## SEWER VIDEO INSPECTION REQUIREMENTS

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## Video requirements

Before final acceptance, sewer mains in all public right-of-way and public utility easements shall be flushed and visually inspected by means of closed-circuit television (CCTV) after all improvements have been constructed over it. It is highly recommended to do a preliminary video prior to placing the pavement section to reduce repair costs if needed. If this is done after the final pavement and asphalt cuts are done, pavement repairs shall be done per moratorium requirements. The sewer video inspection requirements also apply to existing public sewer mains that have had construction work above or adjacent to it.

- 1. The Public Works Inspector shall be notified 48 hours prior to and must be onsite during video operations.
- 2. The sewer must be completely clean by jetting prior to video inspection. The contractor shall trap all debris at the end manhole and properly dispose of or haul away debris when cleaning pipe segments.
- 3. Video inspection will be done one section (manhole to manhole) at a time in a downstream direction with a consistent flow of water. The camera will pan the interiors of all structures and when in the pipe, will stop at each joint to rotate 360 degrees to pan the entire joint (this may be waived by the inspector during video operations).
- 4. Sections of pipe from structure to structure shall be audibly and visually identified in the video using the same nomenclature as on the improvement plans. Each video file must be labeled with the following information: date, project name/number, contractor, pipe size and material, station number, manhole numbers, and length of section.
- 5. The camera shall stop at all laterals, connections, or defects (sags, bad joints, etc.) for a period or at least 10 seconds and shall be noted on the log sheet with the station number. The camera will be panned or tilted towards the connection or defect so that any portion of the connection or defect that is visible from within the pipe or structure can be completely inspected.
- 6. The following videoed observations shall be considered defects in the construction of the sewer system and will require corrections prior to acceptance:
  - Curvilinear alignment.
  - Joint separations, offsets, or improperly constructed joints.
  - Cracked or damaged pipe, or evidence of the presence of an external object bearing upon the pipe (rock, root, etc.)
  - Debris or other foreign objects
  - Other obvious deficiencies when compared to the approved plans and specifications, these standards and the city design and construction standards.
- 7. If repairs are done, the section will need to be videoed again to confirm satisfactory repair work.

## Camera requirements:

- 1. The camera shall be specifically designed, constructed for such inspection and capable of producing high quality video to allow a clear color picture of the entire periphery of the pipe.
- 2. The camera shall be operative in 100% humidity conditions without causing the camera to fog and shall have a minimum of 330 lines of resolution but must be capable of discerning small, hairline cracks and other minor defects.
- 3. The camera shall move through the line in a downstream direction at a moderate rate, stopping when necessary to permit proper documentation and cannot be pulled at a speed greater than 30 feet per minute.
- 4. The camera shall be self-propelled, or 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 main conditions shall be used to move the camera through the line.

## **Documentation**

- Recording playback shall be at the same speed that it was recorded. The format shall be in common digital video files (MP4, AVI, WMV, MKV). Accompanying audio shall provide a description of what is encountered.
- Each video file shall have displayed the number of feet from the starting structure for each segment.