

Eliminating Utility Cross Bores Gains Momentum

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By Mark Bruce



Eliminating intersections of underground utilities continues to be a top priority in the utility industry.

Cross Bore Safety Association, CBSA, was founded in 2007 to provide a dedicated and focused forum for safer practices for prevention of new cross bores and elimination of existing cross bores. Cross bores can occur between any underground utilities including: electric, communication, sewer or gas distribution. All are undesirable. Some are deadly.

Severing a communications line that prevents access to fire and safety service is dangerous. Intersecting an electric power source can be life threatening to construction personnel. Gas lines in sewers can be deadly.

There has been successes during the last several years requiring locates of existing utilities. It is an important component of eliminating cross bores. Locating sewers has been one of the last frontiers to fall under regulation and is now required in over 40 states, to varying degrees, with inconsistent language between the states.

Typically, locates of all types of utilities required of their owner only mandates the horizontal position, not the vertical position. During construction both vertical and horizontal positions are needed for avoidance.

Focusing only on the requirements for utilities to locate their utilities is a beginning, but by no means, the total solution to avoid damage and injury.

It has been recognized by an increasing list of industry leaders, academics and governmental jurisdictions that high potential for damage and injury exists when a gas line has been placed into a sewer unintentionally during construction, often using trenchless techniques. Frequently the cross bore is in sewer laterals to homes. It can remain dormant until a sewer backup occurs and the home or business owner calls for a drain cleaner to clear the blockage.

The drain cleaning professional typically uses a rotating a cutter to remove blockages, often roots or other debris. The "cutter" can cut a plastic gas line, releasing pressurized gas into the lateral which travels into the structure. The results can be catastrophic. This is when the latent risk is converted to an eminent risk for explosion. Explosions, personal injury and death can result.

The use of trenchless techniques for installing gas lines has accelerated dramatically during the last 20 years. It provides economical installations while minimizing disturbances to yards and streets, a win-win situation. During the last several years, the gradual awareness of the potential safety issues is balanced with new tools and techniques that can eliminate cross bores entirely. Robotic cameras, radio sondes, locating tools and traditional inspection

techniques can provide assurance for elimination of gas cross bores of sewers. New technologies are being developed for improved locating and avoidance.

Based upon results from legacy cross bore elimination projects in high risk areas, cross bores of natural gas lines into mainline and lateral sewers is thought to be between 2 and 3 per mile of mainline sewer inspected. Obviously, an area without sewers in the areas of gas lines may have zero risk. Many larger communities have more than 1,000 miles of sewer, the largest having over 6,000 miles. Cross bores of gas lines in sewers have been found and eliminated at a school and a hospital. Eliminating cross bores is essential. Responsible companies have been addressing this issue for several years in various ways. Unaware and irresponsible companies have not focused on eliminating cross bores.

There is an opportunity for education and training. Some well intending companies are not aware that their processes still result in unreasonably high risks. Companies that have been on the forefront have the most experience. Experience has resulted in innovation, change and better procedures. There is also the opportunity to "level the playing field" by requiring the use of best practices by all. It is unfair and counter productive to have companies, which are acting responsibly, undercut by competitors without through cross bore elimination processes.

Good project management, training and processes for both new construction projects and legacy cross bore elimination projects are needed. Drain cleaners need to be uniformly informed of the risks and trained to minimize injuries.

CBSA's initial focus has been dedicated to elimination of gas lines intersecting sanitary sewers. Two publications are currently available. *CBSA Legacy Crossbore Verification Guidelines* is a step by step guide to evaluating risks and developing legacy inspection projects, 21 pages. *CBSA Legacy Inspection Contract* is a draft sample contract for locating existing cross bores of gas lines in sewers, 22 pages.

Continuing efforts include development of both a consensus guideline and sample contract documents for *Elimination of Cross Bores Resulting from New Construction Projects*. Recommended information to be supplied by equipment manufacturing companies and to drain cleaning contractors are also planned.

At the March, 2008, Common Ground Alliance conference in Las Vegas, the board of directors and officers were elected. The broad constituency of the board represents the multiple discipline participation that is necessary to appropriately address the cross bore issue.

CBSA is pleased to announce the new board members as follows:

Mark Bruce – Can Clay Corp

William Etzler - Aqua Indiana, Inc.

Walt Kelly – Walt Kelly Enterprises

Mike Kemper – NPL Construction Company

Steve Lacy – Hydromax USA

Brian Mattson – Gas Technology Institute, GTI

Joe Purtell – Cues, Inc.

Mark Wallbom – Underground Imaging Technologies, UIT

CBSA welcomes the participation of all interested parties to create solutions for the elimination of cross bores. Please contact us at CrossBoreSafety.org for more information.

ⁱ Mark Bruce is President of Can Clay Corporation, past Chairman of North American Society for Trenchless Technology, past Chairman of National Clay Pipe Institute