

# Methods To Prevent Crossbores

by Jeff Griffin, Senior Editor

What has become known as the “crossbore” issue, continues to draw attention of providers of underground piping systems, particularly sanitary sewer services, and the contractors who make utility installations using horizontal directional drilling (HDD) and pneumatic piercing tools.

While all parties agree crossbores – boring through an existing sewer line and placing electrical cable or natural gas line inside sewer pipes – pose a serious safety issue, how to avoid them remains a controversy with no immediate prospects for resolution.

Key to the prevention of crossbores is accurately locating and marking of existing sewer laterals.

Yet many sewer service providers refuse to locate laterals prior to construction, often taking the position that because the laterals frequently cross private property, it is not their responsibility. Some state one-call legislation is unclear regarding responsibility of sewer laterals. Many states do place location responsibility with the service provider, but those statutes are not consistently enforced.

While the debate continues about who actually owns the laterals, who is responsible for locating them and who will pay for it, construction crews must make daily utility installations in areas where there are unmarked laterals. Regardless of who ought to be making the locates, the responsibility ultimately falls on the contractor.

In its work across a dozen states, Miller Pipeline Corp. has found no sewer system owners that provide accurate sewer lateral locates, said Kevin Miller, president.

“A few will mark the curbs at a point where they believe – based on various types of records – that the laterals enter the property, but they are not typically accurate,” continued Miller. “Someone once said ‘no information is better than bad information,’ and this is true when it comes to sewer laterals. If they are poorly located, it can leave a false sense of security for contractors that are directional drilling new lines.”

## Do-it-yourself

To make sure Miller Pipeline crews do not inadvertently bore through a sewer lateral, they make their own locates using several methods.

“Our primary method,” Miller said, “is to send a crew with a sewer camera to the job site before directional drilling begins.



Sewer snake

A two-man crew will operate the sewer camera via a remote-controlled tractor lowered into the sewer main, which then tracks down the sewer, allowing us to see the actual sewer lateral connections.”

The tractor is equipped with a lateral launching unit, containing a camera and a locating beacon so that before drilling begins, the lateral can be visually inspected or detected with a walk-over locator.

“This method is expensive,” said Miller. “It can cost over \$100,000 to outfit a crew to provide this service. Significant training is required, and the electronic equipment needs constant maintenance.”

An option is to send an employee to each house in a project area to search for sewer clean outs. A fiberglass push rod with a locating beacon is pushed into the lateral, allowing crews to locate the sewer line all the way to the street, using a walk-over locator.

“If clean-outs can’t be found,” Miller said, “we try to gain entry to the house and



Sewer camera

research the actual location where the sewer lateral leaves the building. There are special tools that can be inserted into the lateral from the house, allowing a contractor to find the lateral in the yard. In some cases we are able to determine from site investigations, that the laterals will not be in conflict with our bore path; for example, the line may come out of a basement at an eight-foot depth, or it exits at the back of the house to a sewer main in an alley,

## Prevent Crossbores

instead of in front where the drilling is taking place. The training required for this method is minimal, as is the start-up cost, as all tooling can be acquired for less than \$10,000."

Miller said both of these methods work well for locating all types of sewer lateral materials, except for cast iron, which tends to block transmissions from the locating beacon. The camera unit still works inside of the cast iron lines for visual inspection. However, cast iron laterals can be found with regular locators from above ground. Miller added that cast iron laterals probably present the lowest risk for a potential crossbore because a competent drill operator should be able to recognize when a cast iron line has been hit, unlike clay or plastic pipes.

### Cost factors

The cost of making accurate locates is a key element in the crossbore controversy, and it can vary dramatically, based on several factors, including:

- The number of locates needed on a project;
- Distances between houses;

- If there are accessible clean outs;
- Whether mains are clean enough to use cameras and are of proper size; and
- If locates are performed both before drilling and after installation to confirm damage hasn't occurred during the drilling process;

Some companies now opt to perform pre- and post-installation locates or verifications, said Miller.

"The average cost for us to locate a lateral runs between \$100 and \$200 per locate and can add \$2 to \$4 per lineal foot, to the project cost," he pointed out.

"Because some utilities have made locating sewer laterals a requirement on all projects," Miller continued, "a few companies have been established to provide this service for a fee."

"The key issue," concluded Miller, "is that if the industry recognizes the need to investigate sewer laterals before drilling, and utility companies require it of their contractors, it will become common practice



Locating trailer

and companies will come to the market that will provide this service in a cost effective manner."

For more than 50 years Miller Pipeline Corp has provided quality construction, maintenance and rehabilitation services and products to natural gas utilities, and the municipal and industrial infrastructure markets throughout North America. Based in Indianapolis, IN, the company has 12 regional offices and has more than 1,400 employees.

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