

SAN ANTONIO RIVER AUTHORITY  
UTILITIES DEPARTMENT

SECTION 33-01-31  
SEWER MAIN TELEVISION INSPECTION

**PART 1 GENERAL**

1.1 DESCRIPTION:

A. RELATED WORK SPECIFIED ELSEWHERE:

Section 01-33-00 – Submittals  
Section 33-01-30 – Sewer Main Cleaning  
Section 33-31-00 – Sanitary Sewers  
Section 33-05-06 – Sanitary Sewer Testing

B. SCOPE:

This item governs closed-circuit televising (CCTV) and recording of new line sections, including service laterals from the main to the cleanout.

The CONTRACTOR must provide all labor, materials, equipment, and incidentals for the televising.

A NASSCO-(PACP) standard video and database, recorded in MPEG-1 format, of sewer lines and manholes must be furnished utilizing a color, closed-circuit television inspection unit to determine their condition.

C. SUBMITTALS:

Prior to the television inspections the CONTRACTOR shall provide the following:

- CONTRACTOR is to coordinate the video procedures with the OWNER's inspector prior to commencement of any work, including mobilization and preparation of right-of way effort. Contractor shall provide 48 hours' notice prior to commencement of CCTV.
- The CONTRACTOR is to provide the televising and a NASSCO-(PACP) compliant database, and a NASSCO-(PACP) standard video, recorded in MPEG-1 format. All inspections shall be in accordance with NASSCO PACP requirements and a NASSCO PACP database.
- The CONTRACTOR shall provide a line diagram area sketch and written log for each completed segment of televised sewer main describing the section, flow and camera direction, position of service connections, location of failures, pipe condition, weather conditions, and other significant observations.
- CONTRACTOR shall provide traffic control plan and bypass pumping plan, if required.
- Each submittal shall be permanently labeled with the following:
  1. Project name / RIVER AUTHORITY Job #;
  2. Date of television inspection;

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3. Station to station location and size of sanitary sewer;
4. Street/easement location;
5. Name of CONTRACTOR;
6. Name of assigned inspector and;
7. Date of flash drive submittal and number.

**PART 2 EXECUTION**

**2.1 GENERAL:**

- A. The CONTRACTOR shall inspect with closed circuit television equipment, the alignment, condition, location of existing service connections, any manhole line section suspected of having infiltration or other defects, or other purpose as requested by the OWNER. An inspection satisfactory to the OWNER shall be mandatory prior to the acceptance of the line.
- B. The interior of the line sections of pipes shall be carefully inspected after the line has been properly backfilled and successfully air tested to determine the location and extent of any breaks, obstacles, sags, irregularities in pipe alignment or grade, infiltration or inflow, the location of service connections, or any deficiencies that may degrade the line. The OWNER will make the final determination if repairs are required. If repairs are required, the repair must be made and the restored section shall be subsequently television inspected to verify correction of the deficiencies. The cost of all repairs shall be the responsibility of the CONTRACTOR.
- C. Sewer lines shall be cleaned from manhole to manhole immediately prior to television inspection. All, or a portion of service laterals shall be inspected upon OWNER's request.
- D. CONTRACTOR shall add clear water to new pipe section so that deficiencies, such as sags and slope issues, can be identified and repaired.
- E. In the event that sewage accidentally drains into the drainage system or is spilled within the project, the CONTRACTOR shall immediately stop the overflow, notify the OWNER, and take the necessary action to clean up and disinfect the spillage using an HTH, or equal, chemical, at no additional cost to the OWNER.
- F. CONTRACTOR shall be responsible for all traffic control and field safety, as necessary, to complete the project.

**2.2 TELEVISION METHODS:**

- A. The CONTRACTOR shall provide logs of the televised inspection for review. If the CONTRACTOR provides a submittal that cannot be properly evaluated by the OWNER, the CONTRACTOR shall re-televising as necessary and provide a re-submittal of acceptable quality at no additional cost to the OWNER. If the CONTRACTOR cannot provide a re-submittal of such good quality that can be reviewed, the OWNER may elect to televise the line at the CONTRACTOR'S expense.

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- B. The television unit shall also have the capability of displaying in color, pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes.
- C. The television inspection equipment shall have an accurate footage counter which displays on the monitor the exact distance of the camera from the center of the starting manhole. A camera with rotating and panning lens capabilities is required. The camera height shall be centered in the conduit being televised. The speed of the camera through the pipe shall not exceed 40 feet per minute.
- D. Television inspection shall be done one manhole section at a time. The flow in the section being televised shall be bypassed if the line is in service and the flow exceeds 25% of the internal pipe diameter. When the depth of flow at the upstream manhole of the manhole section being worked is above the maximum allowable for television inspection, the flow shall be reduced to allowable levels by temporarily plugging or blocking the flow or bypass pumping, as approved by the OWNER.
- E. The CONTRACTOR shall not be allowed to float the camera. There may be occasions during the televised inspection of a manhole section when the camera will be unable to pass an obstruction. At that time, and prior to proceeding, the CONTRACTOR shall notify the OWNER. If the length of sewer line cannot be televised because of obstructions, the CONTRACTOR shall clean the system as is necessary. If the OWNER determines the obstruction is attributed to a collapsed main or pipe deflection, televising shall be suspended, payment shall be made based on the actual televised length, and the remaining televising of the sewer line shall be continued upon successful correction of the blockage. No additional payment shall be made for additional setups required due to obstructions encountered during televising.
- F. The CONTRACTOR is solely responsible for any damage of sewer mains as a direct result of televising operations. Any repair shall also be the responsibility of the CONTRACTOR. The method(s) used for securing passage of the camera are at the discretion of the CONTRACTOR, as approved by the OWNER. No separate and/or additional payment will be made for any excavation, man entry, or any other method which may be required to retrieve video equipment that may have been hung up, destroyed, and/or lost during the operation. All repairs must be approved by the OWNER prior to being conducted.

2.3 SEWER MAIN BYPASS PUMPING:

- A. The CONTRACTOR shall furnish all labor, supervision, tools, equipment, appliances, and materials to perform all operations in connection with bypass pumping of sewage flow for the purpose of preventing interference with the televising of the sanitary sewer manholes and mainlines as well as providing reliable sewer service to the occupants of the buildings being served.
- B. The CONTRACTOR will be required to provide adequate pumping equipment and piping in order to maintain reliable sanitary sewer service in all sanitary sewer lines involved in this project. The CONTRACTOR shall notify the OWNER should a surcharge occur during the televising process which results in overflows of sewage. In case of bypass equipment failure, the CONTRACTOR shall discontinue work and release sewer flows until such time as equipment failure is corrected. The location of the pump(s), force main(s), and discharge points shall be approved by the OWNER.

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Under no circumstances shall the flow be interrupted or stopped, such that damage is done to either private or public property, or sewage flows or overflows into a storm sewer or natural waterway.

- C. The CONTRACTOR shall provide bypass pumping of sewage around each segment(s) of pipe that is to be televised and shall be responsible for all required bulkheads, pumps, equipment, piping, and other related appurtenances to accomplish the sequence of pumping. A qualified person shall man the pumps, on-site, at all times during the bypassing procedure.
- D. All piping, joints, and accessories shall be designed to withstand the maximum bypass system pressure, or a minimum of 50 psi, whichever is greater. During bypass pumping, no sewage shall be leaked, dumped, or spilled into or onto any area outside of the existing sanitary sewer system. When bypass pumping operations are complete, all piping shall be drained into the sanitary sewer prior to disassembly. The CONTRACTOR shall demonstrate that the pumping system is in good working order and can successfully handle flows during cleaning and televising operations, prior to commencing with the cleaning and televising of the system.
- E. The CONTRACTOR shall be required to have all materials, equipment, and labor necessary to complete the repair or replacement on the jobsite prior to isolating the sewer manhole or line segment and beginning bypass pumping operations.
- F. The CONTRACTOR shall coordinate with all property owners to ensure that no damage will be caused to their property during any and all sewer rehabilitation work. The CONTRACTOR shall complete the televising as quickly as possible and shall satisfactorily meet all requirements prior to discontinuing bypass pumping operations and returning flow to the sewer manhole or line segment.

**2.4 TRAFFIC CONSIDERATIONS:**

- A. The CONTRACTOR shall locate bypass pumping suction and discharge lines to eliminate interference with traffic, private driveways, sidewalks, and alleys. CONTRACTOR may be required to trench bypass lines in areas to avoid disturbance.
- B. The CONTRACTOR shall not open cut existing streets to accommodate bypass pumping piping unless specific written approval by OWNER is provided.
- C. Traffic management commence only after approval of City, County, or State Traffic Departments. Proof of CONTRACTOR approval, including all permits, shall be provided to OWNER prior to start of project.
- D. Ramps, steel plates, or other methods shall be employed by the CONTRACTOR to facilitate traffic over surface piping. All items or methods used shall be traffic rated. There will be no separate pay item for this work. These items shall be approved by OWNER prior to installation.

**PART 3 PRODUCTS**

See San Antonio River Authority approved products and materials list.

**PART 4 MEASUREMENT AND PAYMENT**

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No separate payment will be made for any items of work, materials, parts, equipment, supplies, or related items required to perform and complete the requirements of this section. The costs for all such items required shall be considered subsidiary to other items of this Contract and shall not be paid for separately.

**END OF SECTION**