

TECH TIPS

FROM NASSCO

TECH TIPS BY NASSCO IS A BI-MONTHLY ARTICLE ON TRENDS, BEST PRACTICES AND INDUSTRY ADVICE FROM NASSCO'S TRENCHLESS TECHNOLOGY MEMBERSHIP PROFESSIONALS.

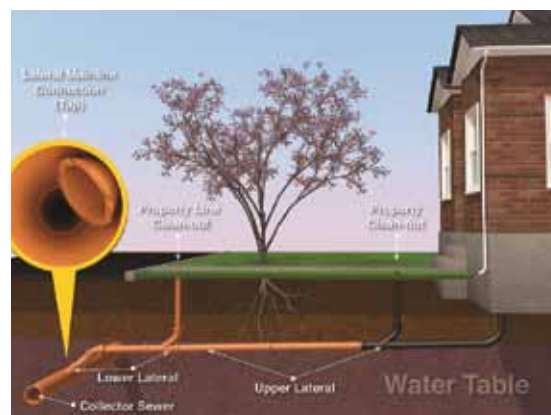
LOCATING LATERAL CONNECTIONS

By NASSCO member Jacob Trapani, Vice President, BLD Services, LLC

LATERAL SERVICE LINE INSPECTION AND CLEANING:

The EPA estimates there are 75 million private laterals in the United States, and that 80% of them are failing and in need of repair, accounting for 75% of infiltration. There are also at least 40,000 sanitary sewer overflows (SSO's) each year. Wastewater collection systems and treatment facilities are reaching, or exceeding, their capacity.

Studies have shown that service laterals are often a source of significant infiltration, and that most infiltration into these lines occurs within a few feet of the main. The two primary reasons for this are that, except for the last few feet, all service lines are usually above the water table; and groundwater flows easily in the backfill of a mainline because of the French drain effect.



CCTV INSPECTION OF LATERALS FROM MAINLINE

Several CCTV manufacturers employ special lateral launch cameras with self-leveling heads that provide the operator and viewer with a good perspective of observations made in the pipes. The head itself also features a built-in Sonde that allows for precise, above-location observations made within the lateral line. The most important ingredient is the operator; their insight and visualization of the lateral to main connection and understanding of how to launch and finesse the camera up the line is critical to success.

CCTV INSPECTION OF LATERALS FROM CLEANOUT OR HOME ACCESS

Using specially designed miniature cameras and equipment, video technicians can internally inspect lateral service lines from cleanouts or other access points within the home. There are both straight and pan and tilt push cameras available for lateral inspection. Some cameras also have assist devices, such as a movable finger, which facilitate moving the camera forward over offset joints and stubbed-in pipes. These devices also help direct the camera from the straight lateral section up a branch lateral, commonly found in condo and apartment sewers.

LOCATING LATERAL SERVICES

Most lateral cameras come with a location beacon or a Sonde for above ground location and depth measurement. Push distances from the main are usually generated from the launcher in the sewer main but are often required to be confirmed with above ground measurements and markers. GIS stick data, if required, can be obtained during the above ground tracking operation. Current technologies provide the tools for technicians to use wireless handheld GPS mapping devices to precisely locate structures and collect accurate GPS coordinates which are then transmitted seamlessly to inspection software.

HOW ABOUT LATERAL CLEANING PRIOR TO INSPECTION?

The contract may specify to inspect the lateral but does it have a requirement and pay item for lateral cleaning? The owner may have identified the condition of the lateral pipe from a pan & tilt mainline inspection without establishing the pipe's condition beyond the first elbow.

Lateral pipes are typically no cleaner than mainlines. It is difficult to evaluate a lateral pipe when it is full of roots, sludge or FOG (Fats, Oils and Grease). Such conditions can require multiple cleaning and CCTV inspections before an accurate line condition report can be completed.

There are cleaning tools and launching devices available for cleaning the lateral pipe from the mainline. Using a lateral launcher, the cleaning operator can guide a half-inch hose and cleaning nozzle into the lateral pipe from the mainline. Winched in tandem with a CCTV camera, a motor is used to rotate the guiding arm and nozzle into the lateral connection. The hose and nozzle are propelled through the lateral while cleaning, removing deposits and grease and cutting roots.

UTILITY CROSS BORE PREVENTION

Lateral Service Line Inspection and GPS Location services can be used in the prevention of highly dangerous utility crossbores during directional drilling (HDD) utility installations.

Accurately locating and mapping existing sewer laterals and mains in the pre-construction phase before HDD installations can prevent crossbores from other utilities (such as natural gas and telecom). By inspecting the existing sewer laterals and mains in areas where HDD utility installations have taken place in the past, existing crossbores can be safely located and identified for immediate removal.

Technicians can use GPS and GIS mapping software to accurately locate and map sewer lateral locations for quick retrieval and review.

STANDARDIZED DATA COLLECTION

The use of a standardized data collection protocol, such as NASSCO's Lateral Assessment and Certification Program (LACP), provides consistency in coding observations, while providing a standardized database that can be saved for future use.

For more information, please visit NASSCO's website at www.nassco.org.