

Sewer Closed Circuit Television Inspection Guidelines



Development Services 1900 N Civic Square, Goodyear, AZ 85395 (623) 932-3004, Opt. 2

PURPOSE:

This document outlines general guidelines and acceptance criteria for the Closed Circuit Television (CCTV) Inspection of new sewer systems.

ADMINISTRATIVE GUIDELINES:

1. CCTV reports consist of a televised inspection and written report provided on a flash drive, CD, or DVD. Video reports shall be provided in Windows Media Format. Written reports shall be provided in PDF format.
2. A pre-activity meeting is required and shall be scheduled with the City inspector 2 business days prior to CCTV work beginning.
3. Barricade devices installed within any travel way open to public access requires a traffic control permit, to be obtained and paid for by the Contractor prior to any work commencing. Contractor is responsible for maintaining local traffic at all times.
4. Contractor shall keep the work area clean and uncluttered. Open manholes shall not be left unattended.
5. Contractor shall be required to notify the Owner/ Inspector immediately if damage is caused to public or private property. Mitigation or remediation of damage shall be at the sole expense of the Contractor.
6. CCTV work shall only occur during normal City inspection working hours and comply with the City of Goodyear's Ordinance for construction start and stop times. Unless approved by the City in advance, no CCTV inspection work shall be performed during nights, weekends or holidays.
7. Prior to any approval to discharge into an existing sewer system, a final CCTV inspection report is required that verifies all mains and laterals are clean of soils and debris. All final CCTV inspection reports shall be submitted to the City per item #1 above.

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TECHNICAL REQUIREMENTS:

1. All CCTV work shall conform to current NASSCO-PACP Standards.
2. Pipe plugs installed to isolate new construction from the existing City sewer system shall be left in place during CCTV inspection, unless approved for temporary removal by the City inspector.
3. In the presence of the City inspector, adequate water shall be placed at all high-end manholes and clean-outs to provide flow through all portions of the system under inspection.
4. CCTV Mainline & Laterals:
 - A. All mainline CCTV work, before the final televising (including repairs) can be the standard camera work. All repairs to mainline or laterals shall be re-televised after any repair from the nearest manhole upstream of the repair work to the nearest downstream manhole.
 - B. If a blockage, or issue other than soils, prevents the inspection in one direction, the contractor shall attempt to complete the section from the other nearest manhole on the opposite side of the blockage. The contractor shall report the issue to the owner and note the problem in the report.
 - C. The final CCTV shall require the mainline and all laterals within the line from manhole to manhole to be televised.
5. Debris and soils in mains and laterals:
 - A. The initial CCTV report shall be clean enough for the camera to be unobstructed and advance uniformly through the pipe segment under inspection.
 - B. A second CCTV may be required if mainline or laterals with mud, soils, or rock are found and or obstruct the camera. If soil is found in the laterals it shall be cleaned/washed out before any final cleaning so the mainline remains clean.
6. Identification of sags in pipe and acceptable tolerances.
 - A. CCTV reports need to have the water level gauge lines explained on the first page of the report for identification of sags in the pipe invert.

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B. Camera Depth gauge lines shall be provided for the following pipe sizes. The gauge shall have a minimum of 3 lines identifying the water depth, from ½" through the measurement just above the limit line:

- 1) 8" Diameter = 1/2"
- 2) 10" Diameter = 5/8"
- 3) 12" Diameter = 3/4"
- 4) 15" Diameter = 7/8"
- 5) 18" Diameter = 1"

C. Sag Limitations:

- 1) The construction tolerance identified in MAG Specification 615.3 does not apply to pipe designed at minimum slopes.
- 2) Sags are not permissible for pipes installed at design slopes at or greater than .0041 Ft/Ft slope for pipe sizes under 15 inches in diameter, or .0082 Ft/Ft slope for pipe sizes 15 inches and larger in diameter.
- 3) For sags that do not require correction (see a. through f. below), a sealed report from the Engineer of Record (EOR) is required for the pipe to remain as constructed. The EOR shall confirm that the pipe line continues to meet the velocity requirements identified in the City's Engineering Design Standards and Policies Manual section 6.3.1.B.
 - a. 8" Diameter = Sags exceeding 1/2" requires correction
 - b. 10" Diameter = Sags exceeding 5/8" requires correction
 - c. 12" Diameter = Sags exceeding 3/4" requires correction
 - d. 15" Diameter = Sags exceeding 7/8" requires correction
 - e. 18" Diameter = Sags exceeding 1" requires correction
 - f. Above 18" will be evaluated by the City for correction

7. The camera speed shall not exceed 30 feet per minute, and stop for a minimum of 4 seconds after rotation and panning to provide a continuous view of all service laterals.

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8. CCTV inspection and reports should note for repair with stationing and/or footage referenced the starting manhole and location within the pipe.:
 - A. Rolled gaskets.
 - B. Dirt & rock in mains and laterals.
 - C. Breaks, cracks and indentations (pushed in) areas in main or laterals.
 - D. Level of water in manholes (Manholes having greater than 1/4" shall be corrected).
 - E. Any fix or correction by contractor will need to be re-televised in the same direction as the original video. The video and reports shall be identified with the same name as the original video labeled as a re-inspection.
 - F. All sags in pipe shall have the beginning, deepest sag location and end footage identified.
 - G. Any gaps found that question proper pipe insertion at joints in the mainline need to be measured & noted.
 - H. All other anomalies not normally found in the line.

9. Unacceptable CCTV videos include, but not limited to:
 - A. Camera speed exceeding 30 feet per minute.
 - B. Wrong size camera setup for line.
 - C. Non-uniform or jerky movement of camera.
 - D. Pan, rotate and zoom functions are not able to properly view laterals and issues found in line.
 - E. Dirt, rock and or obstacles still in line.
 - F. Lighting not sufficient for size, blocked or blown bulbs.
 - G. Depth gauge not running in the pipe invert.