



Do You Know the Condition of Your Sewer System?

U.S. EPA | WATER INFRASTRUCTURE OUTREACH



Why perform a condition assessment?

The compelling reason to perform a condition assessment of your collection system is to preserve the existing valuable infrastructure, minimize O&M and avoid emergencies and unexpected costs. Condition assessment of your collection system is an investment in managing risk. Knowing the structural condition of your underground assets will allow you to avoid emergencies, prioritize repair and replacement projects, and plan for the future.

In a condition assessment, data and information are gathered through observation, direct inspection, investigation, and monitoring. An analysis of the data and information helps determine the structural, operational, and performance status of capital infrastructure assets. A good written protocol, consistently applied, will help define the assessment. Use new data collection techniques to get the most out of your program. Implementing a pro-active program based on information and systematic assessment removes some of the politics and second-guessing from decision-making.

Performing a condition assessment has a cost, but prioritizing work by focusing on critical assets and the maintenance and replacement needs for your collection system is an essential step toward better management.

Online Tools & Contacts

For more information on Condition Assessment:

WasteWater Collection System Toolbox
www.epa.gov/region1/sso/toolbox.html

Other Online Resources:

Sustainable Water Infrastructure
water.epa.gov/infrastructure/sustain/sustainable_infrastructure.cfm

Aging Water Infrastructure
www.epa.gov/awi/con-assessment.html

Gina Snyder 617-918-1837 snyder.gina@epa.gov

Jack Healey 617-918-1844 healey.jack@epa.gov

Pipeline Defects
www.nassco.org

Liquid Assets Video
liquidassets.psu.edu/

These are links to non-EPA web sites that provide additional information on eliminating sanitary sewer overflows. You will leave the EPA.gov domain and enter another page with more information. EPA cannot attest to the accuracy of information on that non-EPA page. Providing links to a non-EPA Web site is not an endorsement of the other site or the information it contains by EPA or any of its employees. Also, be aware that the privacy protection provided on the EPA.gov domain may not be available at the external link.

Structural

If a sewer pipe is about to fail and you don't know about it, is it a problem? Structural problems can cause major headaches.

CCTV is one of the best tools available to check the condition of your buried assets. During CCTV field inspections, pipe defects and maintenance issues are discovered and classified using a standardized coding system. Following data analysis, structural condition information is used to estimate a pipe's performance, remaining useful life and to plan for the future and make decisions about pipe repair or replacement.

CCTV inspections also reveal maintenance issues, which aid the manager in making any necessary operation or maintenance changes.

- collapses
- fractures
- sags



Maintenance

Maintenance issues are the leading cause of backups and overflows of collection systems. Condition assessment helps utilities discover maintenance and capacity issues before they become maintenance problems. Knowing how your collection system really works will identify Trouble Spots and lead to preventive maintenance decisions, rather than being reactive to the consequences of emergency incidents. Implementing a pro-active program based on information and systematic assessment provides a manager with the tools to improve decision-making and solid information on which to base staffing and funding decisions.

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- grease
- roots
- debris

Capacity

Hydraulic capacity is a primary performance measure for a wastewater collection system. Capacity (both hydraulic and treatment) can be taken up by clean water entering the sewer collection system. It may be obvious, based on dry weather and wet weather flows, that rainwater or groundwater inflow or infiltration (I/I) is a problem.

CCTV evaluation can determine the specific location and cause of I/I in many cases, however, flow data gathered by flow meters has been used to guide sewer system capacity management for decades. Flow data can be used as a tool in condition assessment either to identify areas for further CCTV inspection or to quantify the severity of I/I identified during CCTV work.

- excess flow
- infiltration
- inflow

