

San Antonio Water System Standard Specifications for Construction

ITEM 866
SEWER MAIN TELEVISION INSPECTION

866.1 **DESCRIPTION:** The Contractor shall furnish all labor, materials, equipment, and incidentals to provide the televising and a NASSCO-(PACP) standard video, recorded in MPEG-1 format and written to DVD video, of sewer main and manholes utilizing a color, closed-circuit television inspection unit to determine their condition. The video shall include an inclinometer, visible on the video being viewed, noting the slope of the main being televised.

866.2 **GENERAL:** After completion of the work specified in the contract documents, and prior to placement of the final course of asphalt or other final surface, the newly constructed or rehabilitated sanitary sewer main shall be televised immediately upon cleaning. Televising shall be observed by the Inspector or Engineer and contractor, as the camera is run through the system. Any abnormalities such as, but not limited to, misaligned joints, cracked/defected pipe, rolled gaskets, shall be repaired by the Contractor solely at his expense. Sections requiring repair shall be re-televised to verify condition of repair. No additional compensation shall be provided for all needed repairs, re-cleaning, or re-televising efforts.

866.3 **EXECUTION:** The Contractor shall provide a DVD and log of the televised system for review and approval by the Inspector. If the Contractor provides a DVD of such poor quality that it cannot be properly evaluated, the Contractor shall re-televising as necessary and provide a DVD of good quality at no additional cost to SAWS. If the Contractor cannot provide a DVD of such good quality that can be reviewed by SAWS, SAWS may elect to televise the line at the Contractor's expense.

The television unit shall also have the capability of displaying in color, on DVD, pipe inspection observations such as pipe defects, sags, points of root intrusion, offset joints, service connection locations, and any other relevant physical attributes. Each DVD shall be permanently labeled with the following:

1. Project name / SAWS Job # / Work Order #;
2. Date of television inspection;
3. Station to station location and size of sanitary sewer;
4. Street/easement location;

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5. Name of Contractor;
6. Date DVD submitted;
7. DVD number;
8. SAWS Inspector Name.

The Contractor shall provide a line diagram area sketch and written log for each completed segment of DVD sewer main describing the section being televised, flow and camera direction, position of service connections, description and location of failures, pipe condition, weather conditions, and other significant observations.

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 conduit shall not exceed 40 feet per minute. The produced video shall also have an inclinometer that displays the slope of the sewer main being televised.

The Contractor shall be required to have all materials, equipment, and labor force necessary to complete all videotaping on the job site prior to isolating the sewer manhole segment and beginning videotaping operations.

Television inspection shall be done one section between two manholes at a time. Also 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 can be reduced to allowable levels by performing bypass pumping, as approved by the Inspector.

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 contact the Inspector. If the length of sewer main cannot be televised because of obstructions, the Contractor shall clean the system as is necessary. If, in the opinion of the Inspector, 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 by the

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Contractor at his expense. No additional payment shall be made for additional setups required due to obstructions encountered during televising.

No lateral connections shall be made to the sanitary sewer main at the "12 o'clock" position. All lateral connections shall clearly indicate which side of the sanitary sewer main it was installed from.

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, and as approved by the Inspector.

No sanitary sewer main televising effort shall commence until all pertinent permits or required approvals have been obtained by SAWS.

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.

866.4 SEWER MAIN BYPASS PUMPING: The Contractor shall perform bypass pumping operations in accordance with Item No. 864, "Bypass Pumping," and as outlined below.

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.

The Contractor will be required to provide adequate pumping equipment and force mains in order to maintain reliable sanitary sewer service in all mains involved in the scope of the work. The Contractor shall notify the Inspector should a surcharge occur during the televising process which results in overflows of sewage. In case of bypass equipment failure, the Contractor shall discontinue all televising activities 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 Inspector and Engineer. Under no circumstances shall the flow be interrupted or stopped, such that damage is done to either private or public property, or sewage flows/overflows into a storm sewer or natural waterway.

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The Contractor shall provide bypass pumping of sewage around each segment(s) of main 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 bypass pumping operations.

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 operations, 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 system 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.

866.5 MATERIALS REQUIRED FOR BYPASS OPERATION: 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.

866.6 TRAFFIC CONSIDERATIONS: The Contractor shall locate bypass pumping suction and discharge lines so as to not cause undue interference with the use of streets, private driveways, and alleys to include the possible temporary trenching of force mains at critical intersections. Traffic management shall be done under the approval of respective City, County, or State Traffic, Barricade, and Signalization Departments. The Contractor shall not initiate any effort to accommodate bypass pumping piping operations until specific written approval is given. There will be no separate pay item for this work.

866.7 PUMP OPERATIONS: The Contractor shall plug off and pump down the sewer manhole and/or main segment in the immediate work area and shall maintain the sanitary sewer system so that surcharging does not occur. 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 main segment. The Contractor shall ensure that no damage will be caused to private property as a result of bypass pumping operations. Ingress and egress to adjacent properties shall be maintained at all

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times. Ramps, steel plates, or other methods shall be employed by the Contractor to facilitate traffic over surface piping. There will be no separate pay item for this work.

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 Inspector, and take the necessary action in accordance with the approved bypass pumping plan to clean up and disinfect the spillage using an HTH, or other equal chemical, at no additional cost to SAWS. Contractor related lapses to their bypass operations that result in any fines or penalties, will also be the sole responsibility to the contractor.

866.8 MEASUREMENT AND PAYMENT: Measurement and payment will be made for the work to be done on the basis of the unit bid price per linear foot of pipe diameters 8" through 15," 18" through 24," and 30" and larger and shall be considered full compensation for all labor, materials, equipment, tools, logging, cleaning, by pass pumping and incidentals necessary to complete the work, as illustrated below:

1. 866: Sewer Main Television Inspection
2. Category:
 - a. 8" through 15"
 - b. 18" through 24"
 - c. 30" and larger

- End of Specification -