

- iv. Resolution. The live picture must be clearly visible with no interference and capable of registering a minimum number of TV lines/picture height lines. The resolution shall be checked with the monitor colour turned down. In the case of tube cameras this shall be 350 lines and in the case of CCD type survey equipment 250 lines.
- v. Colour Consistency. To ensure the camera shall provide similar results when used with its own illumination source, the lighting shall be fixed in intensity prior to commencing the survey. In order to ensure colour consistency, generally no variation in illumination shall take place during the survey.
- I. The Contractor shall note that the Engineer may periodically check both the live and recorded picture colour consistency against the colour bar. Any differences will necessitate re-survey of the lengths affected at the Contractor's expense.
- J. Recording playback shall be capable of a resolution of a minimum of 250 lines when recorded at standard speed.
- K. The adjustment of focus and DMATs shall allow optimum picture quality to be achieved and shall be remotely operated. The adjustment of focus and DMATs shall provide a minimum focal range from 50mm in front of the camera's lens to infinity. The distance along the pipe in focus from the initial point of observation shall be a minimum of twice the vertical height of the pipe. The illumination must be such as to allow an even distribution of the light around the pipe perimeter without the loss of contrast, flare out of picture or shadowing.

## **28.3 Part 3 Execution**

### **28.3.1 Preparation Prior to CCTV Survey**

- A. Prior to performing CCTV inspection activities the Contractor shall thoroughly clean the pipelines designated to be surveyed in accordance with the requirements of Section 02830 of the specification.
- B. The Contractor shall be responsible for any damage to public or private property resulting from his work and shall repair or make whole such damage at no cost to DMAT.
- C. The sections of pipes which Contractor intends to conduct CCTV survey for, should be isolated using suitable stoppers and over pumping to be arranged to manage the uninterrupted flows.

### **28.3.2 Extent of Survey**

- A. The Contractor shall survey the pipelines identified in the contract documents so as to record all salient features and to discover evidence of their structural and service