

SECTION 02058

TELEVISION INSPECTION AND SEWER LINE CLEANING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Television inspection and recording of sanitary sewer lines.
- B. High pressure cleaning of sanitary sewer lines.
- C. Work under this item shall consist of furnishing all equipment, labor, and material necessary for investigation of pipelines by use of Closed Circuit Color Television to determine condition of lines or any other data, such as infiltration, etc., at locations ordered by the Engineer and in accordance with these specifications.

1.02 SUBMITTALS

- A. Provide two copies of the completed videotape (VHS format).
 - 1. Beginning of each video sequence between manhole runs shall include an audio and video overlay with the following information:
 - a. Date
 - b. Location (local town, development, street address, etc.)
 - c. Sewer line run (i.e., Manhole X to Manhole Y) with direction of run.
 - d. Pipe material and size
 - e. Comment section.
 - 2. Audio and video overlay information to be included on videotape while in operation shall include the following information:
 - a. Continuous video stationing information shall be in the standard format (i.e., 1 + 23).
 - b. Intermittent audio information with quadrant location shall include, but not limited to, all laterals, clean-outs, pipe deflection, pipe defects, and infiltration.
 - 3. Video image shall be free of any obstructions, including water vapor, allowing a clear 360° image of pipe interior.

B. Record Keeping

1. *Television Inspection Logs:* Printed 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 inspection. In addition, other points of significance such as locations of building sewers, unusual conditions, 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 Owner.
2. *Photographs:* Instant developing, 35 mm, or other standard-size photographs of the television problems shall be taken by the Contractor upon request of the Owner's Representative, as long as such photographing does not interfere with the Contractor's operations.
3. *Videotape Recordings:* The purpose of tape recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Videotape recording playback shall be at the same speed that it was recorded. Slow motion or stop-motion playback features may be supplied at the option of the Contractor. The Contractor shall have all videotapes and necessary playback equipment readily accessible for review by the owner during the project, after which time the tapes shall become the property of the Owner.

1.03 REGULATORY REQUIREMENTS

- A. Conform to applicable local, State and Federal regulations and codes for safety of workers; noise, odor and runoff control; transport and disposal of debris.
- B. Obtain all required permits and notices from authorities for all portions of the work.
- C. Notify affected utility companies before starting work and comply with their requirements.
- D. Do not close or obstruct roadways without permits.

1.04 PROTECTION

- A. Closing or obstruction of roadways, sidewalks, and driveways adjacent to the Work by the placement or storage of materials will not be permitted, and all operations shall be conducted with a minimum interference to traffic on these ways.
- B. Repair damage to any property belonging to the Owner or adjacent landowners cause by the Work.

PART 2 PRODUCTS

(Not Used)

PART 3 EXECUTION

3.01 PREPARATION

- A. Protect existing landscaped areas, appurtenances and other features.

3.02 CLEANING

- A. Provide for collection of debris from cleaning operation.
 - 1. All downstream manhole channels shall be screened to contain all flushed debris.
 - 2. Contractor shall dispose of water at his own expense and not into an existing sanitary sewer system or pump station.
- B. High pressure clean from upstream manhole to downstream manhole, collecting debris at each downstream manhole.

3.03 DISPOSAL

- A. The Developer is responsible for disposal of all debris.
- B. Remove demolition debris as soon as possible.

3.04 VIDEO TAPING

- A. After cleaning operation, video inspection shall be conducted. Inspection shall be by closed-circuit television and shall be performed in one section at a time. Pipelines shall be clean and dry throughout prior to television investigation.
- B. The color television camera used for the inspection shall be specifically designed and constructed for such inspection. Lighting for the camera shall be suitable to allow a clear picture of the entire periphery of the pipe. The camera shall be operative in 100% humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing picture quality to the satisfaction of the Owner's Representative: and if unsatisfactory, equipment shall be removed and no payment will be made for an unsatisfactory inspection.
- C. The camera shall be moved through the line in either direction at a moderate rate, stopping when necessary to permit proper documentation of the sewer's condition. In no case will the television camera be pulled at a speed greater than 30 feet per minute. Manual winches, power winches, TV cable, and powered rewinds or other device 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, during the inspection operation, the television camera will not pass through the entire manhole section, the Contractor shall set up his equipment so that the inspection can be performed from the opposite manhole. If, again, the camera fails to pass through the entire manhole section, the inspection shall be considered complete and no additional inspection work will be required.

- D. When manually operated winches are used to pull the television camera through the line, telephones or other suitable means of communication shall be setup between the two manholes of the section being inspected to insure good communication between members of the crew.
- E. 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. Accuracy of the distance meter shall be checked by use of a walking meter, roll-a-tape, or other suitable device, and the accuracy shall be satisfactory to the Owner's Representative.

END OF SECTION