

SECTION 3850 - GRAVITY SEWER TELEVISION INSPECTION

PART 1 - GENERAL

1.1 SCOPE OF WORK:

Provide all labor, materials, equipment and services required for television inspection of gravity sewers specified herein.

PART 2 - EXECUTION

2.1 INTERNAL INSPECTION:

A. General Inspection:

1. All gravity sanitary sewer lines shall be internally inspected prior to acceptance for connection. The purpose of the inspection is to locate structural damage or other defects which may be present in the sewer. All internal inspection shall be performed in the presence of the ENGINEER or his appointed representative.
2. Any defects found in the sewer(s) shall be documented in writing and a video tape made, and the ENGINEER shall be notified immediately.
3. Defects shall include damaged pipe, leaking joints, presence of mud or other debris, misaligned or sagging pipe, bowed pipe sections, deflected pipe, pipe joints not fully seated, improperly installed gaskets, or other abnormalities not in conformance with the specifications.

B. Equipment:

1. The color television camera used for the inspection shall be one specifically designed and constructed for such inspection. The camera shall be a Pan & Tilt or radial view camera with the ability to look up any wye connection. Lighting for the camera shall be suitable to allow a clear picture for the entire periphery of the pipe. The camera shall be operable in 100 percent humidity conditions. The camera, television monitor, and other components of the video system shall be capable of producing a minimum 500 line resolution video picture. Picture quality and definition shall be to the satisfaction of the ENGINEER and if unsatisfactory, equipment shall be removed. Video tapes shall be VHS format and shall be recorded in color at standard speed. The cable length shall be sufficient to go completely from manhole to manhole without a reverse setup.
2. The camera color monitor shall be located within a mobile vehicle unit that will accommodate three people to watch the sewer line inspection. The ENGINEER and OWNER shall have access to view the television monitor at all times.
3. A skilled technician shall control the operation of the equipment from a control panel located in the mobile unit and shall have control of the movement of the television camera at all times. This may be accomplished by means of remote-control winches or a self-propelled tractor or other suitable means.

C. Method for Internal Inspection:

1. The camera shall be moved through the line in the downstream direction at a uniform rate not to exceed 30 ft./min., stopping when necessary to insure proper documentation of the sewer's condition. The camera shall be stopped and aimed up each wye connection with the connection properly documented. Power winches, TV cable, power rewinds, tractors, floats or other devices that do not obstruct the camera view or interfere with proper documentation of the sewer conditions will be used to move the camera through the sewer line.
2. If, during the inspection operation the television camera will not pass through the entire

manhole section, then the line is considered failed and must be repaired or cleaned before re-TVing.

D. Inspection Logs and Video Tapes:

1. A log approved by the ENGINEER shall be provided for all line inspections listing the date, project or subdivision name (section or block number), township, project number, inspection number, manhole numbers and street location where applicable. Printed location records shall be kept by the CONTRACTOR and will clearly show the location of each defect observed during inspection. In addition, other points of interest such as locations of wye connections, unusual conditions, storm sewer connections, presence of scale and corrosion, and other discernible features shall be recorded. A log sheet and video tape of the entire inspection shall be supplied to the ENGINEER. A key to all abbreviations used shall be included on each log sheet.
2. The locations of all defects, wye connections and other points of interest shall be identified by logging the distance to each defect or point of interest measured from the center of the starting manhole. The importance of accurate distance measurements is emphasized. The measuring device 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, cloth tape or other suitable device from manhole to manhole and the accuracy shall be satisfactory to the ENGINEER. The starting and ending manhole numbers and the running distance from the starting manhole shall be continuously displayed on the video recording.
3. All television inspections shall be video-taped. The purpose of tape recording shall be to supply a replayable visual record of problem areas in the sewers. Video tapes shall be recorded at a standard speed. Video tapes and written logs shall be considered property of the COUNTY and shall be submitted to the COUNTY prior to acceptance for connection. The video tape will be TDK EHG or equal.

E. Repair:

All defects discovered by the television inspection shall be repaired or replaced by the CONTRACTOR in a manner acceptable to the ENGINEER at no cost to the OWNER.

PART 3 - BASIS OF PAYMENT

Television inspection of gravity sewers will be performed by the OWNER unless a separate bid item is included on the Proposal Forms for this work. However, if the initial television inspection by the OWNER fails, the OWNER may require the CONTRACTOR to perform any subsequent television inspections according to these specifications until the inspection passes at no cost to the OWNER.

END OF SECTION