

# Utility Company Begins Bursting With HDD

**D**alton, GA, just 90 miles north of Atlanta, is in the midst of a major sewer and water system rehabilitation project. In response to an Environmental Protection Agency executive order, the city recently rebuilt the wastewater treatment facility, and let a \$1.2 million contract to replace 11,000 feet of the clay sewer infrastructure which has been victim to cracking, collapse and significant root intrusion.

The project's owner, Dalton Utilities (which operates the gas, water, electrical and wastewater utilities in the area), estimates the deteriorated system to be nearly 60 years old. To make matters worse, the system is predominantly located at the base of a hilly ridge. When it rains, the water drains off the hillside almost directly into the system. Since the ground becomes so saturated, the cracking, collapsing pipe has left the sewer system vulnerable to this runoff.

"We would check this system after a storm," said Steve Bratton, manager of Wastewater Collection Systems for Dalton Utilities. "It was obvious that the infiltration and inflow (I/I) was severe. You could see that the line was full, and that it had clear water running through it. The increased flow at the sewage treatment facility is a strong indicator that I/I runs rampant, and that the lines are in need of repair or replacement."

Dalton Utilities has contracted Southeast Pipeline Construction to do replacement work on approximately 30 percent of the project. Their portion of the project began in June 2001 and should be complete by December.

## Seeking a pipebursting opportunity

Southeast Pipeline Construction, based in Jasper, GA, has been in the utilities installation business for 20 years. Using trenching and horizontal directional drilling (HDD), they specialize in power, fiber optics, cable, gas and water. Southeast Pipeline's Tim Logan had been looking for a good opportunity to enter the pipebursting market. On this project, he found it.

On any given day, Logan estimates he has six crews working at once in their primary business region, which ranges from Cleveland, TN, to the islands off Georgia's coast. The company's fleet consists of six trenchers and six HDD rigs. Since he already owned the HDD equipment, and had trained operators. Logan had long been looking for a pipebursting system that would minimize any additional equipment and personnel invest-

ment, but at the same time help the company get into a market he perceived as having great potential for growth. Vermeer Southeast Sales & Service in Marietta, GA, introduced Logan and his crew to the Vermeer Air Impactor, a pneumatically-driven bursting system that works in conjunction with HDD.

"The market potential for bursting is huge," Logan said. "The City of Atlanta has been talking about a major 'rebuild,' and the City of Macon has alluded to it also. We hope bursting can, in time, make up about 45 percent of our business.

"I have the drills, and I have experienced operators," he added. "They've installed polyethylene pipe before. There is very little additional training needed."

## Expanding horizons

According to Logan, Southeast Pipeline Construction - because they've been working in a booming gas market - has not worried too much about idle drills, but many companies, especially Southeast Pipeline Construction's parent company Quanta Services, will definitely benefit from this technology.

"We hope to make some aggressive inroads in bursting with drills," he said. "Once we're in, Quanta Services, our parent company, will jump right in with us.

The Air Impactor is used in conjunction with the Vermeer D24x40A and D33x44 Navigator drills. The 12-inch tool bursts through existing pipe while simultaneously pulling a new pipe into the compacted bore hole.

With this type of pipebursting system, the setup process is reduced which was a definite selling point to Logan. The surface-launch capability of HDD rigs reduces or eliminates the need for launch and exit pits because the bursting head is attached to the drill rod at the surface and then retrieved through a manhole. This feature also appealed to Logan because it reduces the amount of surface damage. In urban or other restrictive environments, the new pipe can be fused during the pipebursting process to further reduce ground disruption.

The Air Impactor is attached to the drill stem via a ball joint and locking sleeve, allowing attachment of the tool to the drill stem. Air is delivered through the drill stem during pullback, producing repetitive impacts to the front of the tool body, in much the same way as pneumatic tools, but at a much higher frequency. The Impactor active head design iso-



lates the drill stem and the drill from impact force. The impact force is comparable to an 8-inch pneumatic tool operating at a normal pressure of 110 psi. The Air Impactor is capable of operating at nearly double the industry standard of 110 psi operating pressure. Increased levels of impact force can be attained at higher pressure. This increased impact force may provide increased productivity on difficult jobs.

Recently, one of Logan's crews used the pipebursting/HDD system on an 280-foot run. The first 190 feet was 12-inch clay pipe, and the last 90 feet was 10-inch clay pipe. Both lines were replaced with 12-inch HDPE. As they went through the manhole, there was a 20-degree offset from left to right and a change in pipe diameter. Logan estimates they were able to burst at an average of three feet per minute, which included rod changes. The entire burst took only 1½ hours.

"I think it is faster," he said. "But above all, it minimizes set-up time and surface disruption, two of the primary concerns with this type of work."