



## 1 PURPOSE

The purpose of this SOI is to provide instruction and guidance for closed circuit television survey (CCTV) inspection, which the Corporation requires to be undertaken by the constructor as part of the acceptance testing for all new sewerage reticulation works.

## 2 REFERENCES

- Nil

## 3 DEFINITIONS

- **Consultant** A consultant accredited with the Corporation and identified in the Deed of Agreement for the project. The consultant is responsible for the design and project management of the sewerage reticulation works.
- **Contractor** A contractor that is accredited with the Corporation to complete sewerage reticulation works and identified as the accredited contractor on the pre-commencement documentation. The contractor would have constructed the sewerage reticulation that is to be inspected by CCTV.
- **CCTV Contractor** A contractor that has gained a certificate of attainment in NWP331B Perform Conduit Evaluation and has been engaged to complete the CCTV survey of the sewerage reticulation.
- **Corporation** Goulburn Valley Region Water Corporation

## 4 RESPONSIBILITIES AND AUTHORITIES

### 4.1 Consultant

The consultant is responsible for ensuring that:

- The Corporation is informed of the CCTV inspection at least 2 working days prior to the work occurring;
- Preparing and submitting the “CCTV Sewerage Reticulation Inspection Notification Form” (attached);
- That the CCTV contractor has completed all preparation work and has sufficient resources to complete the work within the specified time frame; and
- Reviewing the video and inspection report to ensure:
  - That the quality is satisfactory and complies with the Corporation’s requirements; and
  - To determine if any rectification works are required to be completed to meet the Corporation’s construction standards.

## 4.2 Corporation's Technical Officer (T.O.)

The Corporation's T.O. is responsible for:

- Ensuring the above procedure has been followed correctly;
- Filing the WinCan report and DVD, as required by the Corporation, for future reference; and
- Witnessing the CCTV inspection, when possible.
- Ensure the submitted footage and report meets the Corporations requirements

## 5 OHS HAZARDS AND CONTROLS

- Nil

## 6 OTHER RESOURCES REQUIRED

- Nil

## 7 PROCEDURE

### 7.1 Preliminaries:

#### 7.1.1 Prior notice

The Corporation requires at least 2 working days prior to CCTV inspection work being conducted to enable the Corporation to witness the CCTV work being undertaken.

The notice is to be in the form of a standard CCTV inspection advice. This can be emailed to the Corporation officer.

#### 7.1.2 Flushing of pipelines

Prior to the CCTV inspection being completed the constructor should arrange for the sewer lines to be thoroughly flushed to ensure that they are free of debris and blockages. This will enable the detection of faults and the passage of the camera unit through the entire sewer length.

All debris flushed from the sewerage reticulation is to be captured by the contractor and removed for appropriate disposal. No debris is to enter the Corporation's sewerage reticulation system.

### 7.2 Activity:

Operators are required to have a certificate of attainment in NWP331A Perform Conduit Evaluation. Proof of attainment will be required prior to commencement of Works.

### Sewer Inspection

The aim of the sewer inspection is to provide a structural and service condition assessment of each sewer main.

The Contractor is to assess the structural and service condition assessment of each sewer main as per Appendix F of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2.*

## Camera, monitoring and recording equipment

Camera, monitoring and recording equipment to be used by the Contractor is to satisfy Section 2.5 of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2*, and shall be capable of the following:

1. Provision of a clear and concise viewing and recording of the internal surfaces of the sewers in all conditions (eg. temperature, humidity);
2. Pan and tilt type CCTV camera, capable of turning at right angles to the pipe axis over an entire vertical circle (minimum pan of 270 degrees and rotation of 360 degrees);
3. Image capable of self righting;
4. Provision of accurate distance measurements relative to manholes; and
5. Completion of each survey from manhole to manhole.

## Preferred Direction of Inspection, Camera Speed and Positioning

The preferred direction of for the CCTV inspection is downstream. Where this is not possible, upstream inspection is acceptable.

Camera speed and operation shall be as per the standards set out in Section 2.6 of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2* and should consider sewer defects and features, and sewer conditions.

Camera position shall be as per the standards set out in section 2.6.1 *Camera Position* of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2*.

## Linear Measurement

A continuous display in meters of length travelled longitudinally from the start of inspection along the sewer shall be provided. The starting point shall be defined as the point where the sewer meets the manhole wall.

The distance measurement should follow the standards set out in 2.7 *Linear Measurement* of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2*.

## Inspection Reporting

### *Inspection Reports and Video Footage*

The Contractor is required to submit an inspection report and video footage of each sewer main, which satisfies all the requirements set out below and in Section 2.10 of the *Conduit Inspection Reporting Code of Australia, WSA 05 – 2008, Version 2.2*.

All reports and footage are to be submitted and approved by the Corporation **before** any decisions regarding the outcome of the footage will be considered. The Corporation uses WinCan Version 8.0 or later to manage CCTV inspection data and if WinCan digital information cannot be provided by the Contractor, the supply of inspection data available to be imported into WinCan is acceptable provided video footage requirements are met.

All inspection reports and footage are to be submitted in **digital format only** on an external USB hard drive. Data and reports on DVD, CD or hard copies will not be accepted.

The video footage is to provide a clear and concise colour record of each sewer line

inspected. The video footage is to be provided in real-time MPEG 4 format and must be embedded in the corresponding inspection report and digitally linked with the reports observation index in WinCan. These reports shall include all sewer and site inspection details listed above and displayed in Section VI-2, Typical WinCan Report.

For ease of identification video footage for each sewer line inspection is to be named referencing town name and Asset No. For example video footage of an inspection on Asset No. 56984 in Kyabram would be named **56984Kyabram.mpeg**

An initial onscreen display at the start of each inspection will show the relevant inspection information contained in Table 1.

**Table 1: Information to be displayed at the start of each CCTV inspection**

1) Information required	2) Example data
3) Client	4) Goulburn Valley Water
5) Street	6) Knight St
7) Town	8) Shepparton
9) MH to MH and direction	10)10235 - 103254 D/S
11)Pipe Diameter and Material	12)225 CON
13)Asset No. (Compkey)	14)Asset No. 22532
15)MH Depth	16)MH Depth 5.6m
17)Weather	18)Dry

During the CCTV survey the following information will be displayed on screen for long term reference, MH to MH, direction, Diameter, Material, Distance, Date, Time.

### 7.3 Cleanup:

The consultant is responsible for ensuring that no debris from the jetting of the sewer enters the Corporation's sewerage reticulation network, downstream of the area inspected. All debris is to be captured and removed from the sewer by the contractor.

## 8 APPENDICES

- Appendix A - Corporation Contact Information
- Appendix B - Inspection Notification Form

## 9 DOCUMENT CONTROL

The only controlled copy of this document is the electronic version held on SharePoint.

All hard copies are uncontrolled and the user must ensure that the hard copy being used is the latest version by checking on SharePoint.

Version No.	Date	Description	Prepared by:	Approved by:
1.0	Oct 2005	Original issue	S Nash	
2.0	Oct 2007	Document re-formatted	W W Smith	
3.0	July 2009	Document updated/Revised	A.Tonks	Pending

## APPENDIX A – CORPORATION CONTACT INFORMATION

The contact list for the CCTV inspection notification form is provided below:

Position	Name	Email	Contact Numbers		
			Direct	Facsimile	Mobile
Technical Officer – Technical Customer Service	Nick Pearce	Nickp@gvwater.vic.gov.au	58320472	58321467	NA
Clerk of Works – Asset Project Delivery	Lachlan McGregor	Lachlanm@gvwater.vic.gov.au	58320710	58321467	0419662366

**APPENDIX B – INSPECTION NOTIFICATION FORM**



**CCTV Sewerage Reticulation Inspection Notification Form**

Location of Works  
(Plan to be provided) \_\_\_\_\_

Planned Date of Inspection Day \_\_\_\_\_  
Date \_\_\_\_\_  
Start Time \_\_\_\_\_

Accredited Consultant \_\_\_\_\_

Project Manager \_\_\_\_\_ (Signature)

Contact No. \_\_\_\_\_

Date \_\_\_\_\_

CCTV Contractor \_\_\_\_\_

Supervisor \_\_\_\_\_

Contact No. \_\_\_\_\_

Certification to NWP331B Perform Conduit Evaluation  Yes  No

Goulburn Valley Water Project Number (GLA) \_\_\_\_\_

The following approvals and legislative requirements have been satisfied (delete as required)

Traffic Management Plan	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA
WorkSafe Risk Assessment	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA

Notes \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_