

SPECIFICATION FOR TELEVISION INSPECTION MAIN SEWER
(As Provided by NASSCO)

- 1 After cleaning, the manhole sections shall be visually inspected by means of closed-circuit television. The inspection will be done one manhole section at a time and the flow in the section being inspected will be suitably controlled as specified (see SEWER FLOW CONTROL). All CCTV inspections shall be performed in accordance with PACP standards including the specific date and time of inspection.
- 2 The television 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.
- 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 powered 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 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 noted as Survey Abandoned and no additional inspection will be required.
- 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.
- 5 The importance of accurate distance measurements 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.
- 6 Documentation of the television results shall be as follows:
 - (6.1) Television Inspection Logs: Electronic media location records shall be kept by the Contractor and will clearly show the location, by distance in 1/10 of a foot or nearest mm, from the manhole wall, 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, cracks, fractures, broken pipe, presence of scale and corrosion, and other discernible features, as defined in

the PACP defect codes, will be recorded on electronic media and a copy of such records will be supplied to the Owner.

- (6.2) Digital photographs of the pipe condition and all defects shall be taken by the Contractor. Photographs shall be located by distance in 1/10 of a foot or nearest mm, from the manhole wall, in relation to an adjacent manhole.
- (6.3) Electronic media recordings: The purpose of electronic media recording shall be to supply a visual and audio record of problem areas of the lines that may be replayed by the Owner. Each original electronic media recording of conditions and defects will be delivered to the Customer upon completion of a specific line section.
- (6.4) NASSCO recommends that all CCTV Inspection be performed by CCTV personnel who are trained and certified in the use of NASSCO's Pipeline Assessment and Certification Program (PACP)©.