of the CONTRACTOR in the presence of the OWNER, for a period of not less than thirty (30) days. During the test period, the CONTRACTOR shall make all such repairs and/or adjustments as may be found necessary to develop the capacities and complete operating functions called for or implied in the Specifications.
3. Operation and maintenance work prior to, during, and after the test period shall be by and at the expense of the CONTRACTOR and shall be

continued until all work performed under the Contract has been formally accepted by the OWNER.

4. After the test period has been concluded and the construction of all work under Contract has been completed, the OWNER, the CONTRACTOR, and a representative of the OWNER shall make a joint final inspection of all phases of the Work. If the Work is not acceptable at the time of such inspection, the OWNER will notify the CONTRACTOR of the defects that must be remedied before final acceptance can be made.

1.03 CONTROL OF MATERIALS

A. Source of Supply and Quality Requirements

1. The materials used in the Work shall conform to the requirements of the Contract Documents. Unless otherwise specified, such materials that are manufactured or processed shall be new (as compared to used or reprocessed).
2. In order to expedite the inspection and testing of materials, the CONTRACTOR shall furnish complete statements to the OWNER as to the origin, composition, and manufacture of all materials used in the Work. Such statements shall be furnished promptly after execution of the Contract, but in all cases prior to delivery of such materials.
3. At the OWNER's option, materials may be approved at the source of supply before delivery is started. If it is found that source's of supply of previously approved materials do not produce specified products; the CONTRACTOR shall furnish materials from other sources.

B. Certification of Compliance

1. The OWNER may permit the use (with the approval of the OWNER), prior to sampling and testing, of certain materials or assemblies when accompanied by manufacturer's certificates of compliance stating that such materials or assemblies fully comply with the requirements of the Contract. The certificate shall be signed by the manufacturer. Each lot of such materials or assemblies delivered to the Work must be accompanied by a certificate of compliance in which the lot is clearly identified.
2. Materials or assemblies used on the basis of certificates of compliance may be sampled and tested at any time and, if found not to be in conformity with Contract requirements, will be subject to rejection whether in place or not.
3. The form and distribution of certificates of compliance shall be as approved by the OWNER.

4. When a material or assembly is specified by “brand name or equal” and the CONTRACTOR elects to furnish the manufacturer’s certificate of compliance for each lot of such material or assembly delivered to the Work, such certificate for compliance shall clearly identify each lot delivered and shall certify as to conformance to the specified performance, testing, quality, or dimensional requirements; and suitability of the material or assembly for the use intended in the Contract Work.
5. Should the CONTRACTOR propose to furnish an “or equal” material or assembly the CONTRACTOR shall furnish the manufacturer’s certificates of compliance as herein before described for the specified brand name material or assembly. However, the OWNER shall be the sole judge as to whether the proposed “or equal” is suitable for use in the Work.
6. The OWNER reserves the right to refuse permission for use of materials or assemblies on the basis of certificates of compliance.

C. Plant Inspection

1. The OWNER or his authorized representative may inspect, at its source, any specified material or assembly to be used in the Work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the Work and to obtain samples required for the OWNER’s acceptance of the material or assembly.
2. Should the OWNER conduct plant inspections, the following conditions shall exist:
 - a. The OWNER shall have the cooperation and assistance of the CONTRACTOR and the producer with whom he has contracted for materials.
 - b. The OWNER shall have full entry at all reasonable times to such parts of the plants that concern the manufacture or production of the materials being furnished.
 - c. If required by the OWNER, the CONTRACTOR shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.
3. It is understood and agreed that the OWNER shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The OWNER shall have the right to reject only material which, when retested, does not meet the requirement of the Contract Documents.

D. Storage of Materials and Equipment

1. Materials shall be stored to assure the preservation of their quality and fitness for the Work. Stored materials, even though approved before storage, may again be inspected prior to their use in the Work. Stored materials shall be located to facilitate their prompt inspection. The CONTRACTOR shall coordinate the storage of all materials with the OWNER. Storage facilities shall be provided at the expense of the CONTRACTOR, and all costs shall be included in the unit prices bid on the various Contract Items. The CONTRACTOR will not be paid an additional amount for the provision of such storage facilities.
2. Machinery, control equipment, etc. subject to damage by exposure to the elements shall be stored in a bonded warehouse or other locations that have been approved by the OWNER.
3. Unless otherwise in the Contract Documents, the storage of materials and the location of the CONTRACTOR's parked equipment or vehicles shall be as directed by the OWNER. Private property shall not be used for storage purposes without written permission of the private property OWNER or lessee of such property. The CONTRACTOR shall make all arrangements and bear all expenses for the storage of materials on private property. Upon request, the CONTRACTOR shall furnish the OWNER a copy of the property OWNER's permission. All storage sites on private property shall be restored to their original condition by the CONTRACTOR entirely at his own expense, except otherwise agreed to, in writing by the private property OWNER or lessee of the property.
4. The CONTRACTOR shall be responsible for loss, damage, or deterioration of materials and equipment caused by improper protection from the weather or from other sources of damage.

E. Unacceptable Materials

1. Any materials or assembly that does not conform to the requirements of the Contract Documents shall be considered unacceptable and shall be rejected. The CONTRACTOR shall remove any rejected materials or assembly from the site of the Work, unless otherwise instructed by the OWNER.
2. No rejected material or assembly, the defects of which have been corrected by the CONTRACTOR, shall be returned to the site of the Work until such time as the OWNER has approved its use in the Work.

F. OWNER-furnished Materials

1. The CONTRACTOR shall furnish all materials required to complete the Work, except those specified (if any) to be furnished by the OWNER.
2. All costs of handling, transportation from the specified location to the site of Work, storage, and installation of OWNER-furnished materials shall be included in the unit price bid for the Contract Item in which such OWNER-furnished material is used. No additional payment for handling transportation will be made.
3. After any OWNER-furnished material has been delivered to the locations specified, the CONTRACTOR shall be responsible for any demurrage, damage, loss, or other deficiencies that may occur during the CONTRACTOR's handling, storage, or use of such OWNER-furnished material. The OWNER will recover from the CONTRACTOR any cost incurred by the OWNER in making good such loss due to the CONTRACTOR's handling, storage, or use of OWNER-furnished materials.

G. Transportation of Materials.

1. Materials, including pipe, shall be transported in such a manner as to protect the materials from damage. Materials, even though inspected and approved before transportation, may again be inspected and/or tested after delivery to the site. Any damaged and/or unacceptable materials shall be removed from the site and replaced with materials meeting the Contract Documents.
2. The costs of transportation of materials and for replacing damaged or defective materials shall be borne by the CONTRACTOR.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01510

TEMPORARY UTILITIES

part 1 – GENERAL

GENERAL REQUIREMENTS

- A. The CONTRACTOR shall provide for utilities and services for its own operations. The CONTRACTOR shall furnish, install and maintain all temporary utilities during the contract period including removal upon completion of the work.

JOB CONDITIONS

Scheduled Uses: The CONTRACTOR shall, in conjunction with establishment of job progress schedule, establish a schedule for implementation and termination of service for each temporary utility or facility; at earliest feasible time, and, when acceptable to OWNER, change over from use of temporary utility service to permanent service.

part 2 – PRODUCTS

2.01 MATERIALS

- A. The CONTRACTOR shall provide either new or used materials and equipment, which are in substantially undamaged condition and without significant deterioration and which are recognized in the construction industry, by compliance with appropriate standards, as being suitable for intended use in each case. Where a portion of temporary utility is provided for CONTRACTOR by utility company, the CONTRACTOR shall provide remainder with matching and compatible materials and equipment and comply with recommendations of utility company.

part 3 – EXECUTION

3.01 INSTALLATION OF TEMPORARY UTILITY SERVICES

- A. General: Wherever feasible, the CONTRACTOR shall engage the utility company to install temporary service to project, or as a minimum, to make connection to existing utility service; locate services where they will not interfere with total project construction work, including installation of permanent utility services; and maintain temporary services as installed for required period of use; and relocate, modify or extend as necessary from time to time during that period as required to accommodate total project construction work.

Approval of Electrical Connections: All temporary connections for electricity shall be subject to approval of the OWNER and the power company representative, and shall be removed in like manner at the CONTRACTOR's expense prior to final acceptance of the work.

Separation of Circuits: Unless otherwise permitted by the OWNER, circuits separate from lighting circuits shall be used for all power purposes.

Construction Wiring: All wiring for temporary electric light and power shall be properly installed and maintained and shall be securely fastened in place. All electrical facilities shall conform to the requirements of Subpart K of the OSHA Safety and Health Standards for Construction.

3.02 INSTALLATION OF POWER DISTRIBUTION SYSTEM

- A. Power: The CONTRACTOR shall provide all necessary power required for its operations under the Contract, and shall provide and maintain all temporary power lines required to perform the work in a safe and satisfactory manner.
- B. Temporary Power Distribution: The CONTRACTOR shall provide a weatherproof, grounded, temporary power distribution system sufficient to accommodate performance of entire work of project, including, but not necessarily limited to, temporary electrical heating where indicated, operation of test equipment and test operation of building equipment and systems which cannot be delayed until permanent power connections are operable, temporary operation of other temporary facilities, including permanent equipment and systems which must be placed in operation prior to use of permanent power connections (pumps, HVAC equipment, elevators, and similar equipment), and power for temporary operation of existing facilities (if any) at the site during change-over to new permanent power system. Provide circuits of adequate size and proper power characteristics for each use; run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations, and result in least interference with performance of the work; provide rigid steel conduit or equivalent raceways for wiring which must be exposed on grade, floors, decks, or other recognized exposures to damage or abuse.

3.03 INSTALLATION OF LIGHTING

- A. Construction Lighting: All work conducted at night or under conditions of deficient daylight shall be suitably lighted to insure proper work and to afford adequate facilities for inspection and safe working conditions.
- B. Temporary Lighting: The CONTRACTOR shall provide a general, weatherproof, grounded temporary lighting system in every area of construction work, as soon as overhead floor/roof deck structure has been installed; and provide sufficient illumination for safe work and traffic conditions; and run circuit wiring generally overhead, and rise vertically in locations where it will be least exposed to possible damage from construction operations on grade, floors, decks, or other recognized areas of possible damage or abuse.

3.04 WATER SUPPLY

- A. The CONTRACTOR shall provide all facilities necessary to convey the water from the source to the points of use in accordance with the requirements of the Contract Documents. The CONTRACTOR shall pay the fee for water meter and all other charges for water use.

- B. The CONTRACTOR shall provide and operate all pumping facilities, pipelines, valves, hydrants, storage tanks, and all other equipment necessary for the adequate development and operation of the water supply system. Water used for domestic purposes shall be free of contamination and shall conform to the requirements of the State and local authorities for potable water. The CONTRACTOR shall be solely responsible for the adequate functioning of its water supply system and shall be solely liable for any claims arising from the use of same, including discharge or waste of water therefrom.
- C. Water Connections: The CONTRACTOR shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the CONTRACTOR shall first attach to the fire hydrant or pipeline a valve and a meter, if required by the said authority, of a size and type acceptable to said authority and agency. The CONTRACTOR shall pay all permit and water charges.

3.05 INSTALLATION OF SANITARY FACILITIES

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of CONTRACTOR's employees. Toilets at construction job sites shall conform to the requirements of Subpart D, Section 1926.51 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the OWNER and in accordance with all laws and regulations pertaining thereto.
- C. Sewer Connection: The CONTRACTOR shall coordinate with the OWNER for obtaining sewer connection and shall pay all sewer usage charges.

3.06 INSTALLATION OF FIRE PROTECTION

- A. Fire Protection: The construction plant and all other parts of the work shall be connected with the CONTRACTOR's water supply system and shall be adequately protected against damage by fire. Hose connections and hose, water casks, chemical equipment, or other sufficient means shall be provided for fighting fires in the temporary structures and other portions of the work, and responsible persons shall be designated and instructed in the operation of such fire apparatus so as to prevent or minimize the hazard of fire.

3.07 OPERATIONS AND TERMINATIONS

- A. Inspections: Prior to placing temporary utility services into use, the CONTRACTOR shall inspect and test each service and arrange for governing authorities' required inspection and tests, and obtain required certifications and permits for use thereof.

- B. Protection: The CONTRACTOR shall maintain distinct markers for underground lines, and protect from damage during excavating operations.
- C. Termination and Removal: When need for a temporary utility service or a substantial portion thereof has ended, or when its service has been replaced by use of permanent services, or not later than time of substantial completion, the CONTRACTOR shall promptly remove installation unless requested by OWNER to retain it for a longer period. The CONTRACTOR shall complete and restore work which may have been delayed or affected by installation and use of temporary utility, including repairs to construction and grades and restoration and cleaning of exposed surfaces.
- D. Removal of Water Connections: Before final acceptance of the work on the project, all temporary connections and piping installed by the CONTRACTOR shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the OWNER and to the agency owning the affected utility.

END OF SECTION

SECTION 01560

TEMPORARY ENVIRONMENTAL CONTROLS

Part 1 – GENERAL

EXPLOSIVES AND BLASTING

The use of explosives on the work will not be permitted.

DUST ABATEMENT

The CONTRACTOR shall furnish all labor, equipment, and means required and shall carry out effective measures wherever and as often as necessary to prevent its operation from producing dust in amounts damaging to property, cultivated vegetation, or domestic animals, or causing a nuisance to persons living in or occupying buildings in the vicinity. The CONTRACTOR shall be responsible for any damage resulting from any dust originating from its operations. The dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the ENGINEER or OWNER.

RUBBISH CONTROL

During the progress of the work, the CONTRACTOR shall keep the site of the work and other areas used by it in a neat and clean condition, and free from any accumulation of rubbish. The CONTRACTOR shall dispose of all rubbish and waste materials of any nature occurring at the work site, and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations.

Disposal of all rubbish and surplus materials shall be off the site of construction in accordance with local codes and ordinances governing locations and methods of disposal, and in conformance with all applicable safety laws, and to the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

SANITATION

Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets at construction job sites shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.

Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the site in a manner satisfactory to the OWNER and in accordance with all laws and regulations pertaining thereto.

CHEMICALS

All chemicals used during project construction or furnished for project operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of all such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

NOISE CONTROL

- A. Noise resulting from the CONTRACTOR's work shall not exceed the noise levels and other requirements stated in local ordinances. The CONTRACTOR shall be responsible for curtailing noise resulting from his operation. He shall, upon written notification from the OWNER of the noise control officers, make any repairs, replacements, adjustments, additions and furnish mufflers when necessary to fulfill requirements.

EROSION ABATEMENT AND WATER POLLUTION

- A. It is imperative that any CONTRACTOR dewatering operation should not contaminate or disturb the environment of the properties adjacent to the work. The CONTRACTOR shall, therefore, schedule and control his operations to continue all runoff water from disturbed surfaces, water from dewatering operations that becomes contaminated with lime silt, muck and other deleterious matter, fuels, oils, bitumens, calcium, chloride, chemicals and other polluting materials.
- B. The CONTRACTOR shall construct temporary silting basin (s) of adequate size and provide all necessary materials, operations and controls including, but not limited to, filters, coagulants, screens, and other means necessary to attain the required discharge water quality.
- C. The CONTRACTOR shall be responsible for providing, operating and maintaining materials and equipment used for conveying the clear water to the point of discharge. All pollution prevention procedures, materials, equipment, and related items shall be operated and maintained until such time as the dewatering operation is discontinued. Upon the removal of the materials, equipment and related items, the CONTRACTOR shall restore the area to the condition prior to its commencing work.

PRECAUTIONS DURING ADVERSE WEATHER

- A. During adverse weather, and against the possibility thereof, the CONTRACTOR shall take all necessary precautions so that the work may be properly done and satisfactory in all respects. When require, protection shall be provided by use of tarpaulins, wood and building paper shelters, or other acceptable means. The CONTRACTOR shall be responsible for all changes caused by adverse weather.
- B. The OWNER may suspend construction operations at any time when, in his judgment, the conditions are unsuitable or the proper precaution are not being taken, whatever the weather conditions may be, in any season.

HURRICANE AND STORM WARNINGS

- A. During such periods of time as are designated by the United States Weather Bureau as being a hurricane alert, watch or warning, the CONTRACTOR shall perform all precautions as necessary to safeguard the work and property, including the removal of all small equipment materials from the site, lashing all other equipment and materials to each other and to rigid construction, and any other safety measures as indicated below.
- B. The CONTRACTOR shall submit to the OWNER, for review and approval, a Plan of Action describing the procedures to be followed by the CONTRACTOR in the event of a Hurricane Alert, Watch, or Warning.
- C. Upon Notification of a Hurricane Alert:

- 1. Upon issuance of a Hurricane Alert by the County Manager, all CONTRACTORS**

- performing work within the right-of-way of a designated evacuation route shall immediately secure their work, backfill all excavations within the right-of-way and suitably prepare the roadway surface for full traffic flow. This work shall be completed within 24 hours of issuance of the alert. Work shall not be recommence until the “All Clear” is issued by the County Manager.

- 2. CONTRACTORS performing at all other locations shall remove all unnecessary debris, materials, and equipment from the job site. The CONTRACTOR shall also keep his crew on standby on weekends and holidays during the Hurricane Alert period.

- D. Upon Notification of a Hurricane Watch:

- 1. CONTRACTORS shall implement their approved plan of Action to protect the project and the public.

E. Upon Notification of a Hurricane Warning:

1. CONTRACTORS shall implement their approved plan of Action to protect the project and the public.
2. For work within the public right-of-ways, the CONTRACTOR will be notified by the OWNER to suspend his construction operations. The CONTRACTOR will backfill all open trenches, remove all construction equipment and materials from the right-of-way and secure operations pending further notice.

PERIODIC CLEANUP AND BASIC SITE RESTORATION

During construction, the CONTRACTOR shall regularly remove from the site all accumulated debris and surplus materials of any kind which results from its operations. Unused equipment and tools shall be stored at the CONTRACTOR's yard base of operations for the project.

The CONTRACTOR shall perform the cleanup work on a regular basis and as frequently as ordered by the OWNER. Basic site restoration in a particular area shall be accomplished immediately following the installation of completion of the required facilities in that area. Furthermore, such work shall also be accomplished, when ordered by the OWNER, if partially completed facilities must remain incomplete for some time period due to unforeseen circumstances.

Upon failure of the CONTRACTOR to perform periodic clean-up and basic restoration of the site to the OWNER's satisfaction, the OWNER may, upon 5 days prior written notice to the CONTRACTOR, employ such labor and equipment as it deems necessary for the purpose, and all costs resulting therefore shall be charged to the CONTRACTOR and deducted from amounts of money that it may be due.

part 2 – PRODUCTS (Not Used)
part 3 – EXECUTION (Not Used)

END OF SECTION

SECTION 01570

TRAFFIC REGULATIONS AND MAINTENANCE OF TRAFFIC

PART 1 - GENERAL

1.01 TRAFFIC CONTROL

- A. CONTRACTOR shall obey all traffic laws and comply with all the requirements, rules and regulations of the Florida State Department of Transportation, United States Department of Transportation Manual of Uniform Traffic Control Devices, the County, and other local authorities having jurisdiction, to maintain adequate warning signs, lights, barriers, etc., for the protection of traffic on public roadways.
- B. The CONTRACTOR shall maintain traffic and protect the public from all damage to persons and property within the Contract limits, in accordance with the Contract Documents and all applicable state, county and local regulations. He shall conduct his operations so as to maintain and protect access, for vehicular and pedestrian traffic, to and from all properties and business establishments adjoining or adjacent to those streets affected by his operations, and to subject the public to a minimum of delay and inconvenience. Suitable signs, barricades, railing, etc., shall be erected and the work outlined by adequate lighting at night. Danger lights shall be provided as required. Watchmen and flagmen shall be provided as may be necessary for the protection of traffic.
- C. Maintenance of Traffic Plans: When required for specific repairs, the CONTRACTOR shall immediately prepare and submit Maintenance of Traffic (M.O.T.) Plans for approval by authorities having jurisdiction. The traffic maintenance plan must meet the requirements of such authorities. Said M.O.T. Plans shall be in written form with sketches or drawings as necessary and shall comply with the State of Florida Department of Transportation standards for M.O.T. and the United States Department of Transportation Manual of Uniform Traffic Control Devices in construction areas. The Plans shall be submitted as soon as possible and not later than two weeks prior to any applicable construction work. A copy of the approval shall be provided to the OWNER.
- D. The CONTRACTOR shall maintain one copy of the approved M.O.T. plan at the construction site for inspection. The OWNER reserves the right to observe the M.O.T. plan in use and to make any changes as field conditions warrant. Any changes shall supersede the plan and be done at the CONTRACTOR's expense.
- E. The CONTRACTOR and his personnel are cautioned against parking vehicles in the business zones for any extended period of time. If necessary, the CONTRACTOR shall obtain offsite parking areas for his personnel.

- F. All dirt spilled from the CONTRACTOR's trucks on existing pavements shall be removed by the CONTRACTOR whenever in the opinion of the OWNER the accumulation is sufficient to cause the formation of mud, dust, interference with traffic or create a traffic hazard.
- G. The CONTRACTOR shall comply with all traffic regulations and perform maintenance of traffic as part of his site operation.

PART 2 - PRODUCTS – (Not Used)

PART 3 - EXECUTION – (Not Used)

END OF SECTION

SECTION 01600

MATERIALS AND EQUIPMENT

PART 1 - GENERAL

1.01 PRODUCTS

- A. Products shall include the means, materials, equipment, or systems forming Work as approved by the OWNER. Products will not include machinery and equipment used for preparation, fabrication, conveying, and installation of Work. Products may also include existing materials or components designated for reuse.
- B. The CONTRACTOR shall not reuse materials and equipment designated to be removed except as approved by the OWNER or specified in the Contract Documents.

1.02 TRANSPORTATION AND HANDLING

- A. The CONTRACTOR shall transport and handle products in accordance with manufacturers' instructions.
- B. The CONTRACTOR shall promptly inspect shipments to ensure that the products comply with requirements, quantities are correct, and products are undamaged.
- C. The CONTRACTOR shall provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- D. The CONTRACTOR shall make arrangements for transportation, delivery, and handling of equipment and materials required for timely completion of the Work.

1.03 DELIVERY

- A. The CONTRACTOR shall arrange deliveries of products to accommodate the short-term site completion schedules and in ample time to facilitate inspection prior to installation. The CONTRACTOR shall avoid deliveries that cause lengthy storage or overburden of limited storage space.
- B. The CONTRACTOR shall coordinate deliveries to avoid conflict with Work and conditions at the site and to accommodate the following:
 - 1. Work of other CONTRACTORS or the OWNER.
 - 2. Limitation of storage space
 - 3. Availability of equipment and personnel for handling products.
 - 4. OWNER's use of premises.

- C. The CONTRACTOR shall have products delivered to the site in manufacturers' original, unopened, labeled containers.
- D. Immediately upon delivery, the CONTRACTOR shall inspect shipment to ensure that:
 - 1. The product complies with requirement of Contract Documents
 - 2. Quantities are correct.
 - 3. Container and packages are intact and labels are legible.
 - 4. Products are properly protected and undamaged.

1.04 PRODUCT HANDLING

- A. The CONTRACTOR shall coordinate the off-loading of materials and equipment delivered to the job site. If necessary to move stored materials and equipment during construction, the CONTRACTOR shall relocate materials and equipment at no additional cost to the Owner.
- B. The CONTRACTOR shall provide equipment and personnel necessary to handle products by methods to prevent damage to products or packaging.
- C. The CONTRACTOR shall provide additional protection during handling as necessary to prevent breaking, scraping, marring, or otherwise damaging products or surrounding areas.
- D. The CONTRACTOR shall handle products by methods to prevent over bending or over stressing.
- E. The CONTRACTOR shall lift heavy components only at designated lifting points.
- F. The CONTRACTOR shall handle materials and equipment in accordance with Manufacturers' recommendations.
- G. The CONTRACTOR shall not drop, roll, or skid products off deliver vehicles. The CONTRACTOR shall hand carry or use suitable materials handling equipment.

1.05 STORAGE OF MATERIAL

- A. The CONTRACTOR shall store and protect materials in accordance with manufacturers' recommendations and requirements of these Specifications.
- B. The CONTRACTOR shall make necessary provisions for safe storage of materials and equipment. The CONTRACTOR shall place loose soil materials,

and materials to be incorporated into the Work to prevent damage to any part of the Work or existing facilities and to maintain free access at all times to all parts of the Work and to utility service company installations in the vicinity of the Work. The CONTRACTOR shall keep material and equipment neatly and compactly stored in locations that will cause a minimum of inconvenience to other CONTRACTORS, public travel, adjoining owners, tenants, and occupants. The CONTRACTOR shall arrange storage in a manner to provide easy access for inspection.

- C. The CONTRACTOR shall restrict storage to areas available on the construction site for storage of material and equipment as shown on Plans or as approved by the OWNER.
- D. The CONTRACTOR shall provide off-site storage and protection when on-site storage is not adequate.
- E. The CONTRACTOR shall not use lawns, grass plots, or other private property for storage purposes without written permission of the property owner or other person in possession or control of such premises.
- F. The CONTRACTOR shall protect stored materials and equipment against loss or damage.
- G. The CONTRACTOR shall store materials and products in Manufacturers' unopened containers.
- H. Materials delivered and stored along the line of the Work shall be neatly, safely, and compactly stacked along the work site in such a manner as to cause the least inconvenience and damage to property owners and the general public, and shall not be closer than 3 feet to any fire hydrant. Public and private drives and street crossings shall be kept open.
- I. Damage to lawns, sidewalks streets, or other improvements shall be repaired or replaced by the CONTRACTOR to satisfaction of the OWNER and the property owner at no additional cost to the OWNER.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01700
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 CONTRACTOR'S RESPONSIBILITY FOR THE WORK

- A. Until final acceptance by the OWNER as provided for in these Contract Documents, the Work shall be under the charge and care of the CONTRACTOR, and he shall take every necessary precaution to prevent injury or damage to the Work or any part thereof by the action of the elements or from any other cause whatsoever, whether arising from the execution or from the non-execution of the Work. The CONTRACTOR shall rebuild, repair, restore, and make good, at his own expense, all injuries or damage to any portion of the Work occasioned by any of the forenamed causes before acceptance.

1.02 CLOSEOUT PROCEDURES

- A. The CONTRACTOR shall submit written certification that Contract Documents have been reviewed, Work has been inspected, and that Work has been completed in accordance with Contract Documents and ready for OWNER's review.
- B. The CONTRACTOR shall provide submittals to the OWNER as required by governing or other authorities.
- C. The CONTRACTOR shall submit final Application for Payment.

1.03 CONTRACT COMPLETION

- A. The Contract will be considered fulfilled, except as provided in any bond or by law, and the warranty specified in individual sections when all the Work has been completed, the final inspection made, and final acceptance and final payment have been made by the OWNER.
- B. After final inspection and upon receipt of satisfactory evidence of payment for all labor and materials used in the Work, the OWNER will notify the OWNER, in writing, of his acceptance of the Work performed under the contract and of his recommendations in respect to final payment to the CONTRACTOR.

1.04 FINAL SUBMITTALS

- A. Before the final acceptance of the project, the CONTRACTOR shall submit to the OWNER certain records, certification, etc., which are specified elsewhere in the Contract Documents. Missing, incomplete or unacceptable items, as determined by the OWNER, shall constitute grounds for withholding final payment to the CONTRACTOR. A partial list of such items appears below, but it shall be the CONTRACTOR's responsibility to submit any other items which are required in the Contract Documents:

1. Written test results of project completion
2. Written guarantees, where required
3. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
4. Video tapes and logs of all lines televised
5. Pre-construction photos
6. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

1.05 FINAL CLEANUP

- A. The CONTRACTOR shall promptly remove from the vicinity of the completed Work, all rubbish, unused materials, concrete forms, construction equipment, temporary structures and facilities, construction signs, tools, scaffolding, materials, supplies and equipment which may have been used in the performance of the work. The CONTRACTOR shall broom clean paved surfaces and rake clean other surfaces of grounds. Final acceptance of the Work by the OWNER will be withheld until the CONTRACTOR has satisfactorily complied with foregoing requirements for final cleanup of the project site.**

PART 2 - PRODUCT (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01740

WARRANTIES

PART 1 - GENERAL

1.01 ONE YEAR WARRANTY

- A. Unless specified otherwise by individual specification sections, the CONTRACTOR shall warrant the fitness and soundness of all Work done and materials and equipment put in place under the Contract for a period of one (1) year after the completion of the Contract, and neither the payment of the final estimate nor any provision in Contract Documents nor partial or entire occupancy of the premises by the Owner shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve the CONTRACTOR of liability in respect to any express warranties or responsibility for faulty materials or Workmanship. The CONTRACTOR shall remedy all defects in the Work and pay for any damage to other Work resulting there from, which shall appear within a period of one year from the date of final acceptance of the Work, unless a longer period is specified in individual sections. The OWNER will give notice of observed defects with reasonable promptness. The accepted date of the beginning of the one- (1) year warranty shall be the date of final estimate payment to the CONTRACTOR by the OWNER.

1.02 FORM OF SUBMITTALS

- A. Warranty shall be bound in commercial quality 8-1/2 x 11 inch, three D side ring binders with durable plastic covers.
- B. Identify each binder with typed or printed title WARRANTIES with title of project; name, address, and telephone number of CONTRACTOR, equipment supplier, and name of responsible company principal.
- C. Table of Contents shall be neatly typed with each item identified with the number and title of the specification section in which specified, and the name of the product or Work item.
- D. Each warranty shall be separated with index tab sheets keyed to the Table of Contents listing. The CONTRACTOR shall provide full information, using separate type sheets as necessary. The CONTRACTOR shall list subcontractor, supplier, and manufacturer, with name, address, and telephone number of responsible principal.

1.03 PREPARATION OF SUBMITTALS

- A. The CONTRACTOR shall obtain warranties executed in duplicate by responsible subcontractors, suppliers, and manufacturers, within ten (10) days after completion of the applicable item of Work. Except for items put into use with

OWNER's permission, the CONTRACTOR shall leave date of beginning of time of warranty until the Date of Completion is determined.

- B. The CONTRACTOR shall verify that documents are in proper form, contain full information, and are notarized.
- C. The CONTRACTOR shall co-execute submittals when required.
- D. The CONTRACTOR shall retain warranties until time specified for submittal.

1.04 TIME OF SUBMITTALS

- A. For equipment or component parts of equipment put into service during construction with OWNER's permission, the CONTRACTOR shall submit documents within ten (10) days after acceptance.
- B. The CONTRACTOR shall make other submittals within ten (10) days after Date of Substantial Completion, prior to final Application for Payment.
- C. For items of Work for which acceptance is delayed beyond Date of Completion, the CONTRACTOR shall submit within ten (10) days after acceptance, listing the date of acceptance as the beginning of the warranty period.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 02500

RESTORATION AND CLEANUP

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. This section covers the work necessary to provide and coordinate the restoration and cleanup of areas disturbed during construction.
- B. All areas disturbed or damaged during construction shall be restored to conditions existing prior to the work.

1.03 SUBMITTALS

- A. Submitted construction progress schedule should indicate restoration, by restoration type following the sequencing specified herein. Final cleanup time should also be referenced to the progress schedule.
- B. Submittals shall be in accordance with Section 01300 - Submittals.

PART 2 - PRODUCTS

2.01 ROCK FOR UNPAVED ACCESS ROADWAYS

- A. Rock shall be selected to match existing adjacent material.

PART 3 - EXECUTION

3.01 ROCK ACCESS ROADWAY RESTORATION

- A. Replace gravel where disturbed to match existing type. Thickness required shall match thickness of existing gravel.

3.02 SODDING

- A. Sod shall be placed to the extent to achieve the conditions existing prior to the work.
- B. Properly prepare subgrade prior to placing sod. Remove excess materials, hand rake and level as necessary to place sod evenly and at grades to match adjacent existing surfaces. Finish sod installation shall provide unimpeded sheet flow of surface water drainage.

- C. Lay sod to form a solid mass with tight-fitting joints. Butt ends and sides of sod strips. Do not overlap. Stagger strips to offset joints in courses. Tamp or roll sod lightly to insure uniform contact with subgrade. Fill minor cracks between pieces of sod with sifted soil.
- D. Where necessary to prevent slippage of new installed sod, peg or pin sod securely using 1" x 1" x 6" wood pegs, driven flush with top of sod.
- E. Water sod thoroughly with a fine spray immediately after installation.
- F. Do not install sod on Friday, Saturday or Sunday, unless provisions are made to water manually or automatically.
- G. CONTRACTOR shall make arrangements to water installed sod through Final Completion of project. Minimum watering frequency required is two waterings per week.

3.03 RESTORATION SEQUENCE

- A. Remove and dispose of excess fill materials.
- B. Properly sod areas requiring restoration.

END OF SECTION

SECTION 02730

PREPATORY CLEANING AND ROOT REMOVAL

PART 1 - GENERAL

1.01 WORK INCLUDED

1.02 A. This Section covers the preparatory cleaning of sewer lines and manholes as needed prior to the internal survey of the sewer lines by closed-circuit television. It also covers the preparatory cleaning and root removal of sewer lines and the cleaning of manholes prior to rehabilitation. The CONTRACTOR shall furnish all necessary material, labor, equipment and services required for cleaning the specific sewer lines.

1.03 DEFINITIONS

- A. Sewer Line Cleaning: Removal of foreign materials from sewer lines to restore the sewer to a minimum of 95% of the original carrying capacity, for proper seating of pipe lining, or as required by other specified rehabilitation. It is recognized that there are some conditions such as broken pipe and major blockages that prevent cleaning from being accomplished or where additional damage would result if cleaning were attempted or continued. Should such conditions be encountered, the CONTRACTOR will not be required to clean those specific sewer sections. If, in the course of normal cleaning operations, damage does result from preexisting and unforeseen conditions such as broken pipe, the CONTRACTOR will not be held responsible.
- B. Manhole Cleaning: All concrete and masonry surfaces must be cleaned prior to repair. Removal of grease, laitance, loose bricks, mortar, unsound concrete, and other materials from manholes. Water blasting (minimum 2000 psi), utilizing proper nozzles, shall be the primary method of cleaning; however, other methods, such as wet or dry sandblasting, acid wash, concrete cleaners, degreasers, or mechanical means may be required to properly clean the surface. Surfaces on which these other methods are used shall be thoroughly rinsed, scrubbed, and neutralized to remove cleaning agents and their reactant products.
- C. Television Inspection: Operation necessary to complete an internal inspection for verification of existing conditions prior to performing rehabilitation and to verify for approval of rehabilitated sewer segments. CONTRACTOR shall furnish all labor, materials, equipment, tools, and other incidental services for closed circuit television inspection or work.
- D. Light Cleaning: The removal of sand and/or debris occupying up to 25% of the diameter of the pipe.
- E. Medium Cleaning: The removal of sand and/or debris occupying between 25% and 50% of the diameter of the pipe.

- F. Heavy Cleaning: The removal of sand and/or debris occupying more than 50% of the diameter of the pipe.
- G. Specialty Cleaning: The removal of grease, roots, and tuberculation in cast iron pipe; the use of special equipment such as bucket machines; root cutters or internal protruding tap remover.

PART 2 - PRODUCTS

2.01 CLEANING EQUIPMENT

- A. High-Velocity Jet (Hydrocleaning) Equipment: All high-velocity sewer cleaning equipment shall be constructed for ease and safety of operation. The equipment shall have a selection of two or more high-velocity nozzles. The nozzles shall be capable of producing a scouring action from 15 to 45 degrees in all size lines designated to be cleaned. Equipment shall also include a high-velocity gun for washing and scouring manhole walls and floors and produce at least 2000-psi pressure. The gun shall be capable of producing flows from a fine spray to a solid stream. The equipment shall carry its own water tank, auxiliary engines, pumps, and hydraulically driven hose reel.
- B. Mechanically Powered Equipment or Bucket machines used by the CONTRACTOR shall be in pairs with sufficient power to perform the work in an efficient manner. Machines shall be belt operated or have an overload device. Machines with direct drive that could cause damage to the pipe will not be allowed. The power rodding machine shall be either a sectional or continuous rod type capable of holding a minimum of 750 feet of rod. The rod shall be specifically heat-treated steel. To ensure safe operation, the machine shall be fully enclosed and have an automatic safety clutch or relief valve.
- C. Hydraulically Propelled Equipment: The equipment used shall be of a movable dam type and be constructed in such a way that a portion of the dam may be collapsed at any time during the cleaning operation to protect against flooding of the sewer. The movable dam shall be equal in diameter to the pipe being cleaned and shall provide a flexible scraper around the outer periphery to insure removal of grease. If sewer cleaning balls or other equipment which cannot be collapsed is used, special precautions to prevent flooding of the sewers and public or private property shall be taken.

2.02 TELEVISION INSPECTION EQUIPMENT

- A. Television inspection equipment used by the Contractor shall conform to the requirements of Section 02752 – Television Survey.

PART 3 - EXECUTION

3.01 SANITARY SEWER SYSTEM CLEANING

- A. The CONTRACTOR shall notify the local fire department and the OWNER to obtain approval and water meter, if required, before using fire hydrants.
- B. During sewer cleaning operations, satisfactory precautions shall be taken by the CONTRACTOR in the use of cleaning equipment. When hydraulically propelled cleaning tools (which depend upon water pressure to provide their cleaning force) or tools which retard the flow in the sewer line are used, precautions shall be taken to ensure that the water pressure created does not damage or cause flooding of public or private property being served by the owner. When possible, the flow of wastewater in the sewer shall be utilized to provide the necessary pressure for hydraulic cleaning devices. When additional water from fire hydrants is necessary to avoid delay in normal work procedures, the water shall be conserved and not used unnecessarily. No fire hydrant shall be obstructed in case of a fire in the area served by the hydrant.
- C. The designated sewer manhole sections shall be cleaned by the CONTRACTOR using hydraulically propelled, high-velocity jet, or mechanically powered equipment. Selection of the equipment used shall be based on the conditions of lines at the time the work commences. The equipment and methods selected shall be satisfactory to the OWNER. The equipment shall be capable of removing dirt, grease, rocks, sand, and other materials and obstructions from the sewer lines and manholes. If cleaning of an entire section cannot be successfully performed from one manhole, the equipment shall be set up on the other manhole and cleaning again attempted. If, again, successful cleaning cannot be performed or the equipment fails to traverse the entire manhole section, it will be assumed that a major blockage exists and the cleaning effort shall be repeated with other types of equipment.
- D. ALL sludge, dirt, sand, rocks, grease, and other solid or semi-solid material resulting from the cleaning operation shall be removed at the downstream manhole of the section being cleaned. Passing material from manhole section to manhole section, which could cause line stoppages, accumulations of sand in wet wells, or damage pumping equipment, shall not be permitted.
- E. Under no circumstances shall sludge or other debris removed during these operations be dumped or spilled into the streets, ditches, storm drains or other sanitary sewers. The CONTRACTOR shall remove from the site and properly dispose of all solids or semi-solids recovered during the cleaning operation. The CONTRACTOR shall obtain permits and make arrangements as required to properly dispose of solids.
- F. The CONTRACTOR is advised that he shall not dispose of this material by legal or illegal dumping on private or public property, by sale to others, or any means other than those given above.
- G. The CONTRACTOR shall keep his haul route and work area(s) neat and clean and reasonably free of odor, and shall bear all responsibility for the cleanup of

any spill which occurs during the transport of cleaning/surface preparation by-products and the cleanup of any such material which is authorized by or pursuant to this contract and in accord with applicable law and regulations. The CONTRACTOR shall immediately cleanup any such spill, or waste. If the CONTRACTOR fails to cleanup such spill, or waste immediately, the OWNER shall have the right to cleanup or arrange for its cleanup and may charge to the CONTRACTOR all costs, including administrative costs and overhead, incurred by the OWNER in connection with such cleanup. The OWNER may also charge to the CONTRACTOR any costs incurred or penalties imposed on the OWNER as a result of any spill, dump or discard. Under no circumstances is this material to be discharged into the waterways or any place other than where authorized to do so by the appropriate authority. The term "CONTRACTOR" as used in this section shall include the CONTRACTOR'S subcontractors and other Contractors.

- H. The general requirements for vehicles hauling such waste materials are as follows: Transport vehicles must be of type(s) approved for this application by the political jurisdictions involved. General requirements are that the vehicles have watertight bodies, that they be properly equipped and fitted with seals and covers to prohibit material spillage of drainage, and that they be cleaned as often as is necessary to prevent deposit of material on roadways. Vehicles must be loaded within legal weight limits and operated safely within all traffic and speed regulations.
- I. The routes used by the CONTRACTOR for the conveyance of this material on a regular basis shall be subject to approval by the governing authority having jurisdiction over such routes.

3.02 ROOT REMOVAL

- A. Roots shall be removed by the CONTRACTOR from sections designated to be relined. Special attention shall be used during the cleaning operation to ensure complete removal of roots from the joints. Any roots which could prevent the traveling of the packer or could prevent the proper application of chemical sealants, or could prevent the proper seating and application of cured-in-place liners, shall be removed. Procedures may include the use of mechanical equipment such as rodding machines, bucket machines and winches using root cutters and porcupines, and equipment such as high-velocity jet cleaner. When specifically directed, chemical root treatment shall be used before the root removal operation, and grouting will take place after root removal in accordance with Section 02763 – Chemical Grouting. CONTRACTOR shall capture and remove all roots from the line.

3.03 DISPOSAL OF MATERIALS

- A. All solids or semi-solids resulting from the cleaning operations shall be removed from the site and disposed of in accordance with applicable regulations. All materials shall be removed from the site no less often than at the end of each

workday. Under no circumstances shall the CONTRACTOR be allowed to accumulate, debris etc., on the site beyond the stated time, except in totally enclosed containers and as approved by the OWNER. The CONTRACTOR shall submit a plan for disposal of solids to the OWNER.

3.04 TELEVISION INSPECTION

- A. Television inspection shall be performed by the CONTRACTOR in accordance with requirements of Section 02752 - Television Survey.

3.05 FINAL ACCEPTANCE

- A. Acceptance of sewer line cleaning shall be made upon the successful completion of the television inspection by the CONTRACTOR and shall be to the satisfaction of the ENGINEER. If a TV inspection shows the cleaning to be unsatisfactory, the CONTRACTOR shall be required to re-clean and re-inspect the sewer line until the cleaning is shown to be satisfactory. In areas where television inspection is not performed, the OWNER may require the CONTRACTOR to pull a double squeegee (with each squeegee the same diameter as the sewer) through each manhole section as evidence of adequate cleaning. If lining is to follow the television inspection, particular attention shall be given to the adequacy of the cleaning to ensure that proper seating of the liner can be achieved.
- B. In addition, on all those lines which have sags or dips, to an extent that the television camera lens becomes submerged for three (3) or more feet during the television inspection, the CONTRACTOR shall pull double squeegee and/or sponges through the line in order to remove the water from those dips or sags, or draft the water by means of high-velocity jet cleaners. Water removal shall be performed until the television camera lens will no longer be submerged. This requirement may be waived by the OWNER if the water in which the camera lens is submerged is clear enough to allow the identification of pipe defects, cracks, holes and location of service taps.

END OF SECTION

SECTION 02750

WASTEWATER FLOW CONTROL

PART 5 - GENERAL

5.01 WORK INCLUDED

- A. The work specified in this Section includes all labor, materials, accessories, equipment and tools for performing all operations required to bypass pump sewage around a manhole or sewer section in which work is to be performed. The CONTRACTOR shall be prepared to bypass pump sewage as a part of his operations.
- B. The CONTRACTOR shall provide all pumps, piping, and other equipment to accomplish this task; perform all construction; obtain all permits; pay all costs; and perform complete restoration of all existing facilities to equal or better condition to the satisfaction of the OWNER.

5.02 SUBMITTALS

- A. The CONTRACTOR shall submit a complete and detailed wastewater flow control plan to the OWNER for review, prior to commencing wastewater flow control work.

PART 6 - PRODUCTS

6.01 PIPE FOR FLOW DIVERSION

- A. Ductile Iron Pipe: Ductile Iron Pipe and Fittings is acceptable for use for flow diversion during construction.
- B. Polyethylene Pipe: Polyethylene material shall comply with the requirement for Type III polyethylene, C-5 and P-34 as tabulated in ASTM D-1248 and have the Plastic Pipe Institute recommended designation pe3406. The material shall also have an average specific base resin density of between 0.94 g/cc and 0.955 g/cc (ASTM D-1505). Pipe made from these resins must have a long-term strength (50 years) rating of 1,250 psi or more per hydrostatic design basis categories of ASTM d-2837. The polyethylene resin shall have an environmental stress crack resistance, condition C as shown in ASTM D-1693, to be greater than 500 hours 20% failure. All pipe shall be made from the manufacturer's own production of the same formulation shall be used. The polyethylene resin shall have an average melt flow index, condition E as shown in ASTM D-1238, not in excess of 0.25 g/10 min. Pipe shall be homogeneous throughout, and free of visible cracks, holes, foreign material, blisters, or other deleterious faults. Diameters and wall thickness shall be measured in accordance with ASTM D-2122. Pipe joining will be done by thermal butt fusion method in accordance with ASTM D-2657.

- C. Acrylonitrile-Butadiene-Styrene (ABS): ABS pipe shall comply with requirements of ASTM D-2751.

PART 7 - EXECUTION

7.01 GENERAL

- A. All materials used for wastewater flow control shall be pre-approved by the Engineer prior to commencing wastewater flow control activities.
- B. When wastewater flow at the upstream manhole of the sewer section being repaired are above the maximum allowable requirements for television survey, or do not allow the proper sewer or manhole repair, the flows shall be reduced to the levels required by one of the following methods: manual operation of pumping stations by OWNER forces, by the CONTRACTOR plugging/blocking of the flows, or the CONTRACTOR pumping/bypassing of the flows as acceptable to the OWNER.
- C. In some applications, the wastewater flow may be plugged and contained within the capacity of the collection system. This shall only be done when it has been determined, that the system can accommodate the surcharging without any adverse impact.
- D. For the initial television inspection, before a liner is installed, the CONTRACTOR shall plug the sewer line completely. No flow, except infiltration/inflow, will be allowed through the respective sewer line being televised on the pre-repair television survey or the post-repair television survey.
- E. When sewer flow at the upstream manhole of the line being repaired, in the opinion of the OWNER, are too excessive to plug while the rehabilitation is being performed; the CONTRACTOR shall submit a written plan and pump/bypass the flow as acceptable to the OWNER.
- F. When existing storm or sanitary sewers are required to be taken up, moved, or rebuilt, the CONTRACTOR, at his own expense, shall provide and maintain temporary outlets and connections for all private or public drains, sewer, and sewer outlets connected to or served by the sewers to be rebuilt, and where necessary, shall provide adequate pumping facilities; and shall maintain these services until such time as the permanent sewers and connections are built and in service at no cost to the owner.
- G. During construction, flows in sections of the existing sewer being rehabilitated by removal and replacement shall be accommodated by temporary flow diversion. Wastewater flow diversion shall be accomplished as specified in this section, unless otherwise shown on the Plans.
- H. In sections of the existing sewer being rehabilitated by laying a new line parallel to the existing sewer, the existing sewer may be used to accommodate the existing

flow and no temporary flow diversion will be necessary if the existing sewer is not damaged or its use restricted by the CONTRACTOR'S operations.

- I. All pipe material utilized in wastewater flow diversion during construction shall be in good condition, and free of defects, and leaks. The CONTRACTOR at no cost to the owner shall replace any defective material. Upon completion of the job, pipe materials shall be removed from the site.

7.02 DEPTH OF FLOW

- A. In performing television inspection, joint testing, and/or sealing and other sewer rehabilitation work, the CONTRACTOR shall control the depth of flow in the sewer within the following guideline:

MAXIMUM FLOW DEPTH			
TELEVISION INSPECTION		JOINT TESTING AND SEALING	
PIPE SIZE	% PIPE DIA.	PIPE SIZE	% PIPE DIA.
6" - 10"	20	6" - 12"	25
12" - 24"	25	15" - 24"	30
27" or larger	30	27" or larger	35

- B. When sewer line flow, as measured in the first manhole upstream of the sewer segment being rehabilitated, exceed the maximum depth listed above or inspection of the complete pipe periphery is necessary for effective testing, sealing, or line work, the CONTRACTOR shall implement wastewater flow control methods at no additional cost to the OWNER.

7.03 PLUGGING AND BLOCKING

- A. The CONTRACTOR shall insert a sewer line plug into the line at a manhole upstream from the section being inspected or repaired. The plug shall be so designed that all or any portion of the flow can be released. During the survey portion of the operation, flows shall be shut off or reduced to within the maximum flow limits specified. During repairs, the flow shall be shut off or

pumped/bypassed, as approved by the OWNER. Wastewater flow shall be restored to normal following completion of work within the subject sewer section.

7.04 PUMPING AND BYPASSING

- A. When pumping/bypassing is required, as determined by the OWNER, the CONTRACTOR will supply the necessary pumps, conduits and other equipment to divert the flow of sewage around the manhole section in which work is to be performed. The bypass system shall be of sufficient capacity to handle existing flows plus additional flow that may occur during periods of rain storms. The CONTRACTOR will be responsible for furnishing the necessary labor and supervision to set up and operate the pumping and bypassing system. A “setup” consists of the necessary pumps, conduits and other equipment to divert flow of sewage around a manhole section, from the start to finish of work performed in the manhole section.
- B. Pumps and equipment shall be continuously monitored by a maintenance person capable of starting, stopping, refueling and maintaining these pumps during the rehabilitation. If pumping is required on a 24-hour basis, engines shall be equipped in a manner to keep noise to a minimum.

7.05 FLOW CONTROL PRECAUTIONS

- A. Surcharging Sewers. Where the raw sewage flow is blocked or plugged, sufficient precautions must be taken to protect the public health. No septic conditions shall be allowed due to CONTRACTOR’S operations. The sewer lines shall also be protected from damage. The following occurrences shall not be allowed:
 - 1. No wastewater shall be allowed to back up into any home or buildings.
 - 2. No wastewater shall overflow any manholes, cleanouts, or any other access to the sewers.
 - 3. Users upstream of the repair area shall be able to use all their water and sewer utilities without interruption.
- B. If any of the above occur or are expected to occur, the CONTRACTOR shall provide bypass pumping to alleviate one or all of the conditions. Additionally, the CONTRACTOR shall observe the conditions upstream of the plug and be prepared to immediately start bypass, if needed. It is the CONTRACTOR’S responsibility to pay for all damage claims.
- C. Any sump pumps, bypass pumps, trash pumps, or any other type of pump which pulls wastewater or any type of material out of the manhole or sewer shall discharge the material into another manhole, or appropriate vehicle or container approved by the OWNER. Under no circumstance shall this material be discharged, stored, or deposited on the ground, swale, road, or open environment.

- D. The CONTRACTOR shall take appropriate steps to ensure that all pumps, piping, and hoses that carry raw wastewater are protected from traffic. Traffic control shall be performed in accordance with Section 01570 - Traffic Regulations and Maintenance of Traffic.
- E. In the event, during “Wastewater Flow Control,” that raw wastewater is spilled, discharged, leaked, or otherwise deposited in the open environment, due to the CONTRACTOR’S work, the CONTRACTOR shall be responsible for any cleanup of solids and stabilization of the area affected. This work shall be performed at the CONTRACTOR’S expense with no additional cost to the OWNER. The CONTRACTOR shall also be responsible for notifying the sewer system maintenance personnel and complying with any and all regulatory requirements for cleaning up the spill at no additional cost to the OWNER.
- F. During wastewater flow control operations, the CONTRACTOR shall take proper precautions to prevent damage to existing sanitary sewer facilities, flooding, or damage to public or private property.
- G. The CONTRACTOR shall be responsible for the removal of any debris sedimentation in the existing sewers, laterals, and manholes, etc., which is attributed to his work under this Contract.
- H. The CONTRACTOR shall perform all operations in strict accordance with OSHA regulations and any applicable local safety requirements. Particular attention is directed to safety regulations for excavations and entering confined spaces.
- I. It is the CONTRACTOR’S responsibility to notify in writing any property owner having a sewer service connection on the sewer being rehabilitated or replaced that such work is being performed. The CONTRACTOR shall notify property owner’s 48 hours prior to commencing sewer rehabilitation or replacement. The Contractor shall be solely responsible for any damage caused by property service connection and backups caused by the sewer rehabilitation operations.

END OF SECTION

SECTION 02752

TELEVISION SURVEY

PART 1 - GENERAL

1.01 WORK INCLUDED

1. The work consists of furnishing all labor, materials, accessories, equipment, tools, transportation, services and technical competence for performing all operations required to execute the internal closed circuit television survey to inspect the entire barrel of sewers up to 36 inches in diameter and sewer laterals.
2. The survey shall show all defects and determine amount of infiltration entering the sewer system.
3. Prior to any testing, all lines and laterals shall be cleaned of debris, cleaned of tuberculations through mechanical removal and flushed clean. Debris shall be caught and removed from the lines and laterals and shall not be flushed into existing live sanitary sewers.

1.02 GENERAL

1. After cleaning as specified in Section 02730 – Preparatory Cleaning and Root Removal, and after rehabilitation operation/replacement work, the pipe sections shall be visually surveyed by means of closed-circuit television in the presence of the OWNER. The survey shall be performed one manhole-to-manhole section or one lateral at a time and the flow in the section being surveyed shall be suitably controlled as described in Section 02750 – Wastewater Flow Control.
2. Post-construction survey video on CD_ROM shall be delivered to the OWNER on a “one line per CD-ROM” or a “one line per CD-ROM” basis, accompanied with the corresponding work order, and post-TV log, for each sewer line or lateral surveyed. The video on CD-ROM shall be direct form a live video source into video file, format MPEG1.

1.03 EQUIPMENT

1. The television camera used for the survey shall be one specifically designed and constructed for such survey and shall be of the pan and tilt type. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. Then camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing a minimum 700 line resolution color video picture. The CONTRACTOR shall maintain camera in clear focus at all times. Picture quality and definition shall be to the satisfaction of the OWNER; and if unsatisfactory,

equipment shall be removed and replaced with adequate equipment at no additional cost to the OWNER.

2. The video camera shall include a titler feature capable of showing on the tape the following information:
 1. City and State
 2. Date/Time
 3. CONTRACTOR's Name
 4. Line Size, Material, and Depth
 5. Manhole Identification (both manholes) and direction of video
 6. Lateral identification.
 7. On-going Footage Counter

1.04 SUBMITTALS

- A. The CONTRACTOR shall submit shop drawings and other information in accordance with Section 01300 – Submittals. The CONTRACTOR's submittals shall include description of the software to be used and a sample of the video titles to be used, along with a sample of the television survey log to be used.

PART 2 - PRODUCTS

Not Applicable

PART 3 - EXECUTION

3.01 POST CONSTRUCTION SURVEY

- A. Procedure
 1. After the rehabilitation work has been completed, the entire sewer line (from manhole to manhole) or lateral shall be televised. The camera shall be placed at the center of the manholes and laterals and videotaping shall commence prior to entering the pipe. The CONTRACTOR shall show the inside of the manhole walls and the pipe connection to the wall at both the upstream and downstream manhole.
 2. The camera shall be moved through the lines and laterals in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's condition. In no case shall the television camera be pulled at a speed greater than 30 feet per minute. Manual

winches, power winches, TV cable, powered rewinds and tractors or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions shall be used to move the camera through the sewer line. If the camera is being pulled through the sewer line by a hydraulic cleaning unit hose, the cleaning nozzle shall be located a minimum of eight (8) feet away from the camera to allow a clear, unobstructed view. Jet nozzle shall be used in front of camera while televising through a dip to draft out water. If, during the survey operation, the television camera will not pass through the entire manhole section, the CONTRACTOR shall set up his equipment so that the survey can be performed from the opposite manhole. In addition the CONTRACTOR shall stop camera at all point repairs, sectional repairs, and reinstated laterals, and inspect entire repaired pipe section.

3. Whenever non-remote powered and controlled winches are used to pull the television camera through the line and lateral, telephones or other suitable means of communication shall be set up between the two manholes of the section being surveyed to insure good communications between member of the crew.
2. Measurement for location of defects shall be above ground by means of a meter device. Marking on the cable, or the like, which would require interpolation for depth of manhole, will not be allowed. Measurement meters shall be accurate to tenths of a foot over the length of the section being surveyed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, electronic distance meter or other suitable device. Manhole numbers and linear footage shall be shown on screen during taping.

B. Field Documentation

1. Television Inspection Forms (Survey Logs). Printed and electronically stored location records shall be kept by the CONTRACTOR and will clearly show the location in relation to an adjacent manhole of each infiltration point observed during survey. Upstream footage at face of manhole (0) and downstream footage at face of manhole (e.g. 2500 shall be shown on the log. The television inspection forms to be utilized by the CONTRACTOR shall be those mandated by NASSCO's (National Association of Sewer Survey Companies) PACP (Pipe Line Assessment and Certification Program). Both the "Header" and "Details" information of the form shall be entered as indicated in the PACP standards. The survey logs shall include, but not be limited to the following information:
 - a. Correct pipe segment/manhole numbers/lateral identification
 - b. Correct address of manhole/lateral location

- c. Pipe/Lateral size, length and material
- d. Manhole depth (up and downstream)
- e. Lift station service area number
- f. CD number and index
- g. Footage locations, descriptions and estimated leak rates for visible point sources of infiltration inflow.
- h. Footage locations and descriptions of structural defects such as obstructions, any remaining root intrusion, offset joints, cracked pipe, fractured pipe, holes, collapses, sags, protruding service connections and/or blockages in the pipe.

The terminology to be used shall follow NASSCO's PACP standards. All information will be recorded and a copy of such electronic records and a hard copy will be supplied to the OWNER.

- 2. Photographs. Digital photographs of the television picture of problems shall be taken by the CONTRACTOR upon request of the OWNER.
- 3. Video Recordings. The purpose of video (CD-ROM) recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. CD-ROM recording playback shall be at the same speed that it was recorded. Slow motion or stop motion playback features shall be supplied by the CONTRACTOR. Once recorded, the CD-ROM becomes property of the OWNER. The CONTRACTOR shall have all CD-ROM and necessary playback equipment readily accessible for review by the OWNER during the Project.

END OF SECTION

SECTION 02760

SERVICE LATERAL TELEVISION SURVEY

PART 4 - GENERAL

4.01 WORK INCLUDED

1. The work consists of furnishing all labor, materials, accessories, equipment, tools, transportation, services and technical competence for performing all operations required to execute the internal closed circuit television survey to inspect the sewer service laterals.
2. The survey shall show all defects and determine amount of infiltration entering the sewer system.
3. Prior to any testing, all laterals shall be cleaned of debris, cleaned of tuberculation through mechanical removal and flushed clean. Debris shall be caught and removed from the lines and laterals and shall not be flushed into existing live sanitary sewers.

4.02 GENERAL

1. After cleaning as specified in Section 02730 – Preparatory Cleaning and Root Removal, and after rehabilitation operation/replacement work, the pipe sections shall be visually surveyed by means of closed-circuit television in the presence of the OWNER. The survey shall be performed one lateral at a time and the flow in the section being surveyed shall be suitably controlled as described in Section 02750 – Wastewater Flow Control.
2. Pre- and post-construction survey video on CD_ROM shall be delivered to the OWNER on a “one line per CD-ROM” or a “one line per CD-ROM” basis, accompanied with the corresponding work order, and pre- and post-TV log, for each lateral surveyed. The video on CD-ROM shall be direct form a live video source into video file, format MPEG1.

4.03 EQUIPMENT

1. The television camera used for the survey shall be one specifically designed and constructed for such survey and shall be of the pan and tilt type. A Sonde locating device shall be attached to the camera. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. Then camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing a minimum 700 line resolution color video picture. The CONTRACTOR shall maintain camera in clear focus at all times. Picture quality and definition shall be to the satisfaction of the OWNER; and if unsatisfactory, equipment shall be

removed and replaced with adequate equipment at no additional cost to the OWNER.

2. The camera system shall be able to inspect 4- and 6-inch lateral connections up to 70 feet from the sewer mainline. The launcher shall be mounted on a tread tractor that moves through main sewers and positions the inspection camera launcher opposite the lateral line connection.
3. The camera system shall have mini black and white or color, fixed position, “positioning” camera to observe and place the mini color, push, “inspection” camera at the lateral. The inspection camera shall be attached to an 80-foot long push cable with a fiberglass rod core for cable rigidity. The camera head shall point forward while traveling through the sewer mainline.
4. The camera used from a cleanout shall be able to be launched from the cleanout and travel down to the sewer mainline, up to 100 feet. The camera shall be able to inspect 4- and 6-inch lateral connections.
5. A Sonde shall be provided for locating unmarked sewer laterals. A sonde is a transmitter tied on a line and moved through a sewer or duct. A receiver on the surface follows its movement, documenting the line location. The pipe position is then marked on the ground. The sonde is pushed farther into the pipe, the receiver relocates the sonde and the pipe position is marked again. This process is repeated until the desired section of pipe is traced. It is pulled out on completion of the locate. The sonde will be inserted into the lateral through a sewer cleanout or, in case of no cleanout, through a roof vent to locate the cleanout as well as unmarked sewer lateral. The sonde may also be attached to the lateral television camera.
6. The video camera shall include a titler feature capable of showing on the tape the following information:
 1. City and State
 2. Date/Time
 3. CONTRACTOR’s Name
 4. Line Size, Material, and Depth
 5. Manhole Identification (both manholes) and direction of video
 6. Lateral identification.
 7. On-going Footage Counter

4.04 SUBMITTALS

- A. The CONTRACTOR shall submit shop drawings and other information in accordance with Section 01300 – Submittals. The CONTRACTOR’s submittals shall include description of the software to be used and a sample of the video titles to be used, along with a sample of the television survey log to be used.

PART 5 - PRODUCTS

Not Applicable

PART 6 - EXECUTION

6.01 PRE-CONSTRUCTION SURVEY

1. Procedure

- 1. Prior to any repair work, the entire service lateral (from mainline to property line/cleanout, whichever is farther from the mainline) shall be televised.
- 2. Measurement for location of defects shall be above ground by means of a meter device. Measurement meters shall be accurate to tenths of a foot over the length of the section being surveyed. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device. Linear footage shall be shown on screen during recording.
- 3. Movement of the television camera shall be temporarily halted for a minimum of ten seconds at each visible point of flow until the source and flow rate from that point are determined.
- 4. The inspection shall be performed from either the main sewer or the cleanout with proper equipment specified. If the CONTRACTOR chooses to perform the inspection from the cleanout and the cleanout is either inaccessible or does not exist, he shall install a cleanout to facilitate the inspection. All costs of material, equipment, labor, and other costs due to unspecified field conditions shall be borne by the CONTRACTOR. Payment for cleanout installation shall be made by the OWNER as indicated in Section 01025, Measurement and Payment.
- 5. Above ground horizontal location of lateral shall be marked every five (5) feet utilizing surveyor’s paint on asphalt or concrete surface and surveyor’s flags in grass. Approximate depth of laterals at these locations shall be recorded on TV logs.

2. Field Documentation

- 1. Television Survey Logs: Location of the lateral by indicating the upstream manhole number, distance from the upstream manhole, lateral connection to the mainline (left, center or right), and address of the customer serviced

by the lateral, shall be noted on the television survey log. Printed and electrically stored location records shall be kept by the CONTRACTOR and will clearly show the location, in relation to the cleanout or the mainline of each infiltration point observed during survey. Footage shall be shown on the log. In addition, other points of significance such as unusual conditions, roots, broken pipe, presence of scale and corrosion, and other discernible features will be recorded and a copy of such records will be supplied to the OWNER. The CONTRACTOR shall measure the depth of the upstream and downstream manholes. Measurements shall be from the invert of the pipe to the top of the manhole rim and shall be recorded on the survey log.

2. Photographs: Digital photographs of the television picture of problems shall be taken by the CONTRACTOR upon request of the OWNER.
3. Video Recordings: The purpose of video (CD-ROM) recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. CD-ROM recording playback shall be at the same speed that it was recorded. Slow motion or stop motion playback features shall be supplied by the CONTRACTOR. Once recorded, the CD-ROM becomes the property of the OWNER. The CONTRACTOR shall have all CD-ROM and necessary playback equipment readily accessible for review by the OWNER during the Project.
4. Audio: All CD-ROM shall have audio record. As a preamble, at the beginning of the CD-ROM, the CONTRACTOR shall state the following: “(Contractor’s Name) is performing a pre/post TV survey for Job No. _____ (provided by the OWNER), Miami-Dade County”. Start date, time, operator’s name, area, pipe size and material, upstream manhole number and depth. The CONTRACTOR shall verbally state the position of the lateral with respect to the upstream manhole and describe defects. At the end of each line, state: “End of line” and total linear footage.

6.02 POST CONSTRUCTION SURVEY

A. Procedure

1. The same procedures shall be used as indicated in Section 3.01 PRECONSTRUCTION SURVEY.
2. In addition, the CONTRACTOR shall stop the camera at all point repairs and inspect entire repaired pipe sections.
3. The CONTRACTOR shall invert white foreground to black as needed in the line section with light background.

4. In the case of a post-liner survey, the CONTRACTOR shall fully televise both ends of the liner so that the fit of the liner to the host pipe can be evaluated.
5. The post-liner television survey shall be done within 2 weeks of liner installation.

C. Post Construction Survey

4. 1. The same documentation shall be provided as indicated in Section 3.01 PRE-CONSTRUCTION SURVEY.

6.03 LOCATION OF LATERAL FROM RESIDENCE

A. Procedure

1. Run a sonde through a roof vent to locate cleanout as well as unmarked sewer lateral. A sonde is a transmitter tied on a line and moved through a sewer or duct. A receiver on the surface follows its movements, documenting the line location. The pipe position is then marked on the ground. The sonde is pushed farther into the pipe, the receiver relocates the sonde and the pipe position is marked again. This process is repeated until the desired section of pipe is traced. It is pulled out on completion of the locate.

2. Documentation

1. Above ground horizontal location of lateral shall be marked every five (5) feet utilizing surveyor's paint on asphalt or concrete surface and surveyor's flags in grass. Approximate depth of laterals at these locations shall be recorded on the TV logs. Location of buried cleanouts or location for the purposes of installing a new cleanout shall be marked by two measured distances to permanent recoverable objects. CONTRACTOR shall furnish a schematic of these locations with sufficient detail to be able to relocate from above ground, at a later date.

END OF SECTION