



By Andy Mayer

Emerging Trends in Drinking Water Rehabilitation

With drinking water systems in need of repair across the United States, it is paramount that we embrace new techniques and technologies that effectively upgrade the infrastructure in an economical way. A recent report indicated that 8 percent of drinking water mains in the United States and Canada are beyond their useful life.

One method for water rehabilitation is using pipe bursting along with pre-chlorinated HDPE pipe, which has been in use in the United States for more than 10 years. In fact, I was personally involved with introducing the technology in Florida, where it was approved by the Florida Department of Environmental Protection in 2000.

The technology is used predominately in Europe and particularly England, which is my native country. Twelve years ago when I brought the technology over from the United Kingdom, I was, frankly, a little shocked that the country that put a man on the moon and controls the .com universe was still using 20-ton excavators with 4-ft wide buckets to install 6-in. pipe through the middle of subdivisions. It was then that I realized that there was a need for pre-chlorinated pipe bursting.

Birth of Pre-chlorinated Pipe Bursting

Pipe bursting itself was developed in England about 40 years ago, the result of a few high-profile incidents that led to a government mandate requiring the rehabilitation of aging gas infrastructure across the country. British Gas, the owner at the time of the largest gas distribution network, was left with a dilemma of how to replace such a vast quantity of pipelines.

Replacing buried utilities was especially difficult in a city like London with its population of 13 million, swelling to 17 million during working hours, and its hundreds-of-years-old roads, sidewalks and buildings. Limited easements and under capacity distribution lines further complicated matters. British Gas needed an alternative to conventional open-trench work.

After many hours of research, pipe bursting was born in the late 1970s, finally giving British Gas the tool to replace its existing pipelines in highly congested utility areas. With the success in pipe bursting natural gas lines, other utilities began to take notice of the technology and began to examine if it would work their systems, specifically water and sewer lines.

Anglican Water in England took the technology one step further, developing a way of chlorinating the new pipe, pulling into place, super chlorinating, flushing and commissioning the new line — all in one day. This spawned the term pre-chlorinated pipe bursting.

This has the dual benefits of increased production and decreased downtime for consumers. Because the pre-chlorinated pipe is able to be put into service quickly, residents typically experience only a six- to 10-hour interruption in service before being reconnected.

Need for Pre-chlorinated Pipe Bursting

When looking at the U.S. market, I can't help but think back to the early days in the United Kingdom when the rehabilitation program was put to work some 40 years ago and see some similar issues. Indeed, there is a tremendous amount of up-and-coming work here as the information gathered from various agencies all point to massive rehabilitation programs similar to what England experienced, but of an even greater scale.

This alone calls for technologies like pre-chlorinated pipe bursting to become more prominent in the marketplace. It is a tried-and-tested technology that is not only considered the best replacement technology in the United Kingdom, but is now widely accepted in the United States and after 12 years of service.

With the carbon blueprint dramatically reduced with this technology compared to open-trench, it is a faster and more



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efficient practice that has the “green issue” whole-heartedly on our side. I see this technology growing exponentially over the next 20 years, eventually becoming a go-to option. It gives the client an option to use the existing utility corridor, minimize the engineering needed and save already limited dollars, which in turn equates to more pipe being rehabilitated.

Twelve years ago I saw the need for this technology, and I'm still surprised that has not experience sharp growth yet. It is only a matter of time, however, as this technology is undeniably an under-used solution to America's yet-to-be biggest problem.

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