

## **SECTION 114 – VIDEO INSPECTION FOR MAIN SEWERS**

### 114.1 General

Work included in this Section consists of all work associated with television inspection for main sewer lines

114.1.1 After cleaning, the manhole sections shall be visually inspected by means of closed circuit television. The inspection will be done one manhole at a time and the flow in the section being inspected will be suitably controlled. (The upstream line segment shall be plugged while the downstream sections are being televised.)

114.1.2 The video camera used for the inspection shall be one 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.

114.1.3 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 power rewinds, or other devices 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 video 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 will be required.

114.1.4 When manually operated winches are used to pull the television camera through the line, telephones or other suitable means of communication shall be set up between the two manholes of the section being inspected to insure good communications between members of the crew.

114.1.5 The importance of accurate distance measurement is emphasized. 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.

114.1.6 Documentation of the television results shall be as follows:

- A. Video 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 or corrosion, and other discernable features will be recorded and a copy of such records will be supplied to the owner.
- B. Photographs: Instant developing, 35mm or other standard sized photographs of the television picture of problems shall be taken by the contractor upon request of the owner's representative, as long as such photographing does not interfere with the contractors operations.
- C. Video Recording: The purpose of video recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed. Video 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 DVD's and necessary playback equipment readily accessible for review by the owner during the project.