

condition, all in accordance with the format laid down in the WRC “Manual of Sewer Condition Classification.”

28.3.3 Survey Operations and Supervision

- A. Inspection of pipelines shall be performed by experienced personnel trained in locating breaks, obstacles and service connections by CCTV inspection techniques. The interior of the pipeline shall be carefully inspected to determine the location of all pipeline defects. The location of any conditions which may result in a limitation of rehabilitation techniques that could be used and/or prevent proper installation of designated rehabilitation materials in the pipelines shall be noted so that these conditions can be considered and if necessary corrected prior to actual rehabilitation.
- B. The minimum team complement shall be three people. The operator who prepares the site coding sheets shall be fully conversant with picture interpretation, defects coding and classification. The Contractor shall maintain on site a competent supervisor in charge of the survey at all times.
- C. If during CCTV survey the camera will not pass safely through the entire pipeline section being investigated the Contractor shall at no additional cost to the Department set up equipment so that inspection can be performed from opposite downstream manhole. Where an obstruction is encountered and a reverse set up is required the distance shall be entered into the log and verbally noted on the recording from which manhole the measurements are being made. If under the reverse set up the camera again fails to pass through the entire pipeline section the Engineer shall be notified and the inspection shall be considered complete.
- D. Should Contractor's CCTV equipment become lodged in any pipeline it shall be removed by contractor at his own expense. This shall include, if necessary, excavation and repair of the pipeline, backfilling and surface restoration. Contractor shall re-CCTV survey any pipeline section in which his equipment became lodged after said equipment has been removed to demonstrate that no damage exists as a result of his operations.

28.3.4 Survey Units

- A. The Contractor shall provide sufficient survey units, including standby units in the event of breakdown, in order to complete the survey within the time stated in his programme.
- B. The survey vehicle shall comprise two totally separate areas. One of these, designated as the viewing area, shall be insulated against noise and extremes temperature and be provided with means of controlling external and internal sources of light in a manner capable of ensuring that the monitor screen display is in accordance with the specification. Proper seating accommodation shall be provided by the Contractor in the