

2007

# PIPES & DISTRIBUTION

Special Section  
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## Sliplined Pipe to the Rescue

*In the capital of Louisiana, disaster seemed imminent. A hurricane? No, but a major supermarket parking lot was collapsing and several utility lines were in jeopardy.*

By Philip R. Snyder

In January 2007, a sinkhole formed in Baton Rouge along the shoulder of Essen Lane, washing out of the area beneath a supermarket parking lot, endangering a nearby Energy power pole.

Observers said that the hole was getting bigger and it soon became an emergency repair operation for the Parish of East Baton Rouge Department of Public Works (DPW).

To complicate the repairs, overhead electrical, phone and cable lines had to be rerouted so construction equipment could be brought in and maneuvered safely on and around the site. Buried utilities such as water, fiber optic, telephone and cable lines also created a tight working space.

### Catastrophe prevented

A fast response by the contractors, government agencies and a major pipe manufacturer prevented catastrophe. The contractor, Allen & LeBlanc, Inc., was contacted to excavate the shoulder between the Essen Lane roadway and the edge of the asphalt parking lot. They found that the failure was apparently caused by the collapse of the top of a 54-in. RCP gravity sewer main located approximately 25 ft below the surface. The Entergy crews also arrived to remove the pole and reroute the electric lines.

The DPW had an ongoing project with engineering and

*How a slipline installation helped avert a disaster after a sewer main line collapsed*



The Essen Lane collapse exposed the failure in the top of the 54-in. RCP sanitary sewer gravity main. At the top, a 15-in. potable water main is broken and numerous other utilities are adjacent, including telephone, cable and fiber optic lines.

construction firm CH2M HILL for a parish-wide sanitary sewer overflow program, so it asked for a representative from CH2M HILL to visit the project site in order to establish subsurface information because the affected line was scheduled for upgrading during the program.

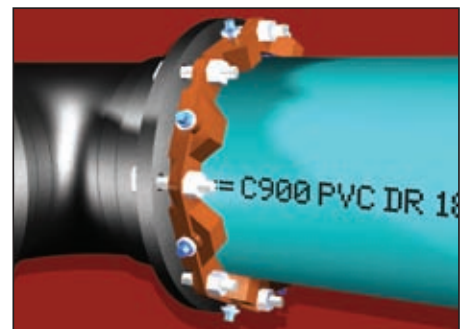
Jeff Duplantis, senior project manager with CH2M HILL, met with David Ratcliff from DPW at the project site. Ratcliff quickly contacted several local pipe suppliers to locate enough pipe joints to repair the collapsed line adequately.

What do these 2 things  
— have in common? —



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Responding to the emergency quickly, representatives from DPW, CH2M HILL, HOBAS Pipe, Allen & LeBlanc and the local utility companies were all at the project site to develop a plan of action. Up to that point, only limited work had been done, including closing the 15-in. potable water main that was exposed during the excavation of the sewer main. The water company had installed valves in the water line upstream and downstream of the gravity sewer break, and removed two joints within the excavation. They broke the operation down into five phases:

1. Excavate the sinkhole
2. Relocate the utilities
3. Locate repair equipment and materials
4. Complete sliplining operations and
5. Cleanup

The existing sewer line was a 54-in. RCP gravity sewer main. DPW's intent was to repair the failed section by installing fiberglass sliplining pipe between the upstream and downstream manholes. The lead times were too long for the several local fiberglass manufacturers and suppliers they had contacted. They had to find one that could provide the required pipe at a good price in a short time.

Denny Kennard, area manager for HOBAS Pipe USA, was able to promise delivery of the necessary pipe and couplings within a week after the order was placed. The pipe is centrifugally cast, fiberglass-reinforced, polymer mortar pipe (CCFRPM). The proposed 48-in. pipe has an OD of 51.9 in. at the bell and 50.8 in. at the pipe wall.

Rob Epstein, a HOBAS customer service representative, explained the quick delivery by saying, "We have a flexible manufacturing process that allowed us to shift production from a job that was ahead of schedule to accommodate this emergency situation. We have the ability to manufacture many pipe sizes for many different projects at the same time, giving us tremendous flexibility. We do not have any pipe in the yard for stock. Everything is custom-made for an order."

### Pipe plans

The plan was to use the CCFRPM pipe to slipline the failed sewer from the failure point, which was located just outside of the upstream manhole, to the downstream manhole where quality connections could be made to the existing system.

Equipment was brought in to excavate the sinkhole between the street and parking lot. DPW realized that the depth of the repair made it necessary to install some form of trench support. Within the first few days of working on the project, contractor Allen & LeBlanc installed temporary sheeting to stabilize the excavation. Before the sliplining activities were started, however, they located the necessary repair equipment and materials and installed a trench box system. Then a working pit was excavated in order to restore flow in the gravity main.

The project presented many challenges. The sewer main was extremely close to the adjacent street and the utility lines within the repair zone were very highly congested, so progress was slow. Allen & LeBlanc worked closely with DPW and local utility companies to ensure that their utilities would be relocated appropriately with minimal service disruptions.

All utilities were relocated and all repair materials and equipment were on site by February 2007. At that time, Allen & LeBlanc set up the necessary equipment to maneuver the 20-ft joints of CCFRPM pipe into the working pit and install them. Once sliplining operations began, Allen & LeBlanc worked into the evening hours to ensure that the project was completed.

Following the sliplining operations, they grouted the liner pipe to the existing sewer system at both ends to insure a tight seal. Backfill of the system was performed to DPW standards and the site was dressed to pre-construction conditions. **WWD**

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Allen & LeBlanc crew members slipline the 48-in. HOBAS CCFRPM pipe into position. The integral fiberglass low profile bell is gasketed and provides a watertight seal with the spigot joint while allowing the pipe to be pulled or jacked into the host pipe. The low profile design prevents hang-ups and minimizes friction during installation. The entire project was approximately 400 ft long.

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