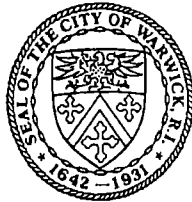


PATRICIA A. PESHKA
PURCHASING AGENT



JOSEPH J. SOLOMON
MAYOR

CITY OF WARWICK
PURCHASING DIVISION
3275 POST ROAD
WARWICK, RHODE ISLAND 02886
TEL (401)738-2013
FAX (401) 737-2364

The following notice is to appear on the City of Warwick's website Wednesday, May 29, 2019. The website address is <http://www.warwickri.gov/bids>.

**CITY OF WARWICK
BIDS REQUESTED FOR**

Bid2020-047 Television & Video Condition Assessment of Gravity Sewer Mains

Specifications are available in the Purchasing Division, Warwick City Hall, Monday through Friday, 8:30 AM until 4:30 PM on or after Wednesday, May 29, 2019.

A **non-mandatory** pre-bid conference will be held on Tuesday, June 4, 2019 at 11:00 AM in the Lower Level Conference Room at Warwick City Hall, 3275 Post Rd., Warwick RI.

Sealed bids will be received by the Purchasing Division, Warwick City Hall, 3275 Post Road, Warwick, Rhode Island 02886 up until 11:00 AM, Wednesday, June 12, 2019. The bids will be opened publicly commencing at 11:00 AM on the same day in the Lower Level Conference Room at Warwick City Hall.

Awards will be made on the basis of the lowest evaluated or responsive bid price. Please note that no bids can be accepted via email or fax.

The City of Warwick, in addition to soliciting bids in response to this bid, may consult, consider, and make an award for any and all open bid offers for a comparable unit as sought herein at the following websites:

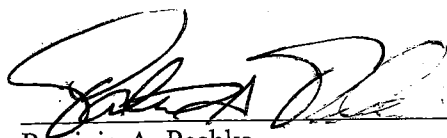
RI State MPA: <http://www.purchasing.ri.gov/MPA/MPASearch.aspx>

NASPO: <https://www.naspo.org/>

NJPA (National Joint Powers Alliance): <https://www.njpacoop.org/cooperative-purchasing>

MHEC (Massachusetts Higher Education Consortium): <https://www.mhec.net/>

Individuals requesting interpreter services for the hearing impaired must notify the Purchasing Division at 401-738-2013 at least 48 hours in advance of the bid opening date.



Patricia A. Peshka
Purchasing Agent

PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID

Acknowledgement of Addendum (if applicable)

Addendum Number	Signature of Bidder
_____	_____
_____	_____

COMPANY NAME: _____

COMPANY ADDRESS: _____

COMPANY ADDRESS: _____

BIDDER'S SIGNATURE: _____

BIDDER'S NAME (PRINT): _____

TITLE: _____ TEL. NO.: _____

EMAIL ADDRESS: _____ *

*Please include your email address. Future bids will be emailed, unless otherwise noted.

=====

II. AWARD AND CONTRACT:

The CITY OF WARWICK, acting as duly authorized through its Purchasing Agent/Finance Director/Mayor, accepts the above bid and hereby enters into a contract with the above party to pay the bid price upon completion of the project or receipt of the goods unless another payment schedule is contained in the specifications. All terms of the specifications, both substantive and procedural, are made terms of this contract.

DATE: _____
Bid2020-047

Purchasing Agent

PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID

CERTIFICATION & WARRANT FORM*

**This form must be completed and submitted with sealed bid.
Failure to do so will result in automatic rejection.**

Any and all bids shall contain a certification and warrant that they comply with all relevant and pertinent statues, laws, ordinances and regulations, in particular, but not limited to Chapter 16- Conflicts of Interest, of the Code of Ordinances of the City of Warwick. Any proven violation of this warranty and representation by a bidder at the time of the bid or during the course of the contract, included, but not limited to negligent acts, either directly or indirectly through agents and/or sub-contractors, shall render the bidder's contract terminated and the bidder shall be required to reimburse the City for any and all costs incurred by the City, including reasonable attorney fees, to prosecute and/or enforce this provision.

Signature

Date

Company Name

Address

Address

***This form cannot be altered**

**CITY OF WARWICK
NOTICE TO BIDDERS**

Bid2020-047 Television & Video Condition Assessment of Gravity Sewer Mains

If you received this document from our homepage or from a source other than the City of Warwick Purchasing Division, please check with our office prior to submitting your bid to ensure that you have a complete package. The Purchasing Division cannot be responsible to provide addenda if we do not have you on record as a plan holder.

The opening of bids will be in the order established by the posted agenda and the agenda will continue uninterrupted until completion.

Once an item has been reached and any bids on that item has been opened, no other bids on that item will be accepted and any such bid will be deemed late.

The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap for any position for which the employee or applicant is qualified and that in the event of non-compliance the City may declare the contractor in breach and take any necessary legal recourse including termination or cancellation of the contract.

A bidder filing a bid thereby certifies that no officer, agent, or employee of the City has a pecuniary interest in the bid or has participated in contract negotiations on the part of the City, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same call for bids, and that the bidder is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or firm.

All bids should be submitted with one (1) original and one (1) copy and two (2) electronic copies, .pdf format, (please include company name on each electronic copy) in a sealed envelope, which should read: *YOUR COMPANY NAME* plainly marked on the exterior of the envelope as well as "Bid2020-047 Television & Video Condition Assessment of Gravity Sewer Mains."

Bids received prior to the time of the opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified. No bids will be accepted via facsimile or email.

All proposals submitted become the property of the City and will not be returned. If the company intends to submit **confidential or proprietary information** as part of the proposal, **any limits on the use or distribution of that material should be clearly delineated in writing. This information should be submitted in a sealed envelope, clearly labeled confidential** and where it should be submitted in the response. Please be advised of the Freedom of Information Act as it may pertain to your submittal.

Should you have any questions, or to receive the GIS Mapping information, please contact Earl Bond, Warwick Sewer Authority, 125 Arthur Devine Blvd., Warwick, RI at 401-468-4721.

All bids should be written in ink or typed. If there is a correction with whiteout, the bidder should initial the change.

Negligence on the part of the bidder in preparing the proposal confers no rights for the withdrawal of the proposal after it is open.

Any deviation from the specifications must be noted in writing and attached as part of the bid proposal. The bidder should indicate the item or part with the deviation and indicate how the bid will deviate from specifications.

The IRS Form W-9 is available on www.warwickri.gov should be completed and submitted with the bid if the bidder falls under IRS requirements to file this form.

Bid surety in the form of a bank check, original bid bond or certified check in the amount of five (5) percent of the total bid price must be submitted with each bid. If a bid bond is submitted, it must be duly executed by the bidder as principal and having as surety thereon a surety company licensed to do business in the State of Rhode Island and approved by the owner.

The successful bidder must provide the City of Warwick with an original **Certificate of Insurance** for General Liability and Automobile Liability in a minimum amount of \$1 million, naming the **City of Warwick as the additional insured** and so stated on the certificate with the bid name and bid number. It is the vendor's responsibility to provide the City of Warwick with an updated Certificate of Insurance upon expiration of the original certificate.

Failure to provide adequate insurance coverage within the specified duration of time as set forth is a material breach of contract and grounds for termination of the contract.

The successful bidder must furnish a performance and payment bond in the amount of 100 percent of the total bid price.

The successful bidder will provide said **Certificate of Insurance and Bonds** within ten (10) calendar days after notification or the City reserves the right to rescind said award.

Prices to be held firm one (1) year from date of award. Term contracts may be extended for one (1) additional term upon mutual agreement unless otherwise stated.

The City is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph I, as amended.

The contractor must carry sufficient liability insurance and agree to indemnify the City against all claims of any nature, which might arise as a result of his operations or conduct of work.

The Purchasing Agent and/or the Warwick Sewer Authority, reserve the right to reject any and all bids, to waive any minor deviations or informalities in the bids received, and to accept the bid deemed most favorable to the interest of the City.

The City reserves the right to terminate the contract or any part of the contract in the best interests of the City, upon 30-day notice to the contractor. The City will incur no liability for materials or services not yet ordered if it terminates in the best interests of the City. If the City terminates in the interests of the City after an order for materials or services has been placed, the contractor will be entitled to compensation upon submission of invoices and proper proof of claim, in that proportion which its services and products were satisfactorily rendered or provided, as well as expenses necessarily incurred in the performance of work up to time of termination.

No extra charges for delivery, handling or other services will be honored. All claims for damage in transit will be the responsibility of the successful bidder. Deliveries must be made during normal working hours unless otherwise agreed upon.

All costs directly or indirectly related to the preparation of a response to this solicitation, or any presentation or communication to supplement and/or clarify any response to this solicitation which may be required or requested by the City of Warwick will be the sole responsibility of and will be borne by the respondent.

If the respondent is awarded a contract in accordance with this solicitation and fails or refuses to satisfy fully all of the respondents obligations thereunder, the City of Warwick will be entitled to recover from the respondent any losses, damages or costs incurred by the City as a result of such failure or refusal.

The City reserves the right to award in part or full and to increase or decrease quantities in the best interest of the City.

Any quantity reference in the bid specifications are estimates only, and do not represent a commitment on the part of the City of Warwick to any level of billing activity. It is understood and agreed that the agreement will cover the actual quantities ordered during the contract period.

The City reserves the right to rescind award for non-compliance to bid specifications.

The successful bidder must adhere to all City, State and Federal Laws, where applicable.

WARWICK SEWER AUTHORITY SPECIFICATIONS

TELEVISION & VIDEO INSPECTION AND CONDITION ASSESSEMENT OF GRAVITY SEWER INTERCEPTORS

The Warwick Sewer Authority (WSA) desires to seek bids from qualified vendors to provide a televised video condition assessment of gravity sewer interceptor mains of 15" – 48" in diameter.

PROJECT LOCATIONS:

Citywide Interceptors from 15" diameter to 48" diameter.

DEFINITIONS

Condition Assessment – Perform a detailed inspection of the interceptor to determine condition of pipeline. This includes identifying all deficiencies such as cracks, joint separation, gasket failure, deterioration of lining, water infiltration and any other possible deficiency in pipe or manhole.

Detailed Report – A report that details what was observed during the condition assessment process.

Maintain Flow- Gravity flow will be maintained and not interrupted for any reason during the cleaning and condition assessment.

SPECIFICATIONS

1. Vendor will deploy the correct video and assessment equipment to properly establish the pipeline and manhole condition.
2. Vendor will provide a detailed report of the pipeline sections and related manholes identifying the deficiencies.
3. Vendor must maintain flow in gravity interceptors at all times while performing condition assessment.
4. Vendor will establish a schedule and work to complete the assessment in 40 working days from notice to proceed. Additional time required by the vendor up and above the 40 day time frame must be pre-approved by the Owner. Liquidated damages of \$ 500.00 per day will be assessed on the vendor if additional time is not pre-approved.
5. Vendor will be responsible for traffic control.
6. Invoice after each interceptor has been completed and report turned over.
7. All work will be performed Monday – Friday between 7:00am – 5:00 pm.
8. The WSA will be awarding this bid based on prior work experience as well as the lowest submitted bid.
9. WSA is a RI municipality and is exempt from RI State sales tax.
10. Vendor will supply a ½ day and full day quote for cleaning the mainline being inspected should it be required. This will be performed by a second crew so as not to impede progress.

**SECTION I
SPECIFICATIONS**

ITEM 1 - TELEVISION INSPECTION OF SEWER MAINS

SUMMARY OF WORK

The Warwick Sewer Authority is requesting bids for pipeline video condition assessment of the following pipe line segments of diameter and lengths including all related manholes. These pipe lines are primarily constructed of reinforced concrete. Some pipe section material also remains unknown. The condition assessment will utilize HD color video to properly assess these segments. Additional multi sensor technology may be required such as sonar, and laser 2d and 3d. The following list identifies the pipes that are in the project. Some of these sections may be located in off road or cross country wooded easements or wetlands which will require smaller portable equipment to access. The selected vendor will be required to perform this work at varying depths from 5 ft. – 30 ft. Vendor will establish a schedule and work to complete the assessment in 40 working days from notice to proceed. Additional time required by the vendor up and above the 40 day time frame must be pre-approved by the Owner. Liquidated damages of \$ 500.00 per day will be assessed on the vendor if additional time is not pre-approved. Sewerage flow is to be maintained at all times during the cleaning and condition assessment. Should it be required to clean the pipe before assessment, this will be discussed with the Owner/ Engineer and detailed plans submitted.

Gravity Sewer Lines to be assessed

15" Diameter: 24,044
16" Diameter: 1,113
18" Diameter: 23,472
20" Diameter: 2,428
21" Diameter: 590
24" Diameter: 8,020
27" Diameter: 7,146
28" Diameter: 2,056
30" Diameter: 6,225
36" Diameter: 4,230
42" Diameter: 8,748
48" Diameter: 6,916

TELEVISION OF SEWERS

PART 1 – PROJECT IDENTIFICATION

1.1 DESCRIPTION

A. Provide all labor, materials, tools, equipment and incidentals as shown, specified, and required to perform television (TV) inspection of existing, new and rehabilitated piping including sewer mains and sewer lateral connections.

1.2 DEFINITIONS & TIMES OF CAMERA INSPECTION

- A. **Condition Assessment** – Perform a detailed inspection of the interceptor to determine condition of pipeline. This includes identifying all deficiencies such as cracks, joint separation, gasket failure, deterioration of lining, water infiltration and any other possible deficiency in pipe or manhole.
- B. **Detailed Report** – A report that details what was observed during the condition assessment process.
- C. **Inspections** - are to be performed during standard working hours Monday – Friday 7:00am to 5:00 pm unless flow restricts a proper inspection and then a plan will be presented to perform the work during a low flow time period.
- D. **Maintain Flow**- Gravity flow will be maintained and not interrupted for any reason during the operation to provide the video condition assessment.
- E. **TV inspection**- Of sewers and/or laterals to determine the location of construction, structural and O&M features and to ascertain that the condition of the pipe meets acceptable standards for possible rehabilitation.

1.3 REQUIREMENTS

A. The Contractor shall be aware that this Contract requires work in active sewers and shall follow all federal, state and local requirements for safety in confined spaces.

1.4 RELATED SECTIONS

- A. Manhole Inspection
- B. Traffic Control

1.5 PERFORMANCE REQUIREMENTS

A. Inspection shall be performed by a National Association of Sewer Service Companies (NASSCO) *Pipeline Assessment Certification Program* (PACP)

certified operator and shall meet the coding and reporting standards and guidelines as set by PACP. These same standards shall also be used for lateral inspections regardless of whether conducted using cleanout launched or mainline launched lateral camera. All report annotations, pipe conditions and pipe defects shall be identified properly using PACP codes as defined by PACP, and severity ratings shall be calculated according to PACP.

B. Quality of inspection recording shall be acceptable to the **WSA Superintendent or the Project Manager** when viewed on a standard computer monitor.

1.6 SUBMITTALS

A. CCTV equipment, including make, model, age of video systems and tractors, and documentation that CCTV software is PACP v4.4 -certified. PACP-compliant software will not be accepted.

B. Copies of PACP certificate for inspectors completing the work.

C. Inspection deliverables.

1.7 REFERENCE STANDARDS

A. NASSCO prepared *Pipeline Assessment and Certification Program*, Version 6.0.1

Reference Manual, November 2010. This manual includes a standard TV inspection form and sewer condition codes.

PART 2 – PRODUCTS

2.1 TELEVISION EQUIPMENT

A. Closed Circuit TV Equipment: Select and use closed-circuit television equipment that will produce a color recording. The camera and video system components shall have the following properties:

1. Equipped with footage counter accurate to two tenths of a foot that displays on the TV monitor the exact distance of the camera from the starting point of the recording.
2. Lighting system that allows the features and condition of the pipe to be clearly seen. Lighting shall not cause shadows or loss of color within the field of view of the camera.
3. Capable of operating in 100 percent humidity conditions.
4. Capable of producing a minimum 470 lines of vertical resolution color video picture. Picture quality and definition shall be to the satisfaction of the **WSA Superintendent or the Project Manager**.

B. Pipe Inspection Camera: The pipe inspection camera and video components shall have the following additional properties:

1. Capable of producing a video recording using a pan-and-tilt, radial viewing, pipe inspection camera that pans ± 275 degrees and rotates 360 degrees.
2. Camera height adjustment so that the camera lens is always centered at one half the inside diameter, or higher, in the pipe being televised.
3. Include a reflector in front of the camera if necessary to provide acceptable video image quality in large diameter pipe.

C. TV Studio: TV studio is to be contained in an enclosed truck, trailer or van. It shall have room and seating for the operator and the **WSA Superintendent or the Project Manager** and also room for at least one standing visitor with the doors closed. The studio shall have air conditioning and heating. Normal operation of all equipment, including the TV camera, monitor, and winches is to be from a control panel in the studio.

D. Recording: All recordings are to be in digital format.

1. Image Capture-Digitized picture images shall be stored and be exportable as JPEG formats.
2. Video Capture-Full time live video and audio files shall be captured for each pipe segment and lateral inspected. The files shall be stored in industry standard Windows Media or MPEG-4 format on a USB 2.0 external hard drive and viewable on a personal computer that utilizes Microsoft Media Player, version 9.0. Alternate digital formats will not be accepted unless approved by the Superintendent of Public Works/Village Engineer in advance of submittal. The video shall have a minimum resolution of 640 pixels (x) by 480 pixels (y) and an encoded frame rate of 29.97 frames per second. System shall perform an automatic disk image/file naming structure to allow saved video/data sections to be "Burned" to digital format. It shall have the capability of "burning" a minimum of 120 minutes of recording to the DVDR media. The video recording shall be free of electrical interference and shall produce a clear and stable image. The audio recording shall be sufficiently free of background and electrical noise as to produce an oral report that is clear and discernable. The digital recording and inspection data shall be cross-referenced to allow instant access to any point of interest within the digital recording.

PART 3 - EXECUTION

3.1 TELEVISUAL INSPECTION

A. Televis the sewer line to document the condition of the line. Notify the **WSA Superintendent or the Project Manager** 48 hours in advance of any TV inspection so that the **WSA Superintendent or the Project**

Manager may observe inspection operations. Provide a color recording showing the completed work.

B. For mainline sewer inspections inspection recording shall begin with the camera turned on and the header information entered on the above ground surface with the camera facing in the direction of the pipe to be inspected.

C. Center camera in manhole invert to the extent allowed by the channel geometry. For inspections from manholes, pan and record the entire circumference of the pipe penetration/manhole wall.

D. With camera rolling, perform the distance counter preset. If a preset point on the CCTV cable is used to set the counter, Contractor shall back up the camera after setting the preset and record the entry to the pipe.

E. Pipeline inspection shall be from center of the starting manhole to the center of the ending manhole. Measure distances along the pipe from the inside of manhole wall of the starting manhole to inside of manhole wall of the downstream manhole.

F. Prior to recording the location of defects, construction features and service connections, remove slack in the cable of the television inspection camera to ensure metering device is designating proper footage. Check accuracy of the measurement meters daily by use of a walking meter, roll-a-tape, or other suitable device.

G. Center the camera in the middle of the pipe.

H. Move the camera through the line (in the downstream direction whenever possible) at a uniform rate not to exceed 30 feet per minute.

I. Stop at every joint for three seconds. When infiltration or other defects are evident, use pan and tilt to document pipe condition. Stop elsewhere when necessary to ensure proper documentation of the sewer's condition.

J. Stop at every lateral connection. Center the camera so that the lighting and the pan and tilt view can be used to inspect as far into the lateral connection as possible. Pan the circumference of the tap, recording all defects found in the service connection. Where lateral flow is observed, observe flows from service connections for approximately two minutes to ascertain if the flow is sanitary or extraneous flow. The video recording may be paused during observation. Record results of the flow observed on video recording and inspection logs.

K. Capture color still shots of video recordings for all defects encountered.

L. Use manual winches, power winches, TV cable, and powered rewinds or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions to move the camera through the sewer line.

M. TV inspection recordings shall be continuous for each pipe segment.

N. Adjust light levels, clean fouled or fogged lens, and allow vapor to dissipate from camera lights in order to produce acceptable recordings. All TV inspection recordings that do not meet the specified requirements shall be re-televised at no additional cost to the Owner.

3.2 Maintaining Flow & FLOW CONTROL

A. This Project to video assess the gravity sewer interceptors will in no way affect the current flow in the pipeline. Contractor is required to maintain flow in the section or sections being televised. Plugging or bypassing during the project is not allowed. If pipe cleaning is required, the vendor is to inform the **Superintendent or the Project Manager ASAP.**

B No overflows are permitted. The Contractor is responsible for all damages.

C. Contractor is responsible for all damages to Contractor owned and operated equipment, Owner facilities, and privately owned facilities caused by malfunction of plugs, pumps or other Contractor equipment. In the event of a failure or malfunction of Contractor equipment, Contractor is responsible for all work necessary to restore facilities to pre-construction condition including but not limited to excavation and restoration of sewer lines and roadways required to retrieve malfunctioning or stuck cameras, plugs and hoses.

D. It is anticipated that portions of the sanitary sewer are bowed or bellied and as a result the camera will be submerged. Wherever the camera encounters a submerged condition, or where the wastewater flow depth exceeds the maximum allowable, reduce the flow depth to an acceptable level by performing the survey TV inspection during minimum flow hours, or by pulling a camera with swab, high-velocity jet nozzle or other acceptable dewatering device. Recordings may require floating the camera and will be acceptable with approval by **WSA Superintendent or the Project Manager.**

3.3 PASSAGE OF TV CAMERA

A. If during TV inspection of a pipe segment the camera is unable to pass an obstruction even though flow is unobstructed, televise the pipe segment from the opposite direction in order to obtain a complete recording of the line. Measure the distance between the manholes (centerline to centerline) with a tape or wheel to accurately determine the total length of the manhole segment.

3.4 INSPECTION DELIVERABLES

A. Written Inspection Reports

1. Provide printed location records to clearly identify the location of each defect,

or lateral connection, in relation to adjacent manholes, using a standard stationing system zeroed on the upstream manhole. Record all information requested using proper NASSCO PACP defect codes. The reports shall include at least the minimum amount of information required by PACP, including required PACP header information. Color still shot images of all defects encountered shall be included with each pipe segment.

B. Electronic Inspection Reports

1. Provide a NASSCO PACP v4.4 certified database listing all PACP required data fields for each pipe segment.
2. Provide one inspection per sewer main and one per lateral. If the conditions of the main or lateral do not permit inspection of the entire asset from one direction, provide a second inspection from the opposite end to the point the initial inspection was abandoned.
3. Each inspection record shall contain the video file associated with the inspection in the "Tape/ media number" PACP Header field. Provide only the video file name and extension in this field. Do not provide file paths or drive letters.

C. Inspection Recordings

1. Provide digital inspection recordings for all recordings.
2. Recording shall be of a quality sufficient for **WSA Superintendent or the Project Manager** to evaluate the condition of the sewer, locate the sewer service connections. If **WSA Superintendent or the Project Manager** determines that the quality is not sufficient, re-televiser the sewer segment and provide a new recording and report at no additional compensation. Payment for televised inspection will not be made until **WSA Superintendent or the Project Manager** approves the recordings and reports.
 - a. Camera distortions, inadequate lighting, dirty lens, or blurred/hazy picture will be cause for rejection.
 - b. Pipe stationing not shown on the video or in a font style or color that is unreadable will be cause for rejection.
3. TV Inspection recordings shall not be edited.
4. Digital recordings: Electronic recording file must allow snap scrolling to allow easy and quick access of the entire recording.
5. Digital Recording file management:
 - a. Only pipe segments from the same basin shall be included on a given hard drive.
 - b. Multiple projects may be included on a given hard drive, but the files must be organized in individual project folders.
 - c. Provide one electronic video file of each inspection. Multiple inspections per video file and multiple video files per inspection will be cause for rejection.

1. File name format: Mainline videos:
 1. SL underscore Four-Digit Segment ID underscore Date in MMDDYYYY format

Maintain a master copy of all recordings and Inspection Reports for two years after delivery of reports and recordings.

6. Label each hard drive with the following information:
 - a. File Number.
 - b. Contractor's Name.
 - c. Project Name.
 - d. Contract Number.
 - e. Drawing Number
 - f. Inspection Type: Post Cleaning, Repair.
 - g. Tape Number.
 - h. Date Televised.
 - I. Pipe segment Asset Identification Number

D. Inspection deliverables for this project are defined below.

1. Physical Condition Inspection: One copy on a 400mbs USB 2.0 external hard drive of PACP formatted database including, but not limited to, digital inspection recordings, defect call-out tables, defect snapshots, notes fields and asset condition reports

END OF SECTION

Part 4 - Traffic Control

**TRAFFIC REGULATIONS
(Rhode Island)**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for traffic control for the duration of the Contract.

1.02 REFERENCES

- A. Manual of Uniform Traffic Control devices (MUTCD) 1988 Edition including all latest revisions.

1.03 PERFORMANCE REQUIREMENTS

- A. Contractor shall have the sole responsibility for the maintenance and protection of traffic.
- B. An authorized representative of the Contractor shall be available on a 24-hour basis for the duration of the Contract for the purpose of correcting construction related impediments or hazards.
- C. A detailed traffic plan will be developed and submitted for all work areas where traffic will be affected by the project.
- D. Traffic control plans shall detail all typical work zones and detours.

1.04 SCHEDULING

- A. There shall be no time limitations on construction operations except those hours and locations where noise regulations may apply, as required for the maintenance of traffic as required by the City of Warwick, RI, or as otherwise restricted in the Contract Documents.

B. Keep closing of travel lanes to a minimum.

C. Notify city departments 48 hours prior to construction operations on travel ways.

A. Police Department (401-468-4200).

B. Fire Department (401-468-4000).

C. Department of Public Works (401-738-2003)

PART 2 PRODUCTS

2.01 TRAFFIC CONTROL DEVICES

A. In accordance with the MUTCD

2.02 INSTALLATION OF TRAFFIC CONTROL DEVICES

2.02.1 In accordance with the MUTCD.

2.03 PROTECTION OF TRAFFIC

2.03.1 Barricade trenches and roadway excavations at the end of each work period with temporary precast concrete barriers, properly lighted and marked to guide traffic to designated travel lane. Or other means acceptable to the Engineer and approved on the Traffic Plan.

2.03.2 Maintain and protect traffic movements for the entire length of the project.

2.03.3 Keep one lane of traffic open at all times except for brief stoppages dictated by the construction operation involving safety of vehicles in the travel lanes.

2.03.4 Maintain access to business and private ways during construction operations.

Furnish sufficient number of signs, temporary precast concrete barriers, warning lights, drums and traffic cones to warn traffic of construction and guide traffic through the construction area in accordance with the MUTCD.

2.04 TRAFFICMEN

2.04.1 Provide service of uniformed traffic men as required to complete construction as required by the Owner.

END OF SECTION

SECTION II SPECIFICATIONS

ITEM 2 - DETAILED MANHOLE INSPECTIONS

1.1 DESCRIPTION

A. Provide all labor, materials, tools, equipment and incidentals as shown, specified, and required to perform detailed manhole inspection of existing manholes.

1.2 - PURPOSE

Extensive manhole inspections are performed to help determine the existing condition of manholes as well as the possible quantity of I/I entering the sewer system from manholes. Manhole inspections provide data on: manhole size, construction and condition; pipeline size, number of incoming pipes, depth, construction and condition (at and near the inspected manhole); the presence of infiltration; the potential for inflow; and debris accumulation at the inspection locations. The manhole inspections can also provide information on the configuration of the sewer system and subsystem boundaries.

1.3 - METHODOLOGY

The manhole inspections are usually performed during a high groundwater period to capture typical high groundwater infiltration but if needed can be accomplished any time of the year. If possible, the inspection of manholes that are known to surcharge should take place during off-peak hours, when wastewater flows are more likely to be low, to minimize the potential for manhole surcharging, which could potentially reduce the portion of the manhole that can be viewed for inspection.

Particular attention should be paid to cross-country manholes located within wetlands. Manholes subject to flooding in marsh or wetland areas during significant rainfall periods, or overtopped by rising streams, are likely sources of significant inflow. Additionally, manholes located in these areas could be damaged during winter freeze-thaw cycles.

In most cases, the inspections can be completed from the ground surface. However, if the manholes are so deep that the bottom portion of the manhole cannot be viewed from the surface, then manhole entry will be necessary to complete the inspection. In addition, if detailed information on connecting piping is needed, then the manholes should be entered and the pipes should be lamped or, alternatively, a pole zoom camera may be used to collect information on the connecting piping. Where any manhole entry is required, safety precautions for confined space entry must be employed.

Manhole inspections should include, at a minimum, gathering the information listed below, in accordance with National Association of Sewer Service Companies (NASSCO) guidelines, as described by the Manhole Assessment & Certification Program (MACP) for a Level 1 inspection.

- a. Identify the manhole by its discrete map reference number and the street where it is located closest to; or by its GIS unique identification number (where possible).
- b. Indicate the manholes immediately upstream and downstream of the inspected manhole.
- c. Provide photographs of the inspection location and manhole interior, showing, in particular, the defects observed.
- d. Record the material of construction of the manhole components (frame, cover, corbel, walls, invert, shelf, etc.).
- e. Document the condition of the manhole components, including especially the presence of cracks, breaks and other defects.

Note the potential for inflow, including:

- M a n h o l e cover type and condition;
- W h e t h e r the cover is a locking type and whether it is gasketed;
- F r a m e condition;
- C o n d i t i o n of risers/brickwork below frame;
- N u m b e r of holes in the cover and the size of the holes;
- W h e t h e r the cover is subject to ponding;
- A n estimate of the drainage area and potential depth of ponding so that an approximate rate of inflow can be assigned to this manhole, if applicable; and
- C o n d i t i o n of the surrounding ground or street (e.g., cracks in the pavement that could be pathways for inflow).

f. Record active infiltration and signs of previous infiltration.

g. Document manhole depth and the depths to each connecting pipe (rim to invert at center of pipe).

h. Record the groundwater level in the manhole or invert in and invert out of mainline pipes); and the high water mark, if discernible.

i. Document the presence of roots, grease and debris in the manhole.

Standard forms are recommended so that the information collected at each manhole will be consistent and the potential for missing data will be minimized. A sample manhole inspection form is included in the Technical Exhibits noted as Example No. 1.

Data collected from manhole inspections (attribute and defect) should be delivered in a database format capable of integration into industry standard GIS systems. At a minimum, a mapping grade location for manholes shall be provided. Digital videos and photographs should be linked in the database to the manholes inspected.

END OF SECTION

PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID

CITY OF WARWICK

BID AND CONTRACT FORM

TITLE OF SPECIFICATION: Bid2020-047 Television & Video Condition Assessment of Gravity Sewer Mains

I. BID:

WHEREAS, the CITY OF WARWICK has duly asked for bids for performance of services and/or supply of goods in accordance with the above-indicated specifications.

The person or entity does irrevocably offer to perform the services and/or furnish the goods in accordance with the specifications, which are hereby incorporated by reference in exchange for the bid price.

This offer will remain open and irrevocable until the CITY OF WARWICK has accepted this bid or another bid on the specifications or abandoned the project.

The bidder agrees that acceptance by the CITY OF WARWICK will transform the bid into a contract. This bid and contract will be secured by Bonds, if required by the specifications.

Description	Bid
TV INSPECTION & REPORT (Estimated +/- 100,000 lineal feet)	\$ _____ /linear foot
MANHOLE INSPECTION & REPORT	\$ _____ /manhole
Quote for cleaning the mainline being inspected (multiple days may be required)	
	\$ _____ per ½ day
	\$ _____ per 1 full day
Please list any additional fees not listed above (if necessary)	
	\$ _____
	\$ _____
	\$ _____

TECHNICAL EXHIBITS

EXAMPLE NO. 1 – MANHOLE INSPECTION REPORT

Manhole Inspection Report

Inspector: _____ **Date:** _____ **Street:** _____ **Manhole#:** _____

Location: Street, Easement **Surface Type:** Asphalt, Grass, Dirt, Woods, N/A

Area: _____ **MH Inspection Status:** Yes, CNL, CNO, Buried, Not on Map

MH Depth: _____ **Cleaning Required:** H, M, L, N **Grease Visible:** H, M, L, N

Surcharge Evidence: Yes / No **Roots:** Yes, / No **MH Size :** <36", 36-48", 48", 60", 72", Vault, NA

GPS X Coordinate: _____ **GPS Y Coordinate:** _____

Cover Type: Standard, Watertight, None, other **Condition:** Good, Fair, Replace, NA

Diameter: <24, 24, 25, 26, 30, 36, >36, NA **Elevation:** At, Below, Above Grade, NA

Inflow: Sheet, Ponding **Drainage Area:** _____ **Material:** Cast Iron, Plastic, None, NA

Frame Material: CI, Plastic, None, Other **Condition:** Good, Fair, Replace, NA

Infiltration: 144, 288, 432, 576, 720, 864, 1008

Steps: Yes / No **Condition:** Good, Fair, Need Repair, NA

Chimney Material: Precast, Brick, Brick Block, Spray Concrete, None

Condition: Good, Fair, Needs Repair **Infiltration:** 144, 288, 432, 576, 720, 864, 1008

Cone Material: Precast, Brick, Brick Block, Spray Concrete, None

Condition: Good, Fair, Needs Repair **Infiltration:** 144, 288, 432, 576, 720, 864, 1008

Wall Material: Precast, Brick, Brick Block, Spray Concrete, None

Condition: Good, Fair, Needs Repair, **Infiltration:** 144, 288, 432, 576, 720, 864, 1008

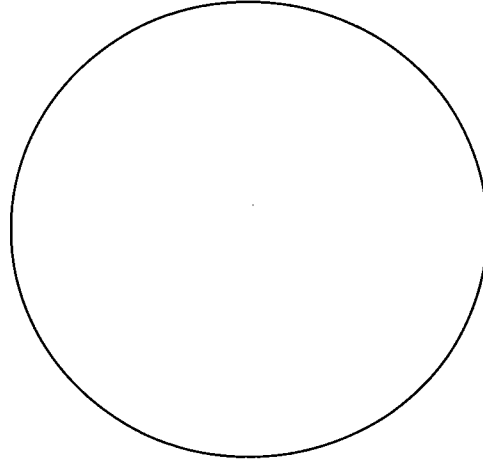
Bench/Invert Material: Brick, Concrete, Lined, Spray Concrete, None

Condition: Good, Fair, Needs Repair **Infiltration:** 144, 288, 432, 576, 720, 864, 1008

Pipe Infiltration: 144, 288, 432, 576, 720, 864, 1008

	Sub Area	Manhole	Depth	Diameter	Pipe Type (AC, Brick, CI, DI, Lined, PVC, RC, VC)
Outgoing					
Incoming 1					
Incoming 2					
Incoming 3					
Incoming 4					
Incoming 5					

Draw what the Inside looks like here:



NOTES FOR MANHOLE INSPECTION REPORT

CNL – Could not locate

CNO – Could not open

CLEANING

H – Heavy

M – Medium

L - Light

INFILTRATION – gpm